CHAPTER-I

INTRODUCTION

1.1 General Background

Financial market plays a fundamental role in the process of economic development of a country. Financial Market is the place where the financial instruments such as share, bond, debenture etc are traded. Financial experts regard it as engine of the entire economic system. Undeveloped or underdeveloped financial market is the indicator of low or slow growth and development.

Financial markets can be defined as the centers or arrangements, which provide facilities for buying and selling of financial claims and services. Generally, financial market includes capital and money market. Money Market can be defined as short term financial market, which facilitates liquidity and marketability of securities. It is the market for short term marketable instruments having less than one year maturity period.

Money markets are classified as organized and unorganized money markets. The organized or formal money markets provide an institutional mechanism for the transactions of short term securities and commercial banks, finance companies and other saving/credit unions are the players in the money market. Local merchants, indigenous bankers and relatives come under the informal or the unorganized sector.

As a component of financial market, capital market has significant role in the process of industrialization and therefore the economic development of a country. Capital market has the intermediary link in facilitating the flow of funds from savers to investors or from the surplus units to the deficit units. By providing an institutional mechanism for mobilizing domestic savings and efficiently channeling them into productive investments, financial market

lowers the cost of capital to investors and offers a reasonable rate of returns to the savers.

Capital Markets play a vital role in the national economy. Capital market facilitates the allocation of funds between the savers and borrowers. This allocation will be optimum if the capital market has efficient pricing mechanism. If the capital market is efficient, the current share price of the company fully reflect the available information and there will be no question of the share price being over or under priced. Capital market is concerned with the long term finance. The funds collected in the market are raised and traded by long term financial instruments such as equities and bonds.

The development of efficient market requires the development of institutions, instruments and operating procedure that aids widening and deepening of the market and allocation of short term resources with minimum transactions costs and delays.

Stock exchange is one of the components of the capital market. It is a market for long term capital where capitals funds are raised by providing a second hand market for investors to sell their shares. It facilitates the raising of new capital on the new issues market. The stock exchange also provides a market for government loans and securities, and increasingly involved in the buying and selling of securities in the overseas companies. On the market, the main operators are the market makers who trade in a group of share, and the stock brokers who act as agents for their clients, who are the investors who are actually buying and selling shares."(Collins Gem; 2002). New York Stock Exchange (NYSE), London Stock Exchange, Tokyo Stock Exchange, Paris Stock Exchange, Frank fort Exchange, Toronto Stock Exchange are the biggest stock Exchanges of the world. Nepal Stock Exchange (NEPSE) is the only organized stock exchange of Nepal.

1.2 Statement of the Problem

Ordinary shares comprise the largest category of securities in the corporate business in Nepal listed with the Nepal Stock Exchange. Price of the common stock in the primary market is at par value, however, the price of the common stock in the secondary market is either under priced, over priced or at par and the stock price changes continuously in the secondary market due to internal (organizational) and external (political, economic, financial) factors. Moreover, the NEPSE index is sensitive to both internal and external factors.

The shares of the commercial banks play a vital role in the overall index of NEPSE and the overall index is highly influenced by the shares of the commercial banks. The sector wise contribution in total traded volume in NEPSE is mostly dominated by the financial sector. The shares of the publicly quoted commercial banks seem to be the basis of investment to all potential investors.

Basically stock price is determined by demand and supply. Both the qualitative and quantitative factors determine the stock price. However, to specify exactly what factors do determine stock price is a controversial/unpredictable issue.

Share price is the function of the several factors. The stock price fluctuates time to time and stock exchanges react to the environmental changes. However, for some environmental changes, the stock exchanges have no effect. This study will try to identify the determinants of stock price and find out the degree of affection of those determinants. More specifically, this study is expected to answer the following research questions:

I. What major factors are affecting the Stock Price of Nepalese Commercial Banks listed in NEPSE?

II. Is there any relation between MPS with the major financial indicators (EPS, BPS, and DPS)?

III. Is there any randomness of price behaviour of daily closing price?

1.3 Focus of the Study

In the Nepalese context, average investors lack huge capital to lunch a project themselves. But raising the scattered funds from large number of investors through the issue of shares, such project can be lunched casing, since there are large number of middle class families. The small investors can invest by purchasing stocks of such project in primary market or in secondary market. NEPSE is an organized stock exchange for trading stock is secondary market.

To acquire funds and grab investment opportunities general public and investors must have good knowledge of capital market and its pricing mechanism. Price of stock is determined by the interaction of buyers and setters. Various factors should be considered during the determination of stock price. Some factors may be quantitative and their effect on stock price can be quantified and some factors may be qualitative and the effect of such factors cannot be quantified. So, this study is mainly focuses on the sensitivity or volatility of the stock price towards financial indicators. In other words this study intends to determine the factors affections the price of stock especially in the case of commercial banks listed in NEPSE. This study also focuses on the capital market development in Nepal and the investment opportunities for small investors to reduce foreign dependency on development process.

1.4 Objectives of the Study

Investors require proper knowledge of share price i.e. how it is formed, why does it fluctuate, what factors are responsible for the determination of its price and so on. A few studies have been made regarding securities listed in NEPSE, however, most of the studies made up to present capital market are related to the financial performance evaluation, capital structure analysis,

dividend policy, risk and return etc. But sufficient researches have yet not been done to provide core perspective on the determinants of stock price, Thus, the present study will be very much important to the investors, planners, researchers, student and policy makers to get a deep insight into the concerned field of the study. Therefore, this study aims to identify the factors responsible for determinants of stock price and their relationship with the stock price, so that it will give a better insight into the stock price. Furthermore, this study is proposed to meet the following objectives:

I. To identify the prime determining factors that provokes Share Price fluctuation of Nepalese Commercial Banks.
II. To examine and evaluate the relationship between MPS with the various financial indicators like EPS, BPS and DPS.
III. To analyse the randomness of daily closing price of Commercial Banks

1.5 Significance of the study

This study attempts to construct the relation and behaviour of MPS of the Nepalese Commercial Banks to the major financial indicators like EPS, BPS and DPS. The relation is hoped to show the current status of Nepalese Commercial Banks with respect to the determiners of the Share Price. These findings may be helpful to the potential investors to make the better investment decisions.

This thesis delivers different information about the Share Market of Nepalese Commercial Banks which may be required to the further researcher. Hence this thesis is expected to be important to the further researchers.

1.6 Limitations of the Study

This study is conducted as a partial fulfillment of the requirements for the Master of Business Study. There are certain limitations to this study which are as stated below:

1. Among the various commercial banks, the study will be based on seven commercial banks listed in the NEPSE.
2. The study is conducted based on the available secondary data and information. Therefore, the consistency of findings and conclusions are dependent upon the reliability of those data and information.
3. The study covers the period of fifteen years and for run test only ten years data has taken, hence the result confines to that period only.
4. Only few financial and statistical tools are used in the study.
5. The study only focuses on the commercial banks which are a part of total capital market; hence the conclusion drawn from the study cannot generalize the total capital market.

1.7 Organization of the Study

This study has been organized into five chapters. The first chapter introduces the study and the second chapter reviews the literature and global findings on stock price behaviour. The third chapter describes the methodology utilized for this study. The empirical analysis, presentation and results have been presented in chapter four. Followed by summary, conclusion and recommendation is in chapter five.

CHAPTER-II

REVIEW OF LITERATURE

2.1 Introduction

This chapter provides glimpse and highlights on the literature that is available in the topic specially, it covers those studies conducted outside the country by academicians and scholars and some of the available studies inside the country are also reviewed.

The first section includes the theories of stock price Behaviour including fundamental analysis, technical analysis and efficient market theories. The second section of this chapter includes the studies of related literature carried out previously in the foreign as well as Nepalese context.

2.2 Securities Market

Securities market plays a pivotal role in mobilizing savings and channeling them in productive purposes and many more like providing liquidity for further investment. It assists the capital formation and economic growth in the country .Securities market is a mechanism created to facilitate the exchange of financial Securities or assets by bringing together buyers and sellers of securities. (Sharpe, Alexander, Baily: p 12).Securities markets provide an effective way of procuring long-term funds by issuing shares and debentures or bonds for corporate enterprises and government and at the same time provide an investment opportunity for individuals and institutions. It basically assists the capital formation and economic growth of the country. It helps in accumulating even small savings for development activities of the economy.

In simple sense, securities market is the place where people buy and sell financial instruments. These financial instruments may be in the form of government bonds, corporate bonds or debentures, ordinary share, preference share etc. So far security market is concerned; it is an important constituent of

capital market. It has a wide term embracing the buyers and sellers and all the agencies and institutions that assist the sell and resell of corporate securities. (Patric D. Rugh: p 50) Although security market is concerned in few locations, they refer more to mechanism rather than to place designed to facilitate the exchange of securities. Security market can be defined as a mechanism for bringing together buyers and sellers of financial assets in order to facilitate trading. In order to allocate capital efficiently to maintain higher degree of liquidity in securities, the securities market should be efficient enough in pricing the shares solely by economic considerations based on publicly available information.

An efficient market is one where current price of the shares gives the best estimate of its true worth. Thus, the securities market is a place where shares of listed companies are traded or transferred from one to another a fair price through the organized brokerage system. The major function of securities market is a competitive price thereby, importing future market ability and liquidity. It is a medium through which scattered savings and scarce resources are transferred to productive areas that ultimately help in the economic development and industrialization of the nation.

Securities market can be further categorized into two groups as Primary Market and Secondary Market.

2.2.1 Primary Market

Primary Market denotes the market mechanisms for the original sale of securities time of their initial issuance. In other words, a market for newly issued securities is called primary market. Corporate bodies issue new securities in the primary market. Securities available for the first time are offered through the primary security market. The issuer may be a brand new company or one that has been in business for years. The securities offered might be a new type for the issuer or additional amount of security – used

frequently in the past. The key is that these securities absorb new funds for the coffers of the issuer.

All the securities whether in the money market or capital market, are initially issued in the primary market. This is the only market in which the corporate or government issuer is directly involved in the transaction and receives direct benefit from the issue, that is, the company actually receives the proceeds from the sale of securities. (Lawrence; pp 33-34)

2.2.2 Secondary Market

Secondary Market is the market in which securities are traded that has been issued at some previous point of time. In other words, where outstanding securities are traded is referred to as the secondary market or more popularly known as the stock market. Share or stock is the major component of the securities market. Stock market is the medium through which corporate sector mobilizes funds to finance productive projects by issuing shares in the market. The efficient collection of small amounts of savings and transferring funds into the completive and efficient uses requires a well functioning capital market to facilitate the process. (Mahat R.S;1981 pp 25-40). Thus, Secondary market deals with previously issued shares mainly traded through stock exchange, over the counter market or direct selling.

Secondary market in simple sense, are markets in which existing, already outstanding securities are traded between investors. It is the market that creates the price and allow for liquidity. If the secondary market do not exists, the investors would have no place to sell the assets. Without liquidity many people would not invest at all. The function of the security market is to provide liquidity for the securities purchased in the primary market.

2.3 Non- Security Market

Non-Security Market is the market where financial transactions are carried out between the lender and borrower for a longer period without issuing

any securities in the form of share, bond and debenture. Financial transaction between the lending institutions such as banks and the business houses or individuals and those contractual saving institutions like individuals or business houses etc come under non- securities market.

2.4 History of Capital Market in Nepal

The history of capital market in Nepal dates back to 1937 in which year the shares of Biratnagar Jute Mills Ltd. and Nepal Bank Ltd. were floated. Government of Nepal (GON) introduced the Company Act in 1964 and the first issue of government bonds made in the same year through Nepal Rastra Bank to collect the developmental expenditures. It carried 6 percent rate of interest and had the maturity period of five years. GON announced the Industrial Policy in 1974 and under this policy an institution named Securities Marketing Center (SMC) was established to deal in government securities-development bonds and national savings bonds, and corporate securities of few companies.

The government has the virtual monopoly over the security market. Then, Securities Exchange Center (SEC) was established in 1976 with an objective of facilitating and promoting the growth of capital market. It was the only capital market institution in Nepal. Securities Exchange Act came into force in 1984. Since then, SEC started to operate under this act. The purpose of this act was to provide systematic and favorable market environment for securities ensuring and protecting the interest of individuals and institutional investors as well as to increase the public participation in various firms and companies (Gurung 2004).SEC had provided facilities to trade the government securities and few of corporate securities like shares and debentures. Only the shares of 10 companies were listed in SEC and there was involvement of no broker and dealer in the securities market. So, SEC itself was undertaking the job of brokering, underwriting, managing public issue, market making for government bonds and other financial services (NEPSE 1998).

Apart from this, there was the absence of effective secondary market to ensure liquidity to the securities. The interim government (1990/91) initiated financial reform program and two indirect investment vehicles-Citizen's Investment Fund and NIDC Capital Markets Ltd. were established with the collective investment schemes in the corporate sector (Gurung 2004). Then, due to the world whim of privatization and economic liberalization, the operation of SEC was felt to change to make it compatible with the changing economic system. As a result, GON brought about change in the structure of SEC by dividing it into two distinct entities-Securities Board, Nepal (SEBO/N) and Nepal Stock Exchange Ltd. (NEPSE) at the policy level in 1993. Since then they are operating as the main constituents of securities market in Nepal. SEBO/N was established on June 7, 1993 with its mission to facilitate the orderly development of a dynamic and competitive capital market and maintain its credibility, fairness, efficiency, transparency and responsiveness under the Securities Exchange Act 1983 (SEBO, 2001). It is an apex regulator of the securities market in Nepal. It registers the securities and approves the public issues.

Moreover, SEBON frames the policies and programs required to monitor the securities market, provides license to operate stock exchange business and stock brokers and supervises and monitors the stock exchange operations and securities businesspersons. NEPSE Ltd. is a non-profit organization, operating under Securities Exchange Act, 1983. The basic objective of NEPSE is to impart free marketability and liquidity to the government and corporate securities by facilitating transactions in its trading floor through market intermediaries such as brokers and market makers, etc. NEPSE opened its trading floor on January 13, 1994 through its newly appointed licensed members and has adopted an "Open Out-Cry" system for the transaction of securities. The trading floor is restricted to listed corporate securities and government bonds with the market intermediaries in buying and selling of such securities. The NEPSE started Automated Trading System on

August 24, 2007 replacing the previous open-out-cry system. With this, market has entered into the modern era as errors due to human involvement could now be avoided. Further, process has begun to enter more securities brokers into the securities market and make it more competitive as per the provision in the Securities Broker Regulations, 2007.

2.5 Constituent of Capital Market in Nepal

Capital market is that market mechanism where financial assets having a time to maturity of more than one year one traded. Organized stock exchange, over the counter market, and fourth market are the major capital markets. In the context of Nepal, it is an institutional arrangement within which a numbers of instructional bodies like: Securities Board Nepal (SEBON), Nepal Stock Exchange (NEPSE), Registar of Company (ROC), Shareholder Association Nepal (SAN) and listed companies are in existence. In Nepal, twenty three brokers, ten market intermediaries and one organized stock exchange center are currently in operation.

2.5.1 Security Board, Nepal (SEBON)

Securities Board of Nepal was established on June 7, 1993 as an apex regulator of securities markets in Nepal.

The major objective of SEBON is to regulate the securities market and protect investor's interests. As per the Securities related Act, 2006, the major functions of SEBON are as follows.

- Register securities of public limited companies.
- Approve prospectus for issuing securities.
- Provide license to operate stock exchanges.
- Provide license to operate securities businesses.
- Permit the operation of collective investment schemes and investment fund programme.
- Draft regulations, and issue directives and guidelines.

- Supervise and monitor stock exchanges and securities business activities.
- Take legal action against the non-compliance companies as per the legal Provisions.
- Conduct research, study and awareness programmes regarding securities markets.
- Advise the Government of Nepal to formulate policies and programmes relating to securities market as and when required.

The Governing Board of SEBON comprises seven members representing various government and non-government sectors. The seven-member board includes a full-time Chairman appointed by the Government of Nepal for the tenure of four years. Other members of the Board are joint secretary from Ministry of Finance, joint secretary from Ministry of Law, Justice and Constitutional Assembly Affairs, a representative from the Nepal Rastra Bank, a representative from Institute of Chartered Accountants of Nepal, a representative from Federation of Nepalese Chambers of Commerce and Industries, and an expert member appointed by the Government of Nepal. (SEBON)

2.5.2 Nepal Stock Exchange (NEPSE)

Along with the formation of Security Exchange Board, the then His Majesty's Government converted the Securities Exchange Centre Ltd. into Nepal Stock Exchange Ltd. (NEPSE) in 1993 with a view to reform the Capital market. It is a non-profit making organization operating under Securities Exchange Act 1983. Brokers and market makers operate on the trading floor as per the Securities Exchange Act rules and bylaws of NEPSE. Nepal Stock Exchange started its trading operation on 13 January 1994 through its licensed members. The Securities Board was constituted in 1993 under Sec. 1 of the Securities Exchange Act 1983.

Its main objective is to provide essential policy direction for the systematic and regular exchange of securities and develop competitive stock exchange market by protecting and promoting the interest of the investors. Nepal Stock Exchange is a trading (operational) institution, whereas Securities Board is the regulatory body. Before the Board came into existence, the Securities Exchange Centre carried on both the functions. Though any corporate body desirous to carry out the transaction of securities can submit application to the Board for obtaining the license, till now Nepal Stock Exchange Ltd. alone is representing the securities market in the country.

At present, there are 23 valid member brokers (out of 35 brokers in whom 12 of them are either not working or suspended) and 176 listed companies. NEPSE has adopted an "Online Trading System" in the place of "Open out Cry" system. It means, transactions of securities are conducted by online open auction principle, where the price is determined when bid and offer price match. The rate of brokerage on equity transactions ranges from 1 to 0.70 percent depending on the traded amount. (NEPSE).Similarly the basic objectives of the NEPSE is to impart free marketability and liquidity to the government and corporate securities by facilitating transactions on its trading floor through market intermediaries such as brokers, market makers etc. Nepal Stock Exchange (NEPSE) is the only organized stock exchange of Nepal.

2.6 Theories of Stock Price Behaviour

In present context, the investment sector is getting flourished in recent years as other economic sectors. Today most of the developing countries are boosting their economic development though the contribution of this investment sector. Business cycle theorist felt that tracing the evolution of several economic variables over time would clarify and predict the progress of economy through boom period.

There are two theories of stock price behavior i.e. classical theory and efficient market theory. Classical or convectional theory includes fundamental

analysis theory and technical analysis theory. Under efficient market theories, there are there forms of efficient market hypothesis. Classical approach assumes market as an inefficient where as the efficient market theory argues that the market is efficient. Prior to the development of the efficient market theory, investors were generally divided into two groups' fundamentalists and technicians (Reily F. K. Investment; 1986).

2.6.1 Fundamental Analysis

Fundamental analysis theory claims that at any point of time an individual stock has intrinsic value, which is equal to the present value of the future cash flow from the securities discounted at appropriate risk, with adjusted discount rate. The value of the common stock is simply the present value of all future income which the owner of share will receive (Francis J.K. investment analysis; 1989 pp 398).

In simplest form, fundamental analysis begins with the assertion that the true value of any financial assets equals the present value of all cash the owner of the asset aspects to forecast the timing and size of these cash flows and then converts the cash flows to their equivalent present value using as appropriate discount rate (Sharpe W.F. Alexander G. J. and Bailey J. V.; 2000, pp 12).

The objective of fundamental analysis is to appraise the intrinsic value of the security. The intrinsic value is the true economic work of financial assets. Therefore, fundamental analysts work to find new information before other investors, so they can get into the position to profit from the price changes they anticipate. Fundamental analysts use different models like top-down versus bottom-up forecasting probabilistic forecasting, econometric models, financial statement analysis etc. to estimate the value of security in an appropriate manner for making investment decision.

Fundamental analysis approaches have following limitations:

i. The approach though sound and based on basic financial figure does suffer from the drawn back and to make this approach work effectively, one must be aware of them.
ii. The fundamental approach is based on rational scientific analysis of data, but the market is rarely rational.
iii. The information and analysis may itself be incorrect.
iv. Many companies with the help of creative and innovative accounting and accounting cosmetics disguise the real earnings.
v. The fundamentalist's estimate of intrinsic value may be incorrect. This is not only possible but also probable that he often forecast growth, profit and other factors without grasping all the facts.
vi. The fundamentalists may not fully understand the economy or the industry as there are several external factors.

Therefore fundamental analysis is a never-ending process because values changes over the time. Ideally, revision in analysis should occur whenever new information affecting the future benefits to security holders becomes available.

2.6.2 Technical Analysis

Technical analysis involves the study of stock market prices in an attempt to predict future price movements. Past prices are examined to identify recurring trends or patterns in price movements. Then more recent stock price is analyzed to identify emerging funds or patterns that are similar to past ones. This analysis is done in the belief that these trends or patterns repeat themselves. By identifying an emerging trends or pattern, the analyst hopes to predict accurately future price movements for a particular stock (Sharp W.F. Alexander G. J. and Baily J. V.; 2000, pp 12).

Technical analysis is based on widely accepted premise that security prices are determined by the supply and demand of securities. The tools of

technical analysis are therefore designed to measure certain aspects of supply and demand (Francis J.C; 1997,pp 522)

Technical analysis can be defined as the use of published market data for the analysis of both the aggregate stock market and individuals stocks. It is sometimes called internal analysis. Technical analysis is based on the assumption that the past information of prices and trading of stock provides some pictures of the future price of stock.

Typically, technical analysis records historical, financial data on chapter, study this chapter is search of patterns that they find meaningful and endeavor to use the patterns to predict future prices. Some charts are used to predict movements of market index and still others are used to predict the action of both individual assets and market (Francis J.C; 1997, pp 386)

The basic assumptions of technical analysis are as follows:

i. Market values are determined by interactions of supply and demand.
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 fluctuation in the market.
iv. Changes in trends are caused by the shift in supply and demand.
v. Shift in supply and demand no matter why they occur, can be detected sooner or later in charts of market transactions.

Thus, technical analysis believe in the changes in the pattern of trend of security price takes place on account of changes in demand and supply of the securities and that crucial insights into these patterns can be obtained by keeping track of price charts. The technical analyst can tell whether the price of stock will on upswing or on downswing in future. Technical analysis involves the examination of past market data such as price and volume of trading, which lead to an estimate of future price trends and therefore, an investment decision.

Whereas fundamentals analysts use economic data that are usually separate from the stock or bond market. Technical analyst believes that using data from the market itself is a good idea because “the market is its own predictor”. Technical analysis bases trading decision on examination of prior price and volume data to determine past market trends from which they predict future behavior for the market as a whole and for individual security.

2.6.3 Efficient Market Theory

An efficient market is one where shares are correctly priced and where it is not possible to outperform the market consistently except by luck. In an efficient capital market, current market prices fully reflect available information (Fame E. F.; 1965 p 133). Therefore, if market is efficient, it uses all the available information for setting the price.

When security prices at all times rationally reflect all available, relevant information, the market in which they are traded is said to be efficient. This implies that any new information coming to light, which bears on a particular firm, will be incorporated into the market price of the security. An efficient capital market is one in which security prices adjust rapidly to the arrival of new information and therefore the current prices of the securities reflect all information about the security.

There are several concepts of market efficiency and there are many degree of efficiency, depending on the market, markets in general are efficient when:

i. Price adjusts rapidly to new information.
ii. There is a continuous market in which each successive trade is made at a price close to the previous price (the faster that the price responds to new information and the smaller the difference in price changes the more efficient is the market).

iii. The market absorbs large amount of securities without disturbing the price.

In an efficient market, a security's price would correctly reflect the important variables for that security and would represent an unbiased estimate of its investment values. The efficient market hypothesis suggests that investors cannot expect to outperform the market consistently on a risk adjusted basis over an extended period of time. This hypothesis based on the premise that security prices reflect all avertable information concerning a firm and that security prices change rapidly in response to new information. Market efficiency also empties that as new information becomes available, the markets quickly analyze it and any necessary price adjustment occurs rapidly.

The requirements for a securities market to be efficient are as follows:

i. A large number of national profit maximizing investors exist who actively participate in the market by analyzing, valuing and trading stocks.
ii. Information is free of cost and widely available to market participants approximately at same time.
iii. Information is generated in a random fashion such that announcement are basically independent to one another.

In an efficient market all prices are correcting stated and there are no bargains in the stock market. Efficiency in the sense that is the ability of capital market to function so that price of securities reacts rapidly to information. Such efficiency will produce prices that are appropriate in terms of current knowledge and investors will be less likely to make unwise investment. A corollary is that investors will also be likely to discover great bargains and there by earn extraordinary high rates of return.

If a market is efficient then there is a very important implication for market participations. All investment in the markets are zero NPV investments.

The reason is the prices are neither too high nor too low, and then the difference between the market value of an investment and its cost is zero. Hence, the NPV becomes zero. As a result in an efficient market, investors get exactly what they pay to when they buy securities and firms receive exactly what their stocks and bonds are worth.

The security price has been observed to move randomly and unpredictably. This randomness of security price may be interrupted to imply that the security price quickly adjust to such information. Therefore, the capital market efficiency can also be defined as the ability of securities to reflect and incorporate all relevant information of its prices. So, there is no question of the stock price being under or overvalued.

There are three forms of efficient market hypothesis based on type of information used in making market decision. They are:

i. Weakly form efficiency
ii. Semi strong form efficiency
iii. Strong form efficiency

The difference between these forms related to what extent information is reflected in the stock price. Under the wear from, stock price are assumed to reflect any information that may be contained in the past history of the stock price itself (Ibid).

This hypothesis holds that no invertors can earn excess return by developing trading true based in historical price or return information. Weak from efficiency suggests that at a minimum, the current price of stock reflects its own price. In other words, studying past price in an attempt to identify misplaced securities is fertile if market is weak from efficient. Although this form of efficiency might seem rather mild, it implies that searching for patterns in historical prices that will be useful in identifying mispriced stocks will not work (Ibid).

Under semi strong form, all publicity available information is pre assumed to reflect in securities prices. This includes information, in the stock price series as well as in the firm's accounting reports. The report of competing firm announced information relating to the state of economy and any other publicly available information relevant to the valuation of the firm. This form of efficiency is controversial is that it implies that a security analysts who try to identify mispriced using it for example, financial statement information is wasting time because that information is already reflected in the current price.

The strong form takes the notion of market efficiency to the estimate extreme. This form includes private or inside information as well as that which is publicly available. Under this form, those who acquire inside information act on it, buying or selling the stock. There action affect the price of stock and the price quickly adjusts to reflect the inside information. One obvious way to check the validity of the strongly efficient market hypothesis is to examine the profitability of traders in securities made by insiders to see if the insider's access to valuable information allows them to earn statistically significant trading profits (Francis J.C.; 1997, p 558). Thus, the strong form of the efficient market correctly prices securities adjusting quickly to new information either public or private.

2.7 Market Price of Share

Common stock can be authorized either with or without par value. Par value is the recorded figure in the corporate charter. Generally, par values of most stocks are set at fairly low figures with compare to their market values, and the market value per share is the current price at which the stock is traded. Market value per share of common stock is the function of the current and expected future dividend of the current and expected future dividend on the company and the perceived risk of the stock on the part of investors (Van Hone and Machowicz; 2000,p 546).

The market price of share gives the value of shares, and the value of the organization. The market price of shares is that price in which shares are traded or the amount, which is paid by the buyer to the seller to purchase a stock of a company. The market price of shares varies from one company to another. Since the common stockholders are the owner of the organization and have least priority to claim in liquidation, the share price is highly volatile and very sensitive to the environmental factors.

2.7.1 Par Value

When a corporation is first chartered, it is authorized to issue up to a stated number of shares of common stock, each of which will often carry a specific par value. Legally a corporation may be precluded from making payments to common stockholders if doing to would reduce the balance sheet value of stockholders equity below the amount represented by the par valve of outstanding stock. For this reason the par value is typically low relative to the price for which the stock is initially sold. Some corporations issue no par stock (in the case, a stated value must be recorded in place of the par value). (Sharp, Alexander and Bailey; 2000, p 461).The initial offering price of share may vary from its pay value stock are issued on premium or discount.

2.7.2 Book Value

With the passage of time, a corporation will generate income, much of which is paid out to creditors (as interested) and to stockholders (as dividend). Any remainder is added to the amount shows as cumulative retained earnings on the corporation's books. The sum of the cumulative retained earnings and other entries (Such as "common stock" and "capital contributed in excess of par value") under stockholder's equity is the book value of the equity.

Book value of equity = Cumulative retained earnings + Capital contributed in excess of par + Common Stock

The book value per share is obtained by dividing the book value of the equity by the number of shares outstanding. (Sharp, Alexander and Bailey; 2000,p 462).

2.7.3 Earnings per Share (EPS)

Earnings per Share (EPS) is calculated by dividing a company's net revenues by the outstanding shares. This gives a number that can be used to compare the earnings of companies since it is unlikely any two companies will have the same number of shares outstanding. “Accounting earnings that represent the different revenues and expenses, including the expenses associated with non-equity source of funds (such as interest to debt, dividend of preference shares) is known as total earning available for common stock. If this portion of income is divided by number of outstanding shares, we get earning per share.” (Francis J.K; 1991,p 183)

2.7.4 Retained Earning

The total amount of earning of the firm that has not paid out as dividend throughout its history and indicated in the Balance Sheet as earning is known as Retained Earnings. These earnings are reinvested in the firm. (Reilly; 1986)

2.7.5 Dividend per Share

Dividends per share are calculated by dividing the total dividend amount paid for the financial period by the number of ordinary shares in issue. The directors may pay an interim dividend during the accounting period and then recommend a final rate of dividend per share for approval by shareholders at the Annual General Meeting (AGM).

Forms of Dividend

a. **Cash Dividend**: - Payments made in cash to shareholders are termed as cash dividends. Distribution of cash dividend causes the reduction in total assets and net worth of the company.

b. **Stock Dividend**: - Distribution of bonus shares as dividend to the stockholder is known as Stock Dividend. This increases the number of shares of the company. (Reilly; 1986)

2.7.6 Signaling

A relative simple view of dividend changes is that an announced increase in dividends is a signal that management has increased its assessment of the form's future earnings. The announced increase in dividends is therefore good news and will, in turn, cause investors to raise their expectations regarding the firm's future earnings. Conversely an announced decrease in dividends is signal that management has decreased its assessment of the firm's future earnings. The announced decrease in dividends is therefore bad news and will, in turn, cause investors to lower their expectations regarding the firm's future earnings. An implication is that an announced increase in dividends will cause the firm's stock price to rise, and an announced decrease will cause it to fall. (W. F. Sharpe, G. J. Alexander & V. B. Bailey; 2000,p 567)

There is nothing inconsistent with dividends being used as a signal and with the dividend irrelevancy argument of Miller and Modigliani. In particular, stockholders will neither better off nor worse off if the level of dividends, relative to earnings, is high or low. Changes in dividends may, however, be important because they convey information to the public about the future earnings prospects for the firm.

2.7.7 January Effect

There is no obvious reason to expect stock returns to be higher in certain months than in others. However, in a study that looked at average monthly returns on NYSE listed common stocks, significant seasonality was found. In particular, the average returns in January were higher than the average return in any other months. It appears that the average return in January has been

approximately 3% higher than the average monthly returns in February through December. (Ibid)

2.7.8 Day-of-the-week-effect

Studies looked at the average daily return on NYSE listed securities found that the return on Monday was quite different than returns on other days. In particular, the average return on Monday was found to be much lower that the average returns on any other day of the weak. Furthermore, the average return on Monday was negative, whereas, the other days of the weak had positive average returns. (Ibid)

2.7.9 Size Effect

The past evidence suggests that the size effect also exists in Japan. The securities of Tokyo stock exchange classified into two sections, the second is less than 10% of the size of the first, measured by the market value of the examined over the period on it. Two indices were prepared and examined over the period from 1952 to 1980; they include the same stocks but are compiled differently. The equally weighted (EW) index weights the stocks by market value waited (VW) index weights the stock by market value. Hence, the EW index is influenced much more by the performance of small stocks than the VW index is. Te EW index returned 5.1% more, suggesting the preference of a size effect. (Ibid)

2.7.10 Earnings Announcement & Price Changes

A number of studies have shown large price changes for stocks of companies that reports earnings that differ substantially from consumer's expectations. One study looked at three groups of 50 stocks. The first group consisted of the 50 stocks listed on the NYSE that expected the greatest price rise during 1970. The second group consisted of 50 stocks chosen randomly from all those on the NYSE during 1970. The third group consisted of the 50 stocks listed on the NYSE that experiences the greatest price decline during

1970. It is found that the median changes in actual earnings per share for the top , random, and bottom, groups were 21.4%, -10.5%, and -83% respectively. (Ibid)

2.8 Global Practice of Stock Price Behaviour

Professor James E. Walter (1963) in his journal entitled, *"Dividend Policy: It's Influence on the Value of Enterprise",* argues that "dividend policies almost always affect the value of the enterprise .The investment policy of a firm cannot be separated from its dividend policy, which is just the opposite of what MM said. The key argument in a support of the relevant proposition of the model is the relation between the return of firm's investment or its internal rate of return (r) and its cost of capital (k). As long as the internal rate is greater than the cost of capital (k), the stock price will be enhanced by retention and will vary inversely with dividend payout.

The basic assumptions of the model are:

- The firm finances all investment through retained earnings that is the firm does not use debt or equity financing.
- The firm's 'r' and 'k' are constant.
- The firm distributes its entire earnings or retains it for investment immediately.
- There is no change in values of earnings per share and dividend per share.
- Perpetual life of the firm.

International Monetary Fund [IMF] (1997), examined the general relationship between stock price and macro economic variables in Zimbabwe, using the revised DDM, error-correction model, and multi factor return generating model. "Despite the large fluctuation in stock prices since 1991, the analysis indicated that the Zimbabwe Stock Exchange functioned quite constituently during the period. Whereas sharp increases in the Share Price

during 1993/94 were mainly due to the shift of the risk premium that was caused by partial capital account liberalization".

Pettit (1972) in his journal entitled, "Dividend Announcements, Security Performance and Capital Efficiency" has the objective of providing further support or evidence about the validity of the efficient market hypothesis by estimating the speed and accuracy, with which market price reacts to announcements of changes in the level of dividend payment. He analyzed 625 announcement dates of all dividend changes collected from New York Stock Exchange for the period of January 1964 through January 1968, within which 1000 dividend changes were announced and daily price information was also studied for 135 announcements in 1967-1969. For analysis, the market model was used.

The study draws the conclusion that "the market makes use of announcements of changes in dividend payments in assessing the value of a security and most of the information implicit in the announcement is rejected in the securities' price as of the end of the announcement period", and the study strongly supports the proposition that the market is reasonably efficient both on a monthly and daily basis.

A study conducted by Michele, Thaler and Wamack (1995) on "Price Reactions to Dividend Initiations and Omissions: Overreaction or Drift", finds out that "the short run price impact of dividend omissions is negative and that of initiation is positive, that there are long term drifts in prices following announcements of initiations and especially omissions, and that there is no evidence of important change in volume or clientele, which mitigates price pressure as a potential explanation for the anomalous drift."

2.9 Reviews from the Nepalese Previous Study

Number of thesis relevant to this study has been reviewed for the purpose of finding previous studies and their findings. Some of the important findings are presented here below:

Dilip Raj Baral (2003) has conducted research on *"Stock Price Movement in Nepalese Securities Market"*, submitted to Shanker Dev Campus. The main objectives of his research are:

a. To study and analyze the stock price and volume and the investors views regarding the decision on stock investment.
b. To suggest the findings of the study to the interested parties related to stock investment.
c. To study & examine the signalling factors impact on stock price with the help of NEPSE index.

The major findings of Baral are as follows:

a. The stock price trend Nepalese stock market is decreasing from many years of as smoothly but from one year price of stock is decreasing as rapidly.
b. The price trend of three years NEPSE index in different months (36 months) with the help of monthly trend showed that there is no relationship of price trend between three successive years.
c. The sector-wise monthly trend analysis for one year (Poush 2058 to Mangsir 2059) showed that there is unsystematic activities in Nepalese stock price market.

Baral concluded that even though Nepalese stock market is in the growth stage; it has crossed the initial stage but not reached in the matured stage. Majority of investors of Nepalese stock market price invests their money from the view point of income and other factors like NEPSE index price trend .

Kiran Dhamala (2004) has conducted research on *"Determinants of Share Price in Nepalese Financial Market"*, submitted to Shanker Dev Campus. The main objectives of his studies are as follows:

a. To examine and evaluate the relationship of MPS with various financial indicators like EPS, NWPS, DPS, ROE, etc.
b. To analyze the market trends of MPS with various financial indicators like EPS, NWPS, DPS, ROE, etc.

The major findings of the research pointed out by Dhamala are as follows:

a. HBL's MPS is negatively correlated with major financial indicators. But it has positive relationship with DPS and DPR respectively. NBL's MPS has positive relationship with EPS and ROE, whereas it has negative relation with other financial variables. NBBL's MPS is positively correlated with EPS, NWPS and DPS.
b. NIBL's MPS is reversely correlated with major financial variables. SCNBL's MPS is negatively correlated with major financial indicators. But it has higher positive relationship with ROE.
c. AFCL's MPS has positive correlation with main financial variables except ROE, with which it has negative relationship. But no such relationship is statistically significant.

Dhamala concluded that there is not a single financial indicator that has dominant role to determine MPS. The degree of interrelationship of MPS with different financial indicators varies from one company to another. There is no uniformity in the relationship of MPS with various financial indicators of the sampled companies.

Aparna Giri (2005) has made a research on *"A study on Share Price Behaviour of Listed Commercial Banks"*, submitted to Shanker Dev Campus. The main objectives of her research are:

a. To analyze the share price behaviour of the commercial banks listed at Nepal Stock Exchange.
b. To examine the risk involved in the common stock investment of the sample commercial banks.

The major findings of Giri are as follows:

a. Large number of serial correlation of the daily log price changes of ten commercial banks' stocks for the sample period is significantly departed from zero.
b. To make more profit, acute fundamental and other analyses are required which accurately predicts the appearance of the new information in the market, which has impact on the prices than the naïve buy and hold strategy.
c. Regarding the total risk, NBBL is the riskiest among all stocks, whereas NIC is recorded as least risky. Similarly, the stocks of BOK and EBL fall into the second and third position in terms risk.

Giri concluded that the serial correlation coefficients of the daily price changes lead to weakly efficient market hypothesis does not offer a satisfactory explanation to these speculative price series. The independence in the series of the price changes observed implies that the price changes in the future market will not be independent from the price changes of the previous days.

Prabin Shrestha (2006) has conducted research on *"Share Price Behaviour of Commercial Banks listed in NEPSE",* submitted to Shanker Dev Campus. The main objectives of his research are as follows:

a. To analyze the stock price movement of the NEPSE market.
b. To test the random walk or weak efficient market hypothesis.
c. To test whether the successive price changes are independent or dependent with the price of historical change.

The major findings of Shrestha are as follows:

a. The total numbers of actual and expected runs are statistically significant for most of the equity shares. Today's price change is dependent on the information of yesterday's price.
b. Half of the sample companies' share have greater than average value of K (18.87%) difference between actual and expected number of runs, which indicates significant difference between the actual and expected number of runs.
c. To make greater profit than "naïve buy and hold strategy", acute fundamental or other analysis are required which accurately predict the appearance of the new information in the market that affects the price of shares.

Shrestha concluded that the dependence in the series of price changes implies that the price changes in the future will be dependent with the historical price. Thus, the information of historical price is helpful to predict future prices of the shares. Another conclusion drawn from the opinion based survey with share brokers and individual investors is that the share price movements are caused by flow of several kinds of information in the market.

Similarly, Mr. Nischal Regmi (2006) submitted dissertation on *"Role of Financial Indicators in Determining Share Price in Nepalese Financial Market"* to Shanker Dev Campus. The main objectives of his research are:

a. To examine and evaluate the relationship of MPS with various financial indicators like NWPS, EPS, DPS, ROE, etc.
b. To analyze the market trends of MPS with various financial indicators like EPS, NWPS, DPS, ROE, etc.
c. To find out whether stocks of the sampled companies are equilibrium priced of not.

The major findings of Regmi are as follows:

a. NABIL's MPS is positively correlated with all financial indicators . NIBL's MPS has negative correlation with all financial indicators.
b. For all other banks, the correlation coefficients of MPS with other financial indicators are both positive and negative. Relationship with all financial indicators of MPS for NFCL is positively correlated and the relationship is statistically significant at 5% level of confidence with EPS and at 10% level of confidence with NWPS and DPS.
c. For other Finance Companies, the correlation coefficient of MPS with other financial indicators, are both positively and negatively correlated and the relationship is statistically significant for KFL and UFCML and for others it is insignificant.

Regmi concluded that the market price of share in Nepal is not indicative of a Company's financial performance in the stock market. The share market is imperfect and is not efficient and is liable to manipulation.

Prakriti Bhattarai (2006) submitted dissertation on *"Stock Price Behavior of Financial Institutions and Commercial Banks"* to Shanker Dev Campus.The major findings of Bhattarai are as follows:

a. The DPS of SCBL has higher than NBL, NIBL and EBL. The MPS of SCBL is higher than NBL, NIBL and EBL. SCBL is the most appreciable bank among the selected ones.
b. The correlation coefficient of EPS and DPS seems to be significant except the case of EBL and AFCL, i.e. correlation coefficient recorded as EBL & AFCL is in negative.
c. In case of NIBL & NFCL there exists negative correlation coefficient of EPS & NWPS which is insignificant which shows that there is higher degree of managerial problem in issuing and managing shares of NIBL & NFCL.

CHAPTER-III

RESEARCH METHODOLOGY

3.1 Introduction

Any systematic research requires a proper and scientific methodology to achieve the set objectives. In order to achieve the objectives the following research methodology has been applied. This chapter deals with the research methods by the help of which the data collected and analyzed to achieve the results.

3.2 Research Design

A research design is the arrangement of conditions for collection and analysis data is a manner that aims to combine relevant to the research purpose with economy in procedure. Research design is the conceptual structure within which the research is conducted. The research adapted for this purpose of the study is descriptive research design. To determine the effect of book value, dividend and earning on stock price descriptive research design has been adapted along with correlation and regression analysis. And to identify the qualitative factors affecting stock price, descriptive research design has been adopted.

3.3 Research Hypothesis

Generally two complementary hypothesis are setup at one time. If one of the hypothesis is accepted then another is rejected-and-vice versa. There are two types of hypothesis. First one is null hypothesis which is also called hypothesis of no difference and next is alternative hypothesis, the hypothesis of difference.

In this study, test of hypothesis is conducted for Regression Analysis and Run Test.

Creation of Hypothesis under Regression Analysis

Null Hypothesis (H_0) : MPS is independent of the respective variables. e.g. EPS, DPS and Book Value.

Alternative Hypothesis (H_1) : MPS is dependent of the respective variables. e.g. EPS, DPS and Book Value

Creation of Hypothesis under Run Test

Null Hypothesis (H_0) : The MPS of the stocks of the sample commercial banks is random.

Alternative Hypothesis (H_1) : The MPS of the stocks of the sample commercial banks is not random.

The first hypothesis is based on the significance for correlation coefficient between market price of stock and earning (t-test).

3.4 Population and Sample

This study intends to identity the factors that affect the stock price in NEPSE. So, the populations of this study are all listed commercial banks in NEPSE in F/Y 2009/10, i.e. 23 companies. In this study seven sample organizations have been considered for analysis.

1. Bank of Kathmandu (BOK)
2. Himalayan Bank Ltd (HBL)
3. Nabil Bank Ltd. (NABIL)
4. Nepal Investment Bank Ltd. (NIBL)
5. Nepal Industrial and Commercial Bank (NICB)
6. Nepal SBI Bank (SBI)
7. Standard Chartered Bank Ltd (SCBL)

The secondary data of sample organization are analyzed to determine the relationship of earning, dividend and book value with market price of stock in NEPSE.

3.5 Study Period

This study includes fifteen year data tentatively from 1995/96 to 2009/10.

3.6 Nature and Sources of Data

This study is based on secondary data. The quantitative data have been extracted from secondary sources. Company's annual financial statements have served the data required to capture the stock price of the firm. Company's balance sheet, income statement, financial ratio providing, information like dividend, earning, book value and market price etc. have been excessively employed as a secondary source of data. Similarly other concerned organization's journals, unpublished thesis, reports, news paper, internet websites have been used as secondary source of data collection.

3.7 Data Analysis Tools

The secondary data collected from various sources leads to the logical conclusion-only if the appropriate tools and techniques are adapted to analyse the data following statistical and financial tools have been used which are explained here.

3.7.1 Statistical Tools

Statistical tools are the measures or the instruments to analyse the collected data from different sources. In statistics, there are numerous statistical tools of various natures to analyze the data. In this study following statistical tools have been used to analyse the data.

A. Average (Mean)

An average is a single valued related from a group of values to represent them in someway, a value, which is supposed to stand for whole group of which it is part, as typical of all the values in the group (Gupta, 1990 : pg 9-7). There are various types of averages; Arithmetic mean (AM, simple and weighted), median, mode, geometric mean, harmonic mean, are the major types of averages. The most and widely used measure representing the entire data by one valued is the AM. The value of AM is obtained by adding together all the items and dividing this total by the number of items.

Mathematically,

$$\bar{x} = \frac{\sum x}{n} \text{.....(3.1)}$$

Arithmetic Mean (AM) is given by, Gupta, 1992: pg 238).

Where,

$\bar{x}$ = Arithmetic Mean.

$\sum x$ = Sum of all the valued of the variable x.

n = Number of observations.

B. Standard Deviation

The standard deviation (σ) measures the absolute dispersion. The greater the standard deviation, greater will be the magnitude of the deviation of the values from their mean. A small standard deviation means a high degree of uniformity of the observations as well as homogeneity pf a series and vice versa.

Mathematically, $$\sigma = \sqrt{\frac{1}{n}\sum(x-\bar{x})^2} \text{.....(3.2)}$$

C. Coefficient of Variation

The standard deviation is absolute measures of dispersion; whereas the coefficient of variation (CV) is a relative measure. To compare the variability between two or more series, CV is more appropriate statistical tool.

Mathematically,

$$CV = \frac{\sigma}{\bar{x}} \times 100 \text{.....(3.3)}$$

D. Correlation Coefficient

Correlation may be defined as the degree of linear relationship existing between two or more variables. Two variables are said to be correlated is accompanied by the change of another variable. If the increase (decrease) in the value of one variable on an average is associated with the increase (decrease) in the value of another variable, positive relationship is said to be existed. The relationship will be negative if increased (decreased) in the variable of one variable is associated with the decreased (increased) in the value of another variable. But the correlation coefficient always remains within the limit of +1 to -1. By Karl Pearson, the simple correlation coefficient (between two variables say *x* and *y*) is given by:

$$\text{rxy} = \frac{n\sum xy - \sum x \sum y}{\sqrt{[n\sum x^2 - (\sum x)^2]}\sqrt{[n\sum y^2 - (\sum y)^2]}}$$ (Gupta,S.C.2005 : pg. 8.8)

Where,

r_{xy} is the correlation coefficient between two variables *x* and *y*.

- r lies between -1 and +1, i.e. -1≤r≤+1
- Where r=+1, there is perfect positive correlation
- Where r=-1, there is perfect negative correlation
- Where r=0, there is no relation.

E. Simple Regression Analysis

Correlation coefficient measures the degree of relationship between two variables where as the regression analysis is used to estimate the likely value of one variable from the now value of other variable. In regression analysis we establish. In regression analysis we establish a kind of average irreversible functional relationship between two variables. In other words, regression analysis is a mathematical measure of the average relationship between two or more variable in term original unit of data.

The equation of regression line where the dependent variable y is determined by the independent variable x, is given by:

Y=a+bx ..... (i)

Where,

A = Intercept

b = Slope of regression line (i.e. it measure the change in the value of *y* as a result of per unit change in value of *x* or regression coefficient of *y* on *x*)

F. Coefficient of Determination

The coefficient of determination gives the percentage variation in the dependent variable that is accounted by independent variables. In other words, the coefficient of determination gives the ratio of expected variance to the total variance. The coefficient of determination is given by the square of the correlation coefficient, i.e. r^2. So the coefficient of determination

$$r^2 = \frac{Expected Variance}{Total\ Variance}$$

G. Multiple Regression Analysis

Multiple Regressions is a statistical technique which explains the relationship between several independent or predictor variables and a

dependent or criterion variable. Multiple Regressions is a valuable tool used for quantifying the impact of various simultaneous influences upon a single dependent variable. The value of Coefficient of Determination measures the amount of variation in the dependent variable that is accounted for by variation in the predictor variables. The Multiple Regression equation of dependent variable X_1 on two independent variables X_2 and X_3 is given by

$$X_1 = a_1 + b_1 X_2 + b_2 X_3$$

The values of constants a_1, b_1 and b_2 can be obtained by solving following three normal equations simultaneously

$$\sum X_1 = na_1 + b_1 \sum X_2 + b_2 \sum X_3$$

$$\sum X_1 X_2 = a_1 \sum X_2 + b_1 \sum {X_2}^2 + b_2 \sum X_2 X_3$$

$$\sum X_1 X_3 = a_1 \sum X_3 + b_1 \sum X_2 X_3 + b_2 \sum {X_3}^2$$

Where,

a_1 = X_1 Intercept

b_1 = Partial Regression Coefficient of X_1 on X_2 when X_3 is held constant

b_2 = Partial Regression Coefficient of X_1 on X_3 when X_2 is held constant

The coefficient of multiple determination of dependent variable X_1 on two independent variables X_2 and X_3 is given by

$$R^2 = \frac{a_1 \sum X_1 + b_1 \sum X_1 X_2 + b_2 \sum X_1 X_3 - n(\overline{X_1})^2}{\sum {X_1}^2 - n(\overline{X_1})^2}$$

Where,

R^2 = Coefficient of Multiple Determination

H. **The Run Test**

A run-test is a non-parametric test that checks randomness of hypothesis for a two-valued data sequence. More precisely, it is used to test the hypothesis that the elements of the sequence are mutually independent. The run test is used to decide if a data set is from a random process. In this research, run test is applied to test whether the MPS of the stocks of sample commercial banks is random.

Computing the value of Z under the large sample,

$$Z = \frac{r - \left[\frac{2n_1n_2}{n_1+n_2} + 1\right]}{\sqrt{\frac{2n_1n_2(2n_1n_2 - n_1 - n_2)}{(n_1+n_2)^2(n_1+n_2-1)}}}$$

Where,

r = Number of runs

n_1= Number of positive and zero sign

n_2= Number of negative sign

I. Test of Hypothesis

Hypothesis means the presumption or quantitative statement of the population parameter which is to be tested and may be true or false. In statistics, hypothesis means a statistical statement about the value of one or more parameters of population. After setting the hypothesis, it is necessary to test the reliability of such statistical statements. For this purpose an experiment is conducted by using sample information and the hypothesis is rejected if the results obtained are improbable under this hypothesis. If the results are not improbable, the hypothesis is accepted. This procedure of drawing such conclusion based on sample information is known as testing of hypothesis.

The main goal of testing hypothesis is to test the characteristics of hypothesized population parameter based on sample information whether the difference between the population parameter and sample statistics is significant or not.

J. t-statistics

t-statistics is applied for the test of small sample. If the sample size is less than 30 that is called small sample and t-test is used.

The following formula is used to test an observed sample correlation coefficient.

$$t = \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2} \propto tn-2$$

Where,

r = Simple Correlation Coefficient

n = Number of observation

K. Z-statistics

To test the significance of the effect of qualitative factors collected from primary sources, z-test is carried out. z test is used since sample size is more than 30 (N>30). The test of significance of single mean for large sample under Ho is:

$$z = \frac{\bar{x} - \mu}{\frac{\sigma}{\sqrt{n}}}$$

Where,

S.E. (x) = $\frac{\sigma}{\sqrt{n}}$

$\bar{x}$= Sample mean

μ = Population mean

In this study, the population mean (μ) is assumed as zero, assuming that such qualitative factors doesn't affect market price of stock.

L. F-Test

To test the significance of an observed multiple correlation coefficient F test is done, that is

$F=\frac{R^2}{1-R^2} \cdot \frac{n-k-1}{k}$ With (k, n-k-1) d.f.

Where, R= Observed multiple correlation with k other variates

n = sample size

3.7.2 Financial Tools

Except the statistical tools some financial tools have also used in this research work. The major financial tools used in this study are:

a) Earnings Per Share (EPS)

The earnings per share (EPS) is the share of a stock on the earning of the company.

Mathematically,

$$EPS = \frac{Total\ Earning\ Of\ a\ Company}{No.Of\ Shares\ Outstanding}$$

b) Dividend Per Share (DPS)

The DPS is the amount paid as dividend to the holder of one share of the stock.

Mathematically,

$$DPS = \frac{Total\ Dividend\ Paid}{No.of\ Shares\ Outstanding}$$

c) Market Price Per Share (MPS)

The MPS is the amount in which a share of the stock is traded in the market.

Mathematically,

$$MPS = \frac{Total\ Market\ Capitalization}{No.Of\ Shares\ Outstanding}$$

d) Book Value Per Share (BPS)

The book value per share represents the real net worth per share. It is simple the ratio of net worth (Share capital plus retained earning, i.e. ownership capital) and the number of existing shares.

Mathematically,

$$BPS = \frac{Net\ Worth}{No.Of\ Shares\ Outstanding}$$

3.8 Method of Data Presentation

The collected data are presented in simple and easily understandable tables. To make those data clear and more informative such data have been presented in figures like trend line whichever is relevant to explain the data more effectively. After presenting such data is the tables and figures, are analyzed using various statistical, mathematical and financial tools and techniques.

CHAPTER-IV

DATA PRESENTATION AND ANALYSIS

4.1. Introduction

In this chapter collected data and information are presented in systematic formats and analyzed using different appropriate tools and techniques. The relationship of the variable is presented in graphs and figures. The analysis of data consists organizing, tabulating and performing statistical analysis.

4.2. Recent Position and Performances of Nepalese Capital Market

Primary market and secondary market are inter-related and dependent on each other. Primary market supplies new securities to the market whereas secondary market provides liquidity to the investors by smoothly changing ownership of old issues. A market considered to have "breadth" when there is steady flow of funds going into both primary and secondary markets with participation of large number of investor and speculators.

Table-4.1
Primary Market Trends

(Rs in millions)

DESCRIPTION	FISCAL YEAR				
	2005/06	2006/07	2007/08	2008/09	2009/10
Capital Mobilization	2,443.30	2,295.50	9,968.20	16,828.50	10,822.41
No of public issue	29	34	64	64	61
GDS	58727.2	71902	80193	96298	110751
Capital Mob/GDS in%	4.1	3.1	12.4	17.5	9.8

Source: SEBON

The total number of primary issue from FY 2005/06 to FY 2009/10 was 252.Simalarly total capital mobilization also increased from 2443.30 millions in FY 2005 to 10822.41 millions in FY 2009/10, which was about 3.5 times greater. The capital mobilization to GDS ratio shows the satisfactory trend, it was 4.1 percent in FY 2005/06 and about 10 percent in FY 2009/10. Although the growth of capital mobilization and the number of public issues are encouraging, it is also insufficient to provide wide range of portfolio selection and diversification to the investors. Therefore the stock market of Nepal cannot be considered to have "breadth".

Table-4.2
Secondary Market Trends

Rs in million

		FISCAL YEAR				
PARTICULARS		2005/06	2006/07	2007/08	2008/09	2009/10
a	Trading Amount	3451.4	8360.1	22,820.80	21,681.10	11,851.11
b	No. of Share Traded ('000)	12,222.00	18,147.00	28,599.77	30,547.17	26,231.00
c	No. of listed shares ('000)	226,540	243,504	321,131	637,868	821,746
d	Market Capitalization	96,813.70	186,301.30	366,247.50	512,939.00	376,870.00
e	No of listed Companies	135	135	142	159	176
f	GDP	654080	727830	815660	991320	1183000
g	Traded share/ listed share (in%)	5.39	7.45	8.91	4.79	3.19
h	Trading Amount/ market cap (in %)	3.57	4.99	6.23	4.23	3.14
i	Trading amount/ GDP (in %)	0.53	1.15	2.8	2.19	1
j	Market Cap/GDP (in %)	14.8	25.6	44.9	51.74	31.86
j	NEPSE Index	386.86	683.95	963.36	749.1	477.73

Source: NEPSE, SEBON, GON MOF

The market is considered to have "depth" when there is an active secondary market with continuous biding prices. The market capitalization to

GDP ratio is increasing. The trading amount Rs 3451.4 million in FY 2005/06 which drastically increased in subsequent years and reached to Rs 11851.11 million in FY 2009/10.Simalarly the trading amount to market capitalization ratio was 3.57 percent in FY 2005/06 which decreased to 3.14 in FY 2009/10.Similarly the traded share to listed share ratio was 5.39 in FY 2005/06 which decreased to 3.19 in FY 2009/10. Therefore the Nepalese stock market cannot be considered to have "depth".

NEPSE index refers the aggregate volatility of share price of the companies listed in NEPSE. The NEPSE Index shows an increasing trend up to FY 07/08 when it dropped from 963.36 in FY 07/08 to 477.73 in FY 09/10.

4.3. Future Programs

The SEBON has set the future programs with a view to improve the regulatory provisions and development of infrastructure as well as Improvise institutional structure of the board, Make necessary arrangement of required skilled human resource, Develop and implement electronic data flow system in share markets, Formulate and implement Master Plan for Capital Market, Grant authority to open new Stock Exchange to make the share transaction related services investment-friendly throughout the country, Provide group investment scheme operation license through necessary regulatory provisions in order to avail efficient investment services to small and new entrant investors by attracting institutional investors in the share market, Issue Central Depository System Operating Licenses with the arrangement of necessary regulatory provisions on the establishment and operation of Central Depository System to make the processes prompt and efficient for transfer, clearance, and settlements of shares, Establish and operate Investors Security Fund, Make a robust arrangement for review the share market related data and information flow, Make institutional arrangement for share market related trainings; and Conduct study/researches on various topics and subjects with regard to capital markets.

4.4. Analysis of Financial Indicators

Analysis of the financial indicators is conducted to identify the financial strength and weakness of a firm. In this study, detailed analysis of financial indicators like the Market Price Per Share, Earnings Per Share and Dividend Per Share of the sample commercial banks is conducted according to the objectives of the study. Moreover, statistical tools such as, mean, standard deviation and coefficient of variation is used to interpret financial indicators.

4.4.1 Analysis of MPS of the Sample Commercial Banks

Market Price Per Share is the value of stock, which can be obtained by a firm from the sale of a share in the market. It is the prevailing or the actual price of the share paid in a market transaction. The capital market determines MPS and for this study year-end closing price of NEPSE is taken as Market Price Per Share. The following table shows the MPS of the sample commercial.

Table-4.3
MPS of Sample Banks

Year	BOK	HBL	NABIL	NIB	NIC	SBI	SCB	Average
1995/96	-	600	900	525	-	412	1743	836
1996/97	-	640	500	719	-	412	1000	654.2
1997/98	153	755	430	600	-	440	720	516.333
1998/99	285	1000	700	822	-	562	1050	736.5
1999/00	998	1700	1400	1401	550	562	1985	1228
2000/01	850	1500	1500	1150	399	1500	2144	1291.86
2001/02	254	1000	735	760	250	401	1550	707.143
2002/03	198	836	735	795	180	255	1640	662.714
2003/04	295	840	1000	940	218	307	1745	763.571
2004/05	430	920	1505	800	366	335	2345	957.286
2005/06	850	1100	2240	1260	496	612	3775	1476.14
2006/07	1375	1740	5050	1729	950	1176	5900	2560
2007/08	2350	1980	5275	2450	1248	1511	6830	3092
2008/09	2350	1760	4899	1388	1126	1900	6010	2776.14
2009/10	840	816	2384	705	626	741	3279	1341.57
Mean	863.692	1145.8	1950.2	1069.6	582.636	741.733	2781.07	1304.96
SD	756.36	459.745	1716.94	513.339	370.1	520.595	1971.2	901.183
CV	87.5729	40.1243	88.0394	47.9936	63.5215	70.1863	70.8791	66.9025

Source: Balance sheet of sample banks

The Table-4.3 show the comparative MPS of the seven commercial banks with their mean, standard deviation and coefficient of variation covering the period from FY 1995/96 to FY 2009/10. The average MPS of all the commercial banks under study is Rs 1304.96 out of which only SCB and NABIL have MPS greater than the average MPS. The MPS of HBL and NIB although less than average is very close to the average mean MPS whereas the MPS of the remaining commercial banks i.e. BOK, NIC and SBI is much less than the average MPS. The MPS of the SCB is the highest during the study period. It can be interpreted that the SCBL is an appreciable bank with its share in high demand. Moreover, HBL, NIB shares also has satisfactory MPS indicating a positive demand of their stock.

The total risk in an investment is measured by Standard Deviation (SD), higher the SD higher the risk and vice-versa. The above table shows that the average SD of all the commercial banks under study is 901.183 with SCB having highest SD i.e.1971.2 and NIC the lowest i.e. 370.1. NABIL have SD greater than the average SD i.e. 901.183 whereas the SD of HBL, NIB, SBI and BOK is less than the average. It can be interpreted that investing in NABIL and SCB is riskier than investing in HBL, NIB, SBI and BOK with regards to Market Price Per Share.

Coefficient of Variation (CV) measures the risk per unit of return. Higher CV indicates high price fluctuation and less CV indicates less movement of the prices. The above table shows the comparative CV of the MPS of the commercial banks under study. The average CV of the MPS of the commercial banks under study is 66.90 which indicate that the shares of commercial banks have average risk. The CV of HBL, NIB and NIC is less than the average whereas the CV of NABIL, BOK, SBI and SCB is more than the average. It can be interpreted that the shares of HBL, NIB and NIC has less fluctuation in their share prices in comparison to the shares of NABIL, BOK, SBI and SCB.

4.4.2 Analysis of EPS of the Sample Commercial Banks

Earning Per Share is one of the most important financial indicators which measure the earning capacity of the firm. It measures the profitableness of the shareholders, i.e. investment on a per share basis. EPS is generally considered

to be the single most important variable in determining a share's price. Higher EPS indicates that the company is earning adequately on its share.

The below table show the EPS of the sample commercial banks.

Table-4.4
EPS of Sample Banks

Year	BOK	HBL	NABIL	NIB	NIC	SBI	SCB	Average
1995/96	-	103.43	132.9	92.12	-	31.56	159.5	103.902
1996/97	-	115.08	67.68	101.37	-	37.46	165.4	97.398
1997/98	-10.85	113.32	44.5	69.33	-	49.17	129.62	65.8483
1998/99	24.67	86.07	67.84	33.75	-	13.98	105.86	55.3617
1999/00	40.73	83.08	83.79	53.68	4.49	14.74	115.62	56.59
2000/01	27.97	93.57	59.26	33.18	9.66	8.69	126.88	51.3157
2001/02	2	60.26	55.25	33.59	1.36	9.61	141.13	43.3143
2002/03	17.72	49.45	84.66	39.56	5.19	11.47	149.3	51.05
2003/04	27.5	49.05	92.61	51.7	13.65	14.26	143.55	56.0457
2004/05	30.1	47.91	105.49	39.5	22.75	13.29	143.14	57.4543
2005/06	43.67	59.24	129.21	59.35	16.1	18.27	175.84	71.6686
2006/07	43.5	60.66	137.08	62.57	24.01	39.35	167.37	76.3629
2007/08	59.94	62.74	108.31	57.87	25.75	28.33	131.92	67.8371
2008/09	54.68	61.9	109.99	37.42	27.83	36.18	109.99	62.57
2009/10	43.08	31.8	78.61	52.55	34.3	23.69	77.65	48.8114
Mean	31.1315	71.8373	90.4787	54.5027	16.8264	23.3367	136.185	60.614
SD	19.9719	25.6142	29.2542	20.7133	10.8697	12.8037	26.517	20.8206
CV	64.1532	35.6559	32.3328	38.0042	64.5993	54.8653	19.4714	44.1546

Source: Balance sheet of sample banks

The Table 4.4 shows the comparative EPS of the seven commercial banks with their mean, standard deviation and coefficient of variation covering FY 1995/96 to FY 2009/10. The average EPS of all the commercial banks under study is 60.61 out of which only SCB, HBL and NABIL has MPS greater than the average EPS. The EPS of BOK, NIB, NIC and SBI although less than average mean. The EPS of the SCB is the highest whereas that of NIC is the lowest among the commercial banks under study during the research period. From the above analysis, we can interpret that the earning capacity of the SCB is the most satisfactory and that of the HBL and NABIL is satisfactory among the commercial banks under study. It further indicates that most of the banks

under study is earning adequately on its share which is an indicator for a positive demand of the stock of those bank at the secondary market.

The above table also shows that the average SD of all the commercial banks under study is 20.82 with NABIL having highest SD i.e. 29.25 and NIC the lowest i.e. 10.86. HBL and SCB have SD greater than the average SD i.e. 20.82 whereas BOK, SBI and NIB have SD less than average. This shows that investing in NABI, HBL and SCB on the basis of EPS is riskier than investing in BOK, NIB, NIC and SBI.

The above table shows the comparative CV of the EPS of the commercial banks under study. The average CV of the commercial banks under study is 44.15 % which can be interpreted that on average there is less fluctuation of the EPS of the commercial banks. The CV of NIC, SBI and BOK is more than average CV i.e. 44.15 % whereas the CV of the HBL, NIB, SCB and NAIBL is less than the average. The NIC has the highest CV i.e. 64.59 % whereas the SCB has 19.47 %. It can be interpreted that the SCB is the most appreciable bank because the earnings is less fluctuating and NIC is the least appreciable bank because the earnings per share is more fluctuating.

4.4.3 Analysis of DPS of the Sample Commercial Banks

Dividend Per Share is another important financial indicator which measures the dividend distributed to each equity shareholders. DPS shows how much the shareholders were actually paid by way of dividends.

The Table 4.5 shows comparative DPS of the seven commercial banks under study with their mean, standard deviation and coefficient of variation covering the period from FY 1995/96 to FY 2009/10. The average DPS of all the commercial banks under study is 384.13 of which SCB has the highest DPS i.e. 891.39 followed by NABIL i.e. 665.93 whereas NIC has the least DPS i.e. 111.57. All the other remaining banks have DPS less than the average DPS of the commercial banks. It shows that only shareholders of the SCB and NABIL were paid high enough for their every unit of shares. The shareholders of the other commercial banks is not as high as that of the SCB and NABIL but the dividend paid on the shares is much higher than the average interest rate

prevailing in the market. This indicates that the shares of these banks can be considered as satisfactory for investment.

The average SD of all the DPS of the commercial banks under study is 514.94 with SCB having highest SD i.e. 1222.95 and NIC the lowest i.e.92.37. NABIL and SCB have SD greater than the average i.e. 514.94 whereas BOK, HBL, NIB, NIC and SBI have SD less than average. From the above analysis it can be interpreted that based on dividend paid on each share the investment on the shares of NABIL and SCB is riskier than investment on shares of BOK, HBL, NIB,NIC and SBI.

Table-4.5
Nominal DPS

Year	BOK	HBL	NABIL	NIB	NIC	SBI	SCB	Average
1995/96	-	35	-	50	-	20	971.5	269.125
1996/97	-	50	500	50	-	20	90	142
1997/98	-	110	245	350	-	20	430	231
1998/99	7.49	650	50	30	-	10	605	225.415
1999/00	32.74	475	55	25	-	15	100	117.123
2000/01	10	402.5	415	1150	10	1500	100	512.5
2001/02	10	325	30	-	-	-	100	116.25
2002/03	5	84.91	50	338	-	8	110	99.3183
2003/04	10	168	65	65	-	-	110	83.6
2004/05	15	195.5	70	12.58	83.2	-	120	82.7133
2005/06	273	85	85	466.796	50.13	5	507.5	210.347
2006/07	20	450	2120	437.25	191.05	424.19	3030	953.213
2007/08	942.11	421	2170	824.085	250.65	-	3495	1350.47
2008/09	947.37	567.456	2484.5	20	169.69	762.11	3055	1143.73
2009/10	141	215.84	983.6	25	26.32	97.625	546.85	290.891
Mean	201.143	282.347	665.936	274.551	111.577	261.993	891.39	384.134
SD	356.252	200.89	904.793	351.271	92.3779	476.114	1222.95	514.949
CV	177.114	71.1501	135.868	127.944	82.7928	181.728	137.195	130.542

Source: Balance sheet of sample banks

The table 4.5 shows the comparative CV of DPS of the commercial banks under study. The average CV of the commercial banks under study is 130.54 % which can be interpreted that on average there is high fluctuation of the DPS of the commercial banks under study. The CV of SBI is highest i.e. 181.72 % whereas that of HBL is lowest i.e. 71.15 %.

4.5. Statistical Analysis

This chapter incorporates some statistical tools, which are used to analyze the data to achieve the objectives of the study. In this study, statistical tools such as correlation coefficient analysis, simple and multiple regression analysis, t-test, run-test and test of hypothesis is conducted.

4.5.1 Simple Regression Analysis

Regression Analysis is a statistical technique for analyzing the relationship between two or more variables, and which is used to predict the value of one variable from the other or others.

In this study, regression equation of MPS on EPS, MPS on Book Value and MPS on DPS is conducted to analyze the relationship between MPS with different financial indicators

For the analytical explanation of the regression analysis the formula described in research methodology chapter is used.

a) Regression Equation of MPS on EPS by using the Method of t-test

In this study, regression equation of MPS on EPS is analyzed using the method of t-test. For this study, following hypothesis is created under Regression Analysis:

Null Hypothesis (H_0) : MPS is independent of the EPS.

Alternative Hypothesis (H_1) : MPS is dependent of the EPS.

The table 4.6 shows the relationship between the MPS and EPS. It shows that the Regression Coefficient (b) for BOK, NABIL, NICB and SBI a under study is positive which proves that the MPS is a function of EPS for these banks, But for HBL, NICB and SCB, MPS is not a function of EPS. This also indicates that there exists some positive relationship between MPS and EPS.

The regression coefficient (b) is highest for BOK i.e. 30.87 whereas it is lowest for SBI i.e. 9.48. It indicates that one unit increase in EPS will lead to 30.87 units increase in MPS of the BOK whereas one unit increase in EPS of the SBI will lead to 9.48 units increase in MPS holding all the other variables constant.

The table below tabulates the Regression Analysis and its findings.

Table 4.6
Relation between MPS and EPS

SN	Commercial Bank	Regression Coefficient						
		Constant (a)	Slope (b)	R	r^2	Calculated Value of t-test	Tabulated Value of t-test	Significance
1	BOK	-97.58	30.87	0.81	0.66	4.671	2.201	Significant
2	HBL	1372.85	-3.16	0.176	0.031	-0.64	2.16	Insignificant
3	NABIL	-1168.3	34.46	0.587	0.345	2.61	2.16	Significant
4	NIB	1247.26	-3.26	0.132	0.017	-0.47	2.16	Insignificant
5	NICB	200.97	22.68	0.666	0.444	2.68	2.262	Significant
6	SBI	520.36	9.48	0.233	0.054	0.865	2.16	Insignificant
7	SCB	2974.00	-1.41	0.019	0.00	-0.069	2.16	Insignificant

The Coefficient of Determination (r^2) for BOK is 0.66 which shows a strong relationship between MPS and EPS. This indicates that 66% variability in MPS of BOK can be explained by EPS. The Coefficient of Determination (r^2) of NABIL and NICB are 0.345 and 0.444. Which is moderately strong and it indicates that variability in MPS for these banks is moderately explained by EPS.The calculated value and tabulated value under t-test at 5% level of significance is presented in the above table. The table shows that in case of

BOK, NABIL and NICB, MPS and EPS is significantly correlated whereas in case of others, it is not significantly correlated. This demonstrates that the MPS of some commercial banks is not influenced or determined by EPS which does not prove to be a healthy financial indicator for investment.

b) Regression Equation of MPS on BPS by using the Method of t-test

In this study, regression equation of MPS on BPS is analyzed using the method of t-test. For this study, following hypothesis is created under regression analysis:

Null Hypothesis (H_0) : MPS is independent of the BPS.

Alternative Hypothesis (H_1) : MPS is dependent of the BPS.

Table-4.7 shows regression equation between MPS and BPS of the sample commercial banks by using the method of t-test. The table clearly shows that the Regression Coefficient (b) for most of the commercial banks is positive. This indicates that there exists some positive relationship between MPS and BPS for most commercial banks. The Regression Coefficient (b) is highest for NICB i.e. 15.89 and lowest for SCB i.e.0.233, which indicates that one unit increase in BPS for SBI will lead to 15.89 units increase in MPS holding all the other variables constant.

The Coefficient of Determination (r^2) is strong for BOK, and NICB which is 0.602 and 0.465 respectively. This indicates that 60.2% and 46.5 % variability in MPS for the BOK and NICB respectively can be explained by BPS whereas the remaining variability in MPS of the respective banks is due to the effect of other unexplained factors. Similarly, the Coefficient of Determination (r^2) for NABIL, NIB and SBI is moderate.

Table-4.7
Relation of MPS on BPS

SN	Commercial Bank	Regression Coefficient						
		Constant (a)	Slope (b)	R	r^2	Calculated Value of t-test	Tabulated Value of t-test	Significance
1	BOK	-757.75	11.33	0.776	0.602	4.078	2.201	Significant
2	HBL	1155.18	-0.03	0.002	0.00	-0.009	2.16	Insignificant
3	NABIL	-1233.3	10.52	0.46	0.22	1.913	2.16	Insignificant
4	NIB	1830.61	-2.96	0.32	0.108	-1.256	2.16	Insignificant
5	NICB	-1396.7	15.89	0.682	0.465	2.796	2.262	Significant
6	SBI	306.00	2.574	0.181	0.033	0.664	2.16	Insignificant
7	SCB	2689.46	0.233	0.010	0.000	0.035	2.16	Insignificant

The calculated value and tabulated value under t-test at 5% level of significance is presented in the above table. The table shows that the BPS of BOK and NICB are significantly correlated with MPS whereas the remaining banks MPS is not significantly correlated with BPS. This indicates that MPS for most of the commercial banks is not affected by increase or decrease in BPS which is not a reliable financial indicator in the stock market.

c) Regression Equation of Market Price on DPS by using the Method of t-test

In this study, regression equation of MPS on DPS is analyzed using the method of t-test. For this study, following hypothesis is created under Regression Analysis:

Null Hypothesis (H_0) : MPS is independent of the DPS.

Alternative Hypothesis (H_1) : MPS is dependent of the DPS.

The below table tabulates the Regression Analysis and its findings

Table-4.8 shows the regression equation between MPS and DPS of the sampled commercial banks by using the method of t-test. The table clearly shows that the Regression Coefficient (b) of all the commercial banks is positive. This indicates that there exists positive relationship between MPS and DPS for most commercial banks. The Regression Coefficient (b) is highest for NICB i.e. 3.69, which indicates that one unit increase in DPS of will lead to 3.69 units increase in MPS holding all the other variables constant.

Table-4.8
Relation of MPS on DPS

SN	Commercial Bank	Regression Coefficient						
		Constant (a)	Slope (b)	R	r^2	Calculated Value of t-test	Tabulated Value of t-test	Significance
1	BOK	502.33	1.94	0.889	0.791	6.451	2.201	Significant
2	HBL	672.80	1.67	0.732	0.536	3.874	2.16	Significant
3	NABIL	826.07	1.80	0.936	0.876	9.59	2.16	Significant
4	NIB	871.94	0.771	0.52	0.27	2.19	2.16	Significant
5	NICB	320.43	3.69	0.908	0.825	6.51	2.262	Significant
6	SBI	572.34	0.882	0.711	0.506	3.646	2.16	Significant
7	SCB	1479.12	1.46	0.906	0.821	7.725	2.16	Significant

The Coefficient of Determination (r^2) is strong for NABIL, NIC and SCB which is 0.876, 0.825, and 0.821 respectively. This indicates that 87.6%, 82.5%, and 82.1% variability in MPS for the NABIL, NICB, and SCB

respectively can be explained by DPS whereas the remaining 0.791, 0.536, 0.27, 0.506 for BOK, HBL, NIB, and SBI respectively variability in MPS of the respective banks is due to DPS.

The calculated value and tabulated value under t-test at 5% level of significance is presented in the above table. The table shows that the MPS of all the sample banks are significantly correlated with DPS. This indicates that MPS for most of the commercial banks is affected by increase or decrease in DPS which is a positive financial indicator of stock market.

4.5.2 Multiple Regression Analysis

Multiple Regression Analysis is a statistical technique for analyzing the relationship between several independent or predictor variables and a dependent or criterion variable. In this study, Multiple Regression Equation of MPS on EPS and BPS and MPS on EPS and DPS is conducted to analyze the relationship between MPS with different multiple financial indicators. For the analytical explanation of the Multiple Regression Analysis the formula described in research methodology chapter is used.

a. Multiple Regression of Market Price on EPS and BPS

In this study, multiple regression equation of MPS on EPS and BPS is analyzed. For this study, following hypothesis is created:

Null Hypothesis (H_0) : MPS is independent of the EPS and BPS.

Alternative Hypothesis (H_1) : MPS is dependent of the EPS and BPS.

Table-4.9
MPS on EPS and BPS

SN	Commercial Bank	Regression Coefficient						
		Constant (a)	Slope (b1)	Slope (b2)	R^2	Calculated Value of F at 5% level of significance	Tab. Value of F at 5% level of significance	Significance
1	BOK	-379.95	22.04	3.89	0.826	10.69	4.1	Significant
2	HBL	1170.56	-3.48	0.922	0.034	0.211	3.89	Insignificant
3	NABIL	90.12	72.82	-15.63	0.402	4.041	3.89	Significant
4	NIB	1829.23	2.16	-3.41	0.113	0.767	3.89	Insignificant
5	NICB	-844.61	9.102	10.23	0.477	3.65	4.46	Insignificant
6	SBI	232.76	8.18	1.879	0.071	0.458	3.89	Insignificant
7	SCB	2923.43	-10.58	3.303	0.004	0.024	3.89	Insignificant

The Coefficient of Determination (R^2) for BOK and NABIL is 0.826 and 0.402 which indicates a strong relationship between MPS with EPS and BPS. This indicates that 82.6% and 40.2% variability in MPS of BOK and NABIL respectively can be explained jointly by EPS and BPS however, for remaining banks (R^2) is small. This shows that the MPS is a function of EPS and BPS in weak form for most commercial banks under study.

The calculated value and tabulated value under F-test at 5% level of significance is presented in the above table. The table shows that for the BOK and NABIL, EPS is significantly correlated jointly with EPS and BPS. For the remaining banks the calculated value is less than tabulated value i.e. Null Hypothesis is accepted. It shows that MPS is not significantly correlated with the EPS and BPS together for most of the commercial banks. This

demonstrates that the MPS of the most of the commercial banks is not determined by EPS and BPS

b. Multiple Regression of Market Price on EPS and DPS

In this study, multiple regression equation of MPS on EPS and DPS is analyzed. For this study, following hypothesis is created:

Null Hypothesis (H_0) : MPS is independent of EPS and DPS.

Alternative Hypothesis (H_1) : MPS is dependent of EPS and DPS.

The table below tabulates the Multiple Regression Analysis and its findings

The Coefficient of Determination (R^2) for BOK, HBL, NABIL, NICB, SBI and SCB is 0.745, 0.54, 0.937, 0.838, 0.583 and 0.821 respectively which indicates a strong relationship of MPS with EPS and DPS. This indicates that 74.5%, 54%, 93.7%, 83.8%, 58.3% and 82.1% variability in MPS of BOK, HBL, NABIL, NICB, SBI and SCB respectively can be explained jointly by EPS and DPS. This shows that the MPS is a function of EPS and DPS for most of the commercial banks under study.

The calculated value and tabulated value under F-test at 5% level of significance is presented in the table. The table shows that for all banks except NIB the calculated value is greater than tabulated value i.e. Null Hypothesis is rejected whereas NIB the calculated value is less than tabulated value i.e. Null Hypothesis is accepted. It shows that for all banks except NIB the MPS is significantly correlated with EPS and DPS together whereas for NIB the MPS is not significantly correlated with EPS and DPS together. This demonstrates that the MPS of most of all banks are influenced or determined by EPS and DPS together whereas it is not influenced for NIB.

Table-4.10
MPS on EPS and DPS

SN	Commercial Bank	Regression Coefficient						
		Constant (a)	Slope (b1)	Slope (b2)	R^2	Calculated Value of F at 5% level of significance	Tab. Value of F at 5% level of significance	Significance
1	BOK	-417.47	32.81	8.81	0.745	13.11	4.1	Significant
2	HBL	813.44	-1.86	1.65	0.54	7.23	3.89	Significant
3	NABIL	-462.98	15.60	1.611	0.937	88.54	3.89	Significant
4	NIB	963.33	-1.61	0.759	0.274	2.267	3.89	Insignificant
5	NICB	264.02	4.94	3.31	0.838	20.647	4.46	Significant
6	SBI	303.31	11.34	0.903	0.583	8.39	3.89	Significant
7	SCB	1518.27	-0.287	1.46	0.821	27.54	3.89	Significant

4.5.3 Run Test

Run Test is a non-parametric test that checks randomness of hypothesis for a two-valued data sequence. Run Test is used for testing the randomness of sequence of sample events on the basis of the order of sample events. This technique is based on the order of sequence in which the individual scores or observation originally were obtained. In this research, Run Test is applied to test whether the MPS of the stocks of the sample commercial banks is random. Run and Z value is calculated by using the formula described in research methodology chapter.

For conducting Run Test for the study following hypothesis is developed.

Null Hypothesis (H_0) : The MPS of the stocks of the sample commercial banks is random.

Alternative Hypothesis (H_1) :The MPS of the stocks of the sample commercial banks is not random.

The below table is constructed for tabulating the findings and result.

Table-4.11 shows the Run Test of the MPS of the sample commercial banks. The Run Test has been conducted for daily closing price from Jan 2005 to Dec 2010 for the sample commercial banks. The table shows that the run (r) of NIBL is 47 and SCB is 3, which is maximum and minimum numbers of run. The greater number of run shows the frequently variability in MPS.

Table-4.11
Run Test of the MPS of the Sample Commercial Banks

Commercial Banks	Sample Size	R	N1	N2	Cal. Value (/Z/)	Tab. Value (Ztab)	Test value	Decision
BOK	1363	13	673	690	-36.28	1.96	950	MPS is not random
HBL	1231	29	612	619	-33.50	1.96	1120	MPS is not random
NABIL	1298	15	646	652	-35.26	1.96	2800	MPS is not random
NIB	1287	47	637	650	-33.32	1.96	1180	MPS is not random
NICB	1322	33	661	661	-34.61	1.96	632	MPS is not random
SBI	1295	19	644	651	-34.99	1.96	785	MPS is not random
SCB	1278	3	639	639	-35.65	1.96	3873	MPS is not random

*Source NEPSE *test value is median

**observation is taken from Jan2001 to Dec2010

The table also shows the Z-value of MPS. For large samples the Z statistics gives the probability of difference between the actual and expected number of runs. The tabulated value of Z is ± 1.96 at 5 % level of significance. If the Z value is greater than or equal to ± 1.96, the null hypothesis is rejected at 5% level of significance.

The Z value of most of the banks under study at 5% level of significance. The calculated value is greater than the tabulated value for all the commercial banks under study which shows that the Null Hypothesis is rejected and Alternative Hypothesis is accepted. This means that the observed number of run is less than the expected number of runs at observed significance level i.e. 5% level of significance. This also signifies that change in the MPS of the commercial banks under study is not random and that the market over reacts to the available information.

CHAPTER V

SUMMARY, CONCLUSION & RECOMMENDATION

5.1 Summary and Conclusions

The securities market in recent years has become an integral part of economic development. It serves as a direct link between the suppliers and users of capital fund. It canalizes the saving of general public towards the productive investments. Securities market is the cause of the economic development of the country. Examples from the developed countries have proved that securities market is the cause and economic development is the effect. Therefore, a healthy and efficient securities market is essential for the economic development.

In case of Nepal, the size of the capital market is small as compared to the securities markets of developed countries. Its competitive position in the global market is very poor. Lack of the research and development is the main cause of the slow growth of security market. Due to the lack of pertinent studies of securities market the policy making body has been suffering the lack of informational inputs.

The study is conducted to reveal the current status of stock price behaviour of Commercial Bank in Nepal Stock Exchange. The main objectives of this study are to analyze the stock price trend, to analyze the behaviour of NEPSE and banking index, to examine the factors that impact on stock price.

The study period is basically the years 1995/96 to 2009/10.Only secondary data is used in this study. The required secondary data are collected mainly from the annual report of Banks and web-page of NEPSE. Other sources of secondary data are the various publications of securities Board of Nepal and Nepal Stock Exchange Ltd. Review of national and international studies, books, and journals as well as masters degree dissertation are discussed in order to make the studies more effective.

Both the descriptive and analytical research designs are adopted to carry out this study. Run test is used to know whether the movement of market price of stock is random or not. Seven sample companies are used for the run test to know the stock price behaviour. The relationship of market price with BPS, EPS & DPS is examined with the help of simple regression and multiple regression equation. The significance of the relationship is measured by using t-test and F-test. The statistical results are tested at five percent level of significance.

It may be concluded that stock market is one of the integral parts for economic development. In case of Nepal, the size of the securities market in comparison to national economy is in not so good conditions but the growth is satisfactory. The price behaviour of stock of sample companies is measured by using run test. Among the 23 listed commercial Banks the price movements of the sample companies are not random. The regression analysis between the Market Price and EPS finds that there is positive relationship between market price and EPS for some companies. The significance of the relationship is measured by using t-test and it concludes that t-significance value in case of BOK, NABIL and NICB indicate that the relationship is statistically significant and the independent variable EPS explain the variation in market price. But in case of other companies the result obtained from this model is insignificant. The regression equation of market price on DPS shows that there is positive relation between market price and DPS. The relationship shown by t-test found that the relationship is statistically significant for all sample companies. The regression equation of market price on BPS shows that there is positive relation between market price and BPS for some companies.BOK and NICB are significantly correlated with MPS whereas the remaining banks MPS is not significantly correlated with BPS. The multiple regression analysis between MPS with EPS and BPS is tested under F-test. For the BOK and NABIL, EPS is significantly correlated jointly with EPS and BPS . Similarly, the multiple regression analysis between MPS with EPS and DPS is tested under F-test. It

shows that for all sample companies MPS is significantly correlated with EPS and DPS together except NIB.

5.2 Conclusions

As per objectives and analysis of the study following conclusion have been drawn.

1. A) The analysis of the relation between market price and EPS of the study shows that the MPS is a function of EPS. This also indicates that there exists positive relationship between MPS and EPS for some companies that are BOK, NABIL and NICB, MPS and EPS is significantly correlated. In case of HBL, NIB, SBI, SCB, MPS on EPS is not significantly correlated.

   B) The analysis of the relation between market price and DPS of the study shows that the MPS is a function of DPS. This also indicates that there exists positive relationship between MPS and DPS for all companies.

   C) The analysis between market price and BPS of the study shows that there exists some positive relationship between MPS and BPS. BOK and NICB are significantly correlated with MPS but remaining banks MPS is not significantly correlated with BPS.
2. A) The analysis between market price on EPS and BPS, MPS for the BOK and NABIL, it is significantly correlated jointly with EPS and BPS but for remaining companies it is not significantly correlated with the EPS and BPS together.

   B) The Analysis drawn between market price on EPS and Book Value a for BOK, NABIL, NICB, and SCB the MPS is significantly correlated with EPS and DPS together but for NIB, HBL, and SBI the MPS is not significantly correlated with EPS and DPS together.
3. The analysis from Run-test shows that there exist significance difference between actual numbers of runs and expected number of runs for the

series of daily closing price changes of sample companies. This test also verifies the fact that price changes is not random or the price changes in the present and future will not be independent from the price changes of past and present respectively.

5.3 Recommendation

Based on the analysis of data, this study has reached to the following recommendations:

1. Since, most of the time theory and assumptions of technical analysis match with the Nepal's stock market. So, the investors, brokers, and other related to Nepal's stock market are strongly recommended to focus more on technical tools for analyzing the share price movement.
2. Investors are eager to apply technical analysis for analyzing share price movement. Therefore, it is recommended to regulating body, brokerage house, and training institutes to provide in-depth knowledge about technical analysis.
3. Brokerage companies must provide good counseling service as regards to stock investment. Small investors are also encouraged to participate in active stock trading.
4. The investors should be educated, self aware and informative regarding the daily stock price behaviour. They should be extremely careful before making the investment decision.
5. Many individuals and institutional investors should be encouraged to invest in securities so that the liquidity of stocks may be improved.
6. Investors must be familiar with fundamental analysis of the stock investment so as to make best stock investment

APPENDIX

Financial Performance of Sample Commercial Banks

Nominal DPS=%Stock DPS* MPS+ Cash DPS

BOK							
Year	MPS	EPS	DPS	Cash DPS	Stock DPS	Nominal DPS	BPS
1995/96	-	-	-	-	-	-	-
1996/97	-	-	-	-	-	-	-
1997/98	153	-10.85	-	-	-	-	39.71
1998/99	285	24.67	7.49	7.49	-	7.49	56.93
1999/00	998	40.73	32.74	32.74	-	32.74	147.15
2000/01	850	27.97	10	10	-	10	140.03
2001/02	254	2	10	10	-	10	112.21
2002/03	198	17.72	5	5	-	5	124.93
2003/04	295	27.5	10	10	-	10	140.37
2004/05	430	30.1	15	15	-	15	155.47
2005/06	850	43.67	48	18	30	273	181.14
2006/07	1375	43.5	20	20	0	20	162.81
2007/08	2350	59.94	42.11	2.11	40	942.11	222.51
2008/09	2350	54.68	47.37	7.37	40	947.37	201.49
2009/10	840	43.08	30	15	15	141	175.4
HBL							
1995/96	600	103.43	35	35	-	35	195.67
1996/97	640	115.08	50	50	-	50	274.48
1997/98	755	113.32	110	110	-	110	320.05
1998/99	1000	86.07	110	50	60	650	234.99
1999/00	1700	83.08	75	50	25	475	219.19
2000/01	1500	93.57	52.5	27.5	25	402.5	240.2
2001/02	1000	60.26	55	25	30	325	220.03
2002/03	836	49.45	11.31	1.31	10	84.91	247.81
2003/04	840	49.05	20	-	20	168	246.93
2004/05	920	47.91	31.5	11.5	20	195.5	239.59
2005/06	1100	59.24	35	30	5	85	228.72
2006/07	1740	60.66	40	15	25	450	264.74
2007/08	1980	62.74	45	25	20	421	247.95
2008/09	1760	61.9	43.56	12	31.56	567.456	256.52
2009/10	816	31.8	36.84	11.84	25	215.84	226.79
NABIL							
1995/96	900	132.9	-	-	-	-	462.77
1996/97	500	67.68	100	-	100	500	294.62
1997/98	430	44.5	80	30	50	245	210.92

1998/99	700	67.84	50	50	-	50	223.45
1999/20	1400	83.79	55	55	-	55	250.53
2000/01	1500	59.26	65	40	25	415	216
2001/02	735	55.25	30	30	-	30	233
2002/03	735	84.66	50	50	-	50	267
2003/04	1000	92.61	65	65	-	65	301
2004/05	1505	105.49	70	70	-	70	337
2005/06	2240	129.21	85	85	-	85	381
2006/07	5050	137.08	140	100	40	2120	418
2007/08	5275	108.31	100	60	40	2170	354
2008/09	4899	109.99	85	35	50	2484.5	324
2009/10	2384	78.61	70	30	40	983.6	265
NIB							
1995/96	525	92.12	50	50	-	50	329.33
1996/97	719	101.37	50	50	-	50	376.22
1997/98	600	69.33	100	50	50	350	272.04
1998/99	822	33.75	30	30	-	30	273.63
1999/20	1401	53.68	25	25	-	25	303.1
2000/01	1150	33.18	100	-	100	1150	275.96
2001/02	760	33.59	-	-	-	-	307.95
2002/03	795	39.56	60	20	40	338	216.24
2003/04	940	51.7	65	65	-	65	246.89
2004/05	800	39.5	12.58	12.58	-	12.58	200.8
2005/06	1260	59.35	55.46	20	35.46	466.796	239.67
2006/07	1729	62.57	30	5	25	437.25	234.37
2007/08	2450	57.87	40.83	7.5	33.33	824.085	223
2008/09	1388	37.42	20	20	-	20	162
2009/10	705	52.55	25	25	-	25	190
NICB							
1995/96	-	-	-	-	-	-	-
1996/97	-	-	-	-	-	-	-
1997/98	-	-	-	-	-	-	-
1998/99	-	-	-	-	-	-	-
1999/20	550	4.49	-	-	-	-	104.11
2000/01	399	9.66	10	10	-	10	103.88
2001/02	250	1.36	-	-	-	-	105.19
2002/03	180	5.19	-	-	-	-	110.42
2003/04	218	13.65	-	-	-	-	124.08
2004/05	366	22.75	30	10	20	83.2	136.84
2005/06	496	16.1	10.53	0.53	10	50.13	127.74
2006/07	950	24.01	21.05	1.05	20	191.05	139.16
2007/08	1248	25.75	21.05	1.05	20	250.65	138.09

2008/09	1126	27.83	15.79	0.79	15	169.69	145.57
2009/10	626	34.3	26.32	26.32	-	26.32	134.56
SBI							
1995/96	412	31.56	20	20	-	20	130.93
1996/97	412	37.46	20	20	-	20	163.84
1997/98	440	49.17	20	20	-	20	218.65
1998/99	562	13.98	10	10	-	10	267.66
1999/20	562	14.74	15	15	-	15	187.54
2000/01	1500	8.69	100	-	100	1500	165.73
2001/02	401	9.61	-	-	-	-	131.88
2002/03	255	11.47	8	8	-	8	134.03
2003/04	307	14.26	-	-	-	-	146.8
2004/05	335	13.29	-	-	-	-	159.54
2005/06	612	18.27	5	5	-	5	151.78
2006/07	1176	39.35	47.59	12.59	35	424.19	178.04
2007/08	1511	28.33	-	-	-	-	160.57
2008/09	1900	36.18	42.11	2.11	40	762.11	194.68
2009/10	741	23.69	17.5	5	12.5	97.625	147.61
SCB							
1995/96	1743	159.5	150	100	50	971.5	434.46
1996/97	1000	165.4	90	90	-	90	538.82
1997/98	720	129.62	120	70	50	430	445.17
1998/99	1050	105.86	130	80	50	605	318.19
1999/20	1985	115.62	100	100	-	100	298.88
2000/01	2144	126.88	100	100	-	100	327.5
2001/02	1550	141.13	100	100	-	100	363.86
2002/03	1640	149.3	110	110	-	110	403.15
2003/04	1745	143.55	110	110	-	110	399.25
2004/05	2345	143.14	120	120	-	120	422.38
2005/06	3775	175.84	140	130	10	507.5	468.22
2006/07	5900	167.37	130	80	50	3030	512.12
2007/08	6830	131.92	130	80	50	3495	401.52
2008/09	6010	109.99	100	50	50	3055	323.62
2009/10	3279	77.65	70	55	15	546.85	240.95

In Regression Analysis, Nominal DPS is used.

Source annual report of various issues of *SEBON, NEPSE and sample banks*.

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