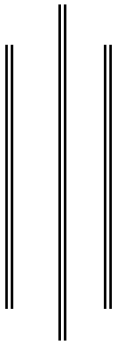
BEHAVIOR OF STOCK MARKET PRICE OF COMMERCIAL BANKS OF NEPAL



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A Thesis submitted to

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Recommendation

This is to certify that the thesis:

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Behavior of Stock Market Price of Commercial Banks of Nepal

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

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VIVA VOCE SHEET

We have conducted the viva-voce examination of the thesis presented

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entitled

Behavior of Stock Market Price of Commercial Banks of Nepal

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

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DECLARATION

I hereby declare that the work reported in this thesis entitled "Behavior of Stock Market Price of Commercial Banks of Nepal" submitted to Research Department of Post Graduate Campus, Biratnagar, Faculty of Management, Tribhuvan University, is my original work done in the form of partial fulfillment of the requirement from the Masters Degree of Business Studies (M.B.S.) under the supervision of Prof. Dr. Madhav Bahadur Shrestha, Post Graduate Campus, Biratnagar

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Mukti Nath Timsina

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TABLE OF CONTENTS

List of Table

List of figure

ABBREVIATION

ARR	=	Actual Rate of Return
CAPM	=	Capital Asset Pricing Model
CG	=	Capital gain
CGY	=	Capital Gain Yield
CML	=	Capital Market Line
COV	=	Covariance
DPS	=	Dividend per share
DY	=	Dividend Yield
Exp	=	Expected
HBL	=	Himalayan Bank Limited
MPS	=	Market price per share
NEPSE	=	Nepal Stock Exchange Ltd.
NIBL	=	Nepal Investment Bank Limited
NRB	=	Nepal Rastra Bank
NSBIL	=	Nepal SBI Bank Limited
NWPS	=	Net worth per share
Rm	=	Return of Market
$\mathbf{R_f}$		Risk free rate
RRR	=	Required Rate of Return
S.D.	=	Standard Deviation
SCBNL	=	Standard Chartered Bank Nepal Limited
SEBON	=	Security Board of Nepal
SEBO-N	=	Security Exchange Board of Nepal
SEC	=	Security exchange center
SML	=	Security Market Line
T-BILLS	=	Treasury Bills

Chapter-I

INTRODUCTION

1.1 Background

Boosting of nations economic growth and solving the problem of underdeveloped economy is widely depends up on the nature of its economic infrastructure. One of the basis elements in achieving a self reliant growth of economy and sustaining the desired level of economic devolvement is an accelerated rate of investment or capital formation in the economy and the rate of investment and capital formation depends up on efficiency of financial market and institutions. The financial system or markets perform this function by channeling the nation's savings in to the best use. It does this by bringing together who have surplus fund and those who wish to borrow to finance their expenditures. This financial market is broadly classified as *Money Market and Capital Market*. Money Market refers to a market where debt securities or less than one-year maturity are traded whereas capital market refers the Market for long-term debt and corporate stocks. The existence of an organized securities market is considered to be pre-requisites for modern free enterprises as well as for a mixed economy.

This study is basically based up on the search and analysis of such factors, which either explicitly or implicitly influence market price of common stock. Though there are thousands of factors, this study includes major factors, which largely shape equity price. As explained above, corporations issue shares to raise equity capital. Those who participate in corporations' IPO (Initial Public Offering) are the initial investors as they buy shares at par form primary market. Listing of newly issued shares in the local/national stock markets starts trading of these shares. Therefore, the real value of shares will be fixed in the floor of stock market. Stock market reports each day's closing price at every day end. This closing price is regarded as the market price of equity of that particular day. Investors and brokers bid up the prices, their continuous bargaining finally yields the closing price. Demand of stock mounts up if the related relevant factors are in good position, this huge demand leads to maximum stock price and if the opposite situation exists, supply of stock will be large which ultimately lowers the stock price. Here, the most important considerable point is the information. Good information results high price where, negative information leads to low price. Information signifies any notice or results related to the corporation. Efficiency of stock market determines the volume of trading of common stock. Huge trading results the best price. Nonetheless, the role of stock market can hot be ignored in searching and predicting the equity price.

In Nepalese context, some financial institutions involved in capital market are; Nepal Rastra Bank, Commercial Banks, Agricultural Development Bank, Nepal Industrial Development Corporation, Employees Provident Funds, Citizen Investment Trust, Co-operative Agencies, 5 Rural Development Banks, Securities board, NEPSE, Rastriya Beema Sansthan, Insurance Companies, Financial institutions, Non-governmental organization, some hotels, manufacturing and trading agencies etc. These institutions play a vital role in the development of capital market. Nepalese capital market can be classified in organized sectors and non-organized sector. Government agencies and other institution, which are already

mentioned above, categorized in organized sectors. They provide long-term fund for the development of agriculture, industrial and commercial sector by investing in stock, debentures and government bonds. Individual sectors, merchants and private sectors also help for the development of capital market. Rural areas are still dominated by unorganized sectors. It implies that mass poverty and exploitation from higher classes are still found in these areas.

1.2 Introduction

The portion of equity capital in the capital structure of any firm is obviously higher than that of other components. This equity capital is raised form the promoters and the investors. Here the important considerable point is that why investors want to invest in any firm? The only reason behind it, is the very desire of having increased wealth. Therefore, corporation's prime concern is to yield higher return for its investors. For this, corporations must have strong profitability index. The degree of investors' welfare is represented by the price of equity, they hold. Equity price is only the measuring rod, which shows the corporation's strength in generating returns over its capital employed. The main issue of this study is to identify the determinants of equity price and the degree of influences of such determinants up on equity price. In general, it is assumed that stock prices move randomly i.e. unidentified movement; however, the basic track that the prices take is due to the performance- related-indicators of the corporations. Needless to say, earning per share indicates the profitability of the corporations, dividend per share reflects the direct cash benefit to the investors, Net worth per share signifies the real or intrinsic value of shares, growth rate is related with the growth potentialities/possibilities of earnings and dividends, required rate of return indicates the rate of return which investors actually desire, last but not least, earning multiplier reflects the ratio of MPS to the EPS. In facts these variables provide the real way for the stock price movement and if we identify the factors in proper manner, we can predict the future price of equity.
In addition to above, efficient market hypothesis also suggests some clues to identify the behavior of stock prices. If market is efficient, demand and supply results the fixation of equity price where, new information is reflected by equity price. Therefore, it is required to explain about security market. Security market is one of the major ingredients of capital market.

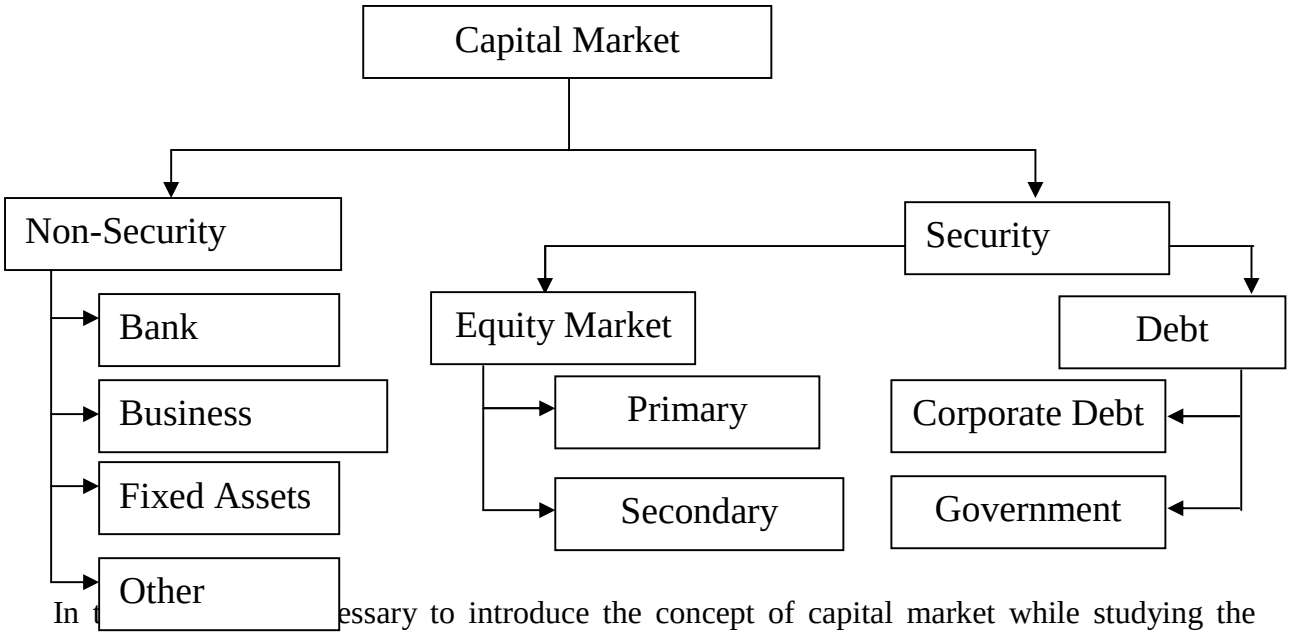
Capital Market

Investment decisions are taken within the frame work provided by a complex of financial institution and intermediaries, which together comprise the capital market.""
The word capital is used in this context implies a long-term commitment on the part of lender and long-term need for the funds on the part of the lender and long term need for the fund on the part of the borrower. Both the borrowers and the lenders coming together in the capital market to play effective financial intermediaries role in the primary and secondary market through the use of various long term capital market instruments. It has a vital role in promoting efficiency and growth. It intermediates the flow of funds from those who want to save a part of their income from those who want to invest productive assets. It is the market, which provides the mechanism for channeling current savings in to investment in productive facilities, that is, for allocating the country's capital recourses among alternative use. in effect , the capital market provides an economy 's link with the future , since current decision regarding the allocation of capital resources are a major determining factor of tomorrow's output . The capital market plays a crucial role in shaping the individual investment and portfolio decisions.
The efficient pricing mechanism of capital market allows the proper allocation of funds. Efficiency is the ability of capital markets, which facilitates securities to incorporate all relevant information in its prices. If capital market is efficient, the current share price of

companies fully reflect available information and there is no question of share price being under priced and overpriced. However, more evidence of market efficiencies has been accumulating recently but investors should learn as fully and carefully as possible about the actual environment that exists in today's investment world. Economical, political, social and technological factors are also directly affecting the capital market. Capital market consists of securities market and non-securities market. Securities market implies mobilization of the funds through issuance of the securities like shares, bonds and debentures by corporate sector and bond, bills and debentures by government. These securities traded in the secondary market are generally negotiable and hence can be traded in the secondary markets. Non-securities market refers to the mobilization of the financial resources by the financial institutions in form of deposits and loans.

Primary and secondary markets are two wings of the capital market. Primary market concerns with the issue of new companies stocks where as the secondary market deals with the previously issued shares. The majority of all capital market transactions occur in the secondary market. The proceeds from the sale of securities in this market do not go to the original issuer, which means that it does not create any new additional capital. In other words, securities are traded among the individual as well as institutional investors. The structure of capital market can be shown as follows;

Chart 1.1: structure of Capital Market



In t essary to introduce the concept of capital market while studying the determinants and pricing behavior of common stock.

The forces of supply and demand interact to determine a stock market price. Prices move in trends because of an imbalance between supply and demand. When the supply of a stock is greater than the demand, the trend will be down as there are more sellers and buyers when demand exceeds supply, prices tend to rise. There are essentially three concepts to explain the movement of stock price. They are,

1) Technical analysis theory,
2) Fundamental analysis theory.
3) Random walk-Efficient market theory.

Technical analysis theory includes study of past price and volume data of stocks to forecast future price movements. It is an alternative approach to predicting stock price behavior in the

literatures of investment management. Technical analysis is market oriented philosophy and it can concentrate on the forces supply of and the demand for shares as reflected in the actions of market rather than the intrinsic worth of share. The analysts or prospective investors who analyze the security to predict the future price of a share on the basis of study of its price movements in the past are known as technical analysts. Fundamental analysis approach involves working to analyze different factors such as economic influences, industry factors, governmental action, firm's financial statement, its competitor and pertinent company information like product demand, earnings, dividends and management in order to calculate an intrinsic value for firm's securities. The analyst who believes on fundamental facts to determine the intrinsic value of stock is popularly known as fundamental analyst or fundamentalist. The third theory involves study of random walk or efficient market hypothesis. In 1990, a French mathematician, Louis Bachelier wrote a scientific paper suggesting, that day-to-day security price fluctuations were random. His idea is known as random walk theory. A number of empirical researches have been done on varied set of data for different time periods to test the random-walk efficient market model for describing share price behavior.

1.3 Statement of Problem

In response to the economic liberalization and globalization policies adopted by the Nepalese government, the number of public limited companies is increasing rapidly specially in service sector such as banking, insurance, finance companies, airlines, hotels etc. The development of Nepal's capital market is also going in sound manner, as there is mandatory to enlist public limited companies in Nepal stock Exchange (NEPSE) which ultimately creates liquidity on shares of such companies issued in the primary market. There are altogether 142 such companies listed in NEPSE. (SEOBN- Annual report, 2064/65:5) though the banking sector has dominant position. Most of the investors are not aware of the financial strength of the companies and they do not analyze company's financial indicators before they invest their funds through primary market- participating in IPO and secondary market-NEPSE. The market price of common stock (share) does not seem to be in accordance with the financial indicators –Net worth per share (NWPS), Earning per share (EPS), and Dividend per share (DPS) and so on. Instead, in determination of the market price of share, there has been major influence of rumors rather strength of the companies. The market price per share (MPS) of commercial banks, especially foreign joint venture Bank's has been much higher than MPS of other sectors. Moreover, the overall NEPSE is depended upon MPS of such companies.

It has been observed that the MPS of public quoted companies is above than their book value. The market value is determined by the supply and demand functions. However, in an efficient market, MPS fully reflects all the historical information publicly available. Here arises the question of efficiency of the Nepalese share market. The high movement of share prices may be the outcome of the efficient market behavior. An article in spotlight states that our stock market is not efficient enough since all the listed companies do not make past information available to shareholders. Many listed companies do not produce their financial statement or annual reports timely to the investors. The dubious and hazardous movement of share prices has no sound fundamental backing of analysis and relationship to past results revealed in limited calculated dividend yield, net worth and price multiples. The investors conclude that there has been a foul play using inside information. The reaction is based on the assumption of strong from of the market efficiency. The security exchange Act strictly prohibits the misuse of inside information but the regulating authorities can make no advance notice of how there is the use of inside information.

It is seen that Nepalese investors do not devote much time in analyzing the strength of companies whose shares they are going to buy. Most of the investors are investing their funds haphazardly without considering risk involved and return pattern in their investments. Therefore, it is must that every investor should be well aware of the degree of risks in which they are investing or going to invest their saving funds. The practice of analyzing various relevant aspects must be brought up in the context of Nepal.
The center issue of this study is whether the MPS of listed companies, especially for selected companies, are really representing the financial indicators, i.e. EPS, DPS, NWPS and price appreciation.

More specifically, the research questions are:

1) What are the major financial indicators, which have major influenced on determining the MPS?
2) Is there any specific relationship of MPS with fundamental financial indicators or is the trend of MPS running in accordance with these financial indicators?
3) Are the common stocks of the sampled companies' equilibrium priced?

Hence this study is sought to answer the above-mentioned questions.

1.4 Objective of study

The basic theme of this study is to study and analyze the pricing behavior of common stock. In other words, this study is targeted to identify such factors, which shape equity price. Basically, financial indicators are taken under consideration. This study also carries out some calculations to arrive at the concrete conclusions. Market price of equity is not only affected by financial indicators but also the rumors regarding the corporation. In this case, reliability of rumors does not matter. Nevertheless, this study is targeted to meet the following objectives:

1) To identify the major financial indicators, which affect on determining the equity prices?
2) To examine and evaluate the relationship of MPS with various financial indicators like, EPS, DPS, NWPS and price appreciation.
3) To identify whether stocks of the sampled companies are over priced, under-priced or equilibrium priced.
4) To provide suggestions on the basis of findings.

1.5 Focus of study

Security prices play a vital role in channeling the flow of capital into various industries. The behavior of price of securities has been a controversial subject matter among the academics of financial and economic circles. To some extent, in fairly competitive and well-advanced economy, the pricing of securities is very satisfactory in capital market. The market prices of the securities are competitive and determined by market forces. There ought not to be any difference between present value and market value of share. In other words, securities prices are set by the demand and supply of securities. Market makers try to quote an equilibrium price that equates the supply with the demand. This study primarily focuses the behavioral responses of equity price when there do exist changes in the relevant financial indicators. That is, this study is trying to test the impacts of various determinants upon equity price. More specifically, the focus of this study is to identify the key determinants of equity prices and their relationship to the MPS. In this way, this study focuses on the issue that “whether the successive price changes of the securities are dependent or independent.” There are various approaches that handle and describe what kind of law governs the security price and how they behave over period. However, there are two main approaches to analyzing

securities i.e. Technical analysis and fundamental analysis. Likewise, efficient market theory is also one of the best approaches to predict the successive price movement of stocks. Technical analyses are designed to measure certain aspects of supply and demand of securities. Technical analysis predicts future prices by studying the historical price movement of stock prices. If the market price changes are independent then the security markets are efficient market where the impact of new information upon security prices is instantaneously. Therefore, successive price changes show dependence, security analyst can just perform technical analysis otherwise shift to fundamental analysis.

1.6 Limitation of study

Due to the lack of adequate infrastructure, limited activities of stock exchange and recent phenomenon, the development of secondary market has remained in floor. It, therefore, signifies that the NEPSE index alone could not measure the degree of overall economic activities. Even more, stock exchange could not cover all the firms under its umbrella. The listed companies as well, do not report their annual report to the SEC. The irony is that data in www.nepalstock.com vary significantly if we compare these data with the AGM report of the concerned company. Nevertheless, this study is mainly concerned with the financial indicators, which influence equity price.

Basically the study is conducted for the partial fulfillment of MBS. As it is said that human beings are bound to mistake with some obvious limitations, which are associated with them, this study will be conducted with a certain limitations as others. The main limitation is time constraint and other are as follows;

1) The study mainly concerned with banking, which are listed in stock exchange limited. These data are based on up to six years transaction period in secondary market.
2) The study is mainly based on secondary data and desk research.
3) It is also limited to analyze these problems that directly affect stock prices.
4) Information will be collected from SEC. Published balance sheet, profit and loss account and other articles.
5) Foreign information and rules affecting the share price is ignored.
6) Among various financial indicators, only four most popular financial indicators are taken under consideration to assess their combined effect on equity price.
7) Descriptive factors of political, economical, legal and social environment are ignored because of the lack of their numerical values

1.7 Scheme of the study

The whole study is divided into five chapters, which includes

1. Introduction
2. Review of literature
3. Research methodology
4. Presentation, interpretation and analysis of data
5. Summary, conclusion and recommendation

Chapter-II
Review of literature

This study is primarily associated with the behaviour of equity price i.e. market price of share. Therefore in this chapter, full efforts made to explore the theoretical aspects of the concerned topic. Investors' prime focus is to get the highest market price of their holdings (shares). And, in the same manner, financial goal of any corporation is to maximize shareholders' wealth. Hence, market price of equity is the meeting point of both – the investors and the corporation. This is the main issue due to which equity price has got tremendous concentration in financial management. Most of the consulted books bring at least one chapter in connection with the issue. However this chapter deals with the basic theoretical concept upon which this study is based. This chapter is divided into two sections – the first section deals with theoretical framework and 'factors influencing stock price' and the second reviews previous studies.

2 Conceptual/ Theoretical frameworks:

This segment mainly focuses the theoretical aspect of common stock, its trading on stock market along with the concept of efficient market hypothesis. In other words, this segment is the book review of this chapter.

2.1 Common stock: Definition

Common stock represents equity or an ownership position in a corporation. It is a residual claim, in the sense that creditors and preferred stock holders must be paid as scheduled before common stockholders can receive any payment. In bankruptcy, stockholders are in principle entitled to any value remaining after all other claimants have been satisfied. Hence, common stock is a legal representation of the right to receive perspective future benefit under stated conditions.

Common stocks are generally 'fully paid and nonassessable'. It is in the sense that common stockholders may lose their initial investment, but not more. That is, if the corporation fails to meet its obligations, the stockholders cannot be forced to give the corporation the funds that are needed to pay off the obligations. However, as a result of such a failure, it is possible that the value of a corporation's share will be negligible. This will result in the stockholders' have lost an amount equal to the price previously paid to buy the shares.

Common stockholders are entitled to stock certificate, which in fact represents ownership position. In other words, a single certificate has typically represented the ownership of a firm's stock with the number of shares held by the particular investors noted on it. Such a stock certificate is usually registered with the books. Dividend payments, voting materials, annual and quarterly reports and other mailing are sent directly to the investors taking in to account the size of his or her holdings.

A share of a common stock can be authorized either with or without par value. The par value of a stock is merely a stated figure in the corporate charter and is of little economic significance.' A company should not issue stock at a price less than par value because stockholders who bought stock for less than par value would be liable to creditors for the difference between the below – par price they paid and the par value.' As stated frequently, common stockholders are legal owners of the corporation and thus they are entitled to bear the risk of ownership. Common stock entitles its owner to dividends but only if the company has earnings out of which dividends can be paid and only if management chooses to pay the dividends rather than to retain all the earnings. Common stock in legal sense does not provide any promise to pay dividends. The holders of common stock may expect dividends but such expectation may not in fact be met. It is, therefore, said that investing in common stock is

riskier than investing in any other 'fixed income securities'. In this way, common stockholders expect to collect dividends and eventually cash dividends stream and the price appreciation. Suppose that the current price of share is P0, the expected price at the end of a year is P1 and the expected dividend is D1, the rate of return that investors expect from the share over the next year is defined as the expected dividend per share D1 plus expected price appreciation per share P1- P0, all divided by the price at the start of the year P0.

$$\text{Expected return} = \frac{P_1 - P_0 + DIVIDEND}{P_0}$$

$$= \text{Dividend yield} + \text{capital gain yield}$$

This return that is expected by investors is often called the market capitalization rate. Prasanna chandra has defined the term 'return' very precisely as he stated that "the return from an investment is the realizable cash flow earned by the its owner during a given period of time. Typically it is expressed as a percentage of the beginning of period value of investment". In this way, in one hand realizable cash flow in form of cash dividend is the main source of return, which in real sense promotes investors to invest their money, and on the other hand, capital gain may be their attraction which may realize when they sell their holdings. Capital gain can be defined as the access money over the purchase price of stock. If stock is sold at a price higher than its purchase price, the investors will be entitled by capital gain. On the contrary, if reverse situation of the above exists, stockholders suffer from capital loss.

As far the legal rights and privileges of common stockholders, they are the owners of a corporation. They have the right to elect the firm's directors, who in turn elect the officers who will manage the business. Each share of stock has one vote. Stockholders can appear at the annual meeting and vote in person, but typically they transfer their right to vote to a second party by means of proxy. Proxy is a " a document giving one person the authority to act for another, typically the power to vote shares of common stocks." (*Weston & Brigham* 7th edition: 676) Management always solicits stockholders' proxies and usually gets them. However, if earnings are poor and stockholders are dissatisfied, an outside group may solicit the proxies in an effect to overthrow management and take over control of the business. This practice is widely known as proxy fight by which we mean ' an attempt by a person, group, or company to gain control of a firm by getting the stockholders to grant them the authority to vote their shares of stock in order to vote a new management' into office. In this way, voting right is the main and foremost important right of stockholders.

Common stockholders often have the right, called the preemptive right, to purchase any additional shares sold by the firm. It is necessary to specifically insert it into the charter. In other word, preemptive right is a " provision in the corporate charter or bylaws that gives common stockholders the right to purchase on a pro rata basis new issues of common stock (or convertible securities) "(*Weston & Brigham* 7th edition: 677) The purpose of the preemptive right is of two fold. First, it protects the power of control of present stockholders. If it were not for this safeguard, the management of a corporation under criticism from stockholders could present stockholders from removing it from office by issuing a large number of additional shares and purchasing these shares itself, management would thereby secure control of the corporation and frustrate the will of the current stockholders.

The second, and by far the more important reason for the preemptive right is that it protects stockholders against a dilution of value. If preemptive right does not exist, and management decides to issue additional shares, this would decline market price per share significantly due

to which the value of old stock dilutes and the new stockholders can have instant profit. For example," suppose 1000 shares of common stock, each with a price of $ 100 were outstanding, making the total market value of the firm $100000. If an additional 1000 shares were sold at $50 a share, or for $50000, this would raise the total market value of the firm to $150000. When the total market value is divided by the new total shares outstanding, a value of $75 a share is obtained. The old stockholders thus lose $25 per share and the new stockholders have an instant profit of $25 per share. Thus, selling common stock at a price below the market value would dilute its price and would transfer wealth from the present stockholders to those who purchase the new shares. The preemptive right prevents such occurrences." (*Weston & Brigham* 7th edition: 677)

Generally common stocks are not of various types i.e. must firms have only one type of common stock. However, in some instances, classified stock is used to meet the special needs of the company. In true sense, common stock that is given special designations, such as class A, class B and so forth, in order to meet special needs of the company, is known as classified common stocks. Small, new companies seeking to obtain funds from outside sources frequently use different types of common stocks.

3. 2 Capital market

4.

A place where long term lending and borrowing takes place is known as capital market. Therefore, the capital market is the market for long term borrowing and lending. The primary instruments of the capital market are stock and bonds (equity and debts). Therefore it includes both the new issue market and the old market. Capital market is concerned with the long-term finance; widely it consists of series of channels through which the saving of individuals and corporations and acts as a mediator to convert the saving in to productive activities which ultimately yields additional capital. In capital market, demand of funds comes from various sector i.e. agriculture, industry, trade and government while the supply of funds comes from individual or corporate savings, institutional investors and surplus of government.

The history of capital market is not so old. The establishment of securities exchange center on 2033 BS developed the capital market. The number of listed companies and their trading was very negligible until the government of Nepal has made economic reforms along with broad financial policy. The privatization of public entities has been started and various banking and finance companies as well as other manufacturing and processing companies in private sector are being established with domestic and foreign investments. As they were established as public limited companies, these companies had to issue some of their shares to the general public. So the real role of the securities market in Nepal took it place only when the banks and finance companies, insurance companies were established.

Nonetheless, the establishment of securities market has guaranteed the trading of shares. NEPSE index is the only one measuring rod of Nepalese economy, which more or less reflects the current status of Nepalese economy.

2. 3 Security market

It is the mechanism created to facilitate the exchange of financial assets. Therefore, security market exists in order to bring together buyers and sellers of securities. Hence, the main focus of security markets is to trade financial assets by way of being the mediator between the buyers and sellers. Security markets can be distinguished in various ways. One way is primary and secondary markets. Primary markets are the markets from where corporations

raise new capital. The corporation, selling the newly created stocks, receives the proceeds from the sale in a primary market transaction. Secondary markets are markets in which existing, already outstanding securities are traded among investors. In short, security markets are secondary (opposed to primary) markets because the financial assets traded on them, were issued at previous point in time.

" Security market is one of the constituents of capital market. It has a wide embracing for the buying and selling securities and all these agencies and institutions which assess the sale and resale of corporate securities." (*Rough* 1996: 50). Stock markets are the place where the financial assets and liabilities are traded for this purpose. The main function of stock market is price discovery and that price fully reflects currently available information.

" The primary motive for buying a stock is to result it subsequently at a higher price. In many cases, dividend will be expected also. Dividend and price changes are the principle ingredients in what investors regard as return on yield." (Donald F 1990:634) The existence of well functioning secondary market, where investors came together to trade existing securities, assures the purchase of primary securities that they can quickly sell them to securities if the need arises." (*John* 1992:48)

Security market provides the best opportunity to investors for mobilizations of invest able resources. It is an important intermediary, which bridges the deficit units and surplus units. The objective of capital mobilization is the transformation of savings and invest-able resources into actual investment. So it plays a crucial role in the mobilization of a constant flow of saving and channeling these financial resources for expanding productive capacities of the country.

According to Weston and Copeland, "stock market are said to provide at least four economic functions

1. Security exchange facilitates the investment process by providing a market place to conduct efficient and relatively inexpensive transaction. Investors thus assured that they would have a place to sell their securities if they decide to do so. The securities markets investors who are wiling to accept a lower rate of return on securities than they would otherwise require provide increased liquidity.
2. They are capable of handling continuous transactions, testing the value of securities. The purchase and sale of securities record judgments on the values and prospects of companies. Those whose prospects are judged favorably by the investment community have higher value, which facilitate new financing and growth.
3. Security prices are relatively more stable because of the operation of the security markets. Securities markets improve liquidity by providing continuous markets that make for more frequent but smaller price changes. In the absences of active markets, price changes are less frequent but more violent.
4. The securities markets aid in the digestion of new security issues and facilitate their successful flotation. (*Weston and Copeland* 9th Ed: 92)

In conclusion, the most effective use of idle and surplus resources can be brought in to practice only by means of market mechanism. Securities market, a structural network of savers and users of fund, is such a market mechanism, which mobilized the fund of savers to the users and thus their financialization boosts the industrialization and trading activities, which will bring the positive result to the economy as a whole. Importantly, securities market performs two functions, namely the raising of funds in form of shares and debentures and trading the securities already issued by the companies. The first aspect is obviously much more important from the point of view of economic growth, the aspect is also considerably important. In fact, if facilities for transferring of existing securities are abundant, the raising of new capital is considered assisted as the buyer of a new issue of security become confident that whenever he wants to get cash, he can find a buyer of the security without much

difficulty. This aspect is called the liquidity of the stock market. Thus the liquidity of the stock market affects the raising of new capital from the market.

2.4 Stock exchange

"The stock exchange is an institution where quoted securities are exchanged between buyers and sellers. The stock exchange provides market in a wide range of traded securities, generally of medium to long-term maturities, issued by companies, government and public organizations." (*Winfield*, 1985: 22)

Most of the investors are attracted to the equity share because of its marketability and liquidity. One may like to buy more shares or selling existing shares from time to time when he is in need of money or when he wants to shuffle his portfolio. Since the stock exchange is a place where a large number of buyers and sellers congregate, one can, by and large, easily find his counterpart for sale or purchase of shares. The investors can convert his shares in to cash at the prevailing market prices readily. The existence of a stock exchange facilitates all these functions without which it is almost impossible to do so.

The key function of securities exchange is to create a continuous market for securities at a price that is not very different from the price at which they were previously sold. The continuity of securities market provides the liquidity necessary to attract investors' fund. Without exchange, investors might have to hold debt security to maturity and equity security to indefinitely. It is doubtful that many people would be willing to invest under such conditions. A continuous market also reduces the volatility of security prices further enhancing liquidity.

The securities exchange helps to allocate scare fund to the best uses. That is, by disclosing the price behavior of securities and requiring the disclosure of certain corporate financial data; they allow investors to assess the securities risk and return and to move their fund into the promising investments. An efficient market is one that allocates fund to the most productive uses. Along with this, there is a lot of functions of securities exchange such as ready market and continuous market, evaluation of securities, safety transactions, capitalization of savings and widening the share ownership etc. however, besides these functions, there are three things a securities exchange must do;

I. Determine a fair price for the securities it trades or price discovery.
II. Enable transaction to be made at as low cost as possible or minimization of transaction cost.
III. Enable transaction to be made at this price quickly and easily or provision for liquidity.

2. 5 Main function of stock exchange: Price discovery

Security is a legal representation of the right to receive future benefits under conditions. Its value depends on expectation of the amount of those benefits and evaluation of risks involved. Expectation and evaluation reflect both the information available and the conclusions, people draw from that information. Since the market may quite big, no single buyer or seller can influence the price of shares to any significant extent.

Price discovery is the process of arriving at fair prices for securities. Fair price indicates the compromise between fair offer prices (lower price at which any well informed buyer is willing to pay). Different markets do this in different way and different ways of organizing a market affect how closely the market approaches the idea of fair prices. In this connection, the profound concept of ideal market or market efficiency is most, since it is the fundamental

precondition for approaching to the fair price. In an ideal market, value of securities equals its price and price reflects all available information about the market.

In the securities market, there is a great importance of demand and supply for price fixation. Exclusively the interacting forces of demand and supply converting on such stock at a given time determine the price of a given stock, that the price and volume of its past transactions are meaningful indicators of the probable relationship of the future and demand pressure. It is likely to encounter in the market and that such relationship is the most important element in determining the probable direction of the price movements.

The stock exchange produces, through its continuous process of evaluation, prices of securities, as close as possible to investment value based on present and future income yielding prospects of various enterprises, capitalized at 'notional rate of interest', the rate which will prevail if and when all the liquid savings are employed into productive purposes.

2. 6 Price determination

The main issue that this study tries to bring in light is the identification of 'Determinants Of Equity Price'. Books, researches and consulted journals have suggested that there is no any such factors which directly shape the MPS in terms of its monetary value. However, the true fact is that certain factors must affect equity price. In this connection, full efforts have been made to identify such factors, which shall be dealt in the following chapters.

The share price is determined in the floor of security market, by the interaction of market forces i.e. demand and supply. The price is determined by the point of equilibrium between supply and demand, the shifting of this balance results in incessant adjusting of price in search of the ever- changing new equilibrium. Then market price moves upward and downward. There are many other reasons that causes the stock price fluctuation, major of them are economic, non-economic and market factors. Because of these factors, demand and supply of shares is affected largely forcing to approach in equilibrium point resulting the fixation of market price.

Dividend and price appreciation is the most important factors among the determinants. Dividends are strongly influenced by the earning power of the firm. There is a very close correlation between corporate earnings and dividends. Earning power, in turn, is strongly influenced by interest rates. In this way, the most fundamental factors in stock price fluctuation lie in the changes in corporate earnings (which shape dividend), growth rate in earnings and dividends, earning multiplier, required rate of return and the net worth. The secondary factors in this regard are business cycle trends and other factors of general business environment such as changes in political conditions, administrative change, technological advancement, cultural changes and the like. Similarly the other influencing factors are informational/signaling factors, which ultimately affect the demand-supply relationship. The work of securities' price determination is really a difficult task. Therefore, two approaches to analyzing the securities are being used; they are fundamental analysis and technical analysis. Fundamentalists use the internal factors of equity price movement where as technicians use market related factors, forming the chart of historical data of price movements and their consequences.

2.7 Theory of price behavior

Demand and supply forces interact to determine the stock market price. If demand is high and supply is low then the price of stock goes up and vice-versa. There are essentially two schools of thought to explain the stock price behavior. They are:

I. Inefficient market theory
II. Efficient market theory

2. 7.1 Inefficient market theory

The main theme of this theory is that the security market is inefficient. This theory is also known as conventional approach of security price analysis. It includes technical analysis theory and fundamental analysis theory, because "Prior to the development of efficient market theory, investors were generally divided into two groups: Fundamentalists and Technicians"(*Reilly* 1986:347). The two groups are explained as follows:

1) Technical Analysis
2)

Technical analysis is an important approach to analyzing securities price. Under this topic, the philosophy of technical analysis and tools used by technician are explained.
A technical analysts or technician is a security analyst who believes, it is not productive to work through all the fundamental facts about the issuing corporation- the company's earnings, its products, forthcoming legislation that might affect the firm, ad infinitum. Instead, technical analysts believe that these innumerable fundamental facts are summarized and represented by the market prices of a security. Technical analysts focus most of their attention on charts of security prices and on related summary statistics about security transactions. As a result, technical analysts are sometimes called chartists. Most technical analysts prepare and study charts of various financial variables in order to make forecasts about security prices, but an increasing number use quantitative rather than graphical tools. Professional technical analysts use dozens of different techniques.
Technical analysis is based on the widely accepted premise that security prices are determined by the supply of, and the demand for, securities. The tools of technical analysis are, therefore, designed to measure certain aspects of supply and demand. Typically, technical analysts record historical financial data on charts, study these charts in search of patterns that they find meaningful and endeavor to use the patterns to predict future prices. Some charts are used to predict the movements of a single security, others are used to predict the movements of a market index, and, still others are used to predict the action of both individual assets and the market. The basic assumptions underlying technical analysis are listed below:

I. Market value is determined by the interaction of demand and supply.
II. Supply and demand is governed by numerous factors, both rational and irrational.
III. Security prices tend to move in trends that persist for an appreciable length of time, despite minor fluctuations in the market.
IV. Changes in a trend are caused by the shifts in supply and demand.
V. Shifts in supply and demand, no matter why they occur, can be detected sooner or later in charts of market transactions.
VI. Some chart patterns tend to repeat themselves.

(J.C. Francis 1986:522)

The essence of technical analysis is that past patterns of market action will recur in the future and can therefore be used for predictive purposes. It is, therefore, can be said that technical analysis includes the study of past volume and price data of the securities to predict future price fluctuations. As this theory assumes that the share price behavior is based on past market information, history tends to repeat itself and hence past patterns of share prices will assist to predict future prices under similar circumstances. Technical analysts or chartist, as they are commonly called, believe that they can discern patterns in price or volume movements and that by observing and studying the past behavior patterns of given stocks, they can use this accumulated historical information to predict the future price movements. Technical analysis comprises many different subjective approaches, but all have one thing in common i.e. belief that these past movements are very useful in predicting future movements. Technical analysts believe in the theory behind chart formations and patterns. They read charts much like ancient astrologers read the stars, looking for "Head & Shoulders" formations. These, they believe, reflect the patterns of buying and selling accumulation and distribution and market psychology.

Stock prices always move in trends because of an imbalance between supply and demand. When the supply of a stock is greater than the demand, the trend will be down as there are more sellers than buyers; when demand exceeds supply, the trend will be up as buyers 'bid up' the prices; and if the forces of supply and demand are nearly equal, the market will move sideways in what is called a 'trading range'. Eventually, new information will enter into the market and the market will start to react again resulting the share price up and down depending on whether the new information is taken as positive or negative. Trends, which are very brief, are called minor trends; those lasting a few weeks are known as intermediate trends; and trends lasting for a period of months are major trends. By analyzing trend lines, we can determine which trend is in force. It helps us to act safely in market both in bullish and bearish market.

Price moves in trends. A trend indicates that there exists an inequality between the forces of supply and demand. Such changes in the forces of demand and supply are usually readily identifiable by the action of the market itself as displayed in the prices. Certain patterns or formations that appear on the charts have a meaning and can be interpreted in terms of probable future trend development.

Followings are the tools used by technical analysts to measure supply and demand and forecast securities prices. The remarkable limitation of these tools is that it is quite descriptive or subjective in its type.

A) The venerable Dow theory: -

B)

The Dow theory is one of the oldest and most famous technical tools; Charles Dow, founder of the Dow Jones Company and editor of the wall street journal around 1900, originated it. Though, the Dow theory is old, many versions of the theory exist and are used even today; it is the basis for much of the work done by technical analysts. The Dow theory is used to delineate trends in the market as a whole or in individual securities. According to Mr. Dow; "The market is always considered as having three movements, all going at the same time. The first is the narrow movement from day to day. The second is the short swing, running from two weeks to a month or more; the third is the main movement, covering at least 4 years in duration." (*The wall street journal* Dec 19,1900)

Dow Theory practitioners refer to these components as:

I. Primary trends are commonly called bear or bull markets. Delineating primary trends is the primary goal of the Dow theorists.

II. Secondary movements last only a few months. Secondary movements are sometimes called corrections.

III. Tertiary moves are simply the daily fluctuations. The Dow theory asserts that daily fluctuations are essentially meaningless random wiggles. Nonetheless, the chartist should plot the asset's price or the market average each day in order to trace out the primary and secondary trends.

C) Bar charts: -

D)

Technical analysts employ different charting techniques. Bar charts have vertical bars representing each day's price movement. Each bar spans the distance from the day's highest price to the day's lowest price, and a small cross on each bar marks that day's closing price. Line charts and bar charts usually have bar graphs along the bottoms of the charts showing the volume of shares traded at each date. Next to the prices, trading volume is the second most important statistic technicians follow. As an example of how technical analysts try to relate stock price moves and the volume of shares traded, we can consider a " head and shoulders" pattern formation. A head and shoulders top (HST) is a formation, which is supposed to signal that the security's price has reached a top and will decline in the future. The market action that firms a HST can be broken down in to four phases.

I. Left shoulder: A period of heavy buying followed by a lull trading pushes the price up to a new peak before the price begins to slide down.
II. Head: A spurt of heavy buying raises prices to a new high and then allows the price to fall back below the top of the left shoulder.
III. Right shoulder: A moderate rally lifts the price somewhat but fails to push prices as high as the top of the head Before decline begins.
IV. Confirmation or break out: Prices fall below the neckline, that is, line drawn tangent to the bottoms of the left and right shoulders. This break out is supposed to precede a price drop and is a signal to sell.

Technical analysts have described numerous patterns that they believe will indicate the direction of future price movements. Triangles, pennants, flags, channels, double tops, triple tops, wedge formations and diamonds are only some of the patterns for which chartists search. A minority of chartists employs very complex charts and/or search for very intricate patterns. Point and-figure charts and the Elliot wave theory are the names of some of these more elaborate charting techniques. In addition, someone with a rich imagination can conceive new patterns and interpret them as they see fit at any time.

C) Contrary opinion theories: -

Theories of contrary opinion advocate doing the opposite of what some particular group of investors is doing. The odd- lot theory, for instance, assumes that small investors are usually wrong, and it is therefore advantageous to pursue strategies that are the opposite of what the odd- lotters are doing.

Round lots are transactions involving multiples of 100 shares. Odd lots are transactions of 100 shares. Since the sales commission on odd lots are higher than the commissions on round lots. Most odd- lot purchases are made by amateur investors with limited resources- "the man in the street."

The profound idea in these theories is the construction of odd-lot purchases- sales index, which is typically plotted concurrently with some market – some chartists use it as a leading indicator of market prices. High odd lot purchases-sales ratios are presumed to forecast falls

in the market prices, and low purchases-sales ratios are presumed to occur towards the end of bear markets.

Several chartists follow short sales trading statistics. Some short sales followers use aggregate statistics as an indicator of overall market sentiment, and some follow the short sales for individual securities in search of information about that security. However, both groups interpret a high level of outstanding short sales as a sign of increased future demand for securities with which to cover outstanding short positions. Thus, rising short sales is believed to foretell future demand for securities that will bid up their prices. This is the short sales contrary theory.

E) Confidence index: -

F)

Two indicators of confidence have been popular with market analysts. One is based upon **Barron's ratio** of higher to lower-grade bond yield. The other compares **standard and poor's** low priced and high – grade common stocks.

Barron's indicator divides high-grade bond yields by the relatively higher yields of low-grade bonds. A rise in the index indicates a narrowing of the spread between high-and low-grade bonds. Narrowing yield spreads were indicative of boom times or rising stock markets; so a fall in index would imply widening yield spreads and recessed conditions in the economy and markets. The assumptions behind the value of index is that 'smart' money moves from high to low quality, or vice- versa, in anticipation of major market shifts, and such a move causes yield spreads to change. To the extent that this is true, Barron's confidence index is a leading indicator of the economy and the stock market.

The S & P confidence indicator measures low priced common stocks and high-grade common stocks. Speculative stocks are assumed to be closely identified with low priced shares. When the market is become advance, investors are willing to take greater risks and buy speculative (low priced) stocks. During market declines, quality (in high-grade stocks) is sought. The index (low-priced/high grade) would fall prior to a market peak as confidence wanes and speculative stocks are changed for high quality shares. A rise in the index would signal revival from a market bottom.

E) Breadth of market: -

Breadth –of - market indicators are used to measure the underlying strength of market advances or declines. To gauge the real underlying strength of the market, analysts need tools to measure the breadth of the market's moves. One of the easiest tools is to compare the number of issues that advanced in price and the number that declined in some particular market. More specifically, the number of issues whose prices declined is subtracted from the number of issues whose prices advanced each day to get daily net advances or declines. Cumulating the daily net advances and declines; the breadth of market statistic is obtained. Only the direction, not the level, of the breadth of market statistics is relevant.

G) Relative strength analysis: -

H)

The relative strength approach to technical analysis suggest that the prices of some securities rise relatively faster in a bull market or decline relatively more slowly in a bear market than other securities- that is Some securities exhibit relative strength. Relative strength technicians believe that by investing in securities that have demonstrated relative strength in the past, an

investor will earn higher returns because the relative strength of a security sometimes continues for some times. The relative strength may be applied to individual securities or industries. Technicians measure relative strength in several ways. Some simply calculate rate of returns and classify those securities with historically high average returns as securities with high relative strength.

G) Charting volume of shares traded data: -

Many technical analysts believe they can get a better idea of whether a market is bullish or bearish by studying trading volume. Volume is supposed to be a measure of the intensity of investors' emotions. There is a Wall Street adage that " it takes volume to move a stock", either up or down in price. And a large amount of trading volume is often associated with large price changes. Thus, it is reasonable for stock price chartists to study volume data in an effort to discern what might cause specific stock price movements. But the cause-and-effect relationship between the volume of shares traded and the price change in the traded security is vague and hard to unravel.

Volume technicians watch volume most closely on days when supply and demand appear to be moving to a new equilibrium. If high volume occurs on days when prices move up, the market is considered to be bullish. High volume on days when prices are falling is a bearish sign. If the same price changes occurred on low trading volume, they would be considered less significant.

There is one occasion when falling prices and high volume are considered bullish. When technicians feel the end of a bear market is near, they watch for a high volume of selling as the last of the bearish investors liquidate their holdings- this is called a "selling climax." A selling climax is supposed to eliminate the last of the bears that drive prices down by selling, clearing the way for the market to turn up.

Some technicians also look for "speculative blow off" to mark the end of a bull market. A speculative blow off is a high volume of buying that pushes prices up to a peak; it is supposed to exhaust the enthusiasm of bullish speculators and make way for a bear market to begin. Technicians who believe that a speculative blow off marks the end of a bull market say, "The market must die with a bang, not a whimper."

I) Moving-average analysis: -

J)

Technicians, who follow this tool to analyze and predict the security price, are called moving average technicians or rate of change technicians. Under this method, they predict security price by watching a moving average of the price of security. The moving average is used to provide a smoothed, stable reference point against which the daily fluctuations can be gauged. Rate-of-change analysis is used for individual securities or market indexes.

Selecting the span of time over which to calculate the moving average affects the volatility of the moving average. Some technicians who perform rate of change analysis use a 200-days moving average of closing prices. The moving average changes each day as the most recent day is added and the two-hundred-and first day is dropped. In this way, technicians construct moving average chart.

When the daily prices penetrate the moving-average line, technicians interpret this penetration as a signal. When the daily prices move downward through the moving average, they frequently fail to rise again for many months. Thus, a downward penetration of a flattened moving average suggests selling. When actual prices are above the moving average but the difference is narrowing, this is a signal that a bull market may be ending. Several buy and sell signals followed by moving average chartists are given below.

Moving average analysts recommend buying a stock when (1) the moving average flattens out and the stock's price rises through the moving average, (2) the price of a stock falls below a moving average line that is rising, and (3) a stock's price that is above the moving average line falls but turns around and begins to rise again before it ever reaches the moving average line.

Moving average chartists recommend selling a stock when (1) the moving average line flattens out and the stock's price drops downward through the moving average line, (2) a stock's price rises above a moving average line which is declining and (3) a stock's price falls downward through the moving average line and turns around to rise but then falls again before getting above the moving average line.

The buy and sell signals initiated by a moving average trading system vary with the length of time over which the moving average is calculated. Moving average calculated over short time span tend to touch off many unfruitful trades.

Adherence to the moving average trading rules over many months and many different stocks show that sometimes-profitable trades are signaled. But the rules touch off unprofitable trades, too. This is why most technical analysts use more than one technique of technical analysis and compare the buy and sell signals issued by these different technical tools before they actually trade.

In conclusion of this segment, it is observed that all the technical analysis tools have one common characteristic- they attempt to measure supply and demand. Technical analysis assumes that at least some of the shifts in supply and demand occur gradually over time, rather than instantaneously. When shifting prices are detected, they are presumed to be the result of gradual shifts in supply and demand rather than a series of instantaneous shifts that all coincidentally happened to be moving in the same direction. Since these shifts are expected to continue as the price gradually reacts to news or other factors, the price change pattern is extrapolated to predict future price changes.

Some economists believe that technical analysis does not adequately measure supply and demand conditions or predict prices. These disbelievers suggest that security markets are efficient markets that impact new information into security prices instantaneously. As a result, these financial economists believe that security price changes are a series of random numbers, which occur in reaction to the random arrival of news. When a security's price moves in the same direction for several days, those who believe that securities markets are efficient interpret these moves as a series of independent changes in supply or demand, which coincidentally happen to move the price in the same direction. They assert that technical analysts are wrong in believing supply and/or demand adjust gradually, causing trends that may be used for predicting future prices.

3) Fundamental Analysis

4)

Fundamental analysis approach involves working to analyze different factors such as economic influences, industry factor, governmental actions, firm's financial statement, its competitors and pertinent company information like product demand, earnings, dividends and management in order to calculate an intrinsic value for firm's securities. The analyst who believes on fundamental facts to determine the intrinsic value of stock is popularly known as fundamental analyst or fundamentalist.

Fundamentalists forecast stock price on the basis of economic, industry and company statistic. The principle decision variables ultimately take form of earnings and value with as risk-return framework based upon earning power and the economic environment.

Fundamental analysts believe in to companies' earnings, their management, economic outlook, firm's competitors' market conditions and many other factors.

The objective of fundamental security analysis is to appraise the intrinsic value of a security. The intrinsic value is the true economic work of financial assets. " The fundamentalists maintain that any points of time, every stock has an intrinsic value, which should in principle be equal to the present value of the future stream of income from that discounted at an appropriate risk related rate of interest." (*Bhalla*, 1983:283). Therefore the actual price of security is considered to be a function of a set of anticipation. Price changes as anticipation changes which in turn change, as a result of new information. In other words; a new piece of news is released, securities market prices will adjust towards the new values. "The value of common stock is simply the present value of all the future income which the owner of the shares will receive." (Francis, 1986:398) And the actual price should reflect intrinsic value of the stock i.e. good anticipation of cash flows and capitalization rate corresponding to future time period. But in practice, first it is not known in advance what the appropriate discount rate should be for a particular stock? Therefore, fundamentalists estimate their intrinsic value by studying in detail of all matters that is relevant to company. There are various factors that fundamentalists take in to account to reflect the price of the securities. These factors are identified as the determinants of equity price. In 'analysis' chapter of this study, their relationship with market price of equity and effects of such factors over MPS shall be explored. Fundamental analysis includes the following variables under consideration:

A. Business environment analysis
B. Industry analysis
C. Company analysis

A) Business environmental analysis

B)

The primary motive for buying a stock is to sell it subsequently at a higher price. In many cases, dividends will be expected also. Dividends and price changes are the principal ingredients in what investors regard as return or yield.

If an investor had impeccable information and insight about dividends and stock price over subsequent periods, he would be well on his way to great riches. But the real world of investing is full of political, economic, and social and other forces that we do not understand sufficiently to permit us to predict anything with absolute certainty. Forces intermix and flow at cross currently. Nothing is static.

The significance of these theme is that stock price is highly affected by external factors (i.e. out of control of management). Determination of stock price is thus a critical task and investors should put their full efforts to analyze existing environment so that they could forecast the future dividends more accurately and price changes more precisely.

Business environmental influence is the root cause, which appears in the general economic environment and has great influence over stock price. General economic environment includes national income, defense expenditure, monetary policy, fiscal policy, trade and commerce, export and import etc. it indicates the economic movement of the country. For example, issuance of new financial policy, new monetary policy, rules and regulation regarding trade and industry, changes in economic growth rate, existing political situation and so on. These all have direct relationship to the nation's economic activities i.e. such changes will shape the economic activities enough to make them consistent with the changed situation and as a measuring rod of economy, share prices reflect the situation in terms of capital gain or loss. In this way, if the elements of economic environment function well, that must generate higher economic growth rate and finally yields higher stock price: stock price reflects the financial achievement of corporations and handsome achievement is possible only when the elements of economic environment react positively. Hence, economic factors plays vital role in determining equity price.

The significance of these conclusions seems to be that in order to estimate stock price changes, an analyst must spend more than a little time probing the forces operating in the overall economy, as well as influences peculiar to industries he is concerned with. A failure to examine overall economic and industry influences is a naïve error, that of assuming that individual companies follow their own private paths in a vacuum.

It is important to predict the courses of the national economy because economic activity affects corporate profits, investor attitudes and expectations and ultimately security prices. An outlook of sagging economic growth can lead to lower corporate profits, a prospect that can engender investor pessimism and lower security prices. Some industries may not decline as much as securities in general. The key for the analyst is that overall economic activity manifests itself in the behavior of stocks in general- or the stock market, if the analyst will. This linkage between economic activity and the stock market is critical.

General economic influences are quite subjective factors because it is not possible to measure the degree of influences, which arise due to the changes in economic factors. However ranking is possible and investors could understand the forthcoming fluctuations in share prices and degree of influences could be perceived subjectively rather discretely.

In conclusion, changes in the elements of general economic environment surely bring change in the price of equity. Because such elements have direct relationship with the corporate profits, annual return shall be higher and remarkable price appreciation will be possible. On the contrary, if adverse situation exists, there must be either lower corporate profit or loss, which eventually leads to decline in equity price. It is, therefore, regarded as the principal determinant of equity price.

C) Industry influences analysis: -

D)

Investing is a business of relative changes. When the economic outlook is assessed along with the direction of changes in the overall market for stocks, the analyst must realize that even though industry groups and/or individual companies may find it difficult to 'buck the trend', they do not necessarily respond to the same degree.

For the analyst, industry analysis demands insight into 1) the key sectors or subdivisions of overall economic activity that influence particular industries and 2) the relative strength or weakness of particular industry or other groupings under specific sets of assumptions about economic activity.

Economic researches and studies have proved that when the GNP is growing, unemployment is relatively low and the general economic climate is optimistic. An economic forecast based upon any of the approaches would probably show high and increasing levels of expenditures on consumer durables, inventory and plant & equipment. Because business is buoyant and it is generally expected that this will continue, businessman accumulate inventory in anticipation of still higher sales level and they also increase their capacity through plant and equipment expenditures. At the same time, on the consumer's side of the market, individual households are experiencing high level of personal discretionary income and they are free to spend some of this money on such things as residential housing, automobiles and other consumer durables. As a result, sales volume mounts up which eventually increases corporate profit. Hence, it enhances market price of equity. Therefore, it is far more important to analyze the economy and industry relationship.

Industry analysis supports investors by providing the information about various aspects of concerned industry. Therefore, industry influences are regarded as one of the major determinant of equity price. In this connection, full efforts will put to enumerate and discuss the following key characteristics.

1. **Past sales and earning performance: -**
2.

Before taking any investment decision, investors sought information about the past performance of the concerned industry in terms of past sales and earnings. It is generally believed that industries having better performance in the past will perform at least the same as of before if other factors remained constant. Due to this reason, assessment of the historical performance is regarded as one of the most effective steps in forecasting company's future.

Certainly, two factors with a central role in the ultimate success of any security investment are sales and earnings; therefore, in order to gain a perspective from which to forecast, looking at the historical performance of sales and earnings is helpful.

One important factor the analyst might uncover is that the history of the industry is very brief. This finding alone might make him more cautious about a commitment in this industry because if the industry has not proved its ability to whether a variety of economic growth prospects, the opportunity of getting in on the ground floor might be a paramount consideration.

The historical record of the industry is crucial for yet another reason- namely, the calculation of both average levels and stability of performance in both sales and earnings, including growth rate calculations. Even though past average levels or past variability may not be repeated in the future, the analysts need to know how this industry has reacted in the past. With knowledge and understanding of the reasons behind past behavior, he is better able to assess the relative magnitudes of performance in the future.

Cost structure of the industry is another related factor that the analyst must also consider. It is due to the reason that cost structure shapes corporate profit. By cost structure, we mean the relationship of fixed to variable costs. Higher the fixed cost component, the higher the sales volume necessary to achieve the firm's break-even point. Conversely, the lower the relative fixed costs, the easier it is for a firm to achieve and surpass its break-even point.

2) Permanence of the industry: -

Another important factor in an industry analysis is the relative permanence of the industry. Permanence is a phenomenon related to the products and technology of the industry. If the investors feel that the need for this particular industry will vanish in an extremely short period of time, it would seem foolish to invest funds in the industry. Sometimes an industry fades from the scene because of a replacement industry that eliminates or diminishes the need for the original industry. Thus in this age of rapid technological advancement, the true degree of permanence of an industry has become an ever more important consideration in industry analysis.

3) The attitude of government toward the industry:

-

It is another factor, which is more influential in determining the possible investment decision. It affects equity price by way of shaping corporate profits. Therefore, it is important for the analysts or perspective investors to consider the probable role; government will play in the industry. Will it provide support- financial or otherwise? Or will it restrain the industry's development through restrictive legislation and legal environment? For example, if the government feels that foreign competition is too severe for a particular domestic industry, it can impose restrictive import quotas and/or tariffs that would tend to assist the domestic industry. Conversely, if the government feels the

domestic industry is becoming too independent, it can remove any existing barriers and thus aid foreign competition. Furthermore, government can assist selected industries through favorable tax legislation.

As government becomes more influential in attempting to regulate business and to advocate consumer protection, the permanence of the industry might well be necessarily drive it out of business, but in that profits of the industry can be substantially lessened. Sometimes an industry declines in importance because of legal restrictions that are placed upon it.

5) Labour conditions: -
6)

Another influential factor, which affects corporate profit, is the state of labour conditions. That is, as unions grow in power in economy, the state of labour conditions in the industry under analysis becomes ever more important. In other words, if we are dealing with a very labour intensive production process or a very mechanized capital-intensive process where labour performs crucial operations, the possibility of a strike looms as an important factor to be reckoned with. This is particularly true in industries with large fixed costs, for fixed costs such as rent and insurance continue even when production is curtailed. If a strike occurs in such an industry, for example, steel manufacturing; the large fixed costs would cut deeply in to profits earned before and after the strike.

In a labour intensive industry, the variable costs would undoubtedly dominate the fixed costs; however, even here, the loss of customer goodwill during a long strike would probably more than offset the possible advantages of low fixed costs. That is, customers would find other suppliers and even the low fixed costs might be difficult for the firm to cover.

5) Competitive conditions: -
6)

Another significant factor in industry analysis is the competitive conditions in the industry under study. One way to determine the competitive conditions is to observe whether any barriers to entry exist. Three general types of barriers are

I. A product differentiation edge that forestalls the entry of competition
II. Absolute cost advantages
III. Advantage arising from economies of scale.

The investment implication when examining an industry that has significant barriers to entry should be clear. An analyst or perspective investor would like to see that the industry in which he is considering investment seems to be well protected from the inroads of new firms; if the industry were protected by product differentiation, not only would it be difficult for new firms to enter it but it would also be exceedingly difficult for new industries to develop in completion with the market currently owned by existing industry. Hence, competitive conditions demand for the best product and services in order to survive in the market. The successful companies shall have remarkable corporate profit and as a result such companies' equity price certainly mounts up. In this way, competition is regarded as one of the important determinant of equity price.

2.7.2 Efficient Market Hypothesis

Market efficiency means that the market price of a security represents the market consensus estimate of the value of security. If the market is efficient, it uses all information available to it in setting a price. Investors who choose to hold a security are doing so because their information leads them to think that the security is worth at least its current market price. Those who do not purchase the stock interpret their information as a lower appraisal. An efficient financial market exists when security prices reflect all available public information about the economy, financial markets, and the specific company involved. The implication is that market prices of individual securities adjust very rapidly to new information. As a result, securities prices are said to fluctuate randomly about their 'intrinsic' values. New information can bring change in the intrinsic value of a security, but subsequent security price movements will follow what is known as random walk (changes in price will not follow any pattern). Contrary to often-quoted passage of Shake Speare and Santayana, history- at least in the stock market- is not repetitious or helpful. This simply means that one cannot use past security prices to predict future prices in such a way as to profit on average. Moreover, close attention to news releases will be for naught.

Market efficiency is another most profound idea to affect the investment decision process in security market, mainly in equity market. This means that efficiently priced markets in which the prices of security do not depart for any length of time from the justified economic values. Security value (estimated economic values) in market is determined by investment expectation about earning, risk and so on. In an efficient market, if the efficient market value is going to be changed as rational investors, they react with new information and set revised estimated economic value quickly and accurately. Thus securities are efficiently priced on a continuous basis obviously and positively the stock market has an efficient and significant implication for investors.

The word efficiency has been used in security market in various logically distinct concepts. Efficiency is one of the profound ideas that affect the investment decision process. Market efficiency may be defined in different context of areas for instance, organizational efficiency, investment efficiency, allocation efficiency, informational efficiency, operation efficiency etc. Efficiency means efficiently priced market in which prices of securities does not depart from justified economic values for securities which are determined by investors' future expectation about risk, earning and so on. Market price of shares is deviated from justified economic values, as rational investors of efficient security market. They try to adjust the estimated economic values according to new information arises in an efficient market price. Thus securities are efficiently priced on a continuous basis.

Efficient market hypothesis (EMH), which has a significant implication for investors in stock market, would directly affect the investment process and investment decision. Information is the center of efficient market concept, from which investors assess the economic value of stock. Information indicates both the known information and belief about the future. So 'efficient refers to quick and accurate reflection of information in prices.' (*Johns* 1992: 423) Efficient market concept also assures that availability of information must be reflected in prices. It includes past and current information as well as unannounced information. Furthermore, information that can be reasonable inferred is also assured and reflected in prices. These types of information have quickly and accurately transferred nature i.e. security price quickly adjust such information. Thus the efficiency of security prices depends on the speed of price adjustments to any available information. The more speed of adjustment are, the more efficient the prices.

An efficient market is defined as one in which the price of security fully reflects all known information quickly and accurately. The security price must be reflected by the available

information. Therefore, security prices and return are determined in the stock market. Quickly and accurately dissemination of information is another concept that the investors will assimilate all information into prices in making buy and sale decision. So, current stock price incorporates all available information. According to Reilly, in buying and selling process of securities, investors concern their nature and are also aware of information adjustment. "Efficient market is that there are large number of knowledge and profit maximizing independent buyers and sellers. New information is generated randomly and investors adjust the information rapidly."(*Sharpe* 1998:15) They are also highlighted that in efficient market, it is only possible to earn normal profits and normal rate of return in their investment.
"An efficient market is one where a security's current price gives the best estimate of its time watch. In an efficient market, there are higher free launches non-expensive dinner. It is not possible to systematically gain or lose profits from trading on the available public information." (*Weston & Copland* 1995; 731)
All these definitions are related to information efficiency. Finally, it can be concluded that information dissemination in market plays a significant role to estimate the market price of securities. Rapid and accurate adjustment of information system has signified more efficient market and only possible to earn normal profits and normal gain. The subject of market efficiency has been much concerned area of the study in recent time. The efficient markets are not only related to informational efficiency but also operational and allocation efficiency. Allocation efficiency signifies that rate of return adjusted the risk that are equated the margin for all investors. At time, minimum transferred cost of investment funds refers operational efficiency.
According to CP Johns "efficient market can exist if the following events occur:

1. A large number of knowledgeable profit maximizing investors exists who actively participate in the market by analyzing, valuing and trading stocks. These investors are price taking that is one participant alone cannot affect the price of the securities.
2. Information is costless and widely available to market participants at approximately the same time.
3. Information is generated in a random fashion such that announcements are basically independent of one another. Investors reach quickly and accurately to the new information causing stock price to adjust accordingly."

If above conditions meet in practice, the investors adjust security price rapidly and accurately assuming that price maker informational factors are independent to each other and also more random. The price change of today is independent as compared to yesterday because investors react to the new information independently in the market today. The question exists after achieving the efficient market that how efficient exists and which is implied for investors. The 'How' question is related to form of market efficiency and 'What' question is related to implication of market efficiency.
EMH theory holds:

1. that stocks are always in equilibrium and
2. that it is impossible for an investor to consistently ' beat the market'

Essentially, those who believe in the EMH note that as new information about a stock becomes available, all analysts or perspective investors receive and estimate it at approximately the same time. Therefore, the price of the stock adjusts immediately to reflect any new development.
"Financial theorists generally define three forms, or levels of market efficiency.

1. the weak form of EMH states that all information contained in past price movements is fully reflected in current market prices. Therefore, information about recent trends in a stocks price is of no use in selecting stock- the fact that a stock has risen for the

past three days, for example, gives us no useful clues as to what it will do today or tomorrow. People, who believe that weak-form efficiency exists, also believe that " tape watchers" and "chartists" are wasting their time.

2. the semi-strong form of the EMH states that current market prices reflect all publicly available information. If this is true, no abnormal returns can be gained by analyzing stocks. Thus, if semi strong form efficiency exists, it does not good to pore over annual reports or other published data, because market prices will have adjusted to any good or bad news contained in such reports as soon as they came out. However insiders (say, president of companies), even under semi-strong form efficiency, can still make abnormal returns on their own companies' stocks.
3. the strong form of EMH states that current market prices reflect all pertinent information whether publicly available or privately held. If this form holds, even insiders would find it impossible to earn abnormal returns in the stock market." (*Weston & Brigham* 9th ed: 242)

Many empirical studies have been conducted to test for the three forms of market efficiency. Most of these studies suggest that the stock market is indeed highly efficiently in the weak form and reasonably efficient in the semi strong form, at least for the larger

And more widely followed stocks. However, the strong form EMH does not hold, so abnormal profits can be made by those who possess inside information.

What being does the EMH have on financial decisions? Since stock prices do reflect public information, most stocks do seem to be fairly valued. This does not mean that new developments could cause a stock's price to soar or to plummet, but it does mean that stocks, in general, are neither overvalued nor undervalued- they are fairly priced and in equilibrium.

If the EMH is correct, it is a waste of time for most of us to analyze stocks by looking for those that are undervalued. If stock prices already reflect all available information and hence are fairly priced, one can "beat the market" only by luck, and it is difficult, if not impossible, for any to consistently out perform the market averages. Empirical tests have shown that the EMH is, in its weak and semi strong forms, valid. However people such as corporate officers who have insider information can do better than the averages, and individuals and organizations that are especially good at digging out information on small, new companies also seem to do consistently well. Also, some investors may be able to analyze and react more quickly than others to releases of new information and these investors quickly bring market prices into equilibrium.

"In aggregate, it is concluded that the evidence is constituent with efficiency with all forms expect that only publicly available information seems to be reflected in security prices. Information not yet publicly available is necessarily reflected. Results of research emerging from the USA particularly are showing some capital market inefficiencies. This may indicate that the application of more modern and sophisticated statistical techniques is revealing inefficiencies, which are not previously apparent. However, for must practical purposes we can probably say that the stock exchange efficiently prices securities which are traded there." *(Mclaney,* 1991:197)

2.8 Determinants of Equity Price

What factors determine equity price? This is the core question of this study. Technicians and fundamentalists analyze numerous factors to trace out the track of equity price. Along with their conclusions, one emerging concept regarding the stock price is "Random walk theory". The basic theme of random walk theory is that Market forces determine equity price. The interaction of demand and supply forces ultimately yield equity price. If the theory is adopted, the real

determinants may be the whole factors, which primarily influence demand and supply. Nevertheless, technical analysis, fundamental analysis and efficient market hypothesis jointly supports to project equity price more precisely. It is ideal to follow these three approaches jointly.

However, this study tries to explore the inherent strength from which the equity price takes its initial shape. Stocks price fluctuate remarkably on the passage of time. Thousands of factors influence during the trading. It is impossible to cover these all. Therefore, well-known equity related financial indicators are taken under consideration to achieve the objective of this study. It is in practice that firms and companies report some financial indicators as a basis or a measuring rod of their financial health. The popular financial indicators are EPS, DPS, NWPS and price appreciation (Capital Gain). These financial indicators are tested on the basis of correlation coefficient. If there are proper relationship between the market price of stock and the selected financial indicators, these indicators are assumed as the determinants of equity price. Obviously, EPS, DPS, NWPS and price appreciation have good relationship (either negative or positive) with MPS. Various theories and models also prove this fact. Therefore, EPS, DPS, NWPS and Capital gain are the real determinants of equity price.

Earning Per Share:

It is the most popular financial indicator. It gives close insight about the earning power of the firm. In fact, it is the net profit, represented in terms of per share. Equity shareholders shall receive cash dividend from this EPS. If EPS is not sufficient, shareholders entitle no any cash benefit. Therefore, EPS is assumed as the source of benefit to existing shareholders. It is directly connected with the profitability of firm. It reflects the financial performance because higher the amount of net profit more will be the EPS. Investors invest their funds in equity share for future benefit. That is, their prime desire is to achieve higher cash divided annually. Here notable point is that cash dividend is the product of EPS. Stocks having EPS is more marketable than the stocks having lower EPS. Therefore EPS is regarded as the root determinant of MPS. EPS always influence MPS positively. It is seen that firms, having zero or negative EPS, have market value below than par. If cash dividend is not distributed from EPS, or the firm retains profit, this also benefits investors because it pushes up the amount of price appreciation. Therefore EPS is must for every organization to have higher market value of their common stock.

Corporation put their full efforts to maximize the shareholder wealth. One of the most important ways of maximizing the shareholders wealth is to generate higher EPS, which will be sufficient to distribute cash benefit, and to retain for plough back. Cash benefit is the short-term attraction where as retained earning is long term attraction because it supports to increase net worth per share.

Because of these reasons, EPS, the most popular financial indicators, is taken as the most important determinant of equity price. Its impact on MPS will be shown is chapter IV.

Dividend per share (DPS):

Common stocks or share represents the ownership position in a company and the holders of common stocks are the owners who share all the profit and losses of the corporation. In this ground, investor forgoes opportunity in the expectation of receiving handsome annual return with increased value of their holdings.

Dividend refers the portion of firm's net earning which are paid out to the shareholders. After the successful completion of business operation, every corporation in each fiscal year reports their financial statement from which new information about the corporation can be gathered. One of the mostly valued information is net profit. This net profit will be appropriated among various stakeholders i.e. some of its part will be distributed to the stockholder as a cash dividend and some portion will be retained for investment. When cash dividend is distributed, it is the direct benefit to the common stockholders and retained earning will benefit them in future by way of having appreciated price of the stock from which investors will able to achieve capital gain. Therefore, the amount of cash dividend is highly influenced by corporate profit and the management's decision regarding the distribution of cash dividend.

"When the board of director of a corporation declares a cash dividend, it specifies a date of record. At the closes of business that day, lists of stock holder on the list are entitled to the dividend."(*Vanhorne* 12ed: 309)

Once a dividend is declared, stockholders become general creditors of the company unit the dividend is actually paid; the declared but unpaid dividend is a current liability of the company coming out from retained earnings. Most company that pays dividend that do so on a quarterly basis, though semiannual or even annual intervals are sometimes used.

The division of a earning of a company between dividend payout and retention of earning affects the market price of shares or not, is an important question. The prime objective of corporate management is to maximize the value of the company and the market price of shares of the company is considered as a competent variable to indicate the value of the company. However, behavior of market price of share fails to show simple relationship of this nature. The precise effect of dividend policy on market value of shares is not at all clear.

In conclusion, DPS influences equity price on short-term basis. Though many theories have suggested that DPS never influence MPS, it reduces fund, which can be plough, backed if not distributed. However, investors are generally tempted to annual cash benefit. The basic reason behind investment in equity

shares is to get instant cash benefit. Nevertheless, in our stock market, DPS plays significant role in forming equity price. DPS promotes trading of securities. High trading precisely fixes equity price.

Net worth per share (NWPS) :

It is also called book value per share. It is one of the most popular indicators among numerous financial indicators. NWPS indicates the shareholder's wealth is terms of per share. Net worth per share is the core value of equity. In other words, net worth is the shareholders capital, which includes equity contributed by shareholders along with undistributed profit. More precisely, it includes paid up capital, share premium, general reserve, special reserve, capital reserve, sinking fund, and any undistributed profit appearing in balance sheet. However, fictitious assets must be deducted while computing shareholder capital.

By definition, there is always positive relationship between market price and net worth. Higher the amount of net worth more will be the amount of MPS. As stated earlier, net worth is the book value of shares outstanding. Net worth is also a good measuring rod of financial health of any corporation. If net worth per share is less than paid up capital per share; such companies' shares are less tradable and reliable in the security market. Investors' hesitate to buy and sell of such securities. Considering this fact, our study has taken NWPS as a principal determinant of equity price.

Financial goal of a firm is to maximize the shareholders wealth .It means that shareholders always prefer increased value of their holding .If net worth is significantly higher than paid up capital or par value of share, it brings positive information about the company which eventually affects security market. Due to the positive information, security market reports sizable closing price at the day end. Therefore analysts / prospective investors must consider NWPS before taking decision regarding the investment in share.

Capital gain / Capital loss:-

By investing in equity share, investors are benefited from two ways;

1. Annual cash inflow in form of cash dividend
2. Price appreciation of their holding.

Price appreciation is the synonym of capital gain. Shareholders extremely desire for higher market value of their holding. Because they can earn high volume of instant cash benefit if selling price of share is significantly higher than their purchase price. Capital gain is represented by the capital gain yield, which is calculated as under;

$$= \frac{clo\sin gMPS - BeginningMPS}{beginingMPS}$$

In case of Nepalese stock market investors are highly tempted by capital gain. The recent trend in this regard is that investors participate in IPO or bought share, they sold their holdings when price of their holdings approaches maximum amount therefore capital gain to a significant extent influences trading and forming of market price of equity. Investors first analyze the historical pattern of capital gain, if it is positive, demand of such securities mounts up resulting higher closing price. It is just the trend; there is no any theoretical base in this regard. However, the demand and supply theory and interaction between demand and supply, which is from economics, provide some theoretical basis.

Capital gain plays significant role in underdeveloped security market. Because in such market, short-term analysis primarily takes place leaving the fact that historical capital gain pattern does not have any connection with future capital gain. Inventors of our security market believe that historical pattern will repeat in future as well, so that they will be benefited. Nevertheless, it is assumed that capital gain affects trading of securities, which ultimately influence in forming market price of shares.

In this way four major financial indicators are taken as the main independent variable of this study. In practice, it is seen that the selected variables have remarkable influences up on equity price. This study tries to show the functional relationship between MPS and selected financial indicators.

2.9 Pricing status of stock

Analysts or prospective investors take pricing status of common stock under consideration to draw concrete conclusions from their analysis. Pricing status analysis suggests investors about whether a particular stock is over priced or under priced. It also gives the idea that the common stock is whether defensive or aggressive in comparison to market. To test the pricing status, two major factors should be calculated. They are actual realized rate of return and required rate of return. In the same way, comparing stock's beta with market beta coefficient, which is assumed as 1, supports us to declare whether the stock is aggressive or defensive. If stock’s beta exceeds market beta, then it can be classified as aggressive stock. On the contrary, if stock’s beta is less than market beta i.e. 1, then such stock is called defensive stock.

If stock's actual return exceeds its corresponding required return, then such stocks are called under price or under valued stocks. On the contrary, if required return exceeds actual return, such stocks are called over priced or over valued stocks. And if actual return equals to required return, such stocks are typically known as equilibrium priced stock. However, such stocks are rarely found in stock market. Thus testing of pricing status requires two vital calculations.

Actual/ Realized rate of return

It is calculated by obtaining annual dividend yield and capital gain yield. The sum of dividend yield and capital gain yield is the annual realized return. Dividend is the direct cash benefit to the investors where as capital gain occurs due to the price appreciation and it is receivable when investors sell their holdings. High actual realized return attracts investors, which eventually pushes demand of stocks. Investors invest their funds in the expectation of high monetary benefit. They primarily concern to that rate of return, which must commensurate their required rate of return.

Symbolically,

Actual realized rate of return = dividend yield + capital gain yield.

$$\bar{R} = \frac{dividend}{closing MPS} + \frac{closing MPS - opening MPS}{closing MPS}$$

Thus, actual realized rate of return is total rate of return from a stock consists of a dividend yield plus a capital gains yield.

Required rate of return:

It is the return, which a particular security must provide. In other words, it is the expected return on an individual security or productive investment, represented by the risk free rate of interest plus a risk premium. According to capital market theory, the risk premium to be equal to the market premium $\bar{R}$m-Rf, weighted by the index of the systematic risk, of the individual security or productive investment. Thus the return required for any security is equal to the risk free rate plus the market risk premium times the security's beta.

Symbolically,

Required return= Risk free rate + Risk Premium

E (Rj)= RF+ ($\bar{R}$m-Rf) x

Where,

E (R_j) = required rate of return. If it were less than expected rate of return, investors would not purchase this stock or would sell it. On the contrary, if expected return were greater than E (R_j) investors would not to buy the stock and they would be indifferent if required return equals to expected return.

Rf= Risk free rate of return. In this study, Rf is generally measured by the return on 91 days Treasury bill issued by Nepal Rastra Bank.

Bj= Beta coefficient of the stock. The beta of an average stock is BA=1.0

$\bar{R}$m = Required rate of return on a portfolio consisting of all stocks, which is the market portfolio. $\bar{R}$m is also the required rate of return on an average (BA=1.0) stock.

$\bar{R}$m -Rf= Market risk premium. This is the additional return over the risk free rate required to compensate an average investor for assuming an average amount of risk. Average risk means BA=1

Beta coefficient:

for an individual security reflects industry characteristics and management policies that determine how returns fluctuate in relation to variations in over all market returns. If the general economic environment is stable, if industry characteristics remain uncharged and management policies have continuity, the

measure of will be relatively stable when calculated for different time periods. However, if these conditions of stability do not exit, the value of will vary.

The tendency of a stock to move with the market is reflected in its beta coefficient, which is a measure of the stocks volatility relative to that of an average stock. Thus the stock's beta coefficient , is a measure of the stock's market risk. Beta measures the extent to which the stocks returns move with the market. It is a theoretically correct measure of the stock's riskiness.

By definition, the beta of an average stock is BA=1. To test the stocks relative volatility, individual stock's beta should be compared with average stock's beta. Some benchmark betas are

=0.5; Stock is only half as volatile, or risky, as the average stock.

= 1.0; Stock is of average risk

= 2.0; Stock is twice as risky as the average stock

The status of the pricing of the stocks of particular company is calculated by comparing the required rate of return and actual rate of return. If required rate of return is more than actual rate of return then the stock is called over priced and if actual return exceeds required return, then such stocks are typically known as under priced. Similarly, if required rate of return equals to actual rate of return then that stock is called equilibrium priced. In the same way, if stock's beta coefficient is less than 1, then such stock is called defensive stock. If beta is more than 1, then such stock is called aggressive stock. If stock's beta equals to 1 then it is called average stock.

2.10 Review of Journals

The behavioral study of stock market plays a significant role in the development of capital market and to find out the realistic theoretical model to test the appropriate hypothesis in stock market. Considering this, various studies have been conducted about stock price / market behavior in developed countries and international prospects. These studies also have an important note in least developed countries. In Nepalese context, there are few studies associated with stock prices and stock market and most of them are related to theoretical concept. Similarly, they are also associated with behavioral aspects and essential in stock market and also in capital markets.

In this connection, in 1937, Alfered cowels and Herbert E. jones reported that stock prices moved with predictable trends. They gave a controversy to the random walk model as valid share price behavior model in USA. This finding remained a challenge against the random walk hypothesis for more than two decades.

In 1953, Kendall made significant contribution to advance in the study of the random walk model. He tested the model on the weekly price changes of the 19 indices of British industrial shares and in the spot price series of cotton (New York) and wheat (Chicago). He analyzed the data by serial correlation coefficient and concluded that the subsequent stock price movement forms random walk. He showed that the successive price changes are statistically independent to its past price changes.

In 1959, H.V. Roberts carried out simulation tests by comparing the simulation of random numbers and the Dow Jones Industrial Average Index (DJIA) for about one year starting from Dec-30, 1955 to Dec-28, 1956 and found similarity between these two series. He further observed that the first difference of these two series produce the same pattern. His work was significant in that scene; he gave a number of methodological suggestions for testing what we

call the chance model. In particular, he suggested runs analysis for testing independence of price changes.

Moore, in 1962, studied weekly price changes of 30 randomly selected stocks for the period 1951 to 1958 and found an average serial correlation coefficient 1.06. The value was extremely low and indicated that the weekly change data had almost no power on predicting future price changes.

Fama's study (1965) on the random walk model was one of best definitive and comprehensive ever study conducted. He observed the daily proportionate price of each 30 individual stock of the Dow Jones Industrial average. The time periods covered started from end of 1957 to 26th September 1962. He employed the statistical tools such as serial correlation and runs test to draw inference about dependence of the price series. He calculated auto correlation coefficient for daily change in log prices for log from 1 to 30 and found that the coefficient for daily changes in average was +0.30, which is nearer to zero. But on the daily price changes 11 out of 30 stocks had correlation coefficients more than twice their computed standard errors. The coefficients ranged from smallest 0.06 to the largest 0.123. Fama concluded, "dependence as such as small order of magnitude is from a practical point of view, probably unimportant for both the statistician and the investor." He also calculated serial correlation for lag from 1 to 10 for non-overlapping differencing intervals of four, nine and sixteen days to examine the possibility if price change across longer interval shows dependence. All the results are again not significantly different from zero.

Roa and Mukharjee (1971) applied spectral analysis to weekly prices of an aluminum company's share and found to evidence contrary to random walk model.

Fama and French (1998) pushed the common expected returns argument for market efficiency one step further. They argued that there are systematic patterns in the variation of expected returns through time that suggested that it is rational. They found that the variation in expected returns tracked by D/P or the default spread (the slopes in the regressions of returns on D/P or the default spread) increase from high- grade bonds to low- grade bonds, from bonds to stocks, and from large stocks to small stocks. This ordering corresponds to intuition about the risks of the securities. On the other hand, the variation in expected returns tracked by the term spread is similar for all long term securities (bonds and stocks), which suggests that it reflects variation in a common premium for maturity risks. (*Fama*, 1991: 1584).

Similarly, Kent Hirshhelfer and Suvrahmandam study about investors' psychology and security market under and over reaction in American Journal of finance. The basic objective of this study is to find out investors' psychology in stock market under react and overreact of securities. To find out it, this theory done by two psychological bases: (1) Investor's over confidence about precise of private information (2) Biased self-attribution, which causes asymmetric shift in investors' confidence as a function of their investment outcomes. In brief they describe that, "This theory is based on investors' over confidence arising from biased self attribution. The premise of investors' over confidence is derived from a large body of evidence from cognitive psychological experiments and surveys which show that individual over estimate their own abilities in various contexts." (*Kent, Hirshhelfer and Suvrahmandam*, 1998:1134).

Information dissemination to public investors and arbitration of individual investors about private information has significant effects on investment decision in stock market. They have mentioned about it that "The market tendency to over and under react to different types of information allows us to address the remarkable pattern that the average announcement date return is virtually all event study, and are of the same sign as the average post-event abnormal return. Suppose that the market observers note a public action taken by an informed party such as a firm at least partly in response to market mispricing, for example, a rationally

managed firm may tend to buy back more of its stocks when manager believed, their stock is under valued by the market. In such cases, the corporate event will reflect the manager's belief about the market valuation errors and will therefore predict future abnormal return and equity offerings will predict the positive." (*Kent, Hirshhelfer and Suvrahmandam*, 1998).
This study has made some assumptions, which are as follows:

1) Investors are quasi rational and they are optimizer except for then biased updating of this precision.
2) The model explains the price anomalies as market inefficiencies.
3) Investors have a prior on the precision of these private signals and use an updating rule that reflects self-attribution biases.

To achieve above objectives, the paper develops a theory based on investors' confidence and change in confidence resulting from biased self-attribution of investment outcomes. The theory implies that investors over react to private information signals and under react to public information signals. In contrast with the common correspondence of (positive) negative return, auto correlation with under reaction (over-reaction) to new information. We show that positive return auto correlation can be constituent with long run negative auto correlation. The theory also offers an explanation for the phenomenon of average public even stock price reaction of the same sign as post event long run abnormal returns. This pattern has some time been interpreted as market under reaction to the event.
Common stock has one important investment characteristic and one speculative characteristic. Their investment value and average market price tend to increase irregularly but persistently over the decades as their net worth builds up through the reinvestment of undistributed earnings. However, most of the common stocks are subject to irrational and excessive price fluctuations in both decisions as the consequence of the ingrained tendency of most people to speculative or gamble, i.e. to give way to hope, fear and greed."(*Chandra*, 1995: 35)
Hara, on the article on financial journal writes that information plays important role in the discovery of assets (securities). Further, the writer says that," the premise developed in this talk is that liquidity and price discovery are important dimensions of asset markets and by extension, of asset prices. That information should affect asset prices is hardly new; finance researchers have long focused on the information efficiency of asset prices. The innovation here is the argument that when information is asymmetric, uniformed investors demand compensation for portfolio induced risks which they cannot diversify."
As stock market is in infancy stage in Nepalese context, there are limited books, journals and researcher studies concerning stock price determinants, stock market and its pricing behavior, so the available articles, books, previous research works, which are related to stock market are consulted and reviewed.
A book about capital market by Dr. R.S. Mahat entitled" Capital markets financial flows and Industrial finance in Nepal" was written in the early period of the development of capital market and before the establishment of stock exchange. So Dr, Mahat made the first priority to establish stock exchange for the development of stock market. He has also written that Nepalese stock market is still in infancy stage and some drawbacks to the development of stock markets are strong historical and social reasons as well as mass poverty and illiteracy in Nepalese society. He further pointed out that some conscious and educated people of urban areas are also not investing in the industrial sector instead they are investing on the real estate especially in building construction. Although the book was written in the early stage of the development of stock market, the limitations of Nepalese society regarding the investment in stock market is still reality of Nepalese capital market.
Dr. R.S. Pradhan provides very close insight for analyzing the capital market in Nepal. He advocated, "A number of studies have been conducted on the stock market behavior in

developed and big capital markets but their relevance is yet to be seen in the context of smaller and underdeveloped capital markets."(*Pradhan*, 1994:43-43)

As per the book, the stock market behavior in smaller and underdeveloped capital markets is thus one of the important areas of the study in finance. Information on stock market behavior in such smaller and underdeveloped capital markets would help development of realistic theoretical models and formulation of relevant hypotheses for empirical testing in finance.

IN Nepal, the listing of shares in stock exchange center (SEC) and their trading in the stock market is a recent phenomenon. 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 researchers are available on government owned public enterprises but researches on enterprises whose stocks are listed in SEC and traded in stock market are yet to come up in Nepal. Viewed in this way, this chapter is expected to provide at least some insights info stock price behavior in Nepal.

Prof. Manohar Kumar Shrestha, in his book "shareholder's democracy and AGM feedback" has focused various issues related to protection of shareholder's expectation. Success of companies directly depends on the protection of their owners. But how can this be accomplished is main question. Thus it is necessary to develop a possible guidance for enhancing the efficiency for public limited companies to contribute directly in the growth of national economy on one hand and ensuring handsome return to the shareholders on the other hand to make their investment meaningful and worthwhile. At present the overall shareholders' democracy in terms of protection of their interest is basically focused on the payment of satisfactory dividend and the maximization of shareholders' wealth by appreciating the value of shares they hold. (*Shrestha*, 1999:25).

The study about "Dividend policy and value of the firm in small stock market" in the context of Nepal has conducted by Kamal Das Manandhar in 1998 in management dynamics. The basic objective of this study is to find out the financial variables that are related to market equity, "The study is aimed at identifying some of the significant variables that are significant to the value of firm. The analysis, to some extent, helped to understand the dividend policy of the sample companies and their effects on market value of the firm as represents by market capitalization and this understanding helps to know the relevancy and irrelevancy of dividend policy on market capitalization in the stock market in Nepal" (*Manandhar* 1998:16). At the time of research, he has found the following problems in stock market and dividends practices.

1) Most companies are underrating the expectation of investors and thereby resulting marketability of share and trading floor of stock exchanges.
2) Majority of the companies are declaring dividends less than risk free rate plus market risk premium.
3) The relationship between earnings, dividends pay out and growth of the expansion program of the companies doesn't match with financial needs of companies.
4) Companies do not follow sound dividend policy. These are the main causes that are related to the low price of stock and low volume in stock market.

To find the above objective, this study has included the financial data that are related to secondary market of top ten companies of the year 1995/96 on the basis of traded amount. According to this study, the model developed to test the hypothesis that multiple regressions is implied to test and analyze the cause and effect relationship between dependent and independent variables. So the independent variables are dividend per share, earning per share, return on equity and dividend by closing market price and market equity is dependent on variables. At least, this study found out that "The financial variables taken under study to understand the dividend policy followed are DPS, EPS, P/E, ROE and D/P ratio through not exhaustive. Based on analysis, it is found that DPS, ROE and D/P ratio have significant

impact where as ROE and P/E have no significant impact on market value. (*Manandhar*, 1998:19)

Jeavan Basnet, one of the prominent active participants in Nepali stock market as an investor as well as stock analyst, advocates, in one of his article "Evaluate stocks; Don't Pay More" that common stock investor holds a piece of paper, an engraved stock certificate, which can be sold in stock market at a price that varies from moment to moment and which is often unreflective of the balance sheet value. But there is a pre-determined price of stock derived from its true and inherent worth. This 'intrinsic' price of valuation of the stock generally differs from the market price because no two investors ever agree on what the intrinsic price of a particular stock ought to be. According to him, there are numerous modalities to calculate the buying price of a stock and it has been observed that one methodology applied in a particular scenario may not be a useful guide at others. However, though the price so calculated may not be completely authentic or exact, it will nevertheless be a point towards formulation of a price based on reasonably sound judgment on whether the stock is overpriced or under priced. He further added that there are three main criteria, which generally regarded as crucial in this context. They are: a satisfactory ratio of earnings to price, a sufficiently strong financial outlay and the prospect of its earnings over the years. In this article, he addressed strongly, the role of earning multiplier to judge the initial trading price of common stock. Accordingly, he prescribed that the product of average earning multiplier and EPS generate initial trading price of stock. With this simple calculation investor can at least set his mind with the theme of acquiring and holding suitable stocks at suitable prices. However, one should not forget significant added consideration like measure of managerial competence, progressive dividend history and long-range trend of the average market value. A stock combined with these intangible soundness with proper price paid shall never fail investors, Thus stock investment is most intelligent when it is most business like, hence it requires a background of preparation and disciplined capacity and the first lesson is to avoid anything that appears over priced i.e. stick to valuation, don't pay more. (*New Business age* May 2004)

2.11 Review of unpublished Thesis

Regarding with various unpublished dissertations (which were prepared for the partial fulfillment of MBS and other faculties) this study is mainly concerned with recent paper about determinants of equity price and behavioral aspect of stock market.

The study conducted by Niranjan Phuyal about 'stock price behavior of selected Banking and Insurance companies' in 2004 is related with stock price behavior. He has tried to show the functional relationship of MPS with other financial indicators: DPS, EPS, NWPS and price appreciation along with the fundamental concept of stock market. He has attempted to show the behavior of chartists (Technicians) and fundamentalists in relation to projection of equity prices. To achieve the basic aim of this study, he set following objectives at the time of research.

1) To identify the major financial indicators which affect on determining MPS.
2) To examine and evaluate the relationship of MPS with various financial indicators like; EPS, NWPS, DPS and current years dividend.
3) To identify whether stocks of the sampled companies are over priced, under- priced or equilibrium priced.
4) To study the singling and informational effect on share price.
5) To examine Nepalese investors' response on the change of stock.
6) To provide suggestions on the basis of findings.

To achieve the above objective, he has taken 5-year financial data of 5 leading commercial Banks, 3 finance companies and 2 Insurance companies. He applied econometric model to

show the relationship between the independent variables and their linear impact on MPS. Correlation coefficient and regression equations were calculated and derived to estimate future MPS. However, this study covered very few variables due to which the inferences drawn might lead to wrong conclusion. In research design, he explained, " To draw inferences on the market performance of stock market and price formation, different measures have been used, while collecting and interpreting relevant data, facts and figures with a view to systematic data collection and data's interpretation. Simple statistical tools have been used to finish this research works, which represent the explanatory and descriptive analysis of the relevant information and data." (*Phuyal* 2004:39) Nevertheless, this study tries to explore the determinants of equity price by way of showing the functional relationship between the equity price and financial indicators along with the fundamental knowledge of stock market in Nepalese context. The major findings of this study are given below:

1) Nepalese investors have limited knowledge about security market. It lacks of professional investors.
2) Most of the stocks of banking and finance companies are under valued in the stock market.
3) Investors are trading the stocks without proper analysis of the financial indicators.
4) The price fluctuating trend is not predictable by general investors.
5) Signaling factors should be analyzed on regular basis by the concerned authority so that the future movements of price can be predicted from the side of analyst and investors.

Mr. Mukti Aryal has conducted research "The General Behavior of stock market price." The main objectives of this study were to discuss the movement of stock market prices and develop the empirical probability distribution of successive price change of an individual common stock and a stock market as a whole. This study is based on secondary information obtained from Nepal stock Exchange. This study covers almost 8 months period; 13 Jan 1994 to 13 Sept 1994 and took about 21 stocks listed in NEPSE. He has applied run test as statistical tools to analyze the data and get results. He has concluded that the assumption of independence, as predicted by random – walk model of security price behavior, has been refused at least for Neplese context as the first approximation even in the rough way for early days of stock market operation. This rejection of hypothesis made clear that the knowledge of past and now becomes useful in predicting the future movements of stock market prices. The investors, on the floor of stock exchanges for securities, can make higher expected profits in the future based on these historical price series. In other words, the dependence nature of price series produced by general market fluctuation statistically implied. Today's price change is positively depending upon yesterday's price change. This implied that there is a sufficient lack of financial and market analysis which are sophisticated and superior in analyzing the general market fluctuations, predicting the occurrence of future potential and economic events that their eventual affects on price series.

On the study of Mr. Bharat Prasat Bhatta, he focused that resource mobilization has a vital role in the developing economy like Nepal .The development of the stock market is a must for the resource mobilization; there are various problems of Nepalese stock market, which have checked the resource mobilization in the economy. In his research work "Dynamic of stock market in Nepal", Mr. Bhatta set the following objectives and followed by some recommendation too, which is given below:

1. To analyze the trend of the Nepalese sock market.

2. To diagnose and compare the sector wise financial status of the stock in Nepalese stock market.
3. To analyze the market share prices of the Nepalese stock market.
4. To find out the impact of the secondary or primary market and vice versa.

According to the above objectives Mr. Bhatta recommended the following points by his recommendation and conclusion section:

1. The government should make not only policies for the capital market development but also implement these polices appropriately.
2. Investment in corporate sector should be encouraged and their share should be listed in the stock exchange.
3. The regulatory authorities of the stock market should create an environment to rise the trading of shares in the stock exchange.
4. The government should make appropriate policies and programs for the enhancement of the entrepreneurship development in the Nepalese economy

He concluded his study as "Although it has become late to take steps to overcome such problems of the Nepalese stock market in order to make it active and supportive, the stock market has a good prospect for the resource mobilization to finance the productive enterprises in the Nepalese economy.

From the above all studies conducted by various researchers, it seems that Nepalese stock market is still in developing stage and it is facing various challenges. Further more, it also shows there are very few research conducted about the market price behavior on the stock market.

2.12 Nepalese Context

Financial institution and intermediaries play highly significant role in the development of capital market. They help to contribute economy by facilitating collection and mobilization of long-term funds to industrialization process. It also observes " the importance of financial institution is still greater in an underdeveloped country like Nepal where a host of traditional, social and psychological considerations conspire against the direct transaction between surplus units and deficit units." (*Mahat*, 1981:5). Stock market is that market place which helps to assist public limited companies to raise capital through the issue of shares and debentures and to take place where purchase and sale of securities take place through intermediaries operating on the floor of the exchange. SMC's publication has emphasized to make effect toward explaining present trend in resource mobilization of some important financial institutions, which have contributed for the development of stock market. In the same way, they can contribute in future.

"The transaction in the stock market will ultimately depend on the size of the corporate sectors in the economy. After all, only existing securities can be brought and sold. Therefore, a minimum security base will be required to the viable operation of a security exchange. So, the investors are enabling to invest their savings in a finally broad number of stocks. For that minimum number of securities will here to be listed."(*Mahat*, 1981:31)

"A broad and active stock market depends on the extent of the supply of stocks and the demand for them. The supply of stock can increase with more and more new companies going public."(*Mahat*, 1981:52)

In Nepal, security exchange center was established in 1984 to incorporate many industries collecting the scattered capital to the industrialization process. It provides market for government securities and private as well as public industries. New rules and regulations have launched to attract investors and development of stock market. So it is playing a vital role to accurate the pave of industrial growth and to create the development of the idea of

securities exchanges activities in the mind of common people. The main purpose of establishment of SEC is going accurate the pace of industrial growth in the national economy and also to create the concept of securities exchange activities in the economy.

Objectives:

1. To mobilize internal capital through market mechanism for corporate development of the nation's industrial agriculture and other sectors.
2. To create an opportunity of public participation in the ownership of industrial and other ventures and to help private sectors taking part in the development programme.
3. To organize and operate stock exchange.
4. To conduct studies and provide advisory service to HMG and or related institutions on the matters regarding the protection of investment of individual investors and the development of stock market.

CHAPTER-III
Research Methodology

This chapter deals with some methods that are used in the period of research and also brief introduction to financial parameters used in the study. Hypothesis, research design, sources and nature of data, sampling method, and statistical and financial tools for data analysis are basically explained in this chapter.

By definition, research is a systematic and organized effort to investigate specific problems that needs solution. And methodology refers various steps that are generally adopted by a researcher in studying his research problem along with the logic behind it. Thus, research methodology is a way to systematically solve the research problem, what we are doing at present.

Basically, historical and diagnostic types of research are employed to fulfill the objective of research work. "A historical research is concerned with past phenomena. It is a process of collecting, evaluating verifying and synthesizing past evidence systematically and objectively to reach a conclusion." [*Woolf and Pant* 1975:54] In this study, historical data of various companies are taken under consideration to show their relationship with MPS in the past and how did they affect in shaping the MPS? Thus, historical research requires accuracy of gathered information, as it is the main ingredients of success in this type of research. The diagnostic analysis mainly highlights to explore the degree of influences of various financial variables upon market price of equity, formation of equity price and its pricing behavior, and finally the responsiveness of share price when the determinants are fluctuated. Further, it is associated with the calculation of risk and return of over all market, each sector and also individual companies. These all computations and analysis will be conducted by using statistical tools of multiple regressions and also financial tools. So, the methodology is based on some statistical and financial tools to analyze and presentation of data.

3.1 Research Design

The research design includes specification of the method of the purposed study and detailed plan for carrying out the study with various empirical data for the analysis of the problem. "Research design is a plan, structure and strategy of investigation conceived so as to obtain answer to research question and to control variances." [*Kothari*, 1991:24] for identifying the major determinants of equity price, the relationship of selected variables with the market price of share shall be analyzed. Correlation coefficient measures the relationship where as multiple regressions analysis measures the degree of influences of each identified variables upon observed market price. In this connection, historical data will be used. Hence it is the historical research design. Data required for this study will be extracted from www.nepalstock.com and from annual reports. Therefore, secondary sources of data collection shall be applied in this study.

The major activities of this study are the collection of data, tabulation and compilation of data, computation of complied data and financial parameters, findings, conclusion and recommendations. These activities will be arranged as according to the model prescribed by TU, faculty of Management. Full efforts made to cover all significant factors, which either implicitly or explicitly shape market price of share. Numerical analysis will be carried as far as practicable and the technique of descriptive analysis will also be used whenever necessary. For example, informational forces cannot be measured discretely. So their impact on MPS has been quantified in descriptive manner in chapter-II of this study. The research design is thus an integrated frame that guides the researcher in planning and executing the research works.

3.2 Nature and sources of data

The study is primarily based on secondary sources of data. The required data have been collected from financial statements of listed companies which were located at www.nepalstock.com, an official website of Nepal Stock Exchange Ltd and from annual report of selected company.

Financial data of previous 6 year i.e. July 2003 to July 2008 of the selected companies are downloaded from www.nepalstock.com and official website of the selected company. Different books from library, periodicals, newspaper cuttings, company's magazines will also be used whenever required. Needless to say that this study is associated with past phenomena, therefore, only the secondary data will be used to carry out the whole calculations. Thus, the historical data from the NEPSE's website shall be used which obviously the secondary sources and past phenomena in nature.

3.3 Population and Sampling

The analysis of the behavior of stock Markey prices largely depends on the number of such companies listed in the Nepal Stock Exchange (NEPSE) and the trading of their stocks on security market floor. We have already discussed that along with the various factors, the volume of trading of common stock also largely influence in shaping the price of common stock.

To arrive at logical inferences, thee major sectors of the stock market, commercial bank are taken under consideration. As per annual report of NEPSE for the 2003/2004 11 commercial banks are listed. Details of which are as follows:

Total Listed Commercial Bank as on 15 July 2004		
Commercial Banks.	***NEPSE Code***	***Paid up Value***
Nabil Bank Ltd.	NABIL	100
Nepal Investment Bank Ltd.	NIB	100
Standard Chartered Bank Ltd.	SCB	100
Himalayan Bank Ltd.	HBL	100
Nepal SBI Bank Limited	SBI	100
Nepal Bangladesh Bank Ltd.	NBB	100
Everest Bank Ltd	EBL	100
Bank of Kathmandu	BOK	100
Nepal Industrial & Co.Bank	NICB	100
Machhapuchhre Bank Ltd	MBL	100
Laxmi Bank Limited	LBT	100

Source: NEPSE annual report 2003/2004

Table 3.3.1

For this study, we have taken five commercial banks, details of the which are as follows

S.N.	Sector	No. of Company Listed	No. of Sample Companies	Percentage	Sample Companies
1	Commercial Bank	11	5	45%	NSBIL, HBL, SCBN, NIBL

					& NABIL

Table 3.3.2

For the research work, only 5 companies as stated above, has been taken as sample companies out of total population, which covers 45% of total listed commercial banks sectors. Due to the high volume of share transactions and business volume as well as more contribution to the economy commercial banks is taken under this study.

3.4 Tools of analysis

To analyze and interpret relevant data some statistical tools and financial tools are used.

3.4.1 Financial tools

a) Capitalization of earnings: EPS ratio is used to measure the profitability of a firm from the owner's viewpoint. In this model the market value of shares of a company is dependent of the earnings of the company. The rate of earning or the earning per share is capitalized, by normal rate of return, in order to measure the present market value of the equity shares. The market value of equity share is the capitalized value of the earning per share of a company at the cost of equity (Ke). Hence,

$$P_o = \frac{EPS}{Ke}$$

Where,

Po = Expected value of an equity

EPS = Earning per share

Ke = Cost of capital

b) Capitalization of Dividends: Dividend refers the percentage of earnings paid in cash to its stockholders. "As long as there are investment projects with returns exceeding those that are required, it will use retained earnings and the amount of senior firm has retained earnings left over after financing all acceptable investment opportunities, these earnings then would be distributed to stockholders in form of cash dividends." [*Van Horne,* 1990:328]. People make investment in stock because they shall get dividends as return. Therefore, the price they are willing to pay will depend on their expectation of dividends. Under this model, future streams of cash dividends are to be evaluated and discounted by the cost of equity (Ke). Hence the value of an equity share is the present value of all future streams of cash dividends an investor expects to receive, according to this model. (*Timilsina* 2001:20)

$$Po = \sum_{T=1}^{\infty} \frac{Dt}{(1+Ke)^t}$$

Where,

Po = Present Market value of an equity.

Ke = The required rate of return for equity.

Dt = Expected future dividend at each future date t.

c) Risk free rate (Rf): The risk free rate has been taken from Nepal Rastra Bank (NRB) 91 days treasury bills of different years. In other words R*f*, in this study, is the discount rate of 91 days T-bills issued by NRB, which are as follows:

Table showing interest rate of 91 days T-bills during 2002/03 to 2007/2008

Fiscal Year	Average Risk Free rate
2002/03	3.72
2003/04	3.95
2004/05	5.06
2005/06	2.99
2006/07	4.25
2007/08	4.02

Table No. 3.4.1

d) Rate of return on common stock:

Rate of return on common stock can be defined as the change in value plus any cash distribution expressed as percent of the beginning of period investment value. An investor can obtain two kinds of income from an investment in a share of stock: Income from price appreciation or losses from depreciation and income from cash dividend. The rate of return on common stock can be expressed in percentage as follows:

$$\text{Rate of Return} = \frac{\text{Price Change} + \text{Cash Dividend}}{\text{Purchase price at the bg. of period}}$$

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

Where,

Pt = Ending Stock Price

Pt-1 = Starting Stock Price

Dt = Cash Dividend for time t.

e) Required rate of return (Ke): Required rate of return is calculated as the risk free rate plus the risk premium on the risk of the particular stock. Total risk contains two parts: diversifiable or unsystematic risk and non-diversifiable or systematic risk. Under the assumption of CAPM, investors are not compensated for total risk; rather they are compensated in the market for facing the systematic risk. According to the CAPM model, the required rate of return on any stock is equal to the risk free rate plus market risk premium times stock beta. However, it is not possible to calculate annual beta of the stock's return of any individual company. Therefore, average beta coefficient of the observation period will be taken as the stocks' beta. The formula of calculating the required return is given as below:

$$Ke = \mathrm{R}_t + (\overline{R}_m - R_t)x_j$$

Where,

Ke = required rate of return on stock j

Rf = Risk free rate of return

$\overline{R}_m$ = Market return or average return

$_j$ = Beta Coefficient of Stock j

f) Market Return ($\overline{R}_m$): Market return is the average return of the stocks of all companies in an industry. For this research purpose, market return will be calculated by dividing the difference of this year's market index and previous year's market index. The method of calculating market return is given as,

$$\overline{R}_m = \frac{\text{This year's market index - last year's market index}}{\textit{Last}\text{ year's market index.}}$$

g) Financial Parameter: Some of the financial variables, stated as below have been employed to analyze the market price of stock.

Earning Per share: Net earning means after tax profits, which are considered after deducting reserves etc. to shareholders. Earning per share would be calculated by dividing net earning by the total number of common shares outstanding. Symbolically,

$$EPS = \frac{\text{Profit after tax}}{\textit{No.of}\text{ Shares outstanding}}$$

Dividend per share: Dividend is the portion of profit that is ready to be available for shareholders. Dividend per share would be calculated after deducting retained earnings from the total value of earnings.

Symbolically,

$$DPS = \frac{\text{Earning available to share holders — R | E}}{\textit{No.}\text{ of Shares O | s}}$$

Price Earning Ratio: The reciprocal of the earning yield is called the price-earning ratio. It is widely used by the security analysis to value the firm's performance as expected to investors and also the growth of firm's earnings.

$$\text{Price earning ratio} = \frac{\text{Market Value per share}}{\textit{Ear}\text{ning per share}} = \frac{MV}{EPS}$$

Return on Equity (ROE): The return of shareholders equity is net profit after tax divided by shareholder's equity. It indicates how well the firm has used the resources of owners.

$$\text{Return on equity} = \frac{\text{EPS}}{\text{Book value per shrare}}$$

This also reflects the rate of return at which the firm can actually plough back its retained earnings.

Retention ratio: It is the ratio, which shows the portion of net profit to be retained by the firm. Profit will be retained for various purposes. However, it must generate returns at least equal to ROE.

Symbolically,

$$\text{Retention Ratio} = 1 - \frac{\text{DPS}}{\text{EPS}}$$

$$= 1 - \text{Dividend payout ratio}$$

Growth rate: It indicates the growth potentialities of firm's earnings. Exactly, the growth rate is the product of return on equity time's retention ratio.

Symbolically,

Growth rate= *ROE* X Retention ratio

3.4.2 Statistical Tools:

a) Arithmetic Mean (AM): Am of a given set of observation is their sum divided by the number of observations. In general, if X1, X2 …… Xn are the given 'n' observations then their arithmetic mean, usually denoted by $\overline{X}$ is given by,

$$\overline{X} = \frac{\sum x}{N}$$

Where,

$\sum x$ = Sum of Observation

N = No. of observation

To calculate average return of different companies as well as overall market, the arithmetic mean has been employed.

b) Standard Deviation/Variance: It is a quantitative measure of the total risk of assets. It provides more information about the risk of the asset. It measures the dispersion of returns around the mean. Its advantage is that the uncertainty of returns can be summarized into a single easily calculated number. The standard deviation of a distribution is the square root of the variance of returns around the mean.

$$\text{S.D. } (\sigma) = \sqrt{\frac{\sum (r_j - \bar{r}_j)^2}{n-1}}$$

Where,

rj = return on asset A.

$\bar{r}_j$ = expected return on asset A.

The square of standard derivation is known as variance of the asset's return from the average return.

c) Karl Pearson's Coefficient of Correlation: It is a statistical tool for measuring the intensity or magnitude of linear relationship between the two variables series. Karl Pearson's measure, known as Pearsonian Correlation coefficient

between two variables (series) X and Y, usually denoted by "r(x,y)" or rxy or simply 'r' can be expressed as,

$$r = \frac{n\sum xy - \sum x \cdot \sum y}{\sqrt{\{n\sum xy^2 - (\sum x)^2\} \times \{n\sum y^2 - (\sum y)^2\}}}$$

Where,

N= No. of observation in series X and Y

$\sum x$ = Sum of observations in Series X

$\sum y$ = Sum of observations in Series Y

$\sum x^2$ = Sum of squared deviations in Series X

$\sum y^2$ = Sum of squared deviations in Series Y.

$\sum xy$ = Sum of the product of observations in Series X and Y.

The value of the correlation coefficient 'r' lies between ± 1 i.e. $-1 \leq r \leq 1$. If r=1, there is perfect positive relationship and if r=-1, there is perfect negative relationship or if r=0, then there is no relation at all.

The closer the value of 'r' with 1, the closer the relationship between the variables and the closer 'r' is to 0 the less close relationship. (*Shrestha and Manandhar*, 1992:234)

d) Multiple regression analysis: The factors that affect estimates of the MPS may be quantified and estimated econometrically using multiple regression analysis. Multiple regression analysis is a statistical tool, which facilitates in estimating or predicting the value of dependent variable from the value of independent variable. It is a mathematical measure of the average relationship between two or more variables in terms of the original units of the data. And then estimates the value of unknown variable (dependent) on the basis of other known variable (independent). The variable whose value is influenced or is to be predicted is called dependent variable and the variable which influences the values or is used for prediction, is called independent variable.

Generally, in multiple regression analysis, methods of least square, standard error of estimate and multiple coefficient of determination are computed for this purpose.

The multiple regression equation is

$$MPS = a + b_1 EPS + b_2 DPS + b_3 DWPS + b_4 CG + \mu$$

Where,

a= Regression intercept, which indicates MPS does not go below this point even if other variables have zero value.

b's = Multiple regression coefficient.

μ = Unexplained error, which indicates that the estimation of MPS may vary by this amount.

e) Application of computer software: This study has covered six years data of 5 commercial banks. To carry out the multivariate correlation analysis and multiple regressions with four independent variables, the most popular statistical software- SPSS has been used. Data will be presented in tabular firm, after plotting the tabulated data in graph, correlation coefficients will be calculated by this software and finally these variables shall be inserted in pre-defined regressions model in SPSS software. It is too difficult to carry out such calculations manually therefore this software is used to arrive at concrete conclusions.

CHAPTER – IV

Presentation and Data Analysis

This chapter deals with data presentation, analysis and interpretation, following the research methodology presented in the third chapter. In order to meet the objective, required data are collected and processed to arrive at concrete conclusion. Thus, in this course of analysis, data gathered from various sources

have been presented in the tabular form. By using financial and statistical tools, the data have been analyzed. The results of the computation have also been summarized in appropriate tables. Basically the following analyses have been carried out.

i) Correlation coefficient analysis
ii) Multiple regression analysis.
iii) Calculation of actual and required rate of return

I) Correlation coefficient analysis:

It is the best measure to evaluate and examine the relationship between two variables. This analysis basically tells about the movement of variables. To evaluate the degree and movement of relationship between MPS and other selected financial indicators, Correlation analysis has been carried out. There may be positive correlation, negative correlation or no correlation between the variables for this research study; we test the relationship between MPS and EPS, DPS, NWPS and capital gain one by one. If there is relationship between them, selected financial indicators shall be taken as the determinants of equity price. Though correlation, only, is not the basis for that, to prove it statistically, it is being considered. In this chapter, correlation coefficient is calculated by SPSS software. Therefore, only the results are presented here.

Company-wise computations are carried out to justify the relationship. This chapter put full efforts to explore the degree of relationship and only such variables are taken under study, which have proper relationship with MPS. In this way, correlation analysis gives the very idea about the movement of MPS with respect to selected financial indicators.

However, correlation coefficient analysis does not tell us the amount of fluctuation. After, identifying the movement, selected variables will be inserted into pre-defined regression model in order to find out the amount by which these variables affect equity price. Thus, it is our initial analysis from which basic guidelines are drawn.

II) Multiple regression analysis:

Multiple regression analysis is the basis for this chapter because the analysis part is fully covered by multiple regression analysis. Under this analysis, influences of independent variables upon dependent variable is measured and evaluated. In other words, multiple regression analysis helps to establish the functional relationship between dependent and independent variables and there by provides a mechanism for estimation. The purpose of multiple regression analysis in this study is to analyze the combined effect of EPS, DPS, NWPS and capital gain on MPS of the sampled companies. Further more, how the selected variables influence equity price?, is also being tested using regression model. As stated earlier, multiple regression analysis is the best way to project or estimate the value of dependent variable on the basic of independent variables. This

chapter presents the estimated MPS with respect to the selected financial indicators.

Company-wise regression model is presented so that the behavior of individual stock can be visualized. Because of some serious limitations, the results in some where is irrelevant. However, this can be treated as symptoms of the existing situations. Nonetheless, regression model is the basic theme of this study.

III) Actual rate of return and required rate of return:

Using historical data, actual return is calculated where dividend yield and capital gain yield are added. This shows annual return from 15/07/2003 to 15/07/2008. By using simple average, actual rate of return during the study period is calculated. In true sense, actual return is the historical return/ realized return, which a particular security has actually provided. On the contrary, required return is calculated where 91 days treasury bills discount rate is used as risk free rate and annual NEPSE index are used to calculate market return. After obtaining beta coefficient, required rate of return is calculated.

The main reason of calculating actual return and required return is to see the existing pricing status of the stocks of sampled companies. Pricing status suggests us, whether the price of securities are over priced, under priced or equilibrium priced.

In this way, these three calculations are carried out to achieve the objectives of this study. The company-wise data collection, presentation, graphical presentation, calculation and interpretation are explained as below.

4.1 Calculation and interpretation:

This segment presents calculations of risk free rate of return, market return, variance of market return, firm-wise correlation and multiple regression analysis. Most of the calculations are done by SPSS software. Therefore results of such calculations have been shown on tabular form. Similarly, some calculations have been conducted manually.

4.1.1 Nepal SBI Bank Ltd

I) Data presentation

Following table shows the year wise closing price (MPS), earning per share (EPS), dividend per share (DPS), net worth per share (NWPS) and capital gain (CG) from 15/07/2003 to 15/07/2008. This table is constructed from the data of NSBIL, which is located at www.nepalstock.com.

Table showing MPS, EPS, DPS, NWPS and Capital Gain of NSBIL

Year	MPS	EPS	DPS	NWPS	CG/CL
2003	255	11.47	8	134.03	-146.00
2004	307	14.26	0	146.8	52
2005	335	13.29	0	159.54	28
2006	612	18.27	5	151.78	277
2007	1176	39.35	12.59	178.04	564

2008	1511	28.33	0	160.57	335

Table No. 4.1.1.a

II) Graphical Presentation

Plotting the above data in the graph, the following line graph can be drawn which shows the movement of MPS in connection to the selected financial indicators.

Figure showing movement of MPS of NSBIL

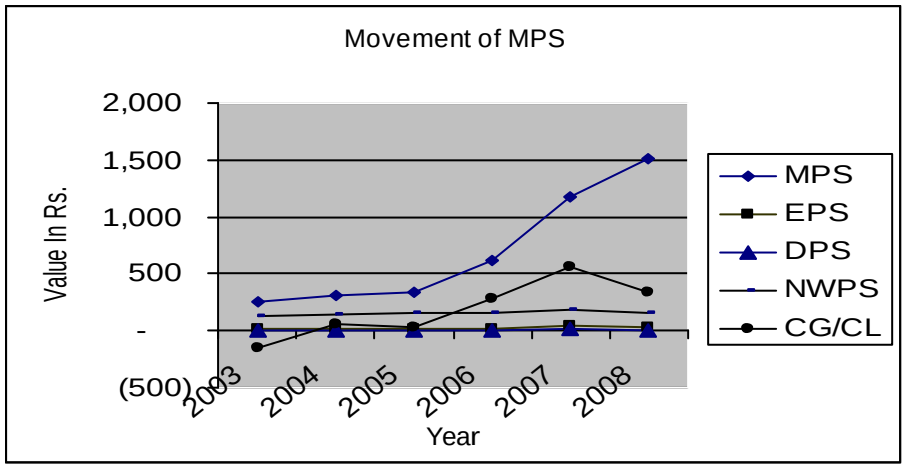


Figure No. 4.1.1

The movement of MPS and CG is exactly same. It is because of the reason that higher the MPS More will be the CG. Though the study period is extremely short, it shows the trend of MPS with regard to the movement of selected financial indicators during the study period. NWPS during the study period is not more than Rs. 178.04. However MPS has approached to Rs.1511.The line of MPS is not responding to other lines because when EPS, DPS and NWPS were significantly lower, MPS was remarkably high. Thus, by analyzing this graph, no strong conclusions can be drawn except the random walk of MPS. The reason may be the underdeveloped capital market. An analyst or prospective investors first analyze the annual return and finally the price appreciation. They judge the real value of equity by calculating net worth per share, however it has been seen in case of NSBIL that MPS moves randomly or the degree of influences of such variables is considerably lower than that of expected. Nevertheless, if we take the wide range of data of developed security market, conclusions may be nearer to truth. In conclusion, bidding and signaling effects again determine MPS, in Nepal Stock Exchange.

III) Correlation analysis

Table showing correlation coefficients between MPS and selected indicators of NSBIL

Correlations						
		MPS	EPS	DPS	NWPS	CGCL
MPS	Pearson Correlation	1	.861*	.146	.685	.821*
	Sig. (2-tailed)		.028	.783	.133	.045
	N	6	6	6	6	6
EPS	Pearson Correlation	.861*	1	.508	.857*	.939**
	Sig. (2-tailed)	.028		.304	.029	.006
	N	6	6	6	6	6
DPS	Pearson Correlation	.146	.508	1	.264	.384
	Sig. (2-tailed)	.783	.304		.613	.452
	N	6	6	6	6	6

NWPS	Pearson Correlation	.685	.857*	.264	1	.876*
	Sig. (2-tailed)	.133	.029	.613		.022
	N	6	6	6	6	6
CGCL	Pearson Correlation	.821*	.939**	.384	.876*	1
	Sig. (2-tailed)	.045	.006	.452	.022	
	N	6	6	6	6	6
*. Correlation is significant at the 0.05 level (2-tailed).						
**. Correlation is significant at the 0.01 level (2-tailed).						

Table No. 4.1.1.b

As shown by the above table, the correlation coefficient of EPS, DPS, NWPS, and CG with MPS of NSBIL are 0.861, 0.146, 0.685 and 0.821 respectively. It signifies that MPS of NSBIL during the study period was positively influenced by the selected financial indicator. All financial indicators have high degree of positive correlation coefficient with MPS. Therefore, they are assumed as determinants of equity price and affect the stock price behavior. The 'CG' has strong correlation with MPS as indicated by its correlation efficient of 0.821. It signifies that higher the possibility of capital gain, higher will be the equity price. In general practice, investor primarily analyzed the historical capital gain pattern and if they notice any symptoms regarding the price appreciation, demand of stocks in stock market mounts up resulting the higher closing price. Banks image and business volume have also affected stock price. Nevertheless, positive correlation coefficients indicate the favorable movement of MPS with respect to selected financial indicators. If there is negative correlation between MPS and EPS, the same will be repeated in case of DPS and MPS.

IV) Regression analysis

Table showing regression Coefficients of NSBIL

	Unstandardized Coefficients		**Standardized Coefficients**	**R square**	Std. Error of the Estimate	**Sig.**
	B	**Std. Error**	**Beta**			
(Constant)	2326.863	3097.953		.921	329.75519	.410
EPS	74.998	46.846	1.557			
DPS	-51.343	35.907	-.515			
NWPS	-19.233	22.097	-.543			
CGCL	.070	1.855	.034			

Dependent Variable: MPS

Table No.4.1.1.c

The above table shows the summarized results of multiple regression analysis produced by SPSS software for analyzing the combined effect of EPS, DPS, NWPS and capital gain on MPS of NSBIL for the six years study period. The regression constant a1 is 2,326.821, which implies that MPS does not go below than this level even if EPS, DPS, NWPS and CG are equal to zero. The regression coefficient b1 represents that one rupee increase in EPS leads to an average increase in MPS by Rs. 74.998 if other three variables DPS, NWPS & CG are kept constant. . Increase in DPS by rupee one leads to an average decrease in MPS by RS. 51.343, if other variables in this model are remained constants. The effect of NWPS on MPS can be visualized by the coefficient of b3. The value of b3 is negative i.e. -19.233 which indicate that one rupee increase in NWPS leads of an average

decrease in MPS by Rs. 19.233 if other variables remained constant. Capital gain or Capital loss also effects share price as indicated by b4. The value of b4 in this model is 0.070. This positive value of b4 indicates that change in the position of CG surely brings some change in MPS. In other words, if amount of capital gain decreases by Rs. 1, this will support MPS to down up by Rs. 0.070. More precisely, if there was remarkable record regarding capital gain in the past, the trading of security surely takes its great form in the present resulting higher closing price.

The coefficient of determination r^2 explains that 92.10% variation in MPS is caused by the variation in EPS, DPS, DWPS and CG. As indicated, negligible variation is due to other extraneous factors.

4.1.2 Himalayan Bank Ltd.

I) Data presentation

Following table shows the year wise closing price (MPS), earning per share (EPS), dividend per share (DPS), net worth per share (NWPS) and capital gain (CG) from 15/07/2003 to 15/07/2008. This table is constructed from the data of HBL, which is located at www.nepalstock.com.

Table showing MPS, EPS, DPS, NWPS and Capital Gain of HBL

Year	MPS	EPS	DPS	NWPS	CG
2003	836	49.45	1.32	247.81	-164
2004	840	49.05	0	246.93	4
2005	920	47.91	11.58	239.59	80
2006	1100	59.24	30	228.72	180
2007	1740	60.66	15	264.74	640
2008	1980	64.57	0	276.57	240

Table No.4.1.2.a

II) Graphical Presentation

Plotting the above data in the graph, the following line graph can be drawn which shows the movement of MPS in connection to the selected financial indicators.

Figure showing movement of MPS of HBL

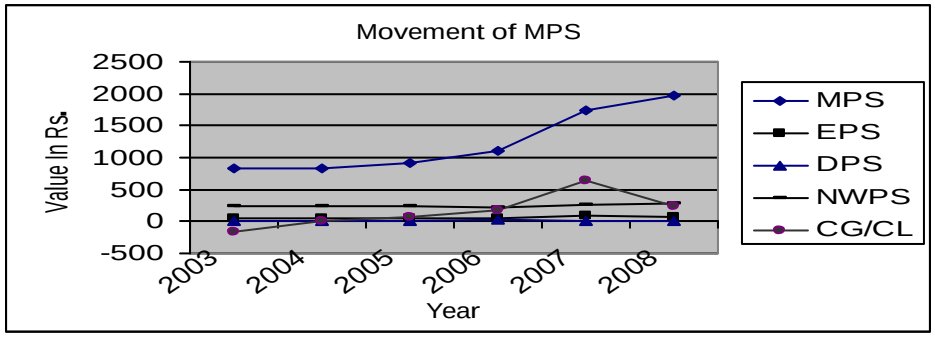


Figure No. 4.1.2

While analyzing the above table and its corresponding line graph, it is clearly seen that How has MPS moved with regard to other selected financial indicators? Though, the study period of six years is too short, it indicates the trend, which MPS has followed during the study period. Comparing the MPS and EPS, the MPS is positively respond because when EPS was increasing from 2004 to 2008, MPS was also growing, Similarly, in case of MPS and NWPS, when NWPS were declining, MPS was growing. However in case of MPS and CG, the movement of MPS is in accordance with CG. By analyzing table and

graph, it can be concluded that selected financial indicators have no any strong influences over shaping of market price of equity. The formation of MPS can be attributed to signaling or rumor effects.

III) Correlation Analysis

Table showing correlation coefficients between MPS and selected indicators of HBL

Descriptions		MPS	EPS	DPS	NWPS	CGCL
MPS	Pearson Correlation	1	.906*	-.024	.823*	.757
	Sig. (2-tailed)		.013	.964	.044	.081
	N	6	6	6	6	6
EPS	Pearson Correlation	.906*	1	.268	.565	.699
	Sig. (2-tailed)	.013		.607	.242	.122
	N	6	6	6	6	6
DPS	Pearson Correlation	-.024	.268	1	-.569	.386
	Sig. (2-tailed)	.964	.607		.239	.449
	N	6	6	6	6	6
NWPS	Pearson Correlation	.823*	.565	-.569	1	.457
	Sig. (2-tailed)	.044	.242	.239		.363
	N	6	6	6	6	6
CGCL	Pearson Correlation	.757	.699	.386	.457	1
	Sig. (2-tailed)	.081	.122	.449	.363	
	N	6	6	6	6	6

Table No. 4.1.2.b

The above correlation coefficient matrix of HBL shows that the correlation coefficients between MPS and EPS, MPS and DPS, MPS and NWPS and MPS and CG are 0.906, -0.024, 0.823 and 0.757 respectively. The negative correlation coefficients signify that MPS has taken opposite movement with respects to DPS. More clearly, when DPS move up, MPS goes down. The positive correlation coefficients signify that MPS has taken positive movement with respects to EPS, NWPS and CGCL. Under developed capital market indicates that there is high degree of signaling influences with out having any true information. The correlation coefficient between MPS and CG is positive which signifies that the increasing trend of CG is the indication of the increased MPS i.e. MPS and CG moves in the same direction. Higher the CG, more will be the MPS. Declining trends of CG tells us that MPS shall go down, in the coming year. In conclusion, correlation coefficient analysis throws lights the fact that there must be some kinds of relationship between the equity price and selected financial indicators either of negative or positive value.

IV) Regression Analysis

Table showing regression Coefficients of HBL

	Unstandardized Coefficients	**Std. Error**	**Standardized Coefficients**	**R square**	**SEE**	**Sig.**
	B		Beta	0.993	132.98551	.178
(Constant)	-6771.405	4568.632				
EPS	20.088	29.148	.289			
DPS	18.701	30.174	.445			
NWPS	26.849	23.241	.931			
CG	-.077	.749	-.042			

Dependent Variable: MPS

Table No.4.1.2.c

The above table clearly visualizes the combined effect of EPS, DPS, NWPS and CG on MPS. In theory, these variables strongly influence equity price in developed security market (It may be opposite in case of least developed security market like in Nepal). EPS measures the performance of the firm. DPS is the direct benefit to the investors. NWPS is the real value of common stock and capital gain is the final benefit if Investors sold their holdings. The regression constant a_1 is -6771.405, which indicates that MPS does not go below than this level even if other variables, considered in this model are equal to zero. The standard error of constant a_1 is 4568.632, which signifies that the value of a_1 may vary with this amount. The coefficient b_1 is 20.088, which indicates that one rupee increase in EPS leads to an average increase in MPS by RS. 20.088 if other variable are kept constant. This value may differ by Rs. 29.148 as explained by the standard error of b_1. Similarly, the regression coefficient b_2 measures the effects of DPS on MPS. The value of b_2, 18.701 shows that one rupee increase in DPS leads to an average increase in MPS by Rs. 18.701 if other variable remained constant. However, this projection may fluctuate by Rs. 30.174 as indicated by the standard error of b_2. The regression coefficient b_3, which clarifies the fact that increase in NWPS by Rs. 1 results an average increase in MPS by Rs. 26.849 though this value may vary by Rs. 23.241. In the same way, the negative regression coefficient b_4 signifies that one rupee increase in capital gain supports to decrease in MPS by Rs. 0.077 and again this value may vary by Rs. 0.749 as explained by its corresponding standard error. Though the above findings are adverse to the related theory, the standard error Justify it to a greater extent. Short study period is also a cause of such findings. Nevertheless, this finding is significant for the identification of the path of MPS movement.

The coefficient of determination r^2 explains that 99.30% variation in MPS is caused by the variation in EPS, DPS, NWPS and CG where as 0.70% variation in MPS is caused by other external factors. The SEE of this model reveals the fact that estimation of MPS might vary by Rs. 132.98551. The relationship

explained by this model for HBL is statistically insignificant at level of 5% because the value of significant is 0.178, which is more than 0.05.

4.1.3 Standard Chartered Bank

I) Data presentation

The following table shows the year-wise closing price, EPS, DPS, NWPS and capital gain of SCBN from 15/07/2003 to 15/07/2008. More specifically, this table is fundamental for the calculations followed by this segment.

Table showing MPS, EPS, DPS, NWPS and Capital Gain of SCBN

Year	MPS	EPS	DPS	NWPS	CG
2003	1640	149.30	110	403.15	65
2004	1745	143.55	110	399.25	105
2005	2345	143.14	120	422.38	600
2006	3775	175.84	130	468.22	1430
2007	5900	167.37	80	512.12	2125
2008	6830	131.92	80	401.52	930

Table No. 4.1.3.a

II) Graphical presentation

Plotting the above data in the graph, the following figure can be drawn which shows the movement of MPS in connection to the selected financial indicators.

Figure showing movement of MPS of SCBN

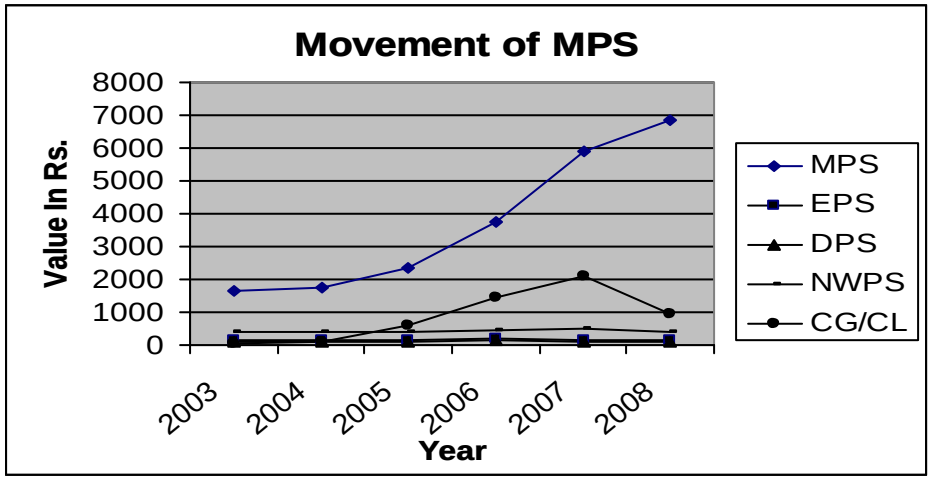


Figure No. 4.1.3

By above figure, it is seen that the movement of MPS and CG is same. It is due to the reason that higher the MPS more will be the CG. Though the study period is extremely short, it shows the trend of MPS with regard to the movements of selected variables during the study period. It also clearly visualizes that NWPS is more or less constant and the amount of EPS and DPS is significantly lower, MPS is remarkably high. By analyzing this graph, no conclusions can be drawn, about MPS. The reason again is due to the under developed capital market. Analysts/ or prospective investors first analyze the annual return and finally the price appreciation, they judge the real value of equity by calculating net worth per share, however it is seen that MPS moves randomly or the degree of influence of such variables is considerably lower than that of expected. Anyway, if we take the wide range of data of developed security market, conclusions may be nearer to true. Nevertheless, bidding and signaling effects again determine MPS, in Nepal stock exchange.

III) Correlation Analysis

Table showing correlation coefficients between MPS and selected indicators of SCBN

Descriptions		MPS	EPS	DPS	NWPS	CG
MPS	Pearson Correlation	1	.037	-.748	.431	.735
	Sig. (2-tailed)		.944	.087	.394	.096
	N	6	6	6	6	6
EPS	Pearson Correlation	.037	1	.307	.827*	.643
	Sig. (2-tailed)	.944		.555	.042	.169
	N	6	6	6	6	6
DPS	Pearson Correlation	-.748	.307	1	-.165	-.371
	Sig. (2-tailed)	.087	.555		.755	.469
	N	6	6	6	6	6
NWPS	Pearson Correlation	.431	.827*	-.165	1	.921**
	Sig. (2-tailed)	.394	.042	.755		.009
	N	6	6	6	6	6
CG	Pearson Correlation	.735	.643	-.371	.921**	1
	Sig. (2-tailed)	.096	.169	.469	.009	
	N	6	6	6	6	6

Correlation is significant at the 0.05 level (2-tailed).

Table No.4.1.3.b

The above correlation coefficients matrix of SCBN shows that the correlation coefficients between MPS and EPS, MPS and DPS, MPS and NWPS and MPS and CG are 0.0327,-0.748, 0.431 and 0.735 respectively. The positive correlation between MPS and EPS signifies that MPS moves positively in relation to the EPS. That is, when EPS grows MPS also grows and vice-versa. However, movement of MPS and DPS is adversely correlated as indicated by the correlation coefficient between them. The high degree of negative correlation between MPS and DPS indicates that they move in opposite way in case of SCBNL. The moderate degree of positive correlation between MPS and NWPS indicates that they move in positive way in case of SCBNL. Capital gain has positive correlation with MPS. It importantly focuses the fact that the increasing trend of CG is the good signal of the increasing trend of MPS. Graph has also proved this fact.

IV) Regression analysis

Table showing regression Coefficients of SCBNL

	Unstandardized Coefficients	**Std. Error**	**Standardized Coefficients**	**R square**	**SEE**	**Sig.**
	B		Beta	0.999	160.50716	.049
(Constant)	30824.162	1711.908				
EPS	29.313	13.056	.219			
DPS	-40.152	6.059	-.376			
NWPS	-73.355	6.793	-1.526			
CGCL	5.154	.286	1.861			

Dependent Variable: MPS

Table No.4.1.3.c

Multiple regression analysis of SCBNL clearly visualizes the combined effect of EPS, DPS, NWPS and CG on MPS during the six years study period. The regression constant a_1 is 30824.162 which indicate that MPS of SCBNL does not go below than Rs. 30824.162 even if the entire variable considered in this model equals to zero. However this value may deviate by Rs. 1711.908 as indicated by the standard error of a_1. The regression coefficient b_1 signifies that one rupees increase in EPS of SCBNL leads to an average increase in MPS by Rs. 29.313. The standard error of b_1 is 13.056. Similarly, b_2 indicates that increase in DPS leads to decrease in MPS. More precisely, the regression coefficient b_2, -40.152 signifies that one rupee increase in DPS leads to an average decrease in MPS of SCBNL by Rs. 40.152. The standard error of b_2 explains that this value may vary by Rs. 6.059. In the same way, the regression coefficient b_3 is -73.355 i.e. increase in NWPS by Rs. 1 leads to decrease in MPS by Rs. 73.355 if other variables are kept constant. This value may very by Rs. 6.793 as explained by its standard error. Regression coefficient of capital gain (b_4) is 5.154, which shows the positive effect of capital gain over MPS in case of SCBNL. It explains that increase in CG by Rs. 1 leads to an average increase in MPS by Rs. 5.154 if other variables are kept constant. However, difference of Rs. 0.286 may occur as indicated by its standard error.

The coefficient of determination r^2 explained that 99.9% variable in MPS is caused by the variation in EPS DPS, NWPS and CG where as negligible amount of variation is caused by other external factor. The SEE of this model reveals that estimation of MPS might vary by Rs. 160.50. The relationship explained by this model for SCBNL is statistically significant at level of 5% because the significant is 0.049, which is less than 0.05.

4.1.4 Nepal Investment Bank

I) Data presentation

The following table shows the year wise closing price, EPS DPS, NWPS, and CG of NIBL from 15/07/2003-15/07/2008. All the calculations, followed hereby, are totally based up on this table. The data presented here, is extracted from www.nepalstock.com.

Table showing MPS, EPS, DPS, NWPS and Capital Gain of NIBL

Year	MPS	EPS	DPS	NWPS	CG
2003	795	39.56	20	216.24	35
2004	940	51.7	15	246.89	145
2005	800	39.5	12.5	200.8	-140
2006	1260	59.35	20	239.67	460
2007	1729	62.57	5	234.37	469
2008	2450	57.87	7.5	223.17	721

Table No. 4.1.4.a

2) Graphical Presentation

Plotting the above data in the graph, the following line graph can be drawn which shows the movement of MPS in connection to the selected financial indicators.

Figure showing movement of MPS of NIBL

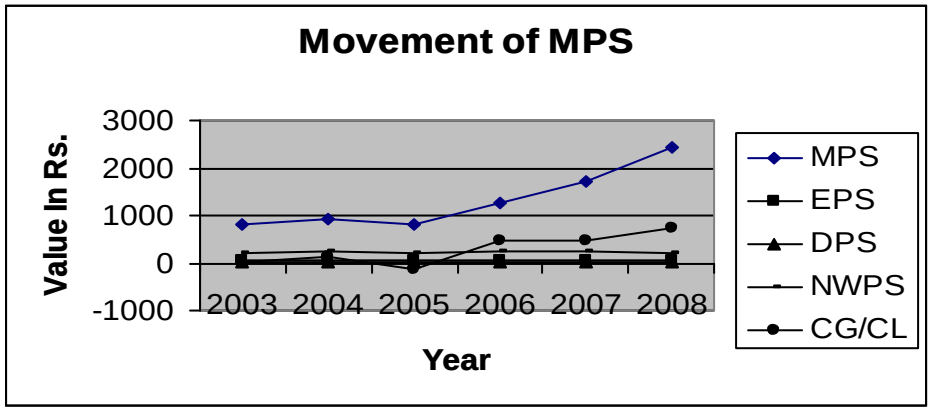


Figure No. 4.1.4

The above figure clearly shows that the movement of MPS and CG is exactly same. More precisely, the MPS has followed the same direction, which the CG line has followed. Where as MPS didn't show any reaction as there has been changed in other variables. Thus, MPS has shown random walk. Whatever the amount of EPS and DPS, either they are more or less; MPS has taken its own path without having any certain pattern. NWPS, during the study period of six years is not more that Rs. 246.89; MPS has approached to Rs. 2450. This also shows that MPS has followed random pattern in case of NIBL as of others. Concrete conclusions cannot be generated just having calculation of short study period. Therefore, it is the first criteria that there must be developed security market where true information must have higher value than that of bidding practice or signaling effects.

III) Correlation Analysis

Table showing correlation coefficients between MPS and selected indicators of NIBL

Descriptions		MPS	EPS	DPS	NWPS	CG
MPS	Pearson Correlation	1	.716	-.689	.175	.916*
	Sig. (2-tailed)		.109	.130	.741	.010
	N	6	6	6	6	6
EPS	Pearson Correlation	.716	1	-.463	.707	.877*
	Sig. (2-tailed)	.109		.356	.116	.022
	N	6	6	6	6	6
DPS	Pearson Correlation	-.689	-.463	1	.054	-.443
	Sig. (2-tailed)	.130	.356		.919	.379
	N	6	6	6	6	6
NWPS	Pearson Correlation	.175	.707	.054	1	.476
	Sig. (2-tailed)	.741	.116	.919		.340

	N	6	6	6	6	6
CG	Pearson Correlation	.916*	.877*	-.443	.476	1
	Sig. (2-tailed)	.010	.022	.379	.340	
	N	6	6	6	6	6

* Correlation is significant at the 0.05 level (2-tailed).

Table No. 4.1.4.b

The above correlation coefficient matrix of NIBL shows that correlation coefficient between MPS and EPS, MPS and DPS, MPS and NWPS and MPS capital gain are 0.716, -0.689, 0.175 and 0.916 respectively. The negative correlation coefficients importantly underline the fact that during the six years study period, the selected financial indicators negatively influence market price of equity of NIBL. However, the correlation coefficient of MPS with capital gain is high degree positive. This indicates that MPS and CG moves in the same direction. Higher the capital gain more will be the MPS. The standing problem in this regard is without assigning the amount of MPS; the amount of capital gain cannot be fixed. Therefore, analysts/ prospective investors should look after the trend of historical capital gain pattern.

Opposite movement of DPS with regard to MPS signifies that when these indicators follow increasing trend, MPS follows decreasing trend. The correlation coefficient of MPS with NWPS is 0.175. This reveals that MPS didn't show any more reaction in relation to the fluctuations in NWPS.

IV) Regression Analysis

Table showing regression Coefficients of NIBL

Description	**Unstandardized Coefficients**	**Std. Error**	**Standardized Coefficients**	**R square**	**SEE**	**Sig.**
	B		Beta			
(Constant)	3049.363	639.569		.996	92.70400	.095
EPS	-28.684	14.419	-.443			
DPS	-39.711	9.683	-.380			
NWPS	-1.624	4.939	-.042			
CG	2.351	.304	1.156			

Dependent Variable: MPS

Table No. 4.1.4.c

The above table summarized the results of multiple regression analysis produced by SPSS software for assessing the combined effect of EPS, DPS, NWPS and capital gain on MPS of NIBL for the six years study period. The regression constant a_1 of NIBL is 3049.363, which implies that MPS does not go below than this level even if EPS, DPS, NWPS and CG are omitted from the model. The regression coefficient b_1 represents that one rupee increase in EPS

leads to an average decrease in MPS by Rs. 28.684 if the other three variables, DPS, NWPS, and CG are kept constant. However the value of b_1 may vary by Rs. 14.419 as indicated by its corresponding standard error. Similarly, the regression coefficient b_2 measures the average effects of DPS on MPS. The value of b_2 being -39.711 indicates that one rupee increase in DPS leads to a decrease in MPS by Rs. 39.711, holding three other variables constant. The corresponding standard error of b_2 is 9.683, which explains that the value of b_2 may vary by this amount. In the same way, the regression coefficient b_3, which is equal to -1.624, signifies that one rupee increase in NWPS leads to average decrease in MPS by Rs. 1.624 if other variable remained constant. The corresponding standard error of b_3 explains that the value of b_3 may deviate by Rs. 4.939. Like wise, the coefficient of CG is 2.351. It represents that one rupee increase in capital gain leads to an average increase in MPS by Rs. 2.351 if other variables are kept constant. The standard error of b_4, 0.304 indicates that b_4 may vary by this amount.

The coefficient of determination r^2 explains that 99.6% variation in MPS is due to the variation in EPS, DPS, DWPS and CG and negligible amount of variation (0.04%) is accounted for other irrelevant factor. The estimation of MPS might be inaccurate by Rs. 92.704 as explained by SEE. Similarly the regression model is statistically insignificant at 5% level of significance as the value of significant f is 0.095, which is greater than 0.05.

4.1.5 Nabil Bank Ltd.

I) Data presentation

The following table shows the year wise closing price, EPS, DPS, NWPS and CG of Nabil from 15/07/2003- 15/07/2008. All the calculations, followed here by, are totally based on this table. This table is extracted from the www.nepalstock.com.

Table showing MPS, EPS, DPS, NWPS and Capital Gain of Nabil

Year	MPS	EPS	DPS	NWPS	CG
2003	740	84.66	50	267	40
2004	1000	92.61	65	301	260
2005	1505	105.49	70	337	505
2006	2240	129.21	85	381	735
2007	5050	137.08	100	418	2810
2008	5275	108.31	60	354	225

Table No. 4.1.5.a

II) Graphical presentation

Plotting the above data in the graph, the following line graph can be drawn which shows the movement of MPS in connection to the selected financial indicator.

Figure showing movement of MPS of Nabil

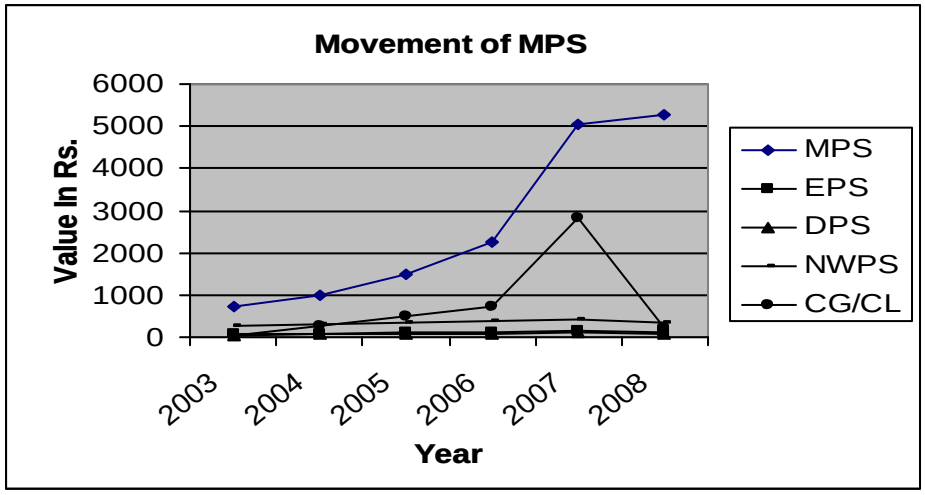


Figure No.4.1.5

It can be viewed that lines of MPS and CG move in the same direction, where as MPS didn't show any reaction, as there were changes in other variables. More specifically, MPS has shown random walk. NWPS, during the study period, is not more than Rs. 418, MPS has approached to Rs. 5275. This also reveals the fact that MPS didn't response in accordance with the NWPS. Whatever the amount of EPS and DPS, MPS has taken its own path with out having any certain pattern. Because of under developed security market, No one can project the future equity price by analyzing the popular financial indicators. Nevertheless, if we take wide range of data from developed security market, the result will be more reliable and nearer to true. Therefore, in Nepalese contest, it can be said that bidding and signaling effects, again determine MPS in Nepal stock exchange.

III) Correlation Analysis

Table showing correlation coefficients between MPS and selected indicators of Nabil

Descriptions		MPS	EPS	DPS	NWPS	CG
MPS	Pearson Correlation	1	.655	.471	.754	.576
	Sig. (2-tailed)		.158	.346	.084	.231
	N	6	6	6	6	6
EPS	Pearson Correlation	.655	1	.933**	.982**	.801
	Sig. (2-tailed)	.158		.007	.001	.056
	N	6	6	6	6	6
DPS	Pearson Correlation	.471	.933**	1	.904*	.894*
	Sig. (2-tailed)	.346	.007		.013	.016
	N	6	6	6	6	6
NWPS	Pearson Correlation	.754	.982**	.904*	1	.800
	Sig. (2-tailed)	.084	.001	.013		.056
	N	6	6	6	6	6
CG	Pearson Correlation	.576	.801	.894*	.800	1
	Sig. (2-tailed)	.231	.056	.016	.056	
	N	6	6	6	6	6

Table No. 4.1.5.b

The above correlation coefficient matrix of Nabil shows that the correlation coefficient between MPS and EPS, MPS and DPS, MPS and NWPS and CG are 0.655, 0.471, 0.754 and 0.576 respectively. It further signifies that MPS of Nabil during the study period was positively influenced by EPS, DPS, NWPS and CG. The correlation coefficient of MPS with DPS is 0.471, which shows the strong relationships between MPS and DPS in case of Nabil. MPS in Nabil Bank's case moves in accordance with EPS, DPS, NWPS and CG. That is, increasing trend of such variables is good signals of increasing trend of MPS. The high degree of positive relationship between MPS and CG signifies that higher the CG in previous year high will be MPS in the present or future year.

IV) Regression Analysis

Table showing regression Coefficients of Nabil

Descriptions	**Unstandardized Coefficients**	**Std. Error**	**Standardized Coefficients**	**R square**	**SEE**	**Sig.**
	B		Beta			
(Constant)	-7082.009	4465.893		.959	918.04474	.300[a]
EPS	-42.554	138.359	-.428			
DPS	-200.151	92.330	-1.787			
NWPS	80.283	42.621	2.155			
CG	1.556	.962	.793			

Dependent Variable: MPS

Table No. 4.1.5.c

The above table summarized the results of multiple regression analysis produced by SPSS software for assessing toe combined effect of EPS, DPS, NWPS and capital gain on MPS of Nabil bank for the six years study period. The regression constant a_l of Nabil is -7082.009, which implies that MPS does not go below that level even EPS, DPS, NWPS and CG are omitted from the model. The regression coefficient b_1 represents that one rupee increase in EPS leads to an average decrease in MPS by Rs. 42.554 if the other three variables; DPS, NWPS and CG are kept constant. However, the value of b_1 may vary by Rs. 138.359 as indicated by its corresponding standard error. Similarly, the regression, coefficient b_2 measures the average effect of DPS on MPS. The value of b_2 being -200.151 indicates that one rupee increase in DPS leads to a decrease in MPS by Rs. 200.151, holding the three other variables constant. The corresponding standard error of b_2 is 92.330, which explains that the value of b_2 may vary by this amount. In the same way, the regression coefficient b_3, which is equal to 80.283, signifies that one rupee increase in NWPS leads to average

increase in MPS by Rs. 80.283 if other variables remained constant. The corresponding standard error of b_3 explains that value of b_3 may deviate by Rs. 42.621. Likewise, the coefficient b_4 measures the average effect of capital gain/loss on MPS. Regression coefficient of CG is 1.556, which is negative. It narrates that one rupee increase in capital gain leads to an average increase in MPS by Rs. 1.556 if other variables are kept constant. This value may vary by Rs. 0.962 as explained by its standard error.

The coefficient of determination r^2 explain that 95.90% variation in MPS is accounted for by the variation in EPS, DPS, NWPS and CG and 4.10% variation in MPS is due to the other irrelevant factors. The estimation of MPS might be inaccurate by Rs. 918.044 as explained by SEE. Similarly, the regression model is statistically insignificant at 5% level of significance as the value of significant F is 0.300 which is greater than 0.05.

4.1.6 Banking Sector

I) Data presentation

Following data is the average of five commercial banks, taken under this study. This table is attempting to present banking sector as a whole. The source of this data is the annual report of concerned commercial bank down loaded from www.nepalstock.com. This table sharply presents the year wise closing price, EPS, DPS, NWPS and capital gain during study period.

Table showing MPS, EPS, DPS, NWPS and Capital Gain of banking sector

Year	MPS	EPS	DPS	NWPS	CG
2003	853.2	66.888	37.864	253.646	-34
2004	966.4	70.234	38	268.174	113.2
2005	1181	69.866	42.816	271.862	214.6
2006	1797.4	88.382	54	293.878	616.4
2007	3119	93.406	42.518	321.454	1321.6
2008	3609.2	78.2	29.5	283.166	490.2

Table No. 4.1.6.a

II) Graphical Presentation

Plotting the above data in the graph, following figure is obtained which technically presents the movement of MPS with respect to the selected financial indicators. More precisely, this figure attempts to show the path of MPS, which has been seen during the study period.

Figure showing movement of MPS of banking sector

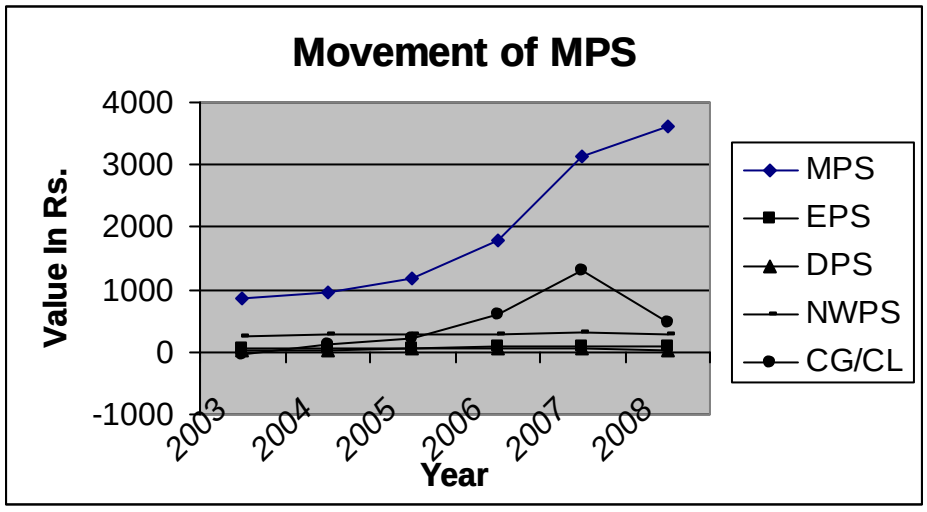


Figure No. 4.1.6

The line of MPS is quite responsive to the line of capital gain as shown by the graph. More specifically, this graph suggests that the movement of MPS and capital gain during the study period is exactly same. NWPS is consistent during the study period. MPS of banking sector during the study period is maximum. In comparison to MPS, NWPS was significantly lower. Therefore, MPS of banking sector during the study period is irresponsive towards NWPS. In the same way, MPS has not shown any reaction at the fluctuations in EPS and DPS. Thus it can be concluded that MPS of banking sector purely took random walk during the study period.

III) Correlation Analysis

Table showing correlation coefficients between MPS and selected indicators of banking sector

Descriptions		MPS	EPS	DPS	NWPS	CG
MPS	Pearson Correlation	1	.668	-.303	.711	.734
	Sig. (2-tailed)		.147	.560	.113	.097
	N	6	6	6	6	6
EPS	Pearson Correlation	.668	1	.453	.958**	.942**
	Sig. (2-tailed)	.147		.367	.003	.005
	N	6	6	6	6	6
DPS	Pearson Correlation	-.303	.453	1	.328	.260
	Sig. (2-tailed)	.560	.367		.526	.618
	N	6	6	6	6	6
NWPS	Pearson Correlation	.711	.958**	.328	1	.990**
	Sig. (2-tailed)	.113	.003	.526		.000
	N	6	6	6	6	6
CG	Pearson Correlation	.734	.942**	.260	.990**	1
	Sig. (2-tailed)	.097	.005	.618	.000	
	N	6	6	6	6	6

* Correlation is significant at the 0.05 level (2-tailed).

Table No. 4.1.6.b

Above correlation coefficient matrix of banking sector clearly shows that the correlation coefficients of MPS with EPS, DPS, NWPS and capital gain are 0.668, -0.303, 0.711 and 0.734 respectively. These coefficients technically present that the selected financial indicators positively and negatively influenced the MPS of banking sector during the study period. Since, the correlation between MPS and EPS, NWPS & CGCL is positive with high degree and negative with DPS. The results are relevant because it is follow the general rules of financial management.

Thus in conclusion, results of correlation analysis of banking sector are relevant.

IV) Regression Analysis

Table showing regression Coefficients of banking sector

Descriptions	Unstandardized Coefficients	Std. Error	Standardized Coefficients	R square	SEE	Sig.
	B		Beta			
(Constant)	-11134.753	30372.234		.918	752.60177	.418
EPS	129.275	126.423	1.200			
DPS	-122.961	58.159	-.844			
NWPS	31.514	127.018	.634			
CG	-1.937	5.690	-.805			

Dependent Variable: MPS

Table No. 4.1.6.c

The above table shows the outcomes of multiple regression analysis for banking industry. The regression coefficient b_1 is 129.275 which imply that one rupee change in EPS leads to the average of about Rs. 129.275 increase in MPS of the whole Banking industry if other three variables are kept constant. However, the standard error for b_1 shows that the MPS might vary by Rs. 126.423. Similarly, regression coefficient b_2,b_3, and b_4 are –122.961, 31.514 and -1.937 respectively. These indicate that the MPS of banking industry will decrease by Rs. 122.961 in average if DPS is increased by Rs. 1, The MPS will increase by Rs. 31.514 if NWPS is increased by Rs.1 and increase in capital gain leads to decrease in MPS of banking industry by 1.937 if other three variables are kept constant in each case. Although, increase in NWPS never brings negative impact in MPS, the results occurred due to short study period and underdeveloped security market. The standard error of b_2, b_3 and b_4 are 58.159, 127.018 and 5.690 respectively, which indicate that the amount of MPS could vary by these amounts respectively.

EPS has always-positive influences up on MPS. In the same way, NWPS is the real value of equity share. Therefore increase in NWPS always brings increment in MPS. Higher capital gain is the output of higher MPS. Therefore analysts must take capital gain pattern into consideration that they can predict the effect of capital gain more precisely. Annual capital gain could not be the determinant. Capital gain shapes equity price by pushing and pulling the demand of stock in security market. If investors notice any possibility of price appreciation they bid the equity for higher instant cash benefits resulting higher closing price. On the contrary, if adverse situations exist, MPS shall go below par value.

The regression constant a_1 with the value of -11134.753 signifies that MPS of banking industry does not go below this amount even if EPS, DPS, NWPS and capital gain have value of zero. But the standard error of estimate of the model reveals that the estimation of MPS may vary by Rs. 30372.234 The coefficient of determination r^2 explains that 91.80% variation in MPS is due to the variation

in EPS, DPS, NWPS and capital gain where as 8.20% variation in MPS is caused by other external factors. The regression model is statistically insignificant at 5% level of significant as the significant value is 0.488, which is greater than 0.05.

4.2 Pricing Status:

Under this topic, we examine the pricing status of common stock i.e. whether common stocks are overpriced or under priced or equilibrium priced. The pricing status of stocks of particular firm is evaluated by comparing the required rate of return with actual realized rate of return. This chapter presents calculations of actual rate of return that a particular security has provided during the study period and its corresponding required rate of return. Comparison between the actual realized rate of return and required rate of return gives the way by which classification of stocks- whether overpriced or under priced, is possible.

Risk free rate of return (Rf):

The risk free rate has been taken from Nepal Rastra Bank (NRB) 91 days treasury bills of different years. In other words Rf, in this study, is the discount rate of 91 days T-bills issued by NRB. From appendix No.1, it is 4.00% during the study period of six years.

Market return (Rm)

Market return is the average return of the stocks of all companies in an industry. For this research purpose, market return will be calculated by dividing the difference of this year's market index and previous year's market index. From appendix No. 2, it is 31.25%, during the study period of six years.

Status of the MPS of the sampled companies

S. NO.	Sector	Name of the company	Beta coeff.	Actual Return ($\bar{R}_j$)	Required return E(Rj)	Status of the stock
1	Banking sector	NSBIL	1.45	33.58%	43.52%	Over priced
2		HBL	0.84	15.02%	26.83%	Over priced
3		SCBNL	0.65	33.67%	27.70%	Under priced
4		NBL	1.29	49.15%	39.18%	Under priced
5		NIBL	0.39	25.37%	14.52%	Under priced

Table No. 4.3.1

From the above-summarized table, actual realized rate of return of NSBIL is 33.58% where as required rate of return during the study period is 43.52%, which is below than required rate of return. Therefore, stock of NSBIL during the study period is overvalued or overpriced. Beta coefficient of NSBIL's stock is 1.45, which is more than 1. Similarly, actual realized rate of return of HBL is 15.02% where as required return during the study period is 26.83% and the beta coefficient of the same period is 0.84. Comparing actual return with required return, it is clearly viewed that required return is more than to actual return hence stock of HBL is over-priced. In the same way, beta coefficient is less than the market beta coefficient of 1 (Assumption). Thus the stock of HBL can be classified as defensive stock. Actual realized rate of return of SCBNL during the study period is 33.67%, which is significantly higher than its corresponding required rate of return of 27.70% during the same period. This shows that stock of SCBNL is also over priced and defensive. Defensive in the sense that, beta coefficient is 0.65 which is less than 1 (market bet coefficient). In the same ground the required rate of return of NABIL is 39.18% and actual return during the study period is

49.15%. It shows that the actual return is higher than the required rate of return. Hence the stock of NABIL is also undervalued. However, beta coefficient of NBL's stock is 1.29, which is more than 1, which suggests that stock of NBL is aggressive. Likewise, actual realized return of NIBL during the six years study period is 25.37% where as its corresponding required rate of return is 14.52% during the same period. Actual return is remarkably higher than required return, which adds to declare that stock of NIBL is under priced. Beta coefficient of NIBL's stock is 0.29, which is less than 1. Thus stock of NIBL is defensive.

Thus, in conclusion, it was found that the 5 banks taken as sample, out of which 2 were over priced and 3 were under priced.
The main reason behind the under valuation of the stocks of the sampled companies is that the price of the stock had approached the highest point without having any concrete financial causes yielding remarkable price appreciation during the study period. However, NEPSE index did not follow the same pattern and also the rate of return on Treasury bill issued by NRB rapidly decrease forcing it to limit within a lower level. In this way, Capital gain in one hand is maximum; market risk premium in the other hand is minimum. Therefore, actual returns of all sampled companies are significantly higher than required return. If our stock markets really appraise financial information bidding practice and signaling effects surely discouraged which eventually reflects real actual return. In addition to it, too short study period is another reason of such irrelevant result. Nevertheless, this study has focused the existing status of stocks of Nepalese companies.

4.3 Major findings:

1) According to correlation coefficient analysis, relationship between MPS and other selected financial indicators of NBL and NSBIL are all positive. Like-wise DPS and MPS of Nabil are less correlated which is also justifiable in practice and theory. However, positive correlation coefficient of DPS with MPS is irrelevant

The relationship of MPS with EPS, DPS, NWPS and CG of NBL and NSBIL is positive at all. Hence, positive correlation coefficient throw lights the fact that the movement of MPS and selected financial indicators is similar. That is positive fluctuations shall bring positive change in MPS.

2) Similarly, correlation coefficient of MPS with DPS of HBL, SCBNL and NIBL are all negative, however, correlation coefficient of MPS with capital gain is significantly positive in case of NIBL. The same result has occurred in case of HBL where MPS is positively correlated with capital gain. In case of SCBNL, MPS is positively correlated with capital gain. Negative correlation coefficient of DPS with MPS is relevant because coefficient of EPS with MPS is positive. Such situation exists in real life. Hence it can be concluded that there was positive movement of MPS with respect to selected financial indicator except DPS. This situation suggests that MPS of the above named companies are heavily influenced by relevant factors and follow the real practice.

3) Industry-wise correlation analysis has shown that financial indicators of banking sector were positively correlated with MPS except DPS. This gives the

idea that MPS of banking sector shall fluctuate by core factor, however rumors or irrelevant factors also affect it. It is also seen in actual practice if we analyze the daily reporting of NEPSE where share prices were maximum with out having any concrete financial cause and effect.

4) According to multiple regression analysis, constant of NSBIL, SCBNL and NIBL are positive, however constant of HBL and NBL are negative due to more fluctuation in market value of share.

5) According to multiple regression analysis, MPS of NSBIL, HBL, SCBNL and NBL positively influenced by EPS, however MPS of NIBL is negatively influenced by DPS

6) According to multiple regression analysis, MPS of HBL, SCBNL and NIBL is negatively influenced by DPS .Further, in HBL, SCBNL and NIBL, 99.30%, 99.9% and 99.6% variation in MPS is due to the variation in selected financial indicators and negligible amount of variation is caused by other irrelevant factors.

6) Multiple regression analysis of NSBIL, SCBNL, NIBL and NBL has shown that NWPS positively affected MPS. However, MPS of HBL has negative affect.

7) Multiple regression analysis indicates that CGCL of HBB is negatively affect the MPS, however, the value is less than 1, so affect on MPS due to CGCL of HBL can be assumed nil. CGCL determine by the MPS so, CGCL has positive affect on MPS of NSBIL, NBL, HBL and NIBL.

8) Industry-wise regression analysis has shown that MPS of banking sector was heavily influenced by the variation in these selected financial indicators. More precisely, EPS and NWPS of banking sector positively influenced MPS of banking sector. Where as, DPS and CGCL is negatively influenced the MPS. More over, 91.8% variation in the MPS of banking sector is due to the fluctuations in these selected financial indicators.

9) Pricing status analysis of the stocks of sampled companies has shown three of them were under priced during the study period because actual returns were remarkably higher than required returns. Treasury bill's discount rate is increasing rapidly because of low liquidity available in the market due to IPO of several financial institutions. Present situation of our country has heavily prohibited new investment opportunity in manufacturing industry, which ultimately supports to increase the investment in the mainly common stock of financial institution. This discount rate is considered as the risk free rate. In the same way, few companies among the listed companies in NEPSE are performing satisfactorily. Therefore, NEPSE index is increasing slowly, which eventually yield higher rate of market return. Thus, these all are the key reasons due to which required return is significantly increasing during the study period.

18) Though, beta coefficients are calculated to assign required return, these coefficients tell the nature or behavior of stocks whether individual stock is aggressive or defensives. The stock of NBL, SCBN and HBL are defensive because their beta coefficients are less than 1. Where as stock of NSBIL and NIBL are aggressive because their beta coefficients are more than 1. Defensive stocks indicate that they are less volatile in compression to market where as aggressive stocks are more volatile than that of market return.

Chapter- V

Summary, Conclusion and Recommendation

This chapter presents the summary conclusions and recommendation drawn from the analysis of the study. This study is conducted to identify the core factors, which shape equity price, and to examine the behavior of stock price with respect to the movement of various financial indictors. For this purpose, 5 sampled commercial banks were selected and the study was based on the six years data of the selected companies from 15/07/2003 to 15/07/2008. Various statistical tools and financial concepts were applied as test methodology. Multiple regression analysis was taken as a key instrument of analysis.

5.1 Summary:

Various factors heavily influenced the pricing of equity. It is still mysterious that which factors to what extent shape equity price? Nevertheless, this study has tried to show that popular financial indicators shaped equity price. In fact, price of security is the outcomes of investors' psychology. The psychology of investors is affected by various factors. In Nepalese context, dividend streams and price appreciation of stock is a major factors for investors to decide about purchasing of shares. Along with the DPS and price appreciation, EPS, NWPS, market rumors, political an economic environment etc are the other major factors which ultimately affect the buying and selling behavior of the investors. Stock exchange is the trading mechanism, which is a fixed engine to report daily closing price at every day end. In our context, NEPSE plays such roles. However, one must look into financial status of organization before making investment. If the organization is not financially strong, then there is a great probability to loose one's investment one day or other.

The first objective of this study is to find out the relationship of MPS with various financial indicators like EPS, DPS, NWPS and price appreciation. The 4^{th} chapter of this study has presented multivariate correlation analysis, which concluded that the most positive relationship of MPS with EPS is 0.906 of HBL and the least positive relationship of MPS with EPS is 0.037 of SCBNL. The correlation coefficient between MPS and EPS of all five commercial banks was positive. Similarly, in case of DPS, MPS of NBL was most positively and highly correlated with DPS. . DPS of banking sector was negatively correlated with MPS during the study period. However, it was amazing that DPS of , NSBIL and NBL was positively correlated with MPS at moderate degree though; the relationship between MPS and EPS of SCBNL, HBL and NIBL was negative. This summarized that investors of SCBN gave more priority to dividend rather than price appreciation or EPS or NWPS.

Like-wise, while analyzing the relationship between MPS and NWPS, it has been found that correlation coefficient of banking sector was 0.771. It means that NWPS is positively correlated with MPS in banking sector during the study period.

Similarly relationship of MPS with price appreciation or capital gain was positive in all sampled companies. It has indicated that movement of MPS and capital gain is always similar. Higher the MPS, more will be the capital gain. This linear relationship gives the very idea that demand of stock increase due to the expectation of getting higher instant cash benefit.

Similarly, to assess the combined effect of EPS, DPS, NWPS and capital gain on MPS, the most popular statistical tool-multiple regression analysis has been applied with the help of statistical software SPSS. Under this analysis, coefficient of determination r^2 has been calculated which denotes the combined effects of selected financial indicators on MPS. As per the calculation, the highest coefficient of determination of SCBNL is 0.999 which means that the MPS of SCBNL is mostly influenced by the combined effect of EPS, DPS, NWPS and capital gain among the all selected listed companies during the study period. Similarly, the lowest coefficient of determination of NSBIL is 0.921 which indicates that MPS of the NSBIL is least influenced by combined effect of EPS, DPS, NWPS and capital gain among the all selected listed companies. Further more, 7.9% fluctuation in equity price of HBL is due to the other extraneous factors. The coefficient of determination of banking sector is 0.918. These all jointly, signifies that variation in MPS is heavily caused by the fluctuations in the selected financial indicators.

In this way, to analyze the effects of financial indicators upon MPS, regression analysis has been applied. Coefficient of determination has concluded that market price of equity of Nepalese corporation has been heavily fluctuated due to the fluctuations in EPS, DPS, NWPS and price appreciation. After calculating their relationship with MPS, these variables are inserted in regression model as independent variables, which have eventually provided the amount of variation in MPS. Regression analysis has shown that in banking sector increase in DPS and CGCL lead to decrease in MPS if other three variables are kept constant in each case. On the contrary, increase in EPS and NWPS lead to increase in MPS.

The next objective of this study is to identify whether the stocks of sampled companies are over priced or under- priced or equilibrium priced. To find out the pricing status of stocks, actual rate of return and required rate of return were calculated. Comparison of actual return with required return says that a particular stock is under priced or over priced or equilibrium priced. The 4^{th} chapter of this study has provided the details of pricing status of stocks of sampled companies. By principle, if actual return exceeds required return then such stocks are classified as under priced stocks. Similarly, if actual return is

below than required return, then these stocks are called over priced stocks and if they are equal to each other, such stocks are called equilibrium priced stocks. Generally, the trend is that the MPS of public quoted companies is above than their book value. The market value is determined by the supply and demand functions. However, in an efficient market, MPS fully reflects all the historical information publicly available. Demand of stocks, in total, is pushed or pulled by pricing status. According to the conclusions of chapter 4, the highest required rate of return is 43.52% of NSBIL and the lowest required rate of return is 14.52% of NIBL.

The main reason for under valuation of the stocks of the sampled companies is that the price of the stock had reached the highest point during the study period, especially in banking sector. But the NEPSE index did not follow the same speed and the rate of Treasury bill issued by NRB also heavily decreases during the study period. It makes the actual rate of return of the sampled companies high and the required rate of return low. So, the pricing status of three sampled companies becomes under-priced during the study period.

Beta coefficients have solely indicated that stocks of NSBIL and NBL were more volatile during the study period. On the contrary, rests of sampled companies have beta coefficient of less than one, which indicated that stocks of these companies were less volatile in comparison to market.

Thus, this study has begun with the basic definition of common stocks, capital market trading of stocks in security market and role of security in the countries like Nepal. More precisely, in chapter one, this study has explained the background, objective, limitations and relevance of this study. Chapter two has presented the theoretical aspects of equity; its valuation techniques, the basic determinants of equity and related studies in Nepalese context. Chapter three has dealt the basic methodology that this study primarily followed. The 4th chapter is the most important chapter, which has brought required calculations to arrive at the target. Correlations analysis, multiple regression analysis, graphical presentation and pricing status were examined to achieve the set targets. In this way, this study has taken a shape, which shall fulfill the requirements of MPS along with the future researchers.

5.2 Conclusion

This study has covered most of the aspects of equity price. The prime objective of this study is to put full efforts to identify the core factors upon which equity price built. So to achieve set targets, behavioral techniques of price determination, function of security market, fundamental analysis, technical analysis, efficient market hypothesis etc are dealt. Basically, four popular financial indicators are selected because stock markets generally report these four indicators as a measuring rod of economy thus the combined effects of these variables upon MPS has been tested by means of correlation analysis and

regression analysis. This study has shown that MPS of sampled companies were heavily influenced by the fluctuations in these selected financial indicators. Related theories have argued that EPS, DPS, NWPS, and price appreciation are the fundamental factors that shape equity price to a significant extent. MPS of banking sector has taken random walk during the study period. Because, MPS was not reacting sharply towards the movement of selected financial indicators practically. Thus, it can be concluded that signaling effects and bidding practice in banking sector, have occupied major parts and these selected indicators were fallen in shadow. Not the least, EPS, NWPS and capital gain were positively correlated with MPS but DPS was negatively correlated with MPS during the study, which is absolutely consistent with theory because dividend in long term will reduces MPS. Thus, in case of Banking sector, selected financial indicators can be assumed as the perfect determinants of equity price.

To arrive at concrete conclusion, pricing status of the common stocks of sampled companies has also been tested which strongly concluded that no any stocks were equilibrium priced. More precisely, they are under and over priced during the study period. If stocks are under priced, their demand in stock market heavily mounts up. Insufficient supply of stocks caused price to rise. At present, this situation is prevailing in Nepalese stock market due to which equity price of banking sector has approached to maximum point with out having any concrete financial reason.

Along with the above reasons, political, economic and social environment have also close relationship with the pricing behavior of share and they influence the stock market with respect to the importance of the event. Though this study could not over this fact numerically, it is true that such factors hugely shape equity price because, in Nepalese context also, frequent strike causes NEPSE index to go below yielding instant capital loss. During the course of study, it has also seen that Nepalese investors are more conscious towards the dividend stream, bonus share, price appreciation and marketability of equity share. However, most of the investors are only using buy and hold strategy as only few of them are trading their shares in secondary market.

Thus, it can be concluded that four financial indicators –EPS, DPS, NWPS and capital gain, heavily determine the equity price. Other extraneous factors also caused equity price to fluctuate. Investors must look after all factors, which explicitly or implicitly affect equity price so that they can arrive at rational decision.

5.3 Recommendations:

The findings of this study may be important information for those who concern directly or indirectly with the stock market activities. Thus, the following recommendations can be outlined for the concerned.

1) From the study, it seems that Nepalese investors have limited knowledge about security market it lacks of professional investors. So the concerned authority is recommended to make aware about the security market to the general public so that they are interested to invest in security market and the previous investors could change as professional investors.

2) Concerned authority are requested to look after the data manipulation, fabrication and other such kinds of window dressing strictly as Nepalese commercial banks are doing to show huge amount of net profit. Corporations are violating the standard norms due to which evil practices are taking places rapidly.

3) This study has shown that most of the stocks of banking, finance and insurance companies listed in NEPSE are under priced in the stock market. So investors are recommended to buy these under valued stocks by selling other over valued stocks.

4) As per the study, it has been found out that EPS, DPS, NWPS and price appreciation are the foundation upon which equity price built. So investors are recommended for the detail study of the financial indicators before investing and trading stocks of any company.

5) Rumors and bidding are playing vital rote in Nepalese stock markets due to which hypothetical value is assigned for the equity as shown by this study, so investors and brokers are recommended to leave such practices and adopt standard financial norms with honesty so that actual position shall be visualized.

6) The price fluctuating trend is not predictable by general investors. So investors are recommended to get the consultancy service from the investment experts while making the investment.

7) Signaling factors should be analyzed on regular basis by the concerned authority so that the future movements of price can be predicted from the side of analysts and investors.

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Appendix No. 1

Firm -wise calculation of Actual rate of return and Required rate of return

Calculation of risk free rate

Fiscal Year	Average Risk Free rate
2002/03	3.72
2003/04	3.95
2004/05	5.06
2005/06	2.99
2006/07	4.25
2007/08	4.02
Sum=23.99	

Average market return ($\bar{R}$ j)= $\frac{\sum Rf}{N}$

=23.99/6

=4.00%

Calculation of Market returns (Rm)

Year	NEPSE Index	Annual return (Rm)
2001/02	219.35	
2002/03	199.33	-9.13%
2003/04	231.97	16.37%
2004/05	304.64	31.33%
2005/06	437.49	43.61%
2006/07	789.48	80.46%
2007/08	985.65	24.85%
		∑ Rm =187.49%

Average market return ($\bar{R}$ m)= $\frac{\sum Rm}{N}$

=187.49%/6

=31.25%

Calculation of Variance of market return

Year	Market return	Rm- $\bar{R}$ m	(Rm- $\bar{R}$ m) ^{2}
2002/03	-9.13	-40.38	1630.15
2003/04	16.37	-14.87	221.21
2004/05	31.33	0.08	0.01
2005/06	43.61	12.36	152.79
2006/07	80.46	49.21	2421.48
2007/08	24.85	-6.40	40.96
			$\sum$(Rm- $\bar{R}_m$) =4466.60

$\therefore$ *Varaince* Of market return Var (Rm)= $\frac{\sum (Rm - \bar{R}m)^2}{N-1}$

$= \frac{4466.60}{6-1}$

=893.32

Commercial banks

Nepal SBI Bank Ltd

Calculation of Actual Rate of Return ($\bar{R}m$) & Required Rate Of Return E (R)

Year	Closing price	CGY %	DY %	Annual (Rj)%	Rm- $\bar{R}m$	RJ- $\bar{R}_j$	(Rm- $\bar{R}m$) (RJ- $\bar{R}_j$)
2002	401						
2003	255	-36.41	3.14	-33.27	-40.38	-66.85	2698.999
2004	307	20.39	0.00	20.39	-14.87	-13.18	196.0927
2005	335	9.12	0.00	9.12	0.08	-24.46	-1.93689
2006	612	82.69	0.82	83.50	12.36	49.93	617.1359
2007	1176	92.16	1.07	93.23	49.21	59.65	2935.343
2008	1511	28.49	0.00	28.49	-6.40	-5.09	32.57662
Sum RJ= 201.46							Sum=6,784.21

$$\text{Average actual rate of return} = \frac{\sum R_m}{N}$$

$$= \underline{201.46} = 33.58\%$$
$$6$$

$$\text{Co-variance, Cov (Rm, Rj)} = \frac{\sum (R_m - \bar{R}_M)(R_j - \bar{R}_j)}{N-1}$$

$$= \underline{6{,}748.21}$$
$$6\text{-}1$$
$$= 1295.64$$

$$\text{Beta Coefficient (B)} = \frac{Cov(Rm, Rj)}{Var(Rm)}$$

$$= \underline{1{,}295.64}$$
$$893.32$$

$$= 1.45$$

Therefore,

Required Rate Of Return, E(R) =Rf+(Rm-Rf) xB

=4.00+(31.25%-4.00%) x 1.45

=43.52%

Himalayan Bank Ltd.

Calculation of Actual Rate of Return ($\bar{R}m$) & Required Rate Of Return E (R)

Year	Closing price	CGY %	DY %	Annual (Rj)%	Rm- $\bar{R}m$	RJ- $\bar{R}_j$	(Rm- $\bar{R}m$) (RJ- $\bar{R}_j$)
2002	1000						
2003	836	-16.40	0.16	-16.24	-40.38	-31.27	1262.401
2004	840	0.48	0.00	0.48	-14.87	-14.55	216.3504
2005	920	9.52	1.26	10.78	0.08	-4.24	-0.33598
2006	1100	19.57	2.73	22.29	12.36	7.27	89.83483
2007	1740	58.18	0.86	59.04	49.21	44.02	2166.12
2008	1980	13.79	0.00	13.79	-6.40	-1.23	7.882533
Sum RJ= 90.15							Sum=7306.6426

$$\text{Average actual rate of return} = \frac{\sum R_m}{N}$$

$$= \frac{90.15}{6} = 15.02\%$$

$$\text{Co-variance, Cov (Rm, Rj)} = \frac{\sum (R_m - \bar{R}_M)(R_j - \bar{R}_j)}{N-1}$$

$$= \frac{3,742.25}{5}$$

$$= 748.45$$

$$\text{Beta Coefficient (B)} = \frac{Cov(Rm, Rj)}{Var(Rm)}$$

$$= \frac{748.45}{893.32}$$

$$= .84$$

Therefore,

Required Rate Of Return, E(R) =Rf+(Rm-Rf) xB

=4.00+(31.25-4.0) x 0.84

=26.83%

Standard Chartered Bank (Nepal) Ltd

Calculation of Actual Rate of Return ($\bar{R}m$) & Required Rate Of Return E (R)

Year	Closing price	CGY %	DY%	Annual (Rj) %	Rm- $\bar{R}m$	RJ- $\bar{R}_j$	(Rm- $\bar{R}m$) (RJ- $\bar{R}_j$)
2002	1575						
2003	1640	4.13	6.71	10.83	-40.38	-22.84	922.1788
2004	1745	6.40	6.30	12.71	-14.87	-20.97	311.8691
2005	2345	34.38	5.12	39.50	0.08	5.83	0.461467
2006	3775	60.98	3.44	64.42	12.36	30.75	380.0913
2007	5900	56.29	1.36	57.65	49.21	23.97	1179.664
2008	6830	15.76	1.17	16.93	-6.40	-16.74	107.1418
Sum RJ= 202.05							Sum=2,901.41

$$\text{Average actual rate of return} = \frac{\sum R_m}{N}$$

$$= \frac{202.05}{6} = 33.67\%$$

$$\text{Co-variance, Cov (Rm, Rj)} = \frac{\sum (R_m - \bar{R}_M)(R_j - \bar{R}_j)}{N-1}$$

$$= \frac{2,901.41}{6-1}$$

$$= 580.28$$

$$\text{Beta Coefficient (B)} = \frac{Cov(Rm, Rj)}{Var(Rm)}$$

$$= \frac{580.28}{893.32}$$

$$= 0.65$$

Therefore,

Required Rate Of Return, E(R) =Rf+(Rm-Rf) xB

=4.00+(31.25-4.00) x 0.65

=21.70%

Nabil Bank Ltd.

Calculation of Actual Rate Of Return ($\bar{R}m$) & Required Rate Of Return E (R)

Year	Closing price	CGY%	DY %	Annual (Rj) %	Rm- $\bar{R}m$	RJ- $\bar{R}_j$	(Rm- $\bar{R}m$) (RJ- $\bar{R}_j$)
2002	700						
2003	740	5.71	6.76	12.47	-40.38	-36.68	1480.975
2004	1000	35.14	6.50	41.64	-14.87	-7.52	111.7922
2005	1505	50.50	4.65	55.15	0.08	6.00	0.475174
2006	2240	48.84	3.79	52.63	12.36	3.48	43.02027
2007	5050	125.45	1.98	127.43	49.21	78.28	3851.809
2008	5275	4.46	1.14	5.59	-6.40	-43.56	278.7803
Sum RJ= 294.91							Sum=5766.85

$$\text{Average actual rate of return} = \frac{\sum R_m}{N}$$

=294.91/6 = 49.15%

$$\text{Co-variance, Cov (Rm, Rj)} = \frac{\sum (R_m - \bar{R}_M)(R_j - \bar{R}_j)}{N-1}$$

$$= \frac{5766.85}{5}$$

= 1153.37

$$\text{Beta Coefficient (B)} = \frac{Cov(Rm, Rj)}{Var(Rm)}$$

$$= \frac{1153.37}{893.32}$$

=1.29

Therefore,

Required Rate Of Return, E(R) =Rf+(Rm-Rf) xB

=4.00+(31.25-4.00) x 1.29

=39.18%

Nepal Investment Bank Ltd.

Calculation of Actual Rate Of Return ($\bar{R}m$) & Required Rate Of Return E (R)

Year	Closing price	CGY%	DY%	Annual (Rj) %	Rm- $\bar{R}m$	RJ- $\bar{R}_j$	(Rm- $\bar{R}m$) (RJ- $\bar{R}_j$)
2002	760						
2003	795	20	4.61	2.52	7.12	-40.38	-18.25
2004	940	15	18.24	1.60	19.83	-14.87	-5.54
2005	800	12.5	-14.89	1.56	-13.33	0.08	-38.70
2006	1260	20	57.50	1.59	59.09	12.36	33.72
2007	1729	5	37.22	0.29	37.51	49.21	12.14
2008	2450	7.5	41.70	0.31	42.01	-6.40	16.63
Sum RJ= 152.23							Sum=1723.82

$$\text{Average actual rate of return} = \frac{\sum R_m}{N}$$

$$= \frac{152.23}{6} = 25.37\%$$

$$\text{Co-variance, Cov (Rm, Rj)} = \frac{\sum (R_m - \bar{R}_M)(R_j - \bar{R}_j)}{N-1}$$

$$= \frac{1723.82}{6-1}$$

$$= 344.76$$

$$\text{Beta Coefficient (B)} = \frac{Cov(Rm, Rj)}{Var(Rm)}$$

$$= \frac{344.76}{893.32}$$

$$= 0.39$$

Therefore,

Required Rate Of Return, E(R) =Rf+(Rm-Rf) xB

=4.00+(31.25-4.00) x 0.39

=14.52%

Appendix No. 2

Regression analysis produced by SPSS software for banking sector

Variables Entered/Removed[b]			
Model	Variables Entered	Variables Removed	Method
1	CGCL, DPS, EPS, NWPS[a]	.	Enter
a. All requested variables entered.			
b. Dependent Variable: MPS			

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.958[a]	.918	.590	752.60177
a. Predictors: (Constant), CGCL, DPS, EPS, NWPS				

ANOVA[b]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6333148.765	4	1583287.191	2.795	.418[a]
	Residual	566409.429	1	566409.429		
	Total	6899558.193	5			
a. Predictors: (Constant), CGCL, DPS, EPS, NWPS						
b. Dependent Variable: MPS						