

CHAPTER I

INTRODUCTION

1.1 General Background

Investment has significant role for the well development of a country, which is the final result of the income, expenditure of the saving. Saving is impossible without earning, earning is impossible without investment and investment is completely depends upon the mobilization of savings either directly by the savers or indirectly through the financial intermediaries.

Investment can be classified into two categories, real investment and financial investment. Real investment deals with investment in real assets such as land building or in fixed property whereas financial Investment deals with the investment in financial assets such as securities (Bhattarai: 2009; p-1).

Security Market can be defined as a mechanism of bringing together buyers and sellers of financial assets in order to facilitate trading. In simple sense, securities market is a place where people buy and sell financial instruments. There financial instruments may be in form of government bonds, corporate bonds or debentures, ordinary share, preference share etc. So far securities 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 sale and resale of corporate securities. Although securities market is concerned in few locations, they refer more to mechanism rather than to place designed to facilitate the exchange of securities. This securities 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 and 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 (Sharpe, Balliey, Alexender: 2003;p-47).

Securities Market can be classified in terms of time to maturity of securities traded i.e. Money Market and Capital Market. Short-term securities are traded in money market where long-term securities are traded in capital market. Stocks, bond and debenture are traded in capital markets. These securities help to finance industrial project economic development of the country. Securities markets may be classified in terms of economic function i.e. Primary market and Secondary markets. A primary market is the market that brings surplus savings units together with deficit savings units in the process of financing productive activities. Securities are sold for the first time in primary markets and their further trading will be in secondary market. Both these markets make it possible for investor to diversify their assets holding beyond domestic investments (Johns: 1998; p- 82).

Nepal has very short history of securities market. It was in 1973 A.D., when the history of securities market began with the flotation of shares by the first industrial body of the country, Biratagnar Jute Mill Limited and the first commercial bank of Nepal, Nepal bank Limited. Then in 1951 A.D., Company Act-1951 was introduced, followed by the issuance of government bond in 1964 A.D. for the first time. The securities exchange centre Ltd. was established in 1976 A.D. With an objective of facilitating and promoting the growth of capital markets. Then, it was the only capital market intuitions in the country undertaking the job of brokering, underwriting, managing public issues, market making for the government bonds and other financial services(Vaidhya:1999; p-67).

In 1993 A.D., the security exchange centre was converted into Nepal Stock Exchange(NEPSE) with an objective of providing free marketability and liquidity to the government and corporative securities by facilitating transactions in its own trading floor through the market intermediaries, i.e. brokers as well as market

makers. Nepal Stock Exchange is a non profit organization operating under security exchange act-1983. NEPSE opened its trading floor on 13th January 1994 A.D. Members of Nepal Stock Exchange (NEPSE) are permitted to act as intermediaries in buying and selling of government bonds and listed corporate securities. At present there are 23 numbers of brokers and 2 market makers who operate on the trading floor as per the securities exchange act -1983 A.D., rules and by laws (www.nepalstock.com:2010).

In the present scenario, most of the investors invest in two types of securities i.e., common stock and preference stock. Common stock refers the ownership stock from company point of view and is one of the important sources of capital structure of any company. It is also known as equally share represent ownership interest in the corporation. Preference share is another security and the securities have own behavior and its behavior analyzed under different theory.

There are two types of theory in the securities, especially stock. One is conventional theory and another efficient market theory. Both theories analyzed the stock price valued. Under the conventional theory there are two types of theories, Fundamental analysis and Technical analysis. Technical analysis is a tool designed to measure demand and supply. Technical analysis uses most of the anomalies to extract information on future price movements from historical data. Fundamental theory refers the formula and principal. According to technical analysts, fundamental analysis is idealist part of analysis. Both approaches helps the investors on their investment decision which is a major component of price determinant .Efficient market theories refer the optimum price of the stock in the Competitive market (Acharya: 2009; p- 4).

The linkage between companies and investors has crated inveigling conditions in the flow of funds both in primary and secondary market. The existing securities are traded in secondary market, where securities are transferred from one surplus

unit to another. The primary market depends in an important way on the existence of an active secondary market. Secondary market provides liquidity to investors who buy securities in the primary markets.

1.2 Statement of the Problem

The investors could not identify the good and bad stock due to lack of Proper information & knowledge. It was identified by several university researchers that because of the lack of sufficient information, rumors and whim and played significant role in share price movements and that investment on common stock is based on intuition, imagination, guesswork and conscious judgment based on little understood statistical probabilities in Nepalese stock market.

The market value is determined by the supply and demand functions. However, in an efficient market, MPS fully reflects all the historical information publicly available. Here arises the question of efficiency of the Nepalese share market. The high movement of share prices may be the outcome of the efficient market behavior. The stock price determines different environmental factors they are generally internal and external factors. In internal factors involve stocks book value, DPS, NWPS etc. And external factors political, legal, hot news etc.

There is lack of professional investors in Nepalese stock market. The market is almost totally captured by individual investors who buy very little number of shares and therefore they do not bother analyzing the data and information before buying and selling the stock. These investors hold the view of making profit by speculation, which is one of the main causes of price fluctuation (Acharya: 2009; p-6).

Factor determines the stock price. However, to specify exactly what factor 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 by to identify the determinants of stock price and find out the degree of affection of these determinants more (Gyawali: 2008; p-17).

More specifically, this study is expected to answer the following research questions:

- What are the major determinants of the stock price in NEPSE?
- How earning and book value of the stock affect the stock price?
- How political and Economical instability affect the stock price?
- How administrative powers of state affect the stock price?
- How do investors make investment decision?
- How dose required rate of return effect the investment?

1.3 Significance of the Study

This study draws the attention from every corner of investors, academicians, entrepreneurs and also for interested parties. This study is helpful to financial manager to be familiar with how different factors affect the stock price, price formation process and its relationship with financial position of the company. This study is also useful to potential investors who are interested to know the effect on price trend, volume of stock traded and impact of signaling factors in NEPSE index.

But non-of the researches have yet been made on the core perspectives of the determinants of the stock price. So the present study will be of substantial importance for investors, planners, researchers, students and policymakers to meet their personal and organizational objectives. Finally the research intends to help the national economy through mobilization of idle capital of average Nepalese in productive sectors to accelerate the economic growth and to reduce dependency on foreign assistance.

1.4 Objective of the Study

This study is focused to identify these factors which determine the stock price. Basically, different financial indicators are taken under consideration. However, market price of stock is not only affected by financial indicators but also the rumors regarding the corporation. Even, rumors may not be true in future. Thus, this study is focused to meet the following objectives:

- To identify factors affecting share price.
- To identify the major determinants of the stock price in NEPSE.
- To analyze investors response regarding on the change of stock price.
- To identify the relationship between performance and market price of the selected companies.

1.5 Organization of the Study

Chapter first deals with the subject matter of the study. The outline of the research is presented in the chapter. The whole research will be based on the introduction chapter. It deals with introduction, Background of commercial banks, statement of the problem objectives of the study, Limitation of the study and significance of the study.

The second chapter deals with the review of literature. It includes a discussion on the conceptual framework on dividend policy. It also includes review of various studies (i.e. various books, journals & articles, master's degree thesis etc) related with dividend decision. It also includes major studies relating with dividend decision.

The third chapter explains the Research methodology used to evaluate dividend practices of commercial banks in Nepal. It consists of research source of data, population and sample statistical tools and financial tools.

The chapter four is the main part of the study which fulfils the objective of the study by presenting data and analyzing them with the help of various statistical tools and financial tools as per methodology. Primary and secondary data are taken to analyze. In this four chapter, descriptive analysis of the gathered data and information using statistical as well as financial tools is carried out. In this chapter major findings of the study have been conducted based on primary and secondary data.

Chapter five deals with summary of the entire study, conclusions of the study will also be included in this chapter. As well as, possible and viable recommendations will also be presented in this chapter.

1.6 Limitation of the Study

This study tires to explore the factor determining the stock price in Nepal. Both primary and secondary data are analyzed. However, this study has some limitations, which are listed as below:

- Most of the primary data based on research questionnaires.
- Only sampled companies are analyzed during the study.
- Only selected statistical and financial tools have been employed in this study.
- Takes into account a few number of selected organization from among the listed companies.

CHAPTER II

REVIEW OF LITRATURE

For all types of studies, review of literature is essential, which helps to find out what research studies have been conducted in one has chosen field of study and what remains to do. In fact, review of literature begins with a search for a suitable topic and continues throughout the duration of the research work. It is a path to find out what other research in this area has uncovered. It is the process of locating, obtaining, reading and evaluating the research literature in the area of the student's interest. It is also a means to avoid investing problems that are already been positively answered (Wolf and Pant: 2005; p-39).

2.1 Conceptual Framework

There are numerous reasons that cause the share price fluctuations. They are economic and non-economic and other factors. The price of securities is typically very sensitive, responsive to all events, both real and imagined, that cast light into the dark future. Though all factors give rise to the observed movement of share prices, it would be very hard to find a completely accepted price formation theory. Now-a-days the investment sector is getting been successful in recent years as other economic sectors. Today, most of the developing countries are boosting their economic developments through the contribution of their investment sectors.

Before getting into the core subject matter of stock price in the market it is necessary to be familiar with the general concepts of the stock and other related matters, which are in frequent use in research on stock market. Following subsection to this section explains the conceptual matters of the capital market.

2.1.1 Investment

Investment, in its broadest sense, means the sacrifice of current Rupees (Dollars) and resources for the sake of future Rupees (Dollars) and resources. In other words, it is a commitment of money and other resources that are expected to generate additional money and resources in the future. Such a commitment takes place in the present and is certain to occur but the reward comes in the future periods and always remains uncertain. Therefore, every investment entails some degree of risk. Investments are made in assets. Assets, generally, are of two types: real assets (land, buildings, vehicles, factories etc.) and financial assets (Stocks, Bonds, and T-bills etc). These two types of investments are not competitive but complementary, highly-developed institutions for financial investment greatly facilitating real investment (Bhattarai: 2009; P-1).

2.1.2 Securities

A firm may promise a right to share in its profits in return for an investor's funds. Nothing is pledged, and no irrevocable promises are made. The firm simply pays whatever its directors deem reasonable from time to time. However the investor is given the right to participate in the determination of who will be the members of the board of directors. The right protects the investor against serious malfeasance. The investor's property right is represented by a share of common stock, which can be sold to someone else. Who will then be able to exercise the right? The holder of common stock is said to be an owner of the corporation and can exercise over its operation through the board of directors. In general, only a piece of paper represents the investor's right to certain prospects or property and the conditions under which he or she may exercise those rights. This piece of paper, serving as evidence of property rights, is called a security. It may be transferred to another investor with all its rights and conditions. Moreover, the security is a legal

representation of the right to receive prospective future benefits under stated conditions (Sharpe, Alexander & Bailey: 2000; p-2-3).

2.1.3 Security Market

Security market exists in order to bring together buyers and sellers of securities, meaning that they are mechanisms created to facilitate the exchange of financial assets. There are many ways in which security markets can be distinguished one-way, primary and secondary markets. Here the key distinction is whether the securities are being offered for sale by issuer. Interestingly, the primary market itself can be subdivided into seasoned and unseasoned new issues of security. A seasoned new issue refers to the offering of an additional amount of an already existing security; where as an unsecured new issue involves the initial offering of a security to the public. Unseasoned new equity issues are often referred to as initial public offerings (IPOs). Another way of distinguishing between security markets considers the life span of financial assets. Money markets typically involve financial assets that expire in one year or less; whereas capital markets typically involve financial assets with life spans of greater than one year (Sharpe, Alexander and Bailey:2000;p-9-10).

2.1.4 Stock Market and Stock Exchanges

Secondary markets are those in which outstanding previously issued securities are traded. By far the most active secondary market, and the most important one to financial managers, is the stock market. It is here that the price of firms' stocks are established, and since the primary goal of financial management is to maximize the firm's stock price, a knowledge of the market in which this price is established is essential for anyone involved in managing a business.

There are two basic types of stock markets- the organized exchanges, which include the New York stock Exchange (NYSE), The American Stock Exchange (AMEX), and several regional exchanges, and the less formal over- the - counter

markets. Since the organized exchanges have actual physical market location and are easier to describe and understand, we shall consider them first. The organized security exchange are tangible physical entities. Each of the larger once occupies its own building, has specifically designated members, and has an elected governing body - its board of governors. Members are said to have "seats" on the exchange, although everybody stands up. These seats, which are bought and sold, give the holder the right to trade on the exchange (Weston & Brigham: 1987; p-78).

2.1.5 Common Stock

The common stock represents equity, or an ownership position in a corporation. It is a residual claim on income and assets. In this sense that creditors and preferred stockholders must be paid as scheduled before common stockholders can receive any payments. In bankruptcy common stockholders are in principle entitled to any value remaining after all other claimants have been satisfied (However, in practice courts sometimes violate this principle). The great advantage of the corporate firm of organization is the limited liability of its owners. Common stocks are generally fully paid and non assessable, meaning that common stockholders may lose their initial investment but not more. That is, if the corporation fails to meet its Obligations, the stockholders cannot be forced to give the corporation the funds that are needed to pay off the obligations. However, as result of such a failure, it is possible that the value of a corporation's share will be negligible. This outcome will result in the stockholders having lost an amount equal to the price paid to buy the shares (Sharpe, Alexander, Bailey: 2000; p-457).

Common stock represents an ownership position. The holders of common stock are the owner of the firm, have the voting power that among other things elects the board of directors, and have a right to the earnings of the firm after all expenses and obligation have been paid; but they also run the risk of receiving nothing if earning are insufficient to cover the obligations. Common stockholders hope to

receive a return based on two sources dividends and capital gains. Dividends are received only if the company earns sufficient money and the board of directors deems it proper to declare dividends. Capital gain arises from advancement in the market price of the common stock, which is generally associated with a growth in per share earnings because earnings often grow smoothly over time. This fact points the need for careful analysis in the selection of securities for purchase and sale, as well as, in the timing of these investment decisions, for common stock has no maturity date at which a fixed value will be realized. When a company needs capital for expansion, it sells shares its stocks to the public. Most companies issue million numbers of shares so each share represents only a tiny piece of company. These shares are also transferable (Fisher: 2002; p- 2).

2.1.6 Preferred Stock

Preferred stocks have fixed dividend and right of acquiring principal before common stock at the time of liquidation. Preferred Stock is said to be a Hybrid security because it has features of both common stock and bonds. Preferred stocks are preferred with respect to assets and dividends. In the event of liquidation, preferred stockholders have a claim on available assets before the common stockholders. Furthermore, preferred stockholders get their stated dividend before common stockholders can receive and dividends (Van Horne: 2000; p- 515).

Preferred stock provides the following advantages to the investor,

- ☐ It provides reasonably steady income.
- ☐ Preferred stockholders have a preference over common stockholders in liquidation; numerous examples can be cited where the preference position of holders of preferred stock saved them from losses incurred by holders of common stock.
- ☐ Many corporations (for example, insurance companies) like to hold preferred stock as investment because 70 or 80 percent of the dividends received on these share is not taxable (Weston and Copeland: 2000; p- 969).

2.1.7 Debenture

The term debenture usually applies to the unsecured bonds of a corporation. Investor looks to the earning power of the corporation because these general credit bonds are not secured by specific property. In the event of liquidation the holder becomes a general creditor. Although the bonds are unsecured, debenture holders are protected by the restrictions imposed in the indenture, particularly the negative pledge clause, which precludes the corporation from pledging its assets to other creditors (Van Horne: 2000; p-513).

2.1.8 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 specified par value. Legally a corporation may be precluded from making payments to common stockholders if doing so would reduce the balance sheet value of stockholders equity below the amount represented by the par value 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 that case, a stated value must be recorded in place of the par value)” (Sharpe, Alexander, Bailey: 2000; p-461).

2.1.9 Book Value

“With the passage of time, a corporation will generate income, much of which is paid out to creditors (as interest) and to stockholders (as divided). Any remainder is added to the amount shown as cumulative retained earnings on the corporation's books. The sum of the cumulative retained earnings and other entries (such as “common stocks” and “capital contributed in excess of par value”) under stockholders' equity is the book value of the equity:

Cumulative Retained Earnings + Capital Contributed in Excess of Par + Common Stock = Book Value of Equity

The book value per share is obtained by dividing the book value of the equity by the numbers of shares outstanding” (Sharpe, Alexander, Bailey: 2000; p-461-462).

2.1.10 Earning Per Share (EPS)

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

2.1.11 Dividend per Share (DPS)

"When the board of director of a corporation declares a cash dividend, it specifies a date of record. At the closes of business that day, lists of stock holder on the list are entitled to the dividend" (Van Horne: 2000; p- 309).

Forms of dividend

➤ Cash dividend

Payments are made in cash to stockholders are termed cash dividends. For which, a firm needs to have enough cash in its bank account. When cash dividend is

declared, the cash account and reserves amount of the firm will be reduced, thus both the total assets and the net worth of the firm are reduced in case of distribution of cash dividends.

➤ **Bonus share (stock dividend)**

An issue of bonus share represents a distribution of shares in addition to cash dividend (known as stock dividend in USA) to the existing stockholders. This practice has the effect of increasing the number of outstanding shares of the company, which are distributed proportionate ownership of the company.

2.1.12 Market Price per Share(MPS)

A share of 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. Generally the treated in market is known as market value. Market value per share of common stock is the function of the current and expected future dividend of the company and the perceived risk of the stock on the part of investors (Van Horne & Wachowicz: 2000;p-546).

“Common stock holders are sometime referred to as a residual owner since in essence he or she receives what is left the residual after all other claims on the firm’s income and asset have been satisfied. All the companies issue common stock. Common stockholders are true owners of business firm. They invest money with expectation of getting high return. The return from common stock is usually from the capital gain earned. If they increase in value after public buy them. That's why price for common shares can be more volatile. They move up and down due to the factors like economy and company performance” (Gitman: 1991; p-573).

2.2 Theory of Price Behavior

There are two theories of price behavior i.e. classical approach and efficient market theory approach. Classical or conventional approach includes fundamental analysis theory and technical analysis theory. Under efficient theories, there are three forms of efficient market hypothesis. Classical approach assures market as inefficient whereas the efficient market theory; investors were generally divided on to two groups, fundamentalists and technicians (Reilly and Brown: 1991; p-347).

2.2.1 Classical Approach

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

i) Technical Analysis

Technical analysis is based on the widely accepted premise that security prices are determined by the supply of, and the demand for, securities. The tools of technical analysis are, therefore, designed to measure certain aspects of supply and demand. Typically, technical analysts record historical financial data on charts, study these charts in search of patterns that they find meaningful and endeavor to use the patterns to predict future prices. Some charts are used to predict the movements of a single security, others are used to predict the movements of a market index, and, still others are used to predict the action of both individual assets and the market (Francis: 1991; p-521-22).

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 of patterns in price movements. Then more recent stock price is analyzed to

identify emerging trends 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 trend or pattern, the analyst hopes to predict accurately future price movement for a particular stock (Sharpe, Alexander & Balliey: 1999; p-347).

Technical analysis however may be useful in timing a buy or sell order that may be implied by the forecasts of return and risk. For example, the technical analysis may reveal that a drop in price is warranted. Postponement of purchase then, if the technical analysis is correct, will raise the forecast holding period return (HPR). Conversely, a sale order might be postponed because the charts reveal a raise in the price of the security in question (Fisher and Gordon: 1995; p-510).

The basic assumptions of technical analysis are as follows:

- Market price is determined by interaction of demand and supply.
- Demand and supply is governed by numerous factors, both rational and irrational.
- Security prices tend to move in trends that persist for an appreciable length of time, despite minor fluctuations in the market.
- Changes in trend are caused by the shifts in demand and supply.
- Shifts in demand and supply, no matter why they occur, can be detected sooner or later in charts of market transactions.
- Some charts patterns tend to repeat themselves (Francis: 1986; p-522).

I. The Dow Theory

The Dow Theory is one of the oldest and most famous technical tools and was originated by Charles Dow, who founded the Dow Jones Company and was the editor of The Wall Street Journal around 1900. The Dow Theory is used to predict traversal and trends in the market as a whole or for individual securities. According to Charles Dow, the market is always considered as having three movements, all going at the same time. The first is the narrow movement from day to day. The second is the short-swing, running from two weeks to a month or more; the third is the main movement covering at least four years in duration. Dow Theory practitioners refer to these components as:

1. Primary Trends

They are commonly called bear or bull markets. Delineating primary trends is the primary goal of the DOW theorists.

2. Secondary Movements

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

3. Tertiary Movements

These are simply the daily fluctuations. The Dow Theory asserts that daily fluctuations are essentially meaningless random wiggles. Nonetheless, the chartists should plot the asset's price are the market average each day in order to trace out the primary and secondary trends (Francis: 1986; p-524).

The Dow Theory employs two indicators called Dow Jones Industrial Average (DJIA) and Dow Jones Transportation Average (DJIA). The DJIA is a key indicator of underlying trends, while the DJIA usually serves as check to confirm or reject that signal (Bodie , Kane and Marcus: 2002; p-344).

II. Random Walk Theory

The random walk theory says nothing more than the successive price changes are independent. This independence implies that prices at any time will on the average reflect the intrinsic value of the security. If a stock's price deviates from its intrinsic value because, among other things, different investors evaluate the available information differently or have different insights into future prospects of the firm, professional investors and smart non professional will seize upon the short term or random deviations from the intrinsic value, and though their active buying and selling of the stock in question will force the price back to its equilibrium position (Fisher and Jordan: 1995; p- 553).

Random walk theory describes whether past prices can predict future. "Random walk theory implies the future path of price level of a security is no more predictable than the path of series of cumulated random numbers. The series of price changes has no memory; that is, the past cannot be used to predict the future in any meaningful way." It means that the current size and direction of price changes is independent and unbiased outcome of previous price changes. The random walk model in share prices actually involves two main hypotheses:

- 2 Successive price changes are independent.
- 3 The price changes confirm to some probability distribution (Fama: 1996; p- 34-35).

More precisely, in algebraic term,

$$\Pr (X_t = X | X_{t-1}, X_{t-2}) = \Pr (X_t = X)$$

Where the term on the left side of equation is the conditional probability that the price change during time t will take the value X, conditional on the knowledge, the previous price changes the values X_{t-1} , X_{t-2} etc. But the term on the right of the equation is the unconditional probability that the price change during will take

the value X. The expression means the conditional and marginal probability distribution of an independent random variable are identical (Gupta: 1989; p- 31).

III. Confidence Index

Confidence index is another indicator of securities prices that is used by many technicians to forecast the movement of the prices in the future. Confidence index is the ratio of high grade bond yields to low grade bond yields. The ratio indicates the investor's willingness to the investment risks. When the confidence of the investors over the national economy increases, they shift their investment from high grade bonds to low grade bonds to increase the yield (Bhattarai: 2009; p- 343).

IV. Odd Lot Theory

Odd lot theory try to do the right thing most of the time; that is, tend to buy the stocks as the market retreats and sells stocks as the market advances. However, technicians feel that odd lots are inclined to do the wrong thing at critical turns in the market (Fisher & Jordan: 1995; p- 515).

This theory deals with the purchase and sales of securities by small investors. These investors perform transaction of less than 100 shares. Some technicians take the ratio of these odd lot purchases to odd lot sales as an indicator of the direction of the future prices. An increase in the index suggests relatively more buying, a decrease indicates relatively more selling. During most of the market cycle, odd lots are selling the advances and buying the declines.

ii) Fundamental Analysis

Fundamental analysis theory claims that at any point of time and individual stock has an intrinsic value, which is equal to present value of future cash flows from security discounted at appropriate risk, adjusted discount rate. The value of common stocks is simply the present value of all future income which the owner of share will receive (Francis: 1986; p-398).

Fundamental analysis, this approach of security analysis, tries to identify the real or true value of financial assets. The real value of any kind of financial assets is the present value of the future cash flow given by the assets or expected by the holder. The fundamental analyst attempts to forecast the timing and size of this cash flow, and then converts them into their equivalent present value by using an appropriate discount rate. Once the real value is calculated, it is, thereby, compared to the current market price per share to identify where the security is under- priced or over-priced.

These unusual cases of miss-pricing will be corrected in the future. The price of an over- priced security declines to meet the real value and the under-priced security's price increases to meet the real price. The person utilizes the technique is called a fundamentalist or a fundamental analyst. Fundamental analysis approach involves the working to analyze various Factors like economic influences, industry factors, firm's financial statement and relevant company information such as product demand, earnings, dividends and management in order to calculate an intrinsic value for the firm's securities. The theory assumes that knowledge about the future of the companies is not perfect. Some stocks are under priced and other is over priced. The investor's task is to study certain fundamental factors that may enable them to select undervalued stock for purchase and sell overvalued stock. After extensive analysis, the investor derives an estimate of the ' intrinsic' value of the security, which is then compared to its market price. If the value exceeds the market price, the security should be acquired and vice versa (Reilly and Brown: 1986; p-347).

According to the fundamental principle of valuation, in a perfectly efficient market, all securities in an equivalent risk class should be priced to yield the same rate of return and the rate of return can be used to determine the value of the similar risk class securities. The value calculated by using the discount rate is called the intrinsic value and dividend and earning are considered independent

variable to the value of the stock. The value of stock depends on the discount rate, earnings dividends etc. (Bhattacharai: 2009; p- 312).

2.2.2 Efficient market hypothesis

An efficient market is one where a security's current price gives the best estimate of its time watch. In an efficient market, there are higher free lunches non-expensive dinner. It is not possible to systematically gain or lose profits from trading on the available public information (Weston and Copeland: 1995; p-731).

The term efficiency may be defined in various ways. For instance: allocation efficiency, operational efficiency and informational efficiency. The word 'efficiency' in security market has unfortunately been used to represent a variety of logically distance concepts. Efficiency has different dimensions such as; exchange efficiency, production efficiency and information efficiency. However, present study concerns only with information efficiency in the pricing of stocks. When the financial literature speaks on market efficiency, it exclusively speaks about information efficiency in pricing the stocks. A market is said to be information efficient if, the current market price is instantaneous and fully reflects all relevant available information. The market value of a particular share may be under or over valued. An efficient market is one where shares are always correctly priced and where it is not possible to outperform the market consistently.

Efficient market theory contends that in a free and perfect competitive market, stock price always reflects all the available information and adjusts with every influx of new information instantaneously. In efficient market securities prices fully reflect available information. In efficient market, price change would only occur from new information (Fama: 1996; p-133).

An initial and very important premise of an efficient market is that there are large numbers of knowledge and profit maximizing independent buyers and sellers, new

information is generated randomly and investors adjust the information rapidly (Reilly: 1986; p-347).

The following are the necessities for a securities market to be efficient:

8

- A large number of rational, Profit maximizing investors exist who actively participate in the market by analyzing, valuing, and trading stocks. These investors are price takers; that is, one participant alone cannot affect the price of a security.
- Information is free of cost and widely available to market participants at approximately the same time.
- Information is generated in a random fashion such that announcements are independent of one another.
- Investors react quickly and accurately to the new information, causing stock prices to adjust accordingly (Jones: 1988; p- 425).

Financial theorists generally define three forms, or levels of market efficiency.

1. The weak form of EMH states that all information contained in past price movements is fully reflected in current market prices. Therefore, information about recent trends in a stocks price is of no use in selecting stock- the fact that a stock has risen for the past three days, for example, gives us no useful clues as to what it will do today or tomorrow. People, who believe that weak-form efficiency exists, also believe that “tape watchers” and “chartists” are wasting their time.

2. The semi-strong form of the EMH states that current market prices reflect all publicly available information. If this is true, no abnormal returns can be gained by analyzing stocks. Thus, if semi strong form efficiency exists, it does not good to pore over annual reports or other published data, because market prices will have adjusted to any good or bad news contained in such reports as soon as they

came out. However insiders (say, president of companies), even under semi-strong form efficiency, can still make abnormal returns on their own companies' stocks.

3. The strong form of EMH states that current market prices reflect all pertinent information whether publicly available or privately held. If this form holds, even insiders would find it impossible to earn abnormal returns in the stock market (Weston and Brigham: 1996; p-242).

2.3 Review of Previous Studies

This part of the literature review is devoted to review of major previous studies relating to stock prices in detail. With review of journals, articles and major previous studies to related topic.

2.3.1 Review of Journals and Articles

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

Fama's (1965) study's entitled, "*Review of Financial Studies*" on the random walk model was one of best definitive and comprehensive ever study conducted. He observed the daily proportionate price of each 30 individual stock of the Dow Jones Industrial average. The time periods covered started from end of 1957 to 26th September 1962. He employed the statistical tools such as serial correlation and runs test to draw inference about dependence of the price series. He calculated auto correlation coefficient for daily change in log prices for log from 1 to 30 and

found that the coefficient for daily changes in average was +0.30, which is nearer to zero. But on the daily price changes 11 out of 30 stocks had correlation coefficients more than twice their computed standard errors. The coefficients ranged from smallest 0.06 to the largest 0.123. Fama concluded, “Dependence as such as small order of magnitude is from a practical point of view, probably unimportant for both the statistician and the investor.” He also calculated serial correlation for lag from 1 to 10 for non-overlapping differencing intervals of four, nine and sixteen days to examine the possibility if price change across longer interval shows dependence. All the results are again not significantly different from zero.

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

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

rationally managed firm may tend to buy back more of its stocks when manager believed, their stock is under valued by the market. In such cases, the corporate event will reflect the manager's belief about the market valuation errors and will therefore predict future abnormal return and equity offerings will predict the positive”.

This study has made some assumptions, which are as follows:

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

To achieve above objectives, the paper develops a theory based on investors' confidence and change in confidence resulting from biased self-attribution of investment outcomes. The theory implies that investors over react to private information signals and under react to public information signals. In contrast with the common correspondence of (positive) negative return auto correlation with under reaction (over-reaction) to new information. We show that positive return auto correlation can be constituent with long run negative auto correlation. The theory also offers an explanation for the phenomenon of average public even stock price reaction of the same sign as post event long run abnormal returns. This pattern has some time been interpreted as market under reaction to the event.

Common stock has one important investment characteristic and one speculative characteristic. Their investment value and average market price tend to increase irregularly but persistently over the decades as their net worth builds up through the reinvestment of undistributed earnings. However, most of the common stocks are subject to irrational and excessive price fluctuations in both decisions as the

consequence of the ingrained tendency of most people to speculative or gamble, i.e. to give way to hope, fear and greed (Chandra: 1995; p- 35).

International Monetary Fund (IMF) (1997), Policy Development and Review Development Division published a working paper entitled “*Determinants of Stock Prices: the Case of Zimbabwe*”. The working paper examined the general relationship between stock prices and macroeconomic 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 consistently during that period. Whereas sharp increases in stock prices during 1993-94 were mainly due to the shift of the risk premium that was caused by partial capital account Liberalization, the movements of monetary aggregates and market interest rates explained the rapid increases of 1990 in stock prices.

Gupta (1985) analyzed the “*Equity Share Price Behavior in India*” during the period from January 1971 to March 1976 and extensively tested the RWH. He used daily and weekly prices of 39 individual shares of two indices. He employed the autocorrelation analysis and run test and found the evidence in support of the RWH. He also concluded that the random walk model appeared to be an appropriate model even for the less developed country like India to describe the share price behavior (Gupta, reprinted in 1989:53-54).

Miller and Modigliani (1961), studied “*Dividend Policy, Growth and the Valuation of Shares*” has concluded that dividend payout ratio (dividend Policy) does not affect the wealth of shareholders or on the share price of the firm. It argues that the value of the firm is determined by the earning power of the firm’s assets or its investment policy, and that the manner in which the earnings stream is split between dividends and retained earnings do not matter. But this study is based on the assumptions as mentioned below:

- The perfect capital markets in which all investors are rational and information are available to all at free of cost, instantaneous transaction cost, infinitely divisible securities, and no investors large enough to affect the market price of a security.
- An absence of flotation costs on securities by the firm.
- A world of no taxes.
- The firm has a fixed investment policy and is not subjected to change.
- Perfect certainty by every investor as to the future investments and profits of the firm.

K.C. (2004) has conducted a study entitled “*Development of Stock Market and Economic Growth in Nepal*” based upon the data of ten years. The study reports that the relationship between financial development and economic growth, with focus on developmental role of stock markets has been in debate for sometime in the past. Empirical studies suggest that financial development does matter and stock market do spur economic growth. Unfortunately, in Nepal, despite a history of about half decade of planned economic activities to develop real sector of the country, little attention was paid on the development of financial sectors. In the past one and half decade, financial sector despite, many problems have developed significantly in Nepal.

However, most of the developments were confined to the banking sectors. Stock market has virtually remained stalled because of this priority in the governments’ financial reform policies. Various measures of stocks market deployment indicate that the stock market in Nepal is underdeveloped and has failed to show impact on the overall national economy. Small market size has made it vulnerable to manipulation and price rigging. Low turnover ratio and value traded ratio to volatility, and high concentration ratio indicate that the stock market in Nepal is highly liquid and risky. Investors tend to avoid stock market because they do not have option to it since stock market is less reliable source of raising funds for

them. Due to this, financial system of Nepal has remained basically bank dominated.

Dangol (2008) wrote an article about “*Unanticipated Political Events and Stock Returns*”. According to him Nepalese capital market is consistent with information content hypothesis, i.e. market reflects all political events concerned with capital market. Concluding the study he writes, “The study has provided the evidence that the good-news leads to the positive average prediction error. Similarly, the bad-news drifts the negative prediction error on the post announcement period. Finally the data present important evidence on the speed of adjustment of market prices to new political information, i.e. in as many as 2 to 3 days from the announcement date. Thus the Nepalese stock market may be inferred to inefficient, but there is strong linkage between political uncertainty and common stock returns generation.”

2.3.2 Review of Thesis

Aryal (1995) conducted a research on “*The General Behavior of Stock Market*” with the following main objectives.

Main objectives were:

- To examine the efficiency of the stock market of Nepal.
- To examine the serial correlation of successive daily price changes of the individual stocks.
- To determine whether the sequence of price changes are consistent with the changes of the series of random number expected under the independent Bernoulli process.
- To determine the efficiency of the stock market through the theoretical model of “Efficient Market Hypothesis” in the stock market.

The major findings of the study on the basis of serial correlation and run test were:

- The price changes of the past and present can be very helpful to forecast future Price changes. Therefore, there exists the sufficient amount of opportunities for the sophisticated investors.
- When log days increases, the mean value of serial correlation of coefficient is lower, that indicates that the past price changes may have low power to predict the future price changes in the long run.
- The price changes in the present and future stock market may not be independent of the price changes in the past and present respectively.
- Nepalese Stock Market is not efficient in pricing shares.

Mainali (2006) has conducted research on “*A Study on Share Price Behavior of Listed Companies*”. The main objectives of this study were:

- To analyze the behavior of stock price of Listed Companies.
- To examine the stock price trend and volume of stock traded on the secondary market.
- To identify the factors affecting stock price.
- To analyze the investors' view regarding the decision on stock investment.

Research Study on Share Price Behavior of Listed Companies, The following major findings of this study is as follows:

- The Share trading system in share market is still uncivilized even in this IT age. Though the volume to trading has increased the number of brokers has not increased. Therefore, for the systematic operation of the share market, the number of brokers should be increased according to the volume of trading.
- Similarly, the automation system has to be put in to practice to make the share market effective and competitive.
- The studies in stock market support the idea that Nepalese stock market is not efficient even in the weak form hypothesis. Nepalese investors are not efficient enough to recognize potential for excess return.

Neupane (2004), made a research entitled “*Determinants of Stock Price in Nepal Stock Exchange (NEPSE)*” and tried to explore the factors that have significant influence on the stock price in NEPSE. She concluded her study by quoting:

- Nepalese investors have not adequate education about the capital market. They do not have good knowledge and information to analyze the scenario and to forecast share price. Perhaps due to this reason stock price in NEPSE rather shows irrational behavior.
- Commercial banking sector has dominated the overall performance of NEPSE. Manufacturing & processing, trading and hotel sectors have weak performance. So, financial intermediaries are strong but their ultimate investment is suffering.
- There is deficiency of proper laws and policies regarding the capital market. Shareholders are feeling unsecured to invest in security markets due to poor regulatory mechanism to protect shareholders interests. The implementation of existing laws is weak.
- Listed companies do not provide sufficient information (financial as well as non financial) to their shareholders and they are not able to act according to the shareholder’s interests. The performance of most of the listed companies is not transparent.
- Despite of unfavorable investment environment NEPSE is in increasing trend. Nepalese investors have a huge amount of scattered fund remained unproductive, which can be used in the industrial development through capital market to accelerate the economic growth of the nation.

Paudel (2005) entitled “*Stock price behavior of commercial banks in Nepal Stock Exchange (NEPSE)*” with the objective to examine monthly closing price of 6

listed commercial banks during the period of three consecutive years from 2002 to 2004. He used correlation coefficient, regression analysis, and run test and auto correlation

The main objective of his study was:

- To find out Nepalese people's awareness of the securities investment.
- To identify the stock market participation trend in Nepal.
- To study and examine the major investment influencing factors.
- To provide some useful suggestions regarding stock market participation.

The major findings of this study are given below:

- Pricing status analysis of the stocks of sampled companies has shown that all of them were under priced during the study period because actual returns were remarkably higher than required returns.
- The successive price changes were correlated with previous price series. He also found that most of the stocks did not follow random walk hypothesis.
- Data used in this study, monthly closing price of stocks not enough to predict the behavior of share prices.
- In the same way, few companies among the listed companies in NEPSE are performing satisfactorily. Therefore, NEPSE index is declining rapidly, which eventually yield lower rate of market return. Thus, these all are the key reasons due to which required return is significantly lower during the study period.

Shrestha (2007) conducted a research on "*A Study on Share Price Behavior in Nepalese Security Market*" to find out the Share price behavior in Nepalese Security Market.

Research methodology:

- Samples covered the periods 1999/00 to 2005/6.
- Used secondary data only.

- Statistical tools such as trend analysis, correlation analysis were used.

Major findings were:

- During the period of 1999/00 to 2005/06, the NEPSE Index has experienced both bullish and bearish trends.
- The monthly trends of NEPSE Index showed that price trends during the observed period were in fluctuating trend which was not better for Nepalese Security Market.
- It was found that there was significant difference between NEPSE Index before and after NRB and NEPSE discouraged margin lending.

2.5 Research Gap

Earlier studies and researches on the stock price movements in Nepal are carried out on the apparent approach by taking the most common indicators in consideration. During the review of previous thesis, it is found that no research has been conducted by taking these sample companies, primary and secondary data are used which the researcher has selected in this research.

Furthermore it also shows that there is very few research works conducted on various aspects of securities price formation of commercial banks in the field of stock market. The studies conducted in developed security markets may not entirely be relevant in the security markets of underdeveloped country like Nepal. There applicability to test in the context of smaller and underdeveloped capital market likes ours. The changes taken place after the completion of these studies might have reduce their relevance. Therefore it is necessary to test the validity of these studies and their applicability in our context.

Most of above stated studies use technical method and statistical methods like run test, correlation coefficient, NEPSE trend etc. for analysis purpose. Only few of studies use fundamental analysis tools for the research work. More than that, some few studies are concerned about the financial indicators like EPS, DPS, & BVPS

which are the most influencing factors for the MVPS. So this study try to analyze the relationship of these factors along with holding period rate of return of selected companies as well as it also tries to show influencing factor on market price of the stock.

Various quantitative and qualitative factors affect the share price formation. Many studies documented that dividend is one of the most influencing factors in share price formation. The fundamental analysts say that the price of stock is the present value of the future cash flows and the price of stock must be equal to this value. The role of brokers and market makers is crucial in pricing.

Another factor playing a major role in price formation is information and the signaling effects. Political turmoil, unstable government, lack of farsighted polices and other macro economic factors are equally play the vital role in the price fluctuation and make impact in a decisive role in share price formation which researcher try to analyze during study.

In this study considered about quantitative as well as qualitative factor to using the primary (interview survey) and secondary data. Required rate of return is effect into the investment of security so in this study considered about investment analysis also the factor of price movement.

BIBLIOGRAPHY

Bhattacharai, R. (2009). *Investments Theory and Practice*. Kathmandu: Buddha Academic Publishers and Distributors.

Bodie, Z., Alex. K. & Alan, J.M. (2002). *Investments*. New Delhi: Tata McGraw-Hill Publishing Company Ltd.

Fisher, D.E. & Ronald, J.J. (1995). *Security Analysis and Portfolio Management*. New Delhi: Prentice Hall India Pvt. Ltd.

Fisher, D.E. & Ronald, J.J. (2002). *Security Analysis and Portfolio Management*. New Delhi: Prentice Hall India Pvt. Ltd.

Fama, E.F. (1996). *The Foundation of Finance*. New York: Basic Books.

Francis, J.C. (1986). *Investment Analysis and Management*. New York: Harpes and Row Publication Inc.

Fransis, J.C. (1991). *Investment Analysis and Management*. New York: McGraw Hill International.

Gitrman, L.J. (1991). *Principle of Managerial Finance*. Singapore: Harper Collins Publications.

Gupta, S.C. (1989). *Fundamentals of Statistics*. Bombay: Himalaya Publishing House.

Gupta, S. C. (1999). *Fundamentals of Statistics*. New Delhi: Himalaya Publishing House.

Jones, C.P. (1998). *Investment Analysis & Management*. New York: John Wiley and Sons Inc.

Pant, GD. & Chaudhary, A.K. (1997). *Business Statistic and Mathematics*. Kathmandu: Bhtuidipuran Prakashan.

Reily, F.K. & Keith, C.B. (1986). *Investment Analysis & Portfolio Management*. New York: Harcourt College Publishers.

Reily, F.K. & Keith, C.B. (1991). *Investment Analysis & Portfolio Management*. New York: Harcourt College Publishers.

Sharpe, W.F., Alexander, G.J. & Jeffery, V.B. (1999). *Fundamentals of Investments*. New Delhi: Prentice Hall of India.

Sharpe, W.F., Alexander, G.J. & Jeffery, V.B. (2000). *Fundamentals of Investments*. New Delhi: Prentice Hall of India.

Sharpe, W. F., Alexander, G.J. & Jeffery, V. B. (2003). *Fundamentals of Investments*. New Delhi: Prentice Hall of India.

Van Horne, J.C. & Wachowicz, M. Jr. (2000). *Fundamentals of Finance Management*. New Delhi: Prentice Hall of India.

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

Weston, J.F. and Copeland T.E. (2000). *Managerial Finance*. USA: The Dryden Press.

Weston, J. F. & Brigham, E. F. (1987). *Essentials of Managerial Finance*. Orlando: The Dryden Press.

Weston, J. F. & Brigham, E. F. (1996). *Essentials of Managerial Finance*. USA: The Dryden Press.

Wolf, H.K & Pant, P.R. (2000). *Social Science Research and Thesis Writing*. Katlunandu: Buddha Academic Enterprises.

Wolf, H.K. & Pant, P.R. (2003). *A handbook for Research Methodology and Thesis writing*. Kathmandu: Buddha Academic Enterprises Pvt. Ltd.

Wolf, H.K. & Pant, P.R. (2005). *Social Science Research and Thesis Writing*. Kathmandu: Buddha Academic Enterprises Pvt. Ltd.

Review of Journals and Articles

Dangol, J. (2008). *Unanticipated Political Events and Stock Returns*. Economic Review, Volume 20.

Fama, French (1965). *Testing Tradeoff and Pecking Order Predictions about Dividends and Debt*. Review of Financial Studies, 8, (5): 1-33.

Gupta, O.P. (1985). *Behavior of Share Prices in India: A Test of Market Efficiency*. New Delhi: National Publishing House.

IMF Working Paper (1997). *Determinants of Stock Prices: The Case of Zimbabwe*.

K.C. (2004). *Development of Stock Market and Economic Growth in Nepal*. Kathmandu: New Business Age.

Kent and Suvrahmandam (1998). *Investor's psychology and security market's* New York: American Journal of finance.

Modigliani & Miller, M.H. (1961). *Dividend policy, Growth and Valuation of Shares*. Journal of Business, 64:4 1 1-439.

Review of thesis

Acharya, R.C. (2009). *Determinants of stock price in Nepalese commercial banks*. Kathmandu: An unpublished Master Degree Thesis, Submitted to Faculty of Management T.U.

Ghimire, Uma (2009). *Determinants of Share Price of Listed Companies (with reference to Nepales Capital Market)* Kathmandu: An unpublished Master Degree Thesis Submitted to Faculty of Management T.U

Aryal, M. (1995). *The General Behavior of Stock Market*. Kathmandu: An Unpublished Master Degree Thesis Submitted to Faculty of Management T.U.

Gyawali, S. (2007). *Determination of stock price movement in Nepalese capital market*. Kathmandu: An unpublished Master Degree Thesis, Central Department of Management, T.U.

Mainali (2006). *A study on share price behavior listed companies*. Kathmandu: An Unpublished Master Degree Thesis, Submitted to Faculty of Management T.U.

Neupane, M. (2004). *Determinants of Stock Price in Nepal Stock Exchange (NEPSE)*. Kathmandu: An Unpublished Master Degree Thesis, Submitted to Faculty of Management T.U.

Paudel, J. (2005). *Stock price behavior of commercial bank in Nepal stock exchange*. Kathniandu: An Unpublished Master Degree Thesis, Submitted to Faculty of Management T.U.

Shrestha, P. (2007). *A study on share price behavior in Nepalese capital market*. Kathmandu: An Unpublished Master Degree Thesis. Submitted to Faculty of Management T.U.

Vaidhaya, J (1999). *Stock price movement in Nepalese capital market* Kathmandu: An Unpublished Master Degree Thesis. Submitted to Faculty of Management T.U.

Website

www.nepalstock.com

www.sebon.com.np

APPENDIX-I

Calculation of Correlation Coefficient and Regression Analysis between DPS and MPS

A) SCBL

Calculated table of Correlation Coefficient between DPS & MPS

Year	DPS(X)	MPS(Y)	XY	X ²	Y ²
063/064	80	5900	490750	16900	14250625
064/065	80	6830	472000	6400	34810000
065/066	55	6010	546400	6400	46648900
066/067	55	3279	300500	2500	36120100
067/068	50	565	180345	3025	10751841
	ΣX=395	ΣY=25794	ΣXY=1989995	ΣX ² =35225	ΣY ² =142581466

Here, N=5

$$\begin{aligned}
 r &= \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{N \sum X^2 - (\sum X)^2} * \sqrt{N \sum Y^2 - (\sum Y)^2}} \\
 &= \frac{5 * 1989995 - (395)(25794)}{\sqrt{5 * 35225 - (395)^2} * \sqrt{5 * 142581466 - (25794)^2}} \\
 &= \frac{9949975 - 10188630}{\sqrt{176125 - 156025} * \sqrt{712907330 - 665330436}} \\
 &= \frac{-238655}{141.77 * 6897.6} \\
 r &= -0.2440
 \end{aligned}$$

And,

$$\text{Probably Error (P.E.)} = \frac{0.6745 * (1 - r^2)}{\sqrt{n}}$$

$$= \frac{0.6745 * (1 - (-0.244)^2)}{\sqrt{5}}$$

$$= 0.2837$$

Regression equation of X on Y

$$Y = a + bX$$

Where, a= Regression constant, b= Regression coefficient (Slope of the Regression line). According to the principal of least square, two normal equations for estimating two numerical constant a & b are given by

$$\sum Y = na + b\sum X, \sum Y^2 = a\sum Y + b\sum X^2$$

Solving two normal equations we get,

$$b = \frac{n\sum XY - \sum X\sum Y}{n\sum X^2 - (\sum X)^2}$$

$$= \frac{9949975 - 10188630}{176125 - 156025}$$

$$b = -11.87$$

Similarly,

$$a = \frac{\sum Y}{n} + b * \frac{\sum X}{n} \quad a = \frac{25794}{5} + (-11.87) * \frac{395}{5}$$

$$= 5158.8 - 937.73$$

$$= 4221.07$$

Similarly,

$$t = \frac{r * \sqrt{n - 2}}{\sqrt{1 - r^2}} \qquad t = \frac{-0.244 * \sqrt{5 - 2}}{\sqrt{1 - (-0.244)^2}}$$

$$= - 0.4358 \text{ i.e. } 0.4358$$

B) NSBI

Calculated table of Correlation Coefficient between DPS & MPS

Year	DPS(X)	MPS(Y)	XY	X ²	Y ²
063/064	12.59	1176	3060	25	374544
064/065	0	1511	14805.84	158.51	1382976
065/066	2.11	1900	0	0	2283121
066/067	5	741	4009	4.4521	3610000
067/068	5	741	3705	25	549081
	∑X=24.7	∑Y=5940	∑XY=25579.84	∑X ² =212.9621	∑Y ² =8199722

Here, N=5

$$r = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{N \sum X^2 - (\sum X)^2} * \sqrt{N \sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5 * 25579.84 - (24.7)(5940)}{\sqrt{5 * 212.9621 - (24.7)^2} * \sqrt{5 * 8199722 - (5940)^2}}$$

$$= \frac{127899.2 - 146718}{21.324 * 2390.61}$$

$$= \frac{-18818.8}{50977.3676}$$

$$r = -0.3692$$

And,

$$\text{Probably Error (P.E.)} = \frac{0.6745 * (1 - r^2)}{\sqrt{n}}$$

$$= \frac{0.6745 * (1 - (-0.3692)^2)}{\sqrt{5}}$$

$$= 0.2543$$

Regression equation of X on Y

$$Y = a + bX$$

Where, a= Regression constant, b= Regression coefficient (Slope of the Regression line).

According to the principal of least square, two normal equations for estimating two numerical constant a & b are given by

$$\sum Y = na + b\sum X, \quad \sum XY = a\sum Y + b\sum X^2$$

Solving two normal equations we get,

$$b = \frac{n\sum XY - \sum X\sum Y}{n\sum X^2 - (\sum X)^2}$$

$$= \frac{5*25579.84 - (24.7*5940)}{5 * 212.9602 - 610.09}$$

$$b = -41.39$$

Similarly,

$$a = \frac{\sum Y}{n} + b * \frac{\sum X}{n}$$

$$a = \frac{5940}{5} + (-41.39) * \frac{24.7}{5}$$

$$= 1188 - 204.47$$

$$= 983.53$$

Similarly,

$$t = \frac{r * \sqrt{n - 2}}{\sqrt{1 - r^2}} \qquad t = \frac{-0.3692 * \sqrt{5 - 2}}{\sqrt{1 - (-0.3692)^2}}$$

$$= 0.6881$$

C) NABIL

Calculated table of Correlation Coefficient between DPS & MPS

Year	DPS(X)	MPS(Y)	XY	X ²	Y ²
063/064	100	5050	190400	7225	5017600
064/065	60	5275	505000	10000	25502500
065/066	35	4899	316500	3600	27825625
066/067	30	2384	171465	1225	24000201
067/068	30	1252	71520	900	5683456
	ΣX=310	ΣY=19848	ΣXY=1254885	ΣX ² =22950	ΣY ² =88029382

Here, N=5

$$r = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{N \sum X^2 - (\sum X)^2} * \sqrt{N \sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5 * 1254885 - (310)(19848)}{\sqrt{5 * 22950 - (310)^2} * \sqrt{5 * 88029382 - (19848)^2}}$$

$$= \frac{6274425 - 6152880}{136.57 * 6797.34}$$

$$= \frac{121545}{928312.724}$$

$$r = 0.13093$$

And,

$$\text{Probably Error (P.E.)} = \frac{0.6745 * (1 - r^2)}{\sqrt{n}}$$

$$= \frac{0.6745 * (1 - (0.13093)^2)}{\sqrt{5}}$$

$$= 0.2965$$

Regression equation of X on Y

$$Y = a + bX$$

Where, a= Regression constant, b= Regression coefficient (Slope of the Regression line)

According to the principal of least square, two normal equations for estimating two numerical constant a & b are given by

$$\sum Y = na + b\sum X, \sum Y^2 = a\sum Y + b\sum X^2$$

Solving two normal equations we get,

$$b = \frac{n\sum XY - \sum X\sum Y}{n\sum X^2 - (\sum X)^2}$$

$$= \frac{5 * 1254885 - (310)(19848)}{5 * 22950 - (310)^2}$$

$$b = 6.52$$

Similarly,

$$a = \frac{\sum Y}{n} + b * \frac{\sum X}{n} \qquad a = \frac{19848}{5} + (6.52) * \frac{310}{5}$$

$$= 3969.6 + 404.24$$

$$= 4373.84$$

Similarly,

$$t = \frac{r * \sqrt{n - 2}}{\sqrt{1 - r^2}} \quad t = \frac{0.13093 * \sqrt{5 - 2}}{\sqrt{1 - (0.13093)^2}}$$

$$= 0.2287$$

D) NIBL

Calculated table of Correlation Coefficient between DPS & MPS

Year	DPS(X)	MPS(Y)	XY	X ²	Y ²
0636/064	5.3	1729	25200	400	1587600
064/065	7.5	2450	8652	25	2989441
065/066	20	1388	18375	56.25	6002500
066/067	25	705	27760	400	1926544
067/068	25	515	17625	625	497025
	ΣX=77.5	ΣY=7532	ΣXY=97585	ΣX ² =1506.25	ΣY ² =13003110

Here, N=5

$$r = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{N \sum X^2 - (\sum X)^2} * \sqrt{N \sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5 * 97585 - (77.5)(7532)}{\sqrt{5 * 97585 - (77.5)^2} * \sqrt{5 * 13003110 - (7532)^2}}$$

$$= \frac{95805}{39.05 * 2878.28}$$

$$r = -0.852$$

And,

$$\text{Probably Error (P. E.)} = \frac{0.6745 * (1 - r^2)}{\sqrt{n}}$$

$$= \frac{0.6745 * (1 - (-0.852)^2)}{\sqrt{5}}$$

$$= 0.083$$

Regression equation of X on Y

$$Y = a + bX$$

Where, a= Regression constant, b= Regression coefficient (Slope of the Regression line)

According to the principal of least square, two normal equations for estimating two numerical constant a & b are given by

$$\sum Y = na + b\sum X$$

$$\sum Y = a\sum Y + b\sum X^2$$

Solving two normal equations we get,

$$b = \frac{n\sum XY - \sum X \sum Y}{n\sum X^2 - (\sum X)^2}$$

$$= \frac{-95805}{1524.9}$$

$$b = -62.83$$

Similarly,

$$a = \frac{\sum Y}{n} + b * \frac{\sum X}{n}$$

$$a = \frac{7532}{5} + (-62.83) * \frac{77.5}{5}$$

$$= 1506.4 - 973.87$$

$$= 532.54$$

Similarly,

$$t = \frac{r * \sqrt{n - 2}}{\sqrt{1 - r^2}}, \quad t = \frac{-0.852 * \sqrt{5 - 2}}{\sqrt{1 - (-0.852)^2}}$$

$$= -5.386 \text{ i.e. } 5.386$$

E) HBL

Calculated table of Correlation Coefficient between DPS & MPS

Year	DPS(X)	MPS(Y)	XY	X ²	Y ²
063/064	15	1740	33000	900	1210000
064/065	25	1980	26100	225	3027600
065/066	12	1760	49500	625	3920400
066/067	11.81	816	21120	144	3097600
067/068	16.84	575	9661.44	140.18	665856
	$\Sigma X=93.84$	$\Sigma Y=7396$	$\Sigma XY=139381.44$	$\Sigma X^2=2034.185$	$\Sigma Y^2=11921456$

Here, N=5

$$r = \frac{N \Sigma XY - (\Sigma X)(\Sigma Y)}{\sqrt{N \Sigma X^2 - (\Sigma X)^2} * \sqrt{N \Sigma Y^2 - (\Sigma Y)^2}}$$

$$= \frac{5 * 139381.44 - (93.84)(7396)}{\sqrt{5 * 2034.185 - (93.84)^2} * \sqrt{5 * 11921456 - (7396)^2}}$$

$$= \frac{2866.56}{36.95 * 2215.05}$$

$$r = 0.035$$

And,

$$\text{Probably Error (P. E.)} = \frac{0.6745 * (1 - r^2)}{\sqrt{n}}$$

$$= \frac{0.6745 * (1 - (0.035)^2)}{\sqrt{5}}$$

$$= 0.3013$$

Regression equation of X on Y

$$Y = a + bX$$

Where, a = Regression constant, b = Regression coefficient (Slope of the Regression line)

According to the principal of least square, two normal equations for estimating two numerical constant a & b are given by

$$\sum Y = na + b\sum X, \sum XY = a\sum Y + b\sum X^2$$

Solving two normal equations we get,

$$b = \frac{n\sum XY - \sum X\sum Y}{n\sum X^2 - (\sum X)^2}$$

$$= \frac{5 * 139381.44 - (93.84)(7396)}{5 * 2034.185 - (93.84)^2}$$

$$b = 2.1$$

Similarly,

$$a = \frac{\sum Y}{n} + b * \frac{\sum X}{n}$$

$$a = \frac{7396}{5} + (2.1) * \frac{93.84}{5}$$

$$= 1479.2 + 39.4128$$

$$= 1518.613$$

Similarly,

$$t = \frac{r * \sqrt{n - 2}}{\sqrt{1 - r^2}} \quad t = \frac{0.035 * \sqrt{5 - 2}}{\sqrt{1 - (0.035)^2}}$$

$$= 0.0607$$

Calculation of Correlation Coefficient and Regression Analysis between EPS and MPS

A) SCBL

Calculated table of Correlation Coefficient between EPS & MPS

Year	EPS(X)	MPS(Y)	XY	X ²	Y ²
063/064	167.37	5900	663796	30919.71	14250625
064/065	131.92	6830	987483	28012.72	34810000
065/066	109.99	6010	901013.6	17402.89	46648900
066/067	77.65	3279	661039.9	12097.8	36120100
067/068	69.51	1800	254614.35	6029.523	10751841
	ΣX=662.8	ΣY=25794	ΣXY=3467946.9	ΣX ² =94462.6	ΣY ² =142581466

Here, N=5

$$r = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{N \sum X^2 - (\sum X)^2} * \sqrt{N \sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5 * 3467946.9 - (662.8)(25794)}{\sqrt{5 * 94462.6 - (662.8)^2} * \sqrt{5 * 142581466 - (25794)^2}}$$

$$= \frac{244244.87}{181.7904 * 6897.6}$$

$$= \frac{244244.87}{1253917.46}$$

$$r = 0.1948$$

And,

$$\text{Probably Error (P.E.)} = \frac{0.6745 * (1 - r^2)}{\sqrt{n}}$$

$$= \frac{0.6745 * (1 - (0.1948)^2)}{\sqrt{5}}$$

$$= 0.2902$$

Regression equation of X on Y

$$Y = a + bX$$

Where, a = Regression constant, b = Regression coefficient (Slope of the Regression line)

According to the principal of least square, two normal equations for estimating two numerical constant a & b are given by

$$\sum Y = na + b\sum X, \sum Y^2 = a\sum Y + b\sum X^2$$

Solving two normal equations we get,

$$b = \frac{n\sum XY - \sum X\sum Y}{n\sum X^2 - (\sum X)^2}$$
$$= \frac{5 * 3467946.9 - (662.8)(25794)}{5 * 94462.6 - (662.8)^2}$$

$$b = 7.4$$

Similarly,

$$a = \frac{\sum Y}{n} + b * \frac{\sum X}{n}$$

$$a = \frac{25794}{5} + (7.4) * \frac{662.8}{5}$$

$$= 5158.8 + 980.944$$

$$= 6139.744$$

Similarly,

$$t = \frac{r * \sqrt{n - 2}}{\sqrt{1 - r^2}} \qquad t = \frac{0.1948 * \sqrt{5 - 2}}{\sqrt{1 - (0.1948)^2}}$$

$$= 0.3439$$

B) NSBI

Calculated table of Correlation Coefficient between EPS & MPS

Year	EPS(X)	MPS(Y)	XY	X ²	Y ²
063/064	39.35	1176	11181.24	333.7929	374544
064/065	22.67	1511	46275.6	1548.4225	1382976
065/066	19.14	1900	42806.63	802.5998	2283121
066/067	15.36	741	68742	1308.9924	3610000
067/068	13.21	565	17554.29	561.2161	549081
	ΣX=145.8	ΣY=5940	ΣXY=186559.8	ΣX ² =4555.01	ΣY ² =8199722

Here, N=5

$$r = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{N \sum X^2 - (\sum X)^2} * \sqrt{N \sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5 * 186559.8 - (145.8)(5940)}{\sqrt{5 * 4555.01 - (145.8)^2} * \sqrt{5 * 8199722 - (5940)^2}}$$

$$= \frac{66628}{38.88 * 2390.61}$$

$$= \frac{66628}{92946.92}$$

$$r = 0.7168$$

And,

$$\text{Probably Error (P.E.)} = \frac{0.6745 * (1 - r^2)}{\sqrt{n}}$$

$$= \frac{0.6745 * (1 - (0.7168)^2)}{\sqrt{5}}$$

$$= 0.1467$$

Regression equation of X on Y

$$Y = a + bX$$

Where, a = Regression constant, b = Regression coefficient (Slope of the Regression line)

According to the principal of least square, two normal equations for estimating two numerical constant a & b are given by

$$\sum Y = na + b\sum X, \sum XY = a\sum Y + b\sum X^2$$

Solving two normal equations we get,

$$b = \frac{n\sum XY - \sum X\sum Y}{n\sum X^2 - (\sum X)^2}$$

$$= \frac{5 * 186559.8 - (145.8)(5940)}{5 * 4555.01 - (145.8)^2}$$

$$b = 44.076$$

Similarly,

$$a = \frac{\sum Y}{n} + b * \frac{\sum X}{n}$$

$$a = \frac{5940}{5} + (44.076) * \frac{145.82}{5}$$

$$= 1188 + 1285.43$$

$$= 2473.43$$

Similarly,

$$t = \frac{r * \sqrt{n - 2}}{\sqrt{1 - r^2}} \qquad t = \frac{0.7168 * \sqrt{5 - 2}}{\sqrt{1 - (0.7168)^2}}$$

$$= 1.7805$$

C) NABIL

Calculated table of Correlation Coefficient between EPS & MPS

Year	EPS(X)	MPS(Y)	XY	X ²	Y ²
063/064	62.57	5050	289430.4	16695.22	5017600
064/065	57.87	5275	692254	18790.93	25502500
065/066	37.42	4899	571335.25	11731.06	27825625
066/067	52.55	2384	523017.24	11397.7	24000201
067/068	48.84	1252	187406.24	6179.53	5683456
	$\sum X=559.97$	$\sum Y=19848$	$\sum XY=2263443.1$	$\sum X^2=64794.44$	$\sum Y^2=88029382$

Here, N=5

$$r = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{N \sum X^2 - (\sum X)^2} * \sqrt{N \sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5 * 2263443.1 - (559.97)(19848)}{\sqrt{5 * 64794.44 - (559.97)^2} * \sqrt{5 * 88029382 - (19848)^2}}$$

$$= \frac{202931.09}{102.001 * 6797.34}$$

$$= \frac{202931.09}{693335.48}$$

$$r = 0.2927$$

And,

$$\text{Probably Error (P. E.)} = \frac{0.6745 * (1 - r^2)}{\sqrt{n}}$$

$$= \frac{0.6745 * (1 - (0.2927)^2)}{\sqrt{5}}$$

$$= 0.2758$$

Regression equation of X on Y

$$Y = a + bX$$

Where, a = Regression constant, b = Regression coefficient (Slope of the Regression line)

According to the principal of least square, two normal equations for estimating two numerical constant a & b are given by

$$\sum Y = na + b\sum X, \sum Y^2 = a\sum Y + b\sum X^2$$

Solving two normal equations we get,

$$b = \frac{n\sum XY - \sum X\sum Y}{n\sum X^2 - (\sum X)^2}$$

$$= \frac{5 * 2263443.1 - (559.97)(19848)}{5 * 64794.44 - (559.97)^2}$$

$$b = 19.50$$

Similarly,

$$a = \frac{\sum Y}{n} + b * \frac{\sum X}{n}$$

$$a = \frac{19848}{5} + (19.50) * \frac{559.97}{5}$$

$$= 3969.3 + 2183.883$$

$$= 6153.183$$

Similarly,

$$t = \frac{r * \sqrt{n-2}}{\sqrt{1-r^2}} \quad t = \frac{0.2927 * \sqrt{5-2}}{\sqrt{1-(0.2927)^2}}$$

$$= 0.5302$$

D) NIBL

Calculated table of Correlation Coefficient between EPS & MPS

Year	EPS(X)	MPS(Y)	XY	X ²	Y ²
063/064	62.57	1729	74781	3522.42	1587600
064/065	57.87	2450	108183.53	3915.005	2989441
065/066	37.42	1388	141781.5	3348.94	6002500
066/067	52.55	705	51938.96	1400.26	1926544
067/068	48.84	515	37047.75	2761.5025	497025
	$\sum X=269.8$	$\sum Y=7532$	$\sum XY=413732.1$	$\sum X^2=14948.12$	$\sum Y^2=13003110$

Here, N=5

$$r = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{N \sum X^2 - (\sum X)^2} * \sqrt{N \sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5 * 413732.1 - (269.8)(7532)}{\sqrt{5 * 14948.12 - (269.8)^2} * \sqrt{5 * 13003110 - (7532)^2}}$$

$$= \frac{36831.38}{44.386 * 2878.28}$$

$$= \frac{36831.38}{127756.68}$$

$$r = 0.288$$

And,

$$\text{Probably Error (P.E.)} = \frac{0.6745 * (1 - r^2)}{\sqrt{n}}$$

$$= \frac{0.6745 * (1 - (0.288)^2)}{\sqrt{5}}$$

$$= 0.2766$$

Regression equation of X on Y

$$Y = a + bX$$

Where, a = Regression constant, b = Regression coefficient (Slope of the Regression line)

According to the principal of least square, two normal equations for estimating two numerical constant a & b are given by

$$\sum Y = na + b\sum X, \sum XY = a\sum Y + b\sum X^2$$

Solving two normal equations we get,

$$b = \frac{n\sum XY - \sum X\sum Y}{n\sum X^2 - (\sum X)^2}$$

$$= \frac{36831.38}{5 * 14948.12 - (269.8)^2}$$

$$b = 18.90$$

Similarly,

$$a = \frac{\sum Y}{n} + b * \frac{\sum X}{n}$$

$$a = \frac{7532}{5} + (18.90) * \frac{269.76}{5}$$

$$= 1506.4 + 1019.69$$

$$= 2526.09$$

Similarly,

$$t = \frac{r * \sqrt{n - 2}}{\sqrt{1 - r^2}} \quad t = \frac{0.288 * \sqrt{5 - 2}}{\sqrt{1 - (0.288)^2}}$$

$$= 0.521$$

E) HBL

Calculated table of Correlation Coefficient between EPS & MPS

Year	EPS(X)	MPS(Y)	XY	X ²	Y ²
063/064	60.66	1740	65164	3509.38	1210000
064/065	64.72	1980	105548.4	3679.64	3027600
065/066	61.90	1760	124225.2	3936.31	3920400
066/067	31.80	816	108944	3831.61	3097600
067/068	44.66	575	25948.8	1011.24	665856
	$\sum X = 276.34$	$\sum Y = 7396$	$\sum XY = 429830.4$	$\sum X^2 = 15968.171$	$\sum Y^2 = 11921456$

Here, N=5

$$r = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{N \sum X^2 - (\sum X)^2} * \sqrt{N \sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5 * 429830.4 - (276.34)(7396)}{\sqrt{5 * 15968.171 - (276.34)^2} * \sqrt{5 * 11921456 - (7396)^2}}$$

$$= \frac{105341.36}{58.97 * 2215.05}$$

$$r = 0.807$$

And,

$$\text{Probably Error (P.E.)} = \frac{0.6745 * (1 - r^2)}{\sqrt{n}}$$

$$= \frac{0.6745 * (1 - (0.807)^2)}{\sqrt{5}}$$

$$= 0.1052$$

Regression equation of X on Y

$$Y = a + bX$$

Where, a= Regression constant, b= Regression coefficient (Slope of the Regression line)

According to the principal of least square, two normal equations for estimating two numerical constant a & b are given by

$$\sum Y = na + b\sum X, \sum Y^2 = a\sum Y + b\sum X^2$$

Solving two normal equations we get,

$$b = \frac{n\sum XY - \sum X\sum Y}{n\sum X^2 - (\sum X)^2}$$

$$= \frac{105341.36}{3477.46}$$

$$b = 30.29$$

Similarly,

$$a = \frac{\sum Y}{n} + b * \frac{\sum X}{n}$$

$$a = \frac{7396}{5} + (30.29) * \frac{93.84}{5}$$

$$= 1479.2 + 568.48$$

$$= 2047.68$$

Similarly,

$$t = \frac{r * \sqrt{n - 2}}{\sqrt{1 - r^2}}$$

$$t = \frac{0.807 * \sqrt{5 - 2}}{\sqrt{1 - (0.807)^2}}$$

$$= 2.367$$

Calculation of Correlation Coefficient and Regression Analysis between EPS and DPS

A) SCBL

Calculated table of Correlation Coefficient between EPS & DPS

Year	EPS(X)	DPS(Y)	XY	X ²	Y ²
063/064	167.37	80	22859.2	30919.71	16900
064/065	131.92	80	13389.6	28012.72	6400
065/066	109.99	50	10553.6	17402.89	6400
066/067	77.65	55	5499.5	12097.8	2500
067/068	69.51	50	4270.75	6029.523	3025
	$\sum X=662.8$	$\sum Y=395$	$\sum XY=56572.65$	$\sum X^2=94462.6$	$\sum Y^2=35225$

Here, N=5

$$\begin{aligned}
r &= \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{N \sum X^2 - (\sum X)^2} * \sqrt{N \sum Y^2 - (\sum Y)^2}} \\
&= \frac{5 * 56572.65 - (662.8)(395)}{\sqrt{5 * 94462.6 - (662.8)^2} * \sqrt{5 * 35225 - (395)^2}} \\
&= \frac{21069.1}{181.7904 * 141.77} \\
&= \frac{21069.1}{25772.94} \\
r &= 0.8175
\end{aligned}$$

$$\text{And, Probably Error (P. E.)} = \frac{0.6745 * (1 - r^2)}{\sqrt{n}}$$

$$= \frac{0.6745 * (1 - (0.8175)^2)}{\sqrt{5}}$$

$$= 0.10005$$

Regression equation of X on Y

$$Y = a + bX$$

Where, a= Regression constant, b= Regression coefficient (Slope of the Regression line)

According to the principal of least square, two normal equations for estimating two numerical constant a & b are given by

$$\sum Y = na + b\sum X, \sum Y^2 = a\sum Y + b\sum X^2$$

Solving two normal equations we get,

$$b = \frac{n \sum XY - \sum X \sum Y}{n \sum X^2 - (\sum X)^2}$$

$$= \frac{5 * 56572.65 - (662.8)(395)}{5 * 94462.6 - (662.8)^2}$$

$$b = 0.6375$$

Similarly,

$$a = \frac{\sum Y}{n} + b * \frac{\sum X}{n}$$

$$a = \frac{395}{5} + (0.6375) * \frac{662.8}{5}$$

$$= 79 + 84.47$$

$$= 163.47$$

Similarly,

$$t = \frac{r * \sqrt{n-2}}{\sqrt{1-r^2}}$$

$$t = \frac{0.8175 * \sqrt{5-2}}{\sqrt{1-(0.8175)^2}}$$

$$= 2.4586$$

B) NSBI

Calculated table of Correlation Coefficient between EPS & DPS

Year	EPS(X)	DPS(Y)	XY	X ²	Y ²
063/064	39.35	12.9	91.35	333.7929	25
064/065	22.67	0	495.42	1548.4225	158.51
065/066	19.14	2.11	0	802.5998	0
066/067	15.36	5	76.34	1308.9924	4.4521
067/068	13.21	5	118.45	561.2161	25
	∑X=145.8	∑Y=24.7	∑XY=781.56	∑X ² =4555.01	∑Y ² =212.96

Here, N=5

$$\begin{aligned}
r &= \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{N \sum X^2 - (\sum X)^2} * \sqrt{N \sum Y^2 - (\sum Y)^2}} \\
&= \frac{5 * 781.56 - (145.8)(24.7)}{\sqrt{5 * 4555.01 - (145.8)^2} * \sqrt{5 * 212.96 - (24.7)^2}} \\
&= \frac{306.0275}{38.88 * 21.324} \\
&= \frac{306.0275}{829.077} \\
r &= 0.3691
\end{aligned}$$

$$\begin{aligned}
\text{And, Probably Error (P. E.)} &= \frac{0.6745 * (1 - r^2)}{\sqrt{n}} \\
&= \frac{0.6745 * (1 - (0.3691)^2)}{\sqrt{5}}
\end{aligned}$$

$$= 0.2606$$

Regression equation of X on Y

$$Y = a + bX$$

Where, a= Regression constant, b= Regression coefficient (Slope of the Regression line)

According to the principal of least square, two normal equations for estimating two numerical constant a & b are given by

$$\sum Y = na + b\sum X, \sum Y^2 = a\sum Y + b\sum X^2$$

Solving two normal equations we get,

$$b = \frac{n \sum XY - \sum X \sum Y}{n \sum X^2 - (\sum X)^2}$$

$$= \frac{5 * 781.56 - (145.8)(24.7)}{5 * 4555.01 - (145.8)^2}$$

$$b = 0.2017$$

Similarly,

$$a = \frac{\sum Y}{n} + b * \frac{\sum X}{n}$$

$$a = \frac{24.7}{5} + (0.2017) * \frac{145.82}{5}$$

$$= 4.94 + 5.88$$

$$= 10.82$$

Similarly,

$$t = \frac{r * \sqrt{n - 2}}{\sqrt{1 - r^2}} \quad t = \frac{0.3691 * \sqrt{5 - 2}}{\sqrt{1 - (0.3691)^2}}$$

$$= 0.6879$$

C) NABIL

Calculated table of Correlation Coefficient between EPS & DPS

Year	EPS(X)	DPS(Y)	XY	X ²	Y ²
063/064	137.08	100	10982.85	16695.22	7225
064/065	115.90	60	13708	18790.93	10000
065/066	113	35	6498.6	11731.06	3600
066/067	83.8	30	3736.6	11397.7	1225
067/068	70.67	30	2358.3	6179.53	900
	$\sum X = 559.97$	$\sum Y = 310$	$\sum XY = 37284.35$	$\sum X^2 = 64794.44$	$\sum Y^2 = 22950$

Here, N=5

$$r = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{N \sum X^2 - (\sum X)^2} * \sqrt{N \sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5 * 37284.35 - (559.97)(310)}{\sqrt{5 * 64794.44 - (559.97)^2} * \sqrt{5 * 22950 - (310)^2}}$$

$$= \frac{12831.05}{102.001 * 136.57}$$

$$r = 0.92104$$

And,

$$\text{Probably Error (P. E.)} = \frac{0.6745 * (1 - r^2)}{\sqrt{n}}$$

$$= \frac{0.6745 * (1 - (0.92104)^2)}{\sqrt{5}}$$

$$= 0.04576$$

Regression equation of X on Y

$$Y = a + bX$$

Where,

a = Regression constant

b = Regression coefficient (Slope of the Regression line)

According to the principal of least square, two normal equations for estimating two numerical constant a & b are given by

$$\sum Y = na + b \sum X$$

$$\sum Y = a \sum Y + b \sum X^2$$

Solving two normal equations we get,

$$b = \frac{n \sum XY - \sum X \sum Y}{n \sum X^2 - (\sum X)^2}$$

$$= \frac{5 * 37284.35 - (559.97)(310)}{5 * 64794.44 - (559.97)^2}$$

$$b = 1.233$$

Similarly,

$$a = \frac{\sum Y}{n} + b * \frac{\sum X}{n}$$

$$a = \frac{310}{5} + (1.233) * \frac{559.97}{5}$$

$$= 62 + 138.09$$

$$= 200.09$$

Similarly,

$$t = \frac{r * \sqrt{n - 2}}{\sqrt{1 - r^2}} \qquad t = \frac{0.92104 * \sqrt{5 - 2}}{\sqrt{1 - (0.92104)^2}}$$

$$= 4.0961$$

D) NIBL

Calculated table of Correlation Coefficient between EPS & DPS

Year	EPS(X)	DPS(Y)	XY	X ²	Y ²
063/064	62.57	5.3	1187	3522.42	400
064/065	57.87	7.5	312.85	3915.005	25
065/066	37.42	20	434.03	3348.94	56.25
066/067	52.55	25	748.4	1400.26	400
067/068	48.84	25	1313.75	2761.5025	625
	$\sum X = 269.8$	$\sum Y = 77.5$	$\sum XY = 3996.03$	$\sum X^2 = 14948.12$	$\sum Y^2 = 1506.25$

Here, N=5

$$\begin{aligned} r &= \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{N \sum X^2 - (\sum X)^2} * \sqrt{N \sum Y^2 - (\sum Y)^2}} \\ &= \frac{5 * 3996.03 - (269.8)(77.5)}{\sqrt{5 * 14948.12 - (269.8)^2} * \sqrt{5 * 1506.25 - (77.5)^2}} \\ &= \frac{-926.25}{44.386 * 19.85} \\ r &= -0.534 \end{aligned}$$

And,

$$\begin{aligned} \text{Probably Error (P. E.)} &= \frac{0.6745 * (1 - r^2)}{\sqrt{n}} \\ &= \frac{0.6745 * (1 - (-0.534)^2)}{\sqrt{5}} \\ &= 0.216 \end{aligned}$$

Regression equation of X on Y

$$Y = a + bX$$

Where, a= Regression constant, b= Regression coefficient (Slope of the Regression line)

According to the principal of least square, two normal equations for estimating two numerical constant a & b are given by

$$\sum Y = na + b\sum X, \sum Y^2 = a\sum Y + b\sum X^2$$

Solving two normal equations we get,

$$b = \frac{n \sum XY - \sum X \sum Y}{n \sum X^2 - (\sum X)^2}$$

$$= \frac{-926.25}{1970.12}$$

$$b = -0.47$$

Similarly,

$$a = \frac{\sum Y}{n} + b * \frac{\sum X}{n}$$

$$a = \frac{77.5}{5} + (-0.47) * \frac{269.76}{5}$$

$$= 15.5 - 25.537$$

$$= -9.86$$

Similarly,

$$t = \frac{r * \sqrt{n - 2}}{\sqrt{1 - r^2}}$$

$$t = \frac{-0.534 * \sqrt{5 - 2}}{\sqrt{1 - (-0.534)^2}}$$

$$= -1.2936$$

E) HBL

Calculated table of Correlation Coefficient between EPS & DPS

Year	EPS(X)	DPS(Y)	XY	X ²	Y ²
063/064	60.66	15	1777.2	3509.38	900
064/065	62.74	25	909.9	3679.64	225
065/066	61.90	12	1568.5	3936.31	625
066/067	31.80	11.84	742.8	3831.61	144

067/068	44.66	16.84	376.51	1011.24	140.18
	$\sum X=276.34$	$\sum Y=93.84$	$\sum XY=5374.91$	$\sum X^2=15968.171$	$\sum Y^2=2034.185$

Here, N=5

$$r = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{N \sum X^2 - (\sum X)^2} * \sqrt{N \sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5 * 5233.732 - (276.34)(93.84)}{\sqrt{5 * 15968.171 - (276.34)^2} * \sqrt{5 * 2034.185 - (93.84)^2}}$$

$$= \frac{942.8}{58.97 * 36.95}$$

$$r = 0.4331$$

And,

$$\text{Probably Error (P. E.)} = \frac{0.6745 * (1 - r^2)}{\sqrt{n}}$$

$$= \frac{0.6745 * (1 - (0.4331)^2)}{\sqrt{5}}$$

$$= 0.245$$

Regression equation of X on Y

$$Y = a + bX$$

Where, a= Regression constant, b= Regression coefficient (Slope of the Regression line)

According to the principal of least square, two normal equations for estimating two numerical constant a & b are given by

$$\sum Y = na + b\sum X, \sum Y^2 = a\sum Y + b\sum X^2$$

Solving two normal equations we get,

$$b = \frac{n \sum XY - \sum X \sum Y}{n \sum X^2 - (\sum X)^2}$$

$$= \frac{942.8}{3477.46}$$

$$b = 0.2711$$

Similarly,

$$a = \frac{\sum Y}{n} + b * \frac{\sum X}{n}$$

$$a = \frac{93.84}{5} + (0.2711) * \frac{276.34}{5}$$

$$= 18.768 + 14.98$$

$$= 33.75$$

Similarly,

$$t = \frac{r * \sqrt{n-2}}{\sqrt{1-r^2}}$$

$$t = \frac{0.4331 * \sqrt{5-2}}{\sqrt{1-(0.4331)^2}}$$

$$= 0.8323$$

APPENDIX-II

RESEARCH QUESTIONNAIRE

Please make tick mark () for the best option

1. Which of the following factors affect the stock price of the listed companies?

- a) Financial strength of the company ()
- b) Rules and regulation regarding security market ()
- c) Political situation ()
- d) Rumors ()

2. Which of the following factor do you consider while making investment decision regarding the stock of a particular company?

- a) Profitability and Dividend policy ()
- b) Corporate governance ()
- c) Future prospect ()
- d) Financial stability ()

3. In your opinion which of the following trend of stock price movement is suitable for Nepalese security market?

- a) Bullish Trend ()
- b) Bearish Trend ()
- c) No Particular Trend ()
- d) No Idea ()

4. Which of the following sector do you think secure from investment point of view?

- a) Banking sector ()
- b) Manufacturing sector ()
- c) Hydro-power sector ()
- d) Remaining Other Sectors ()

5. For what purpose do you want to own share of a company?

- a) Ownership & Control ()
- b) Investment ()

- c) Social Status ()
- d) No Specific purpose ()

Yes/No Type

6. Does international environment affect the stock price of Nepalese securities?

- a) Yes ()
- b) No ()
- c) No Idea ()

7. Do you think necessary information is easily available in Nepalese stock market?

- a) Yes ()
- b) No ()
- c) No Idea ()

8. Do you think is there any difficulties in trading share in Nepalese stock market?

- a) Yes ()
- b) No ()
- c) No Idea ()

9. NEPSE and SEBON are able to protect investor's interest effectively?

- a) Yes ()
- b) No ()
- c) No Idea ()

10. Future price changes of a given share can be predicted from historical price changes?

- a) Yes ()
- b) No ()
- c) No Idea ()

Name : ----- (Optional)
Designation : ----- (Optional)
Email Address : ----- (Optional)

Respondents View in Details for QN. (1 to 5) (OPTONS)

Q. N.	Variables	Agree on Available Options			
		Option A	Option B	Option C	Option D
1	Factors affect the stock price	30(60%)	10(20%)	7(14%)	3(6%)
2	Factors considered when investment period	31(62%)	5(10%)	4(8%)	10(20%)
3	Trends of stock price movement	8(16%)	5(10%)	27(54%)	10(20%)
4	Investment sectors	32(64%)	2(4%)	10(20%)	3(6%)
5	Purpose of investment	5(10%)	25(50%)	12(24%)	8(16%)

Respondents View in Details for QN. (6 to 10) (YES/NO)

Q.N.	Variables	Agree on Available Options		
		Yes	No	No Idea
6	International environment affect	34(68%)	11(22%)	5(10%)
7	Information available in early	17(34%)	28(56%)	5(10%)
8	Difficulties trading share on Nepalese capital market	32(64%)	18(36%)	0
9	NEPSE and SEBON protect investor effectively	24(48%)	20(40%)	6(12%)
10	Future price movement through historical price	13(26%)	27(58%)	10(20%)