

STOCK MARKET BEHAVIOUR IN NEPAL

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RECOMMENDATION

This is to certify that the thesis

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STOCK MARKET BEHAVIOUR IN NEPAL

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

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VIVA-VOCE SHEET

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

Master's Degree in Business Studies (M.B.S.)

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DECLARATION

I hereby, declare that the work reported in this thesis entitled “**Stock Market Behaviour in Nepal**” submitted to Central Department of Management, University Campus, T.U., Kirtipur is my original piece of work done in the form of partial fulfillment of the requirement for the Master’s Degree in Business studies under the supervision and guidance of Associate Professor Dr. Sushil Bhakta Mathema, Central Department of Management.

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ABBREVIATIONS

DPS	Dividend Per Share
EMH	Efficient Market Hypothesis
EPS	Earning Per Share
Et al.	and others
Etc.	et-cetera
i.e.	that is
Ltd.	Limited
ME	Market Equity
MPS	Market Price Per Share
MV	Market Value
NEPSE	Nepal Stock Exchange
No.	Number
NW	Net Worth
PE	Price Earning
ROA	Return on Assets
ROE	Return on Equity
S.N.	Serial Number
SEBON	Security Board, Nepal
TD	Total Debts

CHAPTER –1

INTRODUCTION

1.1 General Background

Capital market is conceived as a barometer of economy. It plays a crucial role for generation of capital required for investment made by a firm. It has been considered not only as the platform for providing channel of surplus funds from savers to fulfill requirement of business firm for investment but also one of the most popular and attractive investment field. It is generally drawing the attention of developing economy as well. Stock price behavior is the concern of daily economic news broadcasted by Radios or Television or published in newspaper. Now a day, the questions related to underlying factor behind it are unanswered to date (Baskota, 2007). Viewed in this perspective, the research devoted to observe the nature and cause behind stock market behavior may be the regarding one.

A number of studies have been conducted on stock market behavior in international capital market but their relevance is yet to be seen in the context of Nepalese capital market. The stock market behavior in smaller and under-developed capital market like Nepal help development of realistic theoretical models and formulation of relevant hypothesis for empirical testing in finance. In Nepal, listing of shares in Stock Exchange Center and their trading in the stock market is a recent phenomenon. The Nepalese stock market is characterized by low trading volume, absence of professional broker, early stage of growth, limited movement of share price and limited information available to investors (Pradhan, 2002). The art of raising funds by issuing shares to the public in Nepal started in 1937. Through the development of security markets could not be a national policy for long time, then the industrial policy of Nepal led to institutional development of securities market with establishment of Securities Exchange Center in 1976 (SEBON, 2004).

The price change in a speculative series can be regarded as a result of the influx of new information into the market and of the re-evaluation of existing information. At any point in time there will be many items available. Thus, price changes between transactions will reflect the effect of many different bits of information. Since price change for interval such as day, a week or a month are the simple sums of changes from transaction to transaction.

Mostly, the stock price change suddenly. The exaggerated movements in the stock market are caused by sudden and widespread in expectation. Many studies in finance have revealed that the value of stock depends on anticipated future profit and expectations for the interest rates and economic outlook, no element of future are certain. Generally, people use current clues to try to discern the likely course of future events (Schiller, 1991).

History indicates there are two basic theories of stock market behavior the Technical Analysis Theory and Fundamental analysis Theory. Briefly, technical analysis attempts to explain and forecast changes in securities price by studying the market data (Bhalla, 1999). Technical analysis is the study of internal stock exchange information as such. The word 'technical' implies a study of the market itself and not of those external factors which are reflected in the market. The relevant factors, whether they may be, can be reduced to volume of the stock exchange transactions and the level of stock prices, or more generally, to sum of statistical information produced by market price in an attempt to predict future price movements for a common stock of a particular firm. Initially, past price are examined in order to identify recurring trends or pattern in price movements. Then more recent stock price are analyzed in order to identify emerging trends to past trends. This analysis is done in brief that these trends or pattern repeat themselves. Thus, by identifying an emerging trend and pattern, the analysis hopes to predict accurate future price movements for the particular stock. The technical attempts to predict short term price movements and thus makes recommendations concerning the timing of purchase and sales of either specific stocks or groups of stock or stock in general. It is sometimes said that technical analysis is designed to answer the question "when?" (Sharpe, Alexander, & Bailey, 2003). More specially, the technical analyst seems to be trying

to forecast short-run shift in supply and demand that will affect the market price of one or more securities.

Where as, the fundamental security analysis evaluates the 'intrinsic value' of a security (Bhalla, 1999). The fundamental analysts maintain that at any point of time, every share has an intrinsic value which should be in principle be equal to the future stream of income from that share discounted at an appropriate risk related rate of interest. The actual price of security, therefore, is considered a function of a set of anticipated capitalization rate.

The Random walk Hypothesis emerged from the empirical of tests of change of stock prices dated back to 1900 (Pradhan & Upadhyaya, 2004). IT states that price changes cannot be predicted from earlier changes in a meaningful manner. In the decades of 1960s, however, a 'counter theory', first labeled 'Random Walk' and later a theory of "Efficient Capital Markets" has been advanced to explain share price fluctuations.

1.2 Statement of Problem

Capital market provides investors good investment opportunity with fair return and instant liquidity with minimum risk of loss. The investors get benefit from the return obtained by directing the economy towards the productive and profitable sectors. Many corporate organizations raise their fund by issuing different types of source, such as common stock, preferred stock, bond and debenture. But the investors could not identify the good and bad stock among most of them are at loss of analyzing information regarding the performance of the listed companies in the stock market in Nepal. Dearth professional promoters, under writing agencies, market intermediaries, organized market, regulation bodies and rules and regulation, characterize stock market in Nepal. Moreover influences of economic fluctuation, and ineffective implementation of liberal economic policies are the main problem in the Nepalese stock market.

In the present stock price have undergone a sharp decline, low trading volume, dearth of professional broker and most important in ability to make perfect investment decision are the foremost issues to be taken into consideration. Thus market disorder price manipulation and fraudulent share market activities all together have resulted the present bearish market in the country. However there have been a gradual

improvement and stock market witness a few positive changes that predict promising prospects for stock market.

-) What is the stock market behavior in context of Nepal?
-) What is the behavior of commercial banks index and NEPSE index?
-) Is historical phenomena is sufficient to predict the future stock market in Nepal?
-) Is the price change are random phenomenon?

1.3 Objectives of the study

The main objectives of this research are to study, examine, and analyze the stock market behavior. The specific objectives are as follows:

-) To analyze the stock market behavior with reference to commercial banks in Nepal.
-) To examine the relationship between commercial bank index and NEPSE index.
-) To find whether the future share price movement is dependent or independent to each other in contest of Nepalese capital market.
-) To determine whether the Nepalese stock market is efficient in pricing shares.

1.4 Organization of the Study

The study have been organized in five chapters, each devote to some aspect of the study of stock market behavior. The titles of each of these chapters are as follows:

Chapter One: Introduction

Chapter Two: Literature review

Chapter Three: Research Methodology

Chapter Four: Data Presentation and Analysis

Chapter Five: Summary, Conclusion and Recommendations

The rational behind is kind of organization is to follow simple research methodology approach. This contains of each of the chapters of the study is briefly mentioned here.

Chapter one contains the introductory of the study. As already mentioned this chapter describes the major issue to be investigated along with objectives and organization of this study.

Chapter two includes a discussion on the conceptual framework and review of the major empirical works as well as review of Nepalese studies. The conceptual consideration and review of related literature conducted in this chapter provide a framework with the help of which this study have been accomplished.

Chapter three describes the methodology employed in the study. The chapter deals with the native source of data, selection of enterprises, method of analysis and limitation of the study.

Chapter four analyzes the stock market behavior and reasons behind the behavioral changes. This chapter is followed by presentation and analysis of data, which deals with empirical analysis of the study. At the end of the chapter, it covers the major findings of the study.

And, finally, the last chapter reveals the major findings of the study. These findings are summarized and overall conclusion has been drawn at the end of the study.

CHAPTER-II

REVIEW OF LITERATURE

The review of literature has been described in four sections. The first section is a brief discussion on the theoretical framework on stock market behavior. In the second section, a review of empirical studies is given, along with earlier work on stock market behavior. The review of studies in the context of Nepal is presented in the third section, and finally, the last section is developed for concluding remarks.

2.1 Theoretical Framework

People have been studying the way security prices fluctuate over the country and have tried to forecast in the hope that a good forecast will bring them great fortunes. In financial practices, it is not the question whether it is possible to forecast but how the future path of a financial time series can be forecasted. In academia, however, it is merely the question whether a series of speculative prices can be forecasted than the question is how to forecast. Therefore, practice and academics have proceeded along different paths in studying financial time series data. French Mathematician; Louis Bachelier (1900) was one of the first to study security movements mathematically. He set forth formula models in which security prices were random outcomes. He indicated that successive price changes are independent and thus it is not possible to exploit information set to predict future price changes concept of security markets.

Securities are the financial assets that form the part of investor's wealth. They are marketable interests represented by a certificate as a financial value. They include shares of corporate stock or mutual funds, bonds issued by corporations or governmental agencies, stock options or other options, other derivative securities, limited partnership units and various other formal investments.

A corporation may conveniently issue each class of securities for each class of investors because of their varying preferences of risk, income and control. There are various classes of buyers, such as stockholders, employees, customers and creditors of a corporation and traders in capital market (Kulkarni & Kulkarni, 1992). In general, only a piece of paper represents the investors' rights to certain prospects or property and the condition under which he or she may exercise those rights. The pieces of

paper, serving as the evidence of property right, are called a security. It may be transferred to another investor, with it will go all its right and conditions. Thus everything from a pawn ticket to a share of General Motors (GM) common stock is security. Thus, the term security will be used to refer a legal representation of the right to receive prospective future benefits under stated conditions (Sharpe, Alexander & bailey, 2005). Briefly securities are intangible assets, represented by legal claims to some future benefits and future cash. They give the holders an ownership interest in the assets of a company as well as these have value in the exchange. Security are the term used interchangeably as financial assets or financial instruments [Fabozz, 2002].

The growth of U.S. economy has been due in large part to the strength and efficiency of its security markets [Cheney & Moses,1992]. The importance of an efficiency broadly based security market for a country economy is demonstrated by the fact that one of the priorities of the emerging eastern European countries in the established of security market.

Security markets are a broad term, defend as a mechanism and the floor where financial assets are bought and sold. They facilitate trading, the demand for and available of securities to be traded and willingness of buyers and sellers to reach agreement on sales. Security market discover the fair price for the securities, maintain the liquidity provision and minimize the trading costs (Kohn, 1998.). Securities market can be classified by the maturity of the securities that are traded in the market and by the new securities being sold or already issued securities are being bought and sold.

Money Market

The money market, like all security market, provides a channel for the exchange of financial assets for money. However, it differs from other parts of the financial system in its emphasis upon loans to meet purely short-term cash needs. Well developed money market is an essential prerequisite for the efficiency of monetary policy in a deregulated financial environment with the central bank having to increasingly use indirect tools of monetary control such as open market operation to equilibrate the demand and supply of bank reserves (Bhalla. 1999.)

Capital Market

In the capital market, financial assets are traded. Their term to maturity is typically more than a year. This is the market for long-term finance, where company and the government can raise fund. There exist two basic problems in the capital market. First, it increases the risk: the larger the time to repayment, the greater the opportunity for the borrower to misbehave. Second, it reduces liquidity: the longer the time to repayment, the less important is repayment itself is a source of liquidity (kohn, 1998)

Capital market enables suppliers and demanders of long term funds to make bond and stock transactions. The backbone of capital market is formed by the various securities exchanges to enhance the economic developmet (Gitman, 2004). In fact the capital market provides an economy's link with the future, since current decisions regarding the allocation of capital resources are the major determining factors of future output. The crucial role played by the capital market is shaping the pattern and growth of real output imparts social significance to individual investment and portfolio decisions. The efficiency of intermediation depends on the width, depth and diversity of the capital market (Bhalla, 1999).

Primary and Secondary Market

In general, the capital market can be classified into primary and secondary market. The primary market is that part of security market that deals with the issuance of new securities. Companies, governments, or public sectors institutions can obtain funding through the sale of new stock or bond issue. The issue of new securities is commonly known as initial public offering(IPO). Issuers usually retains investment banks to assets them in finding buyers for these issues, and in many cases, to buy any remaining interests themselves. This arrangement is known as underwriting.

The term primary market is used to denote the market for the original sale of securities by an issues to the public. The public receives thee securities for the cash invested. The volume of new issues depends upon the market conditions. When the market is higher or rising, the number of new issues being offered to public rises, and when the market is low or falling, the market decides.

The issue of securities in the primary market leads to direct transfer of money from the savers to the issues of the securities. Thus, the primary market transfer the funds from the savers to investors to make the capital available for investments in building, equipment, stock of necessary goods. (Shrestha, Paudel & Bhandary, 2003)

After securities have been purchased in the primary market, they can be traded in the secondary market. Secondary market is organized market to enable buyers and sellers to affect their transaction more quickly and cheaply than they could otherwise. It is therefore important that the secondary market be liquid and transparent. The majority of all capital market transaction occurs in the security market does not go to the original issuer but to the owner (seller) of the securities. Once investors have purchased securities in the primary markets, they need to sell those securities without the liquidity of security market, firm would have difficulty in raising funds for productive purpose in the primary market.

Security analysis

Wall Street has sources of analysis, strategists and portfolio managers hired to do one thing: beat the market. Analysis are hired to find undervalued stocks. They are hired to predict the direction of the market and various sectors. Portfolio are hired to put it all together and output outperform their benchmark, usually measured as the S&P500 (shrestha, Poudel & Bhandari, 2003).

Security analysis involves the examining of several individual securities within broad categories of financial assets. One purpose for conducting such examination is to identify those securities that currently appear to be mis-priced. There are many approaches to securities analysis. However, most of these approaches fall into two classifications. Analysts who use technical analysis are known as technician or technical analysts. The second classification is known as fundamental analysis and analysts are fundamentalists or fundamental analysts.

Fundamental analysis

In its simplest form, fundamental analysis begins with the assertion that the true value of any financial assets equals the present value of all cash flows. The owner of the assets expects to forecast the timing and size of these cash flows and then converts the

cash flows to their equivalent present value using an appropriate discount rate (Sharpe, Alexander & Bailey, 2005).

Fundamental analysis involves making investment decisions based on the examination of the economy, an industry and company variables that lead to an estimate of value for an investment, which is then compared to the prevailing market price of the investment (Bailey & Brown, 2000). After estimating the true value of stock of a particular firm, it is compared with the current market price of the common stock whose estimated or true value is less than their current market price are known as overvalued and vice versa. Fundamental analysts believe that any notable cases of miss pricing will be corrected by the market in the near future, meaning price of overvalued stocks will show unusual appreciation and prices of under values stocks will show unusual depreciation.

Fundamental analysts use public information to calculate a fundamental value for a share, and then offer investment advice by comparing the fundamental value with the current market price. Fundamental analysis is not possible if capital markets are semi-strong form efficient, since price will already fully and fairly reflects all publicly available information (Waston & Head, 1998), the objectives of fundamental analysis is to appraise the intrinsic value of a security. The intrinsic value is the true economic work financial assets. Therefore, fundamental analysis work to find new information before other investors, so that they can get into a position to profit from price changes they anticipate. Fundamental analysts use different models like Top- down Verses Bottom-up forecasting. Probabilistic forecasting, economic models, financial statement analysis etc to estimate the value of security in an appropriate manner for making investment decision.

Technical Analysis

In its simple form, technical analysis involves the study of stock market prices in an attempt to predict future price movements. Past prices are examined to identify recurring trends or patterns in price movements. Then more recent prices are analyzed to identify emerging trends or pattern that is similar to past ones. Thus analysis is done in the belief that these trends or pattern repeat themselves. By identifying an

emerging trend or pattern, the analyst hopes to predict accurately future price movements for a particular stock (sharp, Alexander & Bailey, 2001).

The 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 analyses are therefore designed to measure certain aspects of supply and demand (Francis, 1991). Technical analysis can be defined as the use of published market data for the analysis of both the aggregate stock market and individual stocks. It is sometimes called market or internal analysis (Jones, 1998). So, the technical analysis is based on the assumption that the past information of prices and trading of stocks provides some pictures of the future prices of stokes. Technician seeks to forecast security prices rather than security value, especially trends in the price changes.

Prices and volumes are the primary tools of the technical analysts. Technician believes that the force of the supply and demand show up in patterns of price and volume. Volume data are used to gauge the general condition in the market and to help assess its trends. The evidence seems to suggest that rising (falling) stock prices are generally associated with rising (falling) volume. If stock prices rise but volume activity does not keep pace, the technicians would be speptical about the upward trend. A downside movement from some pattern or holding point, accomplished by heavy volume would be taken as a bearing sign.

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 movements of market index and still other are based to predict the action of both individual assets and the market (Francis, 1991).

The methodology of technical analysis rests upon the assumption that history tends to repeat itself in the stock exchange. If a certain pattern of activity has in the past produced certain result nine times out of ten, one can assume a strong likelihood of the same outcome whenever this pattern appears in the future. It should be emphasized, however, that large part of the methodology of technical analysis lacks a strictly explanation (Sharp, 1975).

The basic premises underlining technical analysis, as anticipated by Robert A. Lavey are as follows (Chandra, 1998):

-) Market prices are determined by the interaction of supply and demand forces.
-) Supply and demand are influenced by a variety of factor both rational and irrational.
-) Barring minor deviations, stock prices tend to move in persistent trends.
-) Shifts in demand and supply bring about changes in trends.
-) Irrespective of why they occur, shift in demand and supply can be detected with the help of charts of market option.
-) Because of persistence of trends and pattern, analysis of past market data can be used to predict future price behavior.

Briefly, the effectiveness of technical analysis is debated. Some academics and market participants believe it has no existence. Still many active traders defend the practice and believe it can be profitable. Moreover, some academic researches support the claims of technical analysts.

Efficient Market Theory

In a competitive market, the equilibrium price of any good or service at a particular movement of time is such that the available supply is equated to aggregate demand. This is the true work of the goods and services based on all publicly available information. The equilibrium price will hold until another bit of information is available for analysis and interpretation.

An efficient market is one where shares are always correctly priced and where it is not possible to outperform the market consistently except by luck (Pick & Neal, 1996). In an efficient capital market, current market price fully reflects available information (Fama, 1996). Therefore, if market is efficient it uses all available information to it in selling price.

There are several concepts of market efficiency and there are many degree of efficiency, depending on the market. Markets in general are efficient when (I) prices adjust rapidly to new information; (II) there is continuous market, in which each successive trade is made at a price close to the previous price (the faster that the price responds to new information and the smaller the price change, the more efficient the market) ;(III) the market can absorb large amount of securities without destabilizing the price (Block & Hirt,1998)

In an efficient market, larger number of rational profit maximizes actively competing with each trying to predict future market value of individual securities and where important current information is almost freely available to all participants. In an efficient, competition among the many intelligent participants lead to a situation where at any pint in time, actual price of individual securities already reflect the effects of information based on both and events that have already occurred and on events which as of vow, the market expects to take place in the future. In other words, in an efficient market at any pint in time the actual price of a security will be a good estimate of its intrinsic value (Fama, 1970).

In an efficient market, all the relevant market information is reflected and all prices are correctly stated in the current stock so that there is no “bargains” is the stock market. James H. lorie explained what is meant by efficient security market in these words (Bhalla, 1999.). Efficient in this context means the ability of the capital market to function so that price of security react rapidly to new information such efficiency will produce prices that are “appropriate” in terms of current knowledge, and investors will be less likely to make unwise investment. A corollary is that investor will also be less likely to discover great bargains and there by earn extra ordinary high rates of return.

Efficient market hypothesis (EMH) states that it is impossible to “beat the market” because stock always trade at their fair value. The most important point under discussion of the EMH is that it is impossible to outperform the overall market through expert stock selection or market timing, and that the only ways an investor can possible obtain higher returns is by purchasing riskier investments. Although it is a cornerstone of modern financial theory, the EMH is highly controversial and often disputed.

Generally, there are three forms of EMH namely; the weak form, the semi-strong form and the strong form (Fisher & Jordan, 2002).

Weak form Efficiency: - Under weak form, stock price are assumed to reflect any information that may be contained in the past history of the stock price itself (Ross, Westerfield & Jordan, 2003). This hypothesis holds that no investor can earn excess returns by developing trading rules based on historical prices or return information.

Weak form efficiency suggests that at a minimum, the current price of a stock reflects that stock's own past prices. In other words, studying past prices is an attempt to identify mispriced security is futile if market is weak form efficient. Although, this form of efficiency might seem rather mild, it implies that searching for patterns in historical prices that will be useful in identifying miss-priced stocks will not work (Ross, Westerfield & Jordan, 2011).

Semi-strong form: - Under the semi-strong form all publically available information is presumed to be reflected in securities prices. This includes information in the stock price series as well as information in the firm accounting report of competing firms announced information relating to the state of the economy, and any other publicly available information relevant to the valuation of the firm (Haugen, 1998).

The semi –strong form of the EMH says that current prices of stock not only reflect all information content of historical prices but also reflect all publicly available knowledge about the corporations being studied (Fisher & Jordan, 2002). This hypothesis maintains that as soon as information becomes publicly available, it is absorbed and reflected in stock prices. Even if the adjustment is the current one, immediately the market will analyze properly within short period. Thus, analyst would have great difficulty in trying to profit using fundamental analysis. Furthermore even while the correct adjustment is taking place, it will not be possible for the analyst to obtain superior return on a consistent basis. Because the incorrect adjustment will be over adjustment and something they will be under adjustments. Therefore, an analyst will not be able to develop a trading strategy based on these quick adjustments to new publicly available information. Tests of semi-strong form of efficiency hypothesis have tended to provide support for the hypothesis.

Strong form: The strong forms take the notion of market efficiency to the unlimited extreme. This form includes private or inside information as well as that which is publicly available. Under this form, those who acquire inside information act on it, buying or selling the stock. Their actions affect the price of stock and the price quickly adjust to reflect the inside information (Hangen, 1998). One obvious way to check the validity of the strong efficient market hypothesis is to examine the profitability of traders in securities made by insider to see if the insiders access the valuable information allows them to earn statistically significant trading profits (Francies, 1991). Thus, the strong form of the efficient market hypothesis is equivalent to perfect market in which the market correctly prices securities adjusting quickly to new information either public or private.

Random walk Theory

The weakly efficient hypothesis stipulates that historical price and volume data for securities contain no information, which can be used to earn a trading profit above what could be attained with a naïve buy and hold investment strategy (Francis, 1991). The past prices have no meaningful information to predict future course of price fluctuation, which can be used to earn above average return. The movement of future prices are independent from past prices, so the series of price changes are in random phenomenon.

If the price changes could be used to predict future price changes, investors could make easy profit. But in the competitive market easy profit do not last. An investors tries to take advantage of the information in past prices, prices adjust immediately until the superior profits from studying past prices will be reflected in today's stock price, not tomorrow's. Patterns in prices will no longer exist and price changes in one period will be independent of changes in the next. In other words, the share price will follow a random walk (Brealey & Myers, 2000).

The weak form says that the current prices of stock already fully reflect all the information that is contained in the historical sequences of prices. Therefore, there is no benefit as far as forecasting the future is concerned in examining the historical sequence of prices. This weak form of efficient market hypothesis is popularly known as the random walk theory (Fisher & Jorden, 1995).

Random walk theory describes whether past prices can predict future prices. Random walk theory implies the future path of price level of a security is no more predictable than the path of series of accumulated 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 (Fama, 1965). It means that the current size and direction of price changes are independent and unbiased outcome of previous prices.

The underlying theory of random walk is stock price behavior statistically contains of two different assumptions: (a) price changes are independent random variable (b) price changes conforms to same probability distribution without specifying the particular shape or form of the distribution (Ibid).

Of the two hypotheses independence is much more important assumption which means that the previous price changes following the current changes will not be influenced by the sequence of preceding price changes. Mathematically, independence means that:

$$Pr [X_t = x | X_{t-1}, X_{t-2}, \dots, X_{t-n}] = Pr (X_t = x)$$

Where left hand side of the equation is the conditional probability that the price will take the value of 'x' conditional upon knowledge of previous change ; x(t-2),.....,x(t-n). The right hand side is the unconditional provability that prices change in 't' will take the value of x.

Independence is of course, an important property of random walk theory. However, this precise property must be satisfied in order to make the theory as valid representation. But there lacks a perfect independence situation by the application of any statistical tools in general market. Fama (1965) states that independence assumption of successive price changes can be justified if any outcomes produced by the tests that can't allow the investors to beat the returned provided by the market average. Then one can refer that the independence hypothesis of the random walk theory is accrued as law governing the behavior of price series.

The stock market is always subjected to a steady inflow of information, much of which will have an effect on the set of anticipations that constitute price of a particular security. Some of the information has a whole market wide impact such as

changes in monetary and fiscal policy on security prices. Some other information has an influence upon a group of stock price, i.e. industry- wise impact. And still more information such as announcement of dividend, bonus shares may have an influence on the price of a particular security i.e. company- wise impact (king, 1966).

There are some participants who estimate the intrinsic value of the individual securities from the received information. The existence of intrinsic value for individual securities is not inconsistent with random walk hypothesis (Fama, 1966). In the market, securities are over or under- valued because of inappropriate estimation of the incoming information by the investors. Thus means, there is a gap between the actual price and intrinsic value of a particular security and this can be used by the speculator to prospects of sign.

Any distribution is consistent with the theory of random walk as it is correctly characterized the process generating the price changes. The distribution of price changes provides descriptive information concerning the nature of the process generating price changes. The shape of the distribution provides help for the investor while committing his funds for particular security. Thus, by the careful analysis of distribution of price changes by the powerful statistical theory, one can get important information either he may be investor, trader, market analyst or researcher.

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

If the random walk hypothesis holds, the weak form of efficient market hypothesis must hold (through not vice-versa). Thus, evidence supporting weak form of efficiency (Elton & Gruber, 1991). If price follow a random walk, price changes over time are random (independent). The price change for a today is unrelated to the price

change on previous days. Any new information arrived randomly in the market result in the random changes in the prices. Radom walk theory involves random selection and securities in presented as the modern approach to investment decision.

2.2 Review of Empirical work

There are many students that are under taken to study the behavior of stock market. Major studies are reviewed to know the result of studies and tests.

All of the empirical works on efficient market can be considered within the context of the general expected return or “Fare game” model; in particular, the expected profit to the speculators should be zero. The pioneer work in this field is due to French mathematician Louis Bachelier (1900) who used the data of commodity price during the period of 1894- 1898. He concluded that commodity speculation in France was ‘fair game’ that has no expected profit for buyers and sellers. Unfortunately, his insight was so far ahead of the time that was largely unnoticed for a longer period until his paper was rediscovered and eventually translated into English and publish in 1964.

Working’s (1934) evidence supports that security prices follow a random walk. He extensively analyzed commodity prices and noted that speculative price patterns height be shown to be random company with artificially generated series of prices. According to him, ‘it has several times been noted that time series commodity possesses in many respects the characteristics of series of cumulated random numbers. The separate items in such time series are by no means random in character, but the changes between successive items tend to be largely random’.

Kendall (1953) examined the behavior of weekly changes in nineteen indices of British Industrial share prices and in spot prices for cotton (New York) and wheat (Chicago). He found no relationship between share price changed in the current week and the previous week. After extensive analysis of serial correlations, he suggested that “the series look like a wandering one, almost as of once a week the demon

change of drew a random number from a population of fixed dispersion and added it to current price to determine the next week’s prices”.

Roberts (1959) compared Dow Jones Industrial Index with stimulated price index generated on the basis of series of random numbers for 1956. He found considerable similarity in the graphs of these two series and it was difficult to distinguish between the series of random numbers and the stock market index. Thus, he concluded the random movement of the past price index cannot be used to forecast future share prices. Another study conducted by Osborne (1959) one of the distinguished physicists, ignorant about the stock market at that time watched the numbers representing stock prices to see whether they conformed to certain laws governing the motion of physical objects. He found the movement of stock prices similar to that of the movement of small particles suspended in a chemical solution so called 'Brownian Motion.' Although, Osborne attempted to give empirical justification for his theory, most of his data were cross-sectional and could not provide an adequate test. Though his point of view is different, the findings are consistent with Robert's work (1959).

Moore (1962) examined weekly price changes of 29 randomly selected stocks for 1951-58 and found average serial correlation coefficient of -0.06. This value is extremely low, indicating that data on weekly changes are valueless in predicting future changes. The interpretation of his test is that a low coefficient estimate suggests that previous price changes do not provide any reliable information in estimating future price changes.

Fama (1965) analyzed the movement of stock price changes of all the stocks that make up Dow Jones Individual Index for the period end of 1952-1962 and investigated the daily proportional price change of those 30 industrial stocks and autocorrelation were estimated for a variety of lags ranging from 1 to 10 days. In his study, he found that the autocorrelation coefficients for daily changes are small, the average being 0.03, near to zero. Out of thirty, eleven autocorrelation coefficients were significantly different from zero and lagged price changes shown some degree of dependence. He further analyzed the data by run tests by total number of length. He found slight tendency for this to occur, but again the results were sufficient to accept the random walk hypothesis.

King (1966) examined the behavior of 63 securities for six industries of New York stock exchange, from 1927 to 1960. This study also concludes that there exists low

degree of co-efficient estimates of serial correlation, i.e 0.018 which is close to zero. This helped him in changes in stock markets are independent.

Niarchos (1971) examined the various stocks using similar methodology that used by Fama (1965) also supported and conducted that successive price changes in stock markets and independent.

Niarchos (1971) studied price series of 15 individual stocks from Athens Stock Exchange for the period 1957 to 1968. He found the serial correlation coefficient for individual stock as 0.036, close to zero. So he concluded that the price fluctuations were random walk and past price has no meaning information to prediction future prices.

Jennergren and Korsvold (1975) examined daily closing prices of stocks from also stock exchange (Norway) and Stockholm Stockholm stock Exchange (Sweden) using auto-correlation and run tests found considerable dependence in both the Norwegian and Swedish stock market prices. Likewise, Conard and Jutner (1973) analyzed stock prices by using serial correlation and run tests found that the random walk is inappropriate to describe the recent share behavior in Germany.

Kinney and Sharma (1977) tested the applicability of the random walk hypothesis in Indian stock market and to compare the result with the behavior of stock market of industrialized country. Study employed the comparative analysis of the stock price behavior of the Bombay, London and New York stock exchange. The study conducted that BSE obey a random walk as equivalent in this sense of behavior of stock price is LSE and NYSE.

Gupta (1985) analyzes the equity share price behavior in India during the period January 1971 to March 1976 and extensively test the RWH using daily and weekly prices of 39 individual shares and two indices. He employed the serial correlation analysis and run test and found evidence in support of RWH. He also concluded that the random walk model appeared to be an appropriate model even for the less developed country like India and describe share price behavior.

Panaday and Bhat (1988) surveyed market participants' attitude and perceptions in the understanding and acceptance of EMH. They sent the questionnaire to 600 persons who were divided into four groups (i) the chief financial executive, (ii) academicians,

(iii) chartered accountants, and (iv) cross section of investors and brokers. Only 160 questionnaires were returned daily filled by the respondents. Their analysis denied the existence of market efficiency in any of its three forms.

Rao (1989) conducted the study on the weekend prices of the eight blue-chip stocks for five years from July 1982 to June 1987. He applied serial correlation analysis, run tests, and filter rule technique. The result from all the tests supported the random walk hypothesis.

Yong (1992) investigated the behavior of Malaysian stock market with respect to the weak form of EMH. Weekly closing prices of all 170 stocks traded on Kuala Lumpur stock Exchange (KLSE) from January 1977 to May 1985 were used. The study tested the following main hypothesis: a) The population correlation coefficient of successive price changes at all lags are zero b) percentage change in stock price is random c) percentage price following normal distribution d) Efficiency of the market is independent of continuity in trading. The evidence generated from the study suggested that high percentage of stock deviated from weak form EMH and also found that KLSE are characterized by thinness of the market and discontinuity in trading.

Chan and Lakonishok (1995) have used all the trades executed by thirty seven larger investment management firms from July 1986 to December 1988 to study the price impact and execution cost of the entire sequence (package) of traders. They have found that market impact and trading cost are related to firm capitalization, relative package size and the most importantly, the management firm behind the trade. Money managers with high demands for immediacy tend to be associated with large market impact.

Bhatia and Shekhar (1996) made a study on the impact of past share price series on its present market price by making a univariate analysis in context of India. The data used for the study was the time series from 1982-1990 of the Bombay stock Exchange. Applying random sampling technique a total of 42 companies were selected from four industry classifications. Serial correlation and run analysis were used to test the random walk model. The result of both tests does not generate any strong evidence on the validity of RWH. Thus, the study concluded by connecting that behavior of BSE confirmed to the weak form of EMH.

Chan, Gup and Pan (1997) have examined the relationship among stock prices in eighteen national stock market by using unit root and co-integration test for the period 1961-92. All the market was analyzed individual and collectively in regions to test for market efficiency. The co-integration test result shows that there are only a small number of significant co-integrating vector over the last three decades. However, the numbers of significant co-intergrating vectors increase after the October 1987 stock markets crash, a result that consistent with the contagion effect.

Huang (1998) has tested the over-reaction hypothesis by examining the price behavior following daily limit moves. The sample includes all listed firms on the Taiwan Stock Exchange for the period 1971-1993. There are significant price reversals following the limit moves from both the up-limit and the down-limit cases. The price reversals cannot be attributed to the size effect, when the size effects are adjusted for, the price reverses remain significant.

Olowe (1999) has studied whether security prices on the Nigerian stock market adjust to historical price information. Monthly stock returns data over the period January 1981 to December 1992 were employed by using correlation analysis. The result supports that Nigerian stock market appears to be efficient in the weak form.

Huang, liu and Fu (2000) have examined the stock price behavior in the trading and non-trading period for stock listing on the Taiwan stock exchange over 1971-96. The results indicated that the trading-time return various especially for the larger than the non-trading time return variances especially for the larger trading volume quantities. This results is consistent with the private information hypothesis. Moreover, open to – open returns various are higher than close to close return variance. Since, both the opening and the closing transactions are conducted by the call auction procedure, the result are constant with the trading halt hypothesis but not with the trading mechanism hypothesis.

Chartareas, McDermott and Ritsatos (2000) have investigated the time series properties of the daily and weekly returns from the Athens stock exchange (ASE) index for the years 1987 to 1997. They have investigated whether important time-series characteristics have changed significantly over time. Their findings suggest that

the dynamics of the ASE composite index returns have changed as the market has developed.

Shukla and Chowhan (2000) have conducted the stock to examine the issue of volatility in the Indian stock market. Under this study an empirical study of BSE sensex and set of representative stocks are carried out to find changes in their volatility during 1998-2000. The study finds the Indian stock market regulators are unable to curb speculative uprising and recommended that such can be done by allowing free trade, strengthening analytical media that highlight on better risk management coupled with investor learning.

Dockery, vergari and vergari(2001) have used 1988-94 Greek monthly returns data to test for random walk behavior in share prices. Their result supports the RWH and outlines the factors, which reduce stock market efficiency and the particular characteristics of the Athens stock Exchange (ASE). Jun (2003) has used the fractionally integrated autoregressive conditional Heteroskedasticity (FIGARCH) model to study the efficiency of the Japanese equity market by examining the statistical properties of the return and volatility of the Nikkie 225. It shows that both follow a long-range dependence, which stands against the EMH. The result is valid for all sample periods, suggesting that the recent equity market reform has not produced major efficiency gains.

Melecky (2004) has considered the model which describes dynamic of intrinsic value and actual price of stock in the markets. The model construction is based on characterization market participants' behavior and on relationship between stock market and economic environment. His model respects different behavior of market participants at undervalued and overvalued market. His main aim is to contribute to study of process, which influence the price dynamic at the stock markets.

Islam and khaled (2005) have used the tests with or without heteroscedasticity adjustment in Dhaka stock Exchange (DSE) heteroscedasticity robust test include short term predictability of share prices prior to the 1996 market crash, but not afterwards. Their study appears to be the first to apply the test to stock prices. According to Dhankar and Chakraborty (2005) variance ratio test suggest dependency of the sensex series, which violates the assumption of the random walk hypothesis.

Using the ARIMA process they have developed a model for forecasting future returns to the sensex.

Oram and farrar (2006) have investigated the validity of the RWH in middle East emerging market by applying a range of statistics and econometrics techniques. The result rejects the RWH for all market and instead suggests that the stock returns in these countries exhibit calander effect. However, the evidence for the Israel Tel 100 stock shows greater support for the RWH compared with the other market in the sample. The limited support for weak firm efficiency in Middle Eastern emerging markets implies a degree of predictability of returns, which may be a factor in the attractiveness global investors.

Asiri (2008) analyze the stock market behavior in Bahrain stock Market. Under this study RWHs such as unit root and Dickey fuller test are used as a basic stochastic test for a non- stationary of the daily prices for all the listed companies in BSE. In additional, ARIMA and exponent smoothing method are also used. Cross sectional time series is used for the 40 listed companies over the period 1 June, 1990 to 31 December, 2000. The result of the study revealed that the random walk with no drift and trend is conformed for all daily stock prices and each individual sector.

Kung and Wong (2009) tested the market behavior of Taiwan stock market. The study used two popular technical trading rules to assess whether the gradual liberalization of Taiwan's securities market has improved the efficiency of its market. The result showed that the two rules have considerable predictive for 1991-1997 and they cannot predict the market for 1998-2005. These results indicate the efficiency of Taiwan stock market has been greatly enhanced by the Liberalization measures implemented over cast 20 years.

2.3 Review of Nepalese Studies

Comparatively for research efforts have been undertaken is Nepalese context. Majority of the researchers primarily focused on analyzing the share price behavior using Random walk Model and measuring influence of certain financial variables like dividends, bonus share, right issue etc. on the share price. Besides that, there are also pertinent literatures that address the issues relevant to stock market behavior. The available literature on such are briefly reviewed here.

Pradhan (1993) has carried out a study on stock market behavior in a small capital market. The main purpose of the study was to address the stock market behavior in a small capital market in the context of Nepal. It attempts to examine the relationship of market equity, market value to book value, price earning and dividend with liquidity, leverage, profitability, assets turnover and interest coverage. Different financial tools are used in the study period of 1986 to 1990. Seventeen listed companies are sampled for the study. The result from the study is that larger stocks have larger price earning ratio, large ratios of market value to book value of equity, lower liquidity, lower profitability and smaller dividend. Price earning ratios and dividend ratios are more variable for larger stock, larger stocks have also higher leverage, lower assets turnover and lower interest coverage but these are more variable for smaller stocks. Stocks with larger market value to book value of equity have larger price earning ratio and lower dividends. These stocks also have lower liquidity, higher leverage, lower earning, lower turnover and lower interest coverage. Stock with higher price earning ratio has lower profitability, lower turnover and lower interest coverage. However, these are all more variable for stock with smaller price earning ratios than stocks with larger price earning ratios.

Aryal (1995) has studied the general behavior of stock market prices. This study covered eight month period from January 13, 1994 to September 13, 1994 and the number of sample is twenty one stock listed in the NEPSE. Statistical tools like serial correlation and run tests are used to analyze the data. He has concluded that the assumption of independence according to RWH has been rejected at list for Nepalese's stock market. The rejection of past information becomes useful in predicting the future movement of market prices.

Bhatta (1997) has carried out a study on dynamic of stock market in Nepal. He had employed mean, standard deviation and other essential tools for the study purpose of fourteen companies listed in NEPSE. The prime objective is to analyze the market share price of secondary market. The main condition drawn from the study that stock market is regarded as the heart of the capital market. There is high volatility of share prices.

Shrestha(1999) has carried out a study on stock price behavior in Nepal. The data collected from thirty companies. The study has examined data from January 13, 1994

to mid July 1998. Run test and serial correlation are used as statistical tools in the study. The main objectives are to examine the independence and randomness of the successive daily price changes of the individual stocks. He has concluded that the serial correlation of the daily price changes for 1 and 2 lag and runs of the series of daily price changes lead to conclude the successive price changes are dependent. It implies that the information of the past price changes is helpful in predicting future price changes.

Gurung (1999) has concluded a study on share price behavior of listed companies in Nepal. The major study of the study is to analyze the share price behavior of listed companies. The sample for the study is fifteen companies listed in NEPSE. Statistical tools like average, correlation coefficient and probable errors are used. He concluded that the number of listed companies had been increasing during the study period. It signifies that there is an expansion of capital market. The overall performance of commercial banks is better than the trading companies. However, there is uncertainty and instability in the stock market. The market has totally changed into bearish situation in the later years of the study.

Timilsina (2001) has conducted a study on capital market development and stock market behavior in Nepal. The main objective of the study was to find out the fair market prices of equities and test whether the present behavior of equity prices will remain stable. The study covered the period of eight months in the year 1999/2000. Thirty actively trading listed companies are taken as a sample. The study has formulated the hypothesis. Coefficients of correlation between the EPS, corresponding market price on the one hand, and DPS and corresponding market price on the other are also computed. This helps to know which one EPS or DPS has a higher degree of relationship with the market price. Further, in order to test the degree of explanatory power of the two influencing the MPS, regression equations of market price on EPS as well as on DPS are drawn. Regression results are statistically tested to drive the conclusion.

Poudel (2002) has concluded that the growth rate analysis as a stand-alone may not be adequate for the analysis of share price behavior and may not represent the bank's performance in the secondary market. The ordinary least square equation of the book value per share on market value per share reveals that the independent variable does

not fully explain the dependent variables. Nepal stock exchange (NSE) operated in a weak form of EMH, including that the market prices moves randomly. The market value per share does not accommodate all the available historical information. Having good record of accomplishment of the financial position, the market potential investors buy shares of joint venture banks. Therefore, the share of joint venture banks emerges as a blue chip in the Nepalese stock market.

Poudel (2002) has conducted the study on “Investing in shares of Commercial Banks in Nepal: An Assessment of Return and Risk Element.” The key objective of the study is to examine wither the share of commercial banks in Nepal are correctly price and to trace their future price movements when striving towards equilibrium. He has concluded that are not in equilibrium with most of the shares less risk than the market. While all the share examined appear to be attractive to the potential investor since they produce higher rates of return than that of the average stock, the various shares, have different degree of risk with some shares being unable to generate the minimum rate of return.

Similarly, Ojha (2002) has conducted a research on “Financial Performance and common stock pricing.” The major findings of the research are; Nepalese stock market is in infant stage, dominant of banking sector is prevalent in the market in comparison to the other industries including finance, insurance and manufacturing companies. He also concluded that people have a misconception about the issuance of the bonus share and right share. Because it actually decreases the price and this makes them to invest even at a too high price with expectation of getting the same to increase their overall wealth. Further, he conducted that stock a price in Nepal is determined more by other Factor rather than the financial performance of the concern company.

Pradhan (2002) attempted to explain the effect of dividend payout and retained earnings on market price of shares in context of Nepalese companies. The study used the pooled cross-section data of 29 companies from 1991 to 1996 with total number of observations. The analysis showed that the divided coefficient is statistically significant at 5 percent level while negative coefficient is obtained for retained earnings. Findings of the study indicated the predominant influence of dividend and absence of the retained earning effect on share price. This implies that management might be able to some extent increases the stock price by raising dividends.

Dahal(2003)had undertaken a study on efficient market hypothesis and the behavior of share prices in Nepal. He observed 24 sampled companies week-end closing prices for the period from mid-July 2001 to mid-July 2004. Serial correlation analysis and run test are used to test the RWH and concluded that stock prices in the market follow the random walk and the random behavior of share price in Nepalese stock market is terminated as “weakly Efficient” in pricing shares.

Pradhan and Upadhyaya (2004) have conducted the study on the efficient market hypothesis and behavior of share prices in Nepal. The core objective of the study is to make a comprehensive investigation of weak and slightly other form of EMH. In order to be conclusive about the efficiency of the stock market, primary sources of information about the share price is conducted for the first time in order to find more subjective facts on share price behavior, which cannot be determined by the use of secondary sources of data. Statistical tools like serial correlation, run test and spearman’s rank correlation are used. The 23 stocks activity traded are examined from mid-July 1997 to mid July 2000. The main conduction determined from the study is that he Nepalese stock market might not be termed as “weakly Efficient” in pricing shares. The main factor affecting share price perceived by the respondent are dividends, retained earnings, bonus share and right issue. The share price has been found more volatile than the expected dividends. Similarly, publicly available information is useful in identifying over or undervalued securities. Nepalese investors are indifferent towards making or non making of information public. The study also found that the shareholders in high tax brackets do not prefer retained earnings instead of dividends.

Shrestha (2004) also conducted the study on efficient market hypothesis in context of Nepal by using both primary and secondary sources of data. She analyzed 35 listed companies monthly share price from 16 July 1997 to 12 April 2001 using serial correlation, run test and rank correlation coefficient. Based on the result of run test and serial correlation, it is concluded that future price movements in independent of trends in the past price movement and result of spearman rank correlation showed that there is no significant relationship inefficiency and continuity of market overall evidence from both secondary and primary data analysis concluded that NEPSE market is not efficient with respect to any of so-called level of efficiency.

Panday (2006) has carried out the study on the movement of stock prices in relation to Nepal's Joint Venture Commercial Banks. The prime objective of the study is to examine the movement of stock market prices. The main conclusion drawn is that the movement of stock price is dependent on the financial indicators or the historical data of the companies. Similarly, Mainali (2006) has studied the share price behavior of listed commercial banks. The study concludes that the successive price changes of commercial banks are dependent.

Niroula (2007) conducted a study on "stock market Efficiency: a case of Nepal" with the objectives of testing the existence of weak and semi-strong form of efficiency in Nepalese stock market. The study used the tools like autocorrelation analysis, run tests, ARIMA analysis, even study and other to analyze the data. Data used in the study covers for 10 years period from 1 January 1997 to 31 December 2006 of randomly selected 35 enterprises listed in NEPSE. The study concluded that Nepalese stock market is not efficient either in weak form or semi-strong form. This revealed that the stock price is not random and future price can be estimated by analyzing the historical information i.e price prediction is also possible by analyzing the news and thus the market can be explained with the help of technical and fundamental analysis.

Gurung (2008) undertook a study to investigate "volatility Analysis of Nepalese stock Market". In this research paper the volatility in the Nepalese stock market modeled using daily return series consisting of 1297 observation from July 2003 to February 2009 and different classes of estimator and volatility models. The study revealed strong evidence of time-varying volatility, a time tendency of the periods of high and low volatility to cluster and high persistence and predictability of volatility in the Nepalese stock market.

Dongol (2009) undertook the study on 'Abnormal returns of Dividends Announcements'. 'Evidence from Nepalese stock Market.' This study examined the abnormal returns of individual announcements in the Nepalese stock market using the market model of events methodology. The overall 49 dividend announcement samples are partitioned into dividend-increase (good news), dividend-decrease (bad news) and no. dividend – change (no news) sub samples between 1998 and 2006. The average abnormal return around the dividend announcement day (0, +1) has been found to be positive and statistically significant. The abnormal returns were found much higher

around the dividend announcement day. The market identifies the dividend -increase, dividend – decrease and no dividend changed announcement on two days after the dividend announcement. The dividend announcement has a signaling effect on Nepalese stock market.

2.4 Concluding Remarks

Form the above discussion; it is clear that the different researchers have made attempt to relate behavior of stock market differently. Some of them have made an effort to link with different variables like dividends, market capitalization, signaling effects, retained earning, bonus share right issues etc. Through this study is planned to carry out with only few variables.

Still, further studied have been expected in the area and cited by many researcher in their conclusions. An increasing dividend payout ratio leads to increase in the stock prices for the reasons that investor consider the dividend yield (DY) is less risky than the expected capital gains (Gordan , 1962). Hence, investor's required rate of means, there is positive relationship between the amount of dividend and the stock prices (Pradhan ,1992) . However, Gordan Model though theoretically sound has less practical value is real financial world.

The number of studies conducted in these implies that the study of bear of stock market may be important one. However, Nepalese capital market lacks such type of rigorous study. In this perspective, this study aims to investigate the behavior of stock market of Nepal and selected commercial bank.

CHAPTER III

RESEARCH METHODOLOGY

This section has been divided into five sections. First section presents the brief account of research design, while second chapter describes the nature and sources of data. Third section deals about the selection of sample enterprises and the methods employed in analyzing and interpreting the data has been presented in fourth section. Lastly, fifth section deals with the limitations of the study.

3.1 Research Design

The research design is an integrated approach, which involves a series of rational decision – making choices that guide the researcher in formulating, implementing and controlling the study. The extent of scientific rigor in research depends on how appropriately the design alternatives have been chosen (Sekaran, 1999). To conduct this research without any difficulty while selecting the study period and enterprises, during the selection of variables, collection of needed information, analyze data to answer the stated research question properly, research design was made. For this, the six year fiscal data of commercial banks were selected to study the movement in stock market. Eight events and ten days NEPSE observation (just before and after the incident) was planned to analyze the signaling effect of the incident. Moreover, 8 commercial banks from the same fiscal year were selected for the assessment of financial status of companies, for the data analysis, sophisticated statistical procedure like hypothesis testing, calculation of mean, standard deviation, coefficient of variation, correlation matrix and regression analysis procedure were planned at first and this was done through using statistical package for social science (SPSS) and STATISTICA computer software. As the study is based on fact finding, the research design employed is of descriptive type

3.2 Nature and Source of Data

The necessary data and information have been collected from various sources covering the period by six year. The major source of secondary data are the official website of NEPSE, annual reports of the selected companies, annual reports of security board, and annual trading reports of different fiscal year.

3.3 Selection of Enterprise

All the commercial banks listed in the stock exchange were considered as the total population. Among the population, the commercial banks listed in NEPSE. Prior to 2000 AD were taken as sample banks. Altogether, eight sample banks as follows are taken for the study. Enterprises taken for the study are shown in table 3.

Table 3.1

Enterprises selected for the study

S.N	Companies bank Ltd	Nabil used	Abbreviation	Data available years	Number of years
1	Nabill Bank Ltd		NABIL	2005,2006,2007,2008,2009,2010	6 year
2	Nepal investment bank Ltd.		NIBL	2005,2006,2007,2008,2009,2010	6 year
3	Standard Chartered bank Ltd		SCBNL	2005,2006,2007,2008,2009,2010	6 year
4	Himalyan Bank Ltd		HBL	2005,2006,2007,2008,2009,2010	6 year
5	NEPAL SBI Bank Ltd		NSBIBL	2005,2006,2007,2008,2009,2010	6 year
6	Nepal Bangladesh Bank Ltd		NBBL	2005,2006,2007,2008,2009,2010	6 year
7	Everest Bank Ltd		EBL	2005,2006,2007,2008,2009,2010	6 year
8	Bank of Kathmandu Ltd		BOKL	2005,2006,2007,2008,2009,2010	6 year

Source: NEPSE

The financial status by the stock is related in the EPS, DPS, DPR, ROE is described later in this chapters. The development of stock market, therefore, also depends on the financial status of its listed stocks. Due to the initial and unestablished stage of stock market since no database is regular basis. It is difficult to carry on any research in Nepalese stock market, there is no system yet to compile and stock market since no data base is regularly published. Neither the listed companies has submitted their annual report to SEBO regularly. Considering the period of 2000 to 2006, usable data

could be obtained for 8 commercial banks as indicated above (table 3.1) from these companies, different observations were made to analysis the financial state of companies. The study used the data set of six years i.e. from fiscal year 2005/2006 to 2009/2010.

3.4 Research variables

Market behavior tools such as annual movement of volume of share, annual price movement of capitalization and movement of NEPSX index were analyzed to understand the stock market behavior in Nepalese secondary market. To understand the impact of signaling factor on NEPSE index, 8 variable namely, state of emergency (26, Nov, 2001) Royal movement (4, oct, 2002), case fire (29, Jan, 2004). Collapse of case fire(27, aug, 2003), Royal movement(1, feb, 2005), Maoist explosion in Jyoti spinning mill(18, Aug, 2005), seas fire of Maoist (3 sep, 2005) and establishment of GON (18 may.. 2006) were taken.

To analyze the financial status of sampled enterprises five dependent variable namely:- Market equity (ME), Market value of equity to its book value(MV/BV), price earning ratio (PE), Divided per share to market price per share (DPS/EPS) were taken. In the same manner the independent variable namely: Total debt to total assets (TD/TA) Total debt to net worth (TD/NW), Net income to net worth (NI/NW) and net income to total assets (NI/IN) were taken.

The financial indicators reflects the firms' financial status that was available from the balance sheet and profit and loss account. The following indicators were used in this study.

Earnings per share (EPS): EPS is the ratio of net profit after tax to the no. of equity outstanding. It shows the profitability of the firm on a per year bases. It is the most important financial indicator of the stock. It has the direct impact on the return ability of the investment as well as market share price and the liquidity in the stock market.

Dividend per share (DPS):- DPS is the earning distributed to equity holders divided by the number of share outstanding. DPS is primarily a function of EPS through it may depend to some extent on the dividend policy of the particular firm.

Net worth per share (NWPS): It is the ratio of book value (net worth) to the number of equity outstanding. NWPS is intrinsic value of the stock on which the equity holders have claim.

Market price per share (MPS): MPS is the market value per share of the stock on the floor of stock exchange at a specific date. The trading of shares takes place in the market value of stock exchange. It is the most important attribute of the stock market. The market price of a share is multivariate function. The earnings per share is one of the important variables that influence the market share price of a stock. It has the lagged effect on the market price of the stock. MPS reflects the financial status of the concerned firm. MPS will be high if the financial status of the firm is sound and vice versa.

Price Earnings Ratio (PE ratio): PE ratio also called earning multiplier or simply multiplies. It is the ratio of market price per share to the earning per share. The higher the PE ratio, the higher market share price of a stock given the EPS. It is important to compare the market price of different stocks given their EPS.

Earning Yield (EY): It is the ratio of earning per share to the market price per share. Thus, it is the reverse of multiplier. An earnings per share as the percentage of the market price in the stock market is called earning yield. The share with higher earnings yield is worth buying. Earning yield is information to compare the market price of stock in the secondary market.

Dividend Yield (DY):- DY is the dividend received by the investor as percentage market prices in the stock market. It is the ratio of dividend per share to the market value per share. The share with higher dividend yield is worth buying. It has importance guidance to commit funds for the buying of shares in the secondary market.

Return of equity (ROE): ROE is the net profit after deducting preference share dividend divided by number of equity outstanding. It reflects how well the company has used the resource of its owners. Thus is one of the important financial parameters used in ratio analysis.

Dividend payment Ratio (DPR): It is the ratio of dividend per share to earnings per share. Therefore, DPR is the earnings paid to the equity holders from the earnings of a firm in a particular year. The higher the DPR, the lower will be the retained earnings.

3.5 Method of analysis

Data collected from different sources were classified and tabulated in the required form. Simple arithmetic tools were widely used for data processing and analysis. Some data are compared base and the percentage and some were statically tested.

Mean

In mathematics an average of a set of data refers to a measure of the “middle” of the data set. The most common method generally refers to the average is the arithmetic mean. In descriptive statistics, the arithmetic mean is the average of a set of values or distribution. However, for skewed distributions, the mean is not necessarily as the median or mode. It is distinguished from the geometry mean or harmonic mean. As well as statistics, mean is often used in geometry and analysis. For a data set, the mean is just the sum of all the observations divided by the number of observations.

Symbolically,

$$\bar{X} = \frac{X_1 + X_2 + X_3 + \dots + X_n}{n} = \frac{\sum X}{n} \dots\dots\dots (1)$$

Where,

\bar{X} = the population means of the variable X

\sum = the expected value of X or sum of values of all observations

n= the number of observations.

Standard Deviation

The standard deviation (SD) of a probability distribution, random variable or population or multi set of values is defined as the square root of variance. The SD is

measured in the same units as the values of population. Karl Pearson introduced the term SD to statistics on the dissection of asymmetrical frequency curve, 1894.

The SD is the root means square deviation of the value from their arithmetic mean. It is the most common measure of statistical dispersion, measuring how spread out the value in the data set is. If the points are all close to the mean, then the SD is close to zero. If all the data values are equal, than the SD is zero. The values are in appreciating how much variation there is away from the mean.

Symbolically,

$$\sigma = \sqrt{\frac{\sum(X-\bar{X})^2}{n}} \dots\dots\dots (2)$$

Where,

σ = standard deviation of population

\bar{X} = the population means of variable X

n = total number of observation

\sum = sum of all values $(X - \bar{X})^2$

Coefficient of variation

The coefficient of variation (CV) is a measure of dispersion of a probability distribution in probability theory and statistics. It is defined as the ration of the SD to the mean. It is a dimensionless number that allows comparison of the variation of populations that have significantly different mean values. It is normally reported in percentage.

The CV is also common in applied probability field such as renewal theory, queuing theory and reliability theory. In these fields, the exponential distribution is often more important than the normal distribution. The CV of an exponential distribution is equal to its mean, so its CV is equal to 1. Distribution with $CV < 1$ is considered low variance and vice versa.

Symbolically,

$$C.V. = \frac{S.D \times 100}{mean} = \frac{\sigma \times 100}{\bar{X}} \dots\dots\dots(3)$$

Where,

C.V. = coefficient of variation

σ = standard deviation of population

\bar{X} = population mean.

Regression Analysis

Regression helps us to determine or analyze the strength of relationship between dependent and independent variables. It is an important statistical device, which helps to predict or forecast the value of dependent variable when the value of independent variable is known. As this study is concentrated on the behavior of share price, regression analysis is used to find out the fluencies of various financial indicators on MV/BV, PE, DPS/MPS, DPS/EPS and ME separately. The decision about the aggregate value of stocks, V may be regarded as subject to the constraints of risk, return and other variables. The equation to be established has therefore be specific as under

$$v = b_0 + b_1 LEV + b_2 EARN + v_i \dots\dots\dots(iv)$$

The dependent variable, v chosen for the study has been specified as.

-) Market equity, number of shares multiplied by market price of share (ME).
-) Market value of equity of its book value (MV/BV).
-) Price earnings ratio (PE).
-) Dividend per share to market price per share (DPS/MPS).
-) Dividend per share to earnings per share (DPS/EPS).

The independent variables are specified as:-

) LEV= Total bet to total assets (TATD) or total debt to net worth (TD/NW).

) EARN= Return on assets, that is earning before tax to total assets (ROA) or return on net worth, which is earning before tax to net worth (RONW).

In similar way, to analyze the financial status of sampled companies, different variables of the companies were collected from secondary sources. Different values for different financial indicators such as ME, MV/BV, PE, DPS/MPS, DPS/EPS, TD/TA, TD/NW, NI/NW and NI/TA were analyzed. For each sample banks, the various measures of leverage and profitability are computed and tabulated accordingly. Similarly, the net profit trends of the sample banks were analyzed using least square method.

$$Y = a + b_x$$

Where,

a' and b' are both constant variables.

Paired t-test

For the analysis of signaling effect, statistical tools 'Pair t-test' have been used. The test is used to test the null hypothesis. 'There is no significant difference on NEPSE index before and after incident' was taken as the null hypothesis for all incidents. Contrary to that, 'there are significant difference on NEPSE index before and after the indicator was taken as the alternative hypothesis.

The sector wise NEPSE indices before and after the incident were compared and tested to find the signaling factors' effect on NEPSE index. The NEPSE index on ten business day before and ten business days after were taken for the study. The corresponding date of the incidents and the NEPSE indicates are given in corresponding tables. For the t-test statcal package for social science (SPSS) is used. However, the formula used for the test is as follows.

$$t = \frac{\bar{d}}{s_d/\sqrt{n}} \dots\dots\dots (v)$$

Where,

t= paired t-test

s= standard Error

n= number of observation

\bar{d} = Mean of different between two data.

After collection and calculation all necessary financial parameters for financial status analysis of the sampled enterprise, the data are entered in STATISTICA software to form correlation matrix of different variable. Statal package for social science (SPSS) is used to find out linear regression. For this ME, MV/BV, PE, DPS/MPS and DPS/EPS each were placed as dependent variables individually y and TD/TA, TD/NW, NI/NW, NI/TA were placed as independent variables for each of the above dependent variables.

After the processing and analyzing the collected data, result has been interpreted. Description way is used to interpret the results. Moreover, charts, graphs and diagram are also interpreted. All the findings are presented in respective tables and most of the process of data processing used in this study is given in the appendixes.

3.6 Limitation of the Study

This study has limited scope, as only some sample of the listed companies is taken for the study. This study has the following limitations:-

-) The study area is focused on the factors that determine stock market behavior.
-) The study ignores the behavior of other securities like preference share, corporate bonds, government securities etc.
-) The study includes the data shape market behavior from 2005 A.D. the data before 2010 A.D. have not been considered.
-) Out of 159 companies listed in NEPSE, only 8 commercial banks are taken as sample for study.

-) To analyze stock market behavior, the study is limited to use of paired t-test, least square method, regression analysis, mean standard deviation and coefficient of variation.
-) The availability of sufficient and reliable data from the different field also led to difficulties in data collection process.

CHAPTER-IV

PRESENTATION AND ANALYSIS OF DATA

This chapter intends to analyze collected secondary data and interpret the result. The movement of volume of stock, movement of prices, and movement of market capitalization in secondary market is covered under the sub chapter named “movement in stock market”. Through, the presentation of annual trend of share price, share volume and market capitalization in tabular form, and making charts and graphs, this study illustrate the findings of study in a understandable way.

The second section of this chapter deals with “NEPSE index movement”. Sophisticated statistical tools and hypothesis testing were made to assess the signaling effects. By analyzing the NEPSE index before and after the incidents considered as the signaling factor. The effect of the signaling factor in secondary market is analyzed.

The third section of this chapter is intended to analyze financial performance of the sampled commercial banks. The collected data from sampled commercial banks were analyzed under different statistical tools to find the correlation between selected variables and regression analysis was made in this section.

4.1 Analysis of stock Market Movement

Stock Volume Movement

The number of stock traded in secondary market is very important to understand the pattern of volume of stock traded in secondary market. Therefore, this sub-section of this chapter intends to analyze the annual movement of share volume traded in secondary market.

The volume of share traded of commercial banks in secondary market in different fiscal year is shown in table 4.1. The volume of traded share of commercial banks was decreased in fiscal year 2005/06 than that of fiscal 2004/05. In comparison of 2004/05 to 2009/10 the highest of volume traded in the year 2007/08 (i.e. 6416.57 thousand) and lowest volume traded in the year 2005/06 (i.e. 858.98 thousand).

In fiscal year 2004/05, NIBL experienced significant increase in the volume of share i.e. 873.80 and the lowest was NSBIBL i.e. 30.55 thousand in the volume of share. In fiscal year 2005/06 the highest volume of share was traded by BOK i.e. 219.2 and lowest volume of share was traded by HBL i.e. 22.25 thousand. In fiscal year 2006/07 the highest volume of share traded by BOK again i.e. 327.2 and the lowest volume of share traded was by SCBNL i.e. 38.74 thousand. In fiscal year 2007/08 SCBNL occupied the highest rank and HBL ranked lowest as the traded amount of 1319 and 106.4 thousand. In fiscal year 2008/09, the highest volume of shares traded by BOK and lowest was SCBNL 928.7 and 73.09 thousand. BOK experienced highest and HBL lowest in fiscal year 2009/10. In comparison of all commercial banks, BOK has significantly higher volume of share traded and HBL has the lowest volume of share i.e. 3047.7 and 479.59 thousand.

Table 4.1

In the following table, the volume of share traded by all commercial banks and sampled commercial banks and then calculation of Mean, Standard Deviation and coefficient of variation is presented.

SN	Companies	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	Mean	SD	CV
Commercial Banks		1935.55	858.98	2737.52	6416.6	5534.72	6132.5	3936	2384.95	0.61
1	NABIL	113.6	92.61	88.79	169.5	86.11	118.32	111.49	31.41	0.28
2	NIBL	873.8	26.73	51.08	127.7	235.9	258.35	262.26	313.97	1.2
3	SCBNL	46.53	27.73	38.78	1319	73.09	305.03	301.69	509.21	1.69
4	HBL	30.87	22.25	178.7	106.4	103.4	97.37	112.49	57.37	0.48
5	NSBIBL	30.55	66.17	71.06	161	307.7	213.13	141.6	105.91	0.75
6	NBBL	134.7	85.67	589.9	316.8	274.8	203.03	267.48	179.6	0.67
7	EBL	69.12	66.51	108.8	163.2	117.1	109.54	113.49	35.59	0.31
8	BOK	421.9	219.2	327.2	666.7	928.7	813.13	561.81	283.11	0.51
Mean		215.31	75.86	181.78	378.79	265.85	264.74			
SD		276.39	59.9	177.3	394.6	264.59	233.73			
CV		1.28	0.79	0.97	1.04	0.99	0.88			

Source: NEPSE (trading report 2004/05-2009/10)

The mean, standard deviation and coefficient of variation of share volumes are also calculated to observe the trend from both direction i.e. annual trade volume and different commercial bank wise for different fiscal year. The traded volume of share of SCBNL traded in secondary market is highly deviated , and BOK and NIBL ranked second and third . contrary to that NABIL was found least deviated throughout the study.

Stock Price Movement

The stock price is the most important factor in the stock market analysis. Analysis of price traded helps to understand the stock market behavior. Therefore, this section tries to analyze the annual and monthly movement in stock price.

Annual price of traded share in secondary market in different fiscal year is shown in table 4.2. The price of traded share of commercial banks group in secondary market was increased by 365.81 percent in fiscal year 2007/08 than that of the previous year. Therefore, it can be said that there is some movement between the volume and price of share traded in secondary market in sample period.

In fiscal year 2006/07, most of the bank experienced increase in share price. The price of HBL and NBBL experienced amazing high by 152.15 and 222.79 million rupees from 19.3 and 34.87 million. There was an increment of 788.34 percent of HBL and 638.92 percent of NBBL in fiscal year 2006/07.

In fiscal year 2007/08 too, most of the commercial banks experienced the increase in share price. Among banks, SCBNL experienced highest while NBBL suffered the decrease. In fiscal year 2008/09 and 2009/10 there was mixed result for the share price. Some banks have increased in share price and other have decreased. Among all SCBNL suffered the decrease of 90.58 percent in share price.

Table 4.2

The following table shows the annual share price (in million RS) movement of commercial banks and calculated values of Mean, Standard Deviation and coefficient of variation is presented.

SN	Companies	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	Mean	SD	CV
	Commercial Banks	1151.35	332.51	803.41	4021.8	2696.28	4221.84	2204.5	1684.7	0.76
1	NABIL	89.7	66.78	73.96	211.21	165.21	196.59	133.91	64.71	0.48
2	NIBL	588.52	21.06	41.39	139.51	234.44	197.93	203.81	206.34	1.01
3	SCBNL	75.02	45.73	64.12	231.79	218.26	209.19	140.69	87.41	0.62
4	HBL	34.5	19.3	152.15	101.61	109.08	96.59	85.54	49.73	0.58
5	NSBIBL	23.38	20.66	19.31	152.15	147.76	102.57	77.64	64.32	0.83
6	NBBL	93.46	34.87	222.79	60.48	63.12	94.35	94.85	66.57	0.7
7	EBL	35.31	29.3	56.11	122.76	129.13	134.84	84.58	49.52	0.59
8	BOK	145.31	53.82	70.96	242.18	562.21	428.21	250.45	205.33	0.82
	Mean	135.65	36.44	87.62	410.06	203.65	182.53			
	SD	175.23	16.36	62.49	729.4	145.16	110.41			
	CV	1.29	0.45	0.71	1.76	0.71	0.6			

Source: NEPSE (trading report 2004/05-2009/10)

The mean, standard deviation and coefficient of variation of share price were also presented in table 4.2. The price of the share of commercial bank group is highly deviated in different fiscal years. The deviation of price of share was observed highest in fiscal year 2007/08. The deviation of share is not similar with the deviation of the trading volume of share.

Market Capitalization Movement

Market capitalization is derived by multiplying the no of listed share of all commercial banks by the closing market price of corresponding shares and summation of them. It means, the market capitalization is directly or proportionally related to the closing price of the stocks.

Market capitalization of different fiscal year is given in table 4.3. In fiscal year 2005/06, all commercial banks experienced increase in market capitalization than that of previous fiscal year. However, only NBBL could not recover the increasing level of market capitalization in fiscal year 2006/07. The market capitalization of EBL and BOK was increased with comparison to fiscal year 2005/06. Contrary to that the NBBL experienced decrease of 19.44 percent in market capitalization in same period.

All sampled commercial banks experienced increase whereas NIBL and NBBL experienced decreased. In fiscal year 2009/10, all commercial banks experienced increase in market capitalization but NBBL experienced decrease than that of previous fiscal year.

Table 4.3

The annual market capitalization (in million Rs) of commercial banks and Mean, Standard Deviation and coefficient variation of market capitalization value is presented in the given table.

S.N.	Companies	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	Mean	SD	CV
	Commercial Banks	34703.87	35240	41424.8	61366	96813.7	121434	65164	33088.9	0.51
1	NABIL	3608.81	3608.8	4909.95	7389.5	10998.3	13290.3	7300.9	3708.78	0.51
2	NIBL	1285.78	1881.3	2775.75	2362.3	7441.38	8998.9	4124.3	2965.8	0.72
3	SCBNL	5263.01	5568.6	6537.47	8785.3	14142.7	10154.9	8408.7	3096.57	0.37
4	HBL	3000	3586.4	4410.06	4830	8494.2	11481.1	5967	3027.06	0.51
5	NSBIBL	577.44	1100.7	1325.18	1446.1	3964.56	4298.39	2118.7	1452.13	0.69
6	NBBL	1224	1296	1044	954	1432.65	1023.8	1162.4	168.99	0.15
7	EBL	619.2	1171.3	2142	2740.5	5212.62	5207.27	2848.8	1800.3	0.63
8	BOK	594.36	917.89	1367.56	1993.4	3940.44	4846.84	2276.8	1578.87	0.69
	Mean	2021.57	2391.4	3064	3812.3	6953.99	7412.68			
	SD	1629.81	157.84	1877.48	2713.5	3908	4193.49			
	CV	0.81	0.66	0.61	0.71	0.65	0.57			

Source: NEPSE (trading report 2004/05-2009/10)

The mean, standard deviation and coefficient of variance of market capitalization is given in table 4.3. The deviation of market capitalization of SCBNL is found high comparing to others banks during fiscal year 2004/05 to 2009/10. The NABIL and NIBL are ranked second and third highest position respectively in market capitalization deviation for different fiscal years. Contrary to that, market capitalization of NBBL was found least deviated during the study period. The deviation is somehow correlated with the price of share but neither does with the volume of share.

NEPSE Index Movement

Market index has always been the great importance in the world of security market analysis. NEPSE index is used as a benchmark by the individual and institutional investors to evaluate the performance of their own or institutional portfolio. Market indices are used to determine the relation between historical price movements and

economic variables, and to determine the systematic risk for individual securities. NEPSE index can also be used as measuring tool whether the performance of stock market is good or not. This clearly focuses on the price of stocks that is increasing or decreasing in the market. Higher the index means the better performance of the stock market and vice versa.

Commercial banks are experiencing increasing NEPSE index since the fiscal year 2004/05. Nepalese stock market gained 963.36 point in the fiscal year 2007/08 which is the highest in these six fiscal years. In the initial years, the NEPSE point remained 286.67. The inclination continued till fiscal year 2007/08. Further inclination of 35 percent from the index of 2004/05 for the fiscal year 2005/06. During the fiscal year 2006/07, NEPSE got more improvement. The increase was of 252.12 points (i.e. 65.18%) observed. In the fiscal year 2007/08, NEPSE index showed a sign of recovery as it was increased by 76 percent from its previous fiscal year. And finally NEPSE index was in all high of last fiscal years.

This situation clearly shows the harsh effect of Nepalese political crisis in Nepalese secondary market. However, there was some improvement in later fiscal years following the improvement in the political situation.

Table 4.4

The following tables shows the NEPSE index movement in different fiscal year. Mean, standard deviation and coefficient of variation is also presented in this table.

Fiscal year	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	Mean	SD	CV
NEPSE index	286.67	386.83	683.95	963.36	749.1	477.73	591.27	252.75	42.7

Source: NEPSE (trading report 2004/05-2009/10)

The NEPSE index and their mean, standard deviation and coefficient of variation are presented in the above table. The increasing trend of NEPSE index was observed till fiscal year 2007/08 and is decreasing trend there after. This pattern seems deviated in Nepalese security market since 2004.

4.2 Analysis of Signaling Factors Affecting NEPSE Index

Nepalese stock market is not perfect and matured. Lack of knowledge of proper government policy, manipulated activities of brokers and political unrest has directly

affected the stock market. Sometimes national and international signaling effects may be the price- determining factor of Nepalese security market.

To see the signaling effect, hypothesis- testing tool has been applied. To analyze the impact of signaling factor of NEPSE Index, data using 2005 to 2010 with reference to selected eight main events of the period has been taken, Pared t-test was done.

The result of the paired t-test is presented in the table 4.5. Since the tabulated value of paired t-test at 9 degree of freedom and at 5 percent significant level is 2.262, following results are expected:

-) If the calculated values are lower than the tabulated value , null hypothesis i.e. there is no significant difference between the NEPSE indices before and after the incidents are accepted.
-) If the calculated values are higher than the tabulated value , alternative hypothesis i.e. there is significant difference between the NEPSE indices before and after the incidents are accepted or null hypothesis is rejected.

Table 4.5

This table presents the calculated values of paired t-test that affects NEPSE Index. The tabulated value of paired t-test at 9 degree of freedom and at 5 percent significance level is 2.262. If the calculated value is less than the tabulated value, the null hypothesis is accepted and vice-versa.

S.N.	Incident	Table Value	NEPSE Index	
			Calculated Value	Result (Null Hypothesis)
1	State of Emergence(26 Nov,2001)	2.262	7.151	Reject
2	Royal Movement (4 oct, 2002)	2.262	3.614	Reject
3	Ceasefire(29 Jan, 2003)	2.262	6.262	Reject
4	Collapse of Ceasefire(27 Aug, 2003)	2.262	5.55	Reject
5	Royal Movement (1 Feb, 2005)	2.262	3.431	Reject
6	Maoist explosion in Jyoti Spinning mills (18Aug, 2005)	2.262	6.555	Reject
7	Ceasefire of Maiost (3 Sep, 2005)	2.262	2.231	Accept
8	Establishment of GON(18 May,2006)	2.262	2.255	Accept

Source: Appendix 1

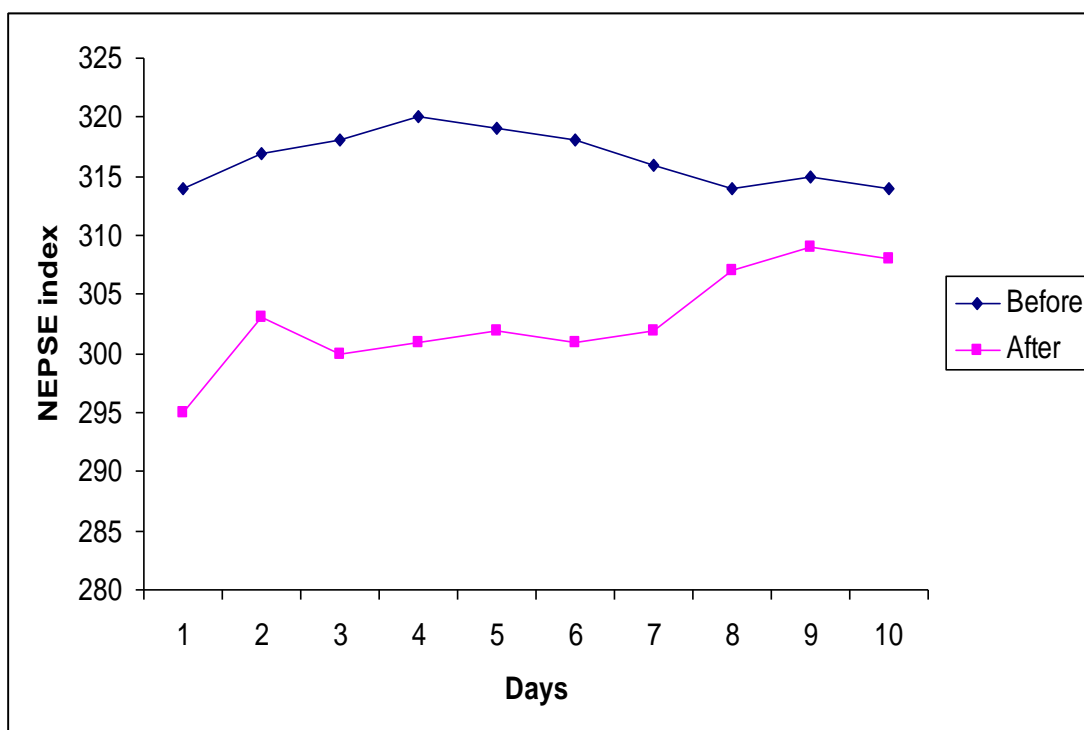
Interpretation of result of paired t-test

State of Emergency (26 Nov, 2001)

Since, last one decade Nepal experienced political instability because of insurgency. With the attack on security forces in number of places through out Nepal, the government declared state of emergency on 26 Nov, 2001. This event brought confusion to the investors and the NEPSE index started to fall. The paired t-test was used to find out the impact of incident on NEPSE index. The result of the test found that the calculated value at 9 percent degree of freedom at 5 percent level of significance is greater i.e. 7.151 for NEPSE than that of tabulated value in the same degree of freedom and level of significance ie 2.262. It means that the Null Hypothesis is rejected and alternative hypothesis is accepted. It means that the state of emergency brought negative impact on NEPSE index. With reference to this test, it was found that the state of emergency put significant effect on Nepalese stock market since the NEPSE Indices before and after the incident were significant different

Figure 4.1

Effect of state of Emergency (26 Nov, 2001) on NEPSE Index.



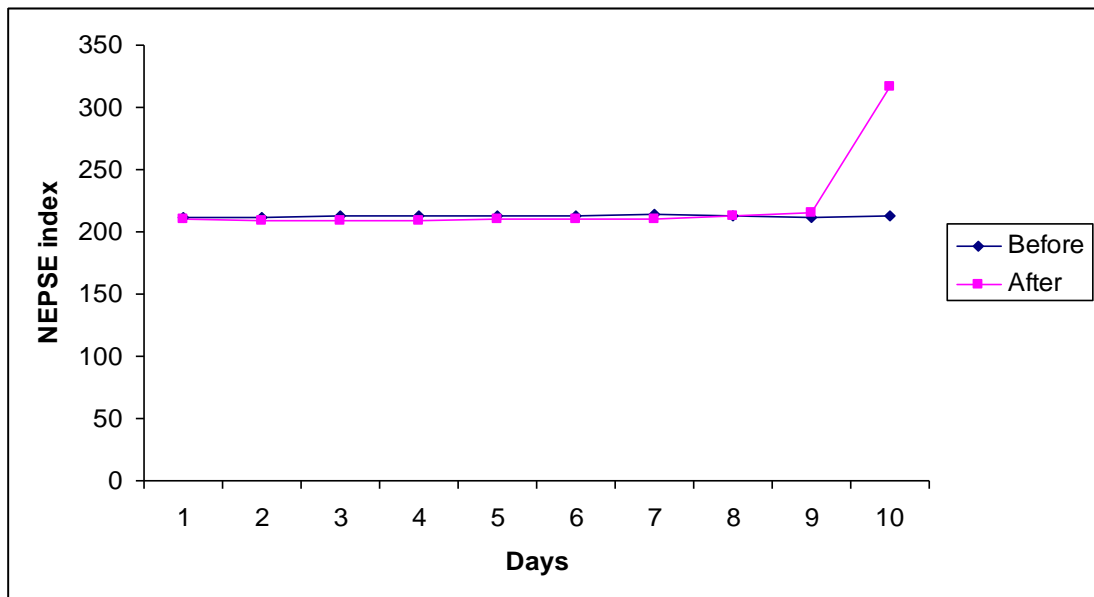
Source: Appendix II.

There was the immediate effect on the NEPSE Index after the state of emergency. NEPSE index dropped 6 percent on the first business day after the incident than that of last business day before the incident. the NEPSE index had a slight increment on the second day business after the incident but it continued to decrease in the following days. It showed that the incident had the negative impact on the capital market, as the investors were doubtful about the situation.

Royal Movement (4 Oct, 2002)

Ashoj 18 (4 Oct, 2002) is the date, which is highly debated in Nepalese political debate since the date till now. By the incident king dismissed Prime Minister Sher Bahadur Deuba's cabinet and kept himself as the ruler of the country, keeping all executive power within himself. All political parties including insurgents were gone against regarding royal move. After the incident, Nepal entered in the position of further uncertainty. Both positive and negative effect were effected in Nepalese financial market. A significant proportion of Nepalese population were fed up with the way Nepalese political parties leaders ruled the country and act during the last 12-13 years after the re-establishment of democracy in 1990. Regarding group expected positive impact on Nepalese investors sector. It means the NEPSE index should increase after the incident. Contrary to that, the other people perceived that the incident made people of Nepal to loose their Sovereignty and democracy and the incident should lead to worsen investment sector. Here, null hypothesis was made that here was no significant difference between NEPSE index before and after Ashoj 18. The effect was tested by the paired t-test and the result is found that the null hypothesis be rejected. It means there was significant difference between the NEPSE index before and after the Royal move of Ashoj 18 at 5 percent level of freedom and 9 degree of freedom.

Figure 4.2
Effect of Royal Movement (04, oct, 2002) on NEPSE Index.



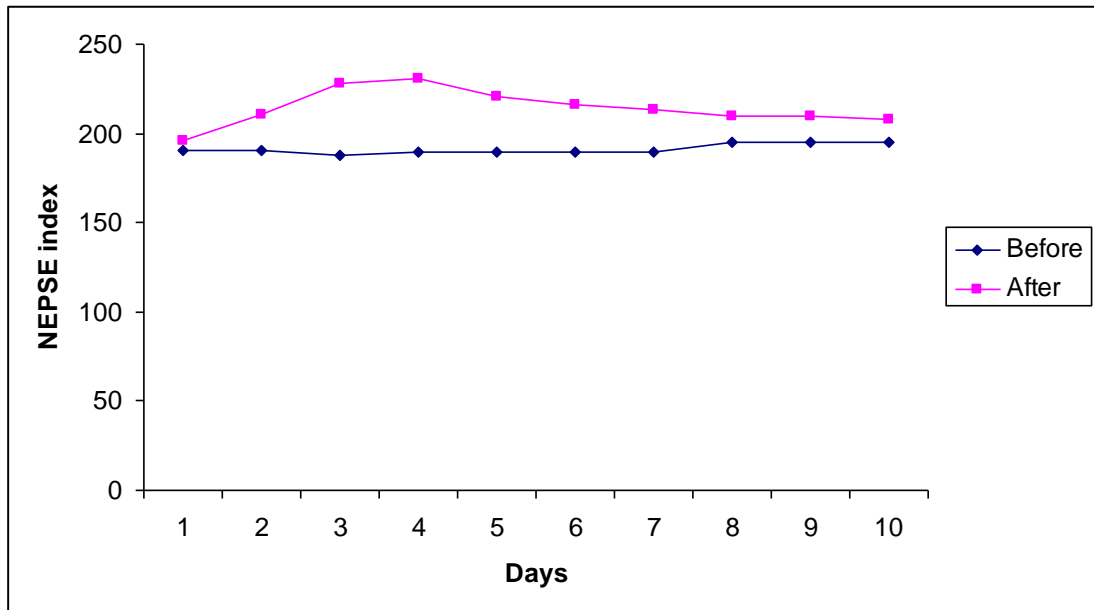
Source: Appendix II.

Contrary to the belief of the political parties and people against the move of the King, the NEPSE index showed the sign of recovery. NEPSE index had a positive increment after the incident. It showed that the incident had the positive impact on the capital market.

Ceasefire (29 January, 2003)

Another incident taken to see the signaling effect of ceasefire on NEPSE that was held between the Maoist and the government of Nepal. This ceasefire brought some sort of peace in the country for the time. It was comparatively favourable environment for the investors. People of Nepal including investors expected that ceasefire and peace talk between Maoist and government would change into permanent peace. There after the country will get political stability. Expecting the suitable environment for investment all the investors started to invest. Increasing NEPSE Index after ceasefire supported this positive on investment sector. This paired t-test showed that null hypothesis is rejected. It means Nepalese investors expected permanent peace. For the time, they thought that peace talk could solve the problem and bring favourable condition for investment.

Figure 4.3
Effect of ceasefire (29 Jan, 2003) on NEPSE Index



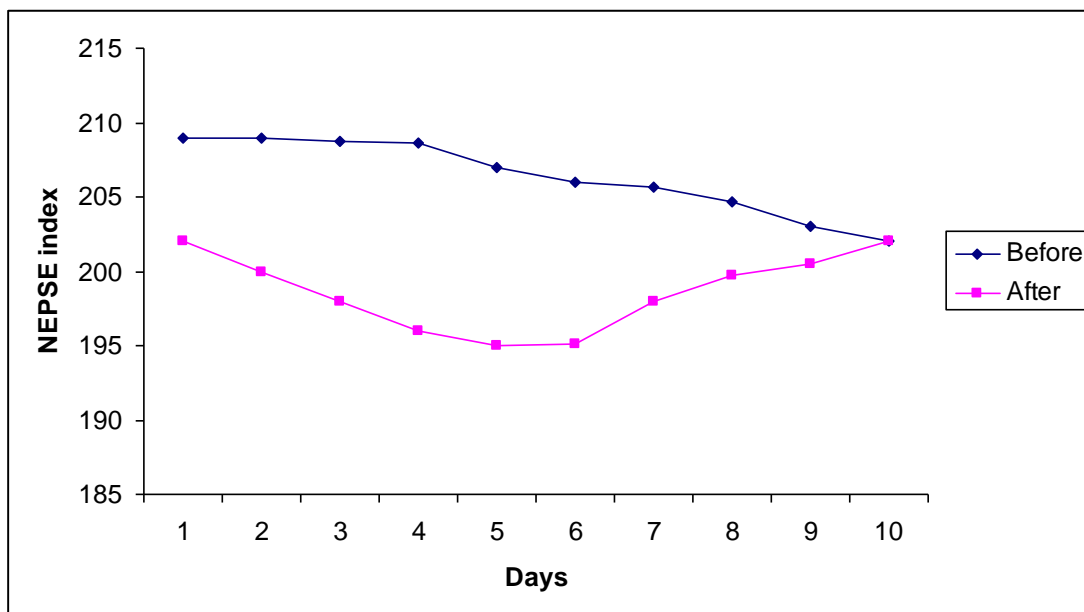
Source: Appendix II.

NEPSE index increased significantly after the last day before the incident. The NEPSE index had an increment of 7 percent on the second business day after the incident. This trend continued showing the positive impact on capital market.

Collapse of Ceasefire(27 Aug, 2003)

The collapse of ceasefire was also taken as one of the important event to see the signaling effect on NEPSE index. After the series of talks between maoist and government of Nepal they failed to find out peaceful solution of the political crisis. Result of that was clearly visible in the downfall of NEPSE index. The result of t-test showed that collapse of ceasefire brought significant change in NEPSE index. The financial sector was affected by the incident and it was reflected on NEPSE indices of commercial banks.

Figure 4.4
Effect of collapse of ceasefire (27 Aug, 2003) on NEPSE index.



Source: Appendix II.

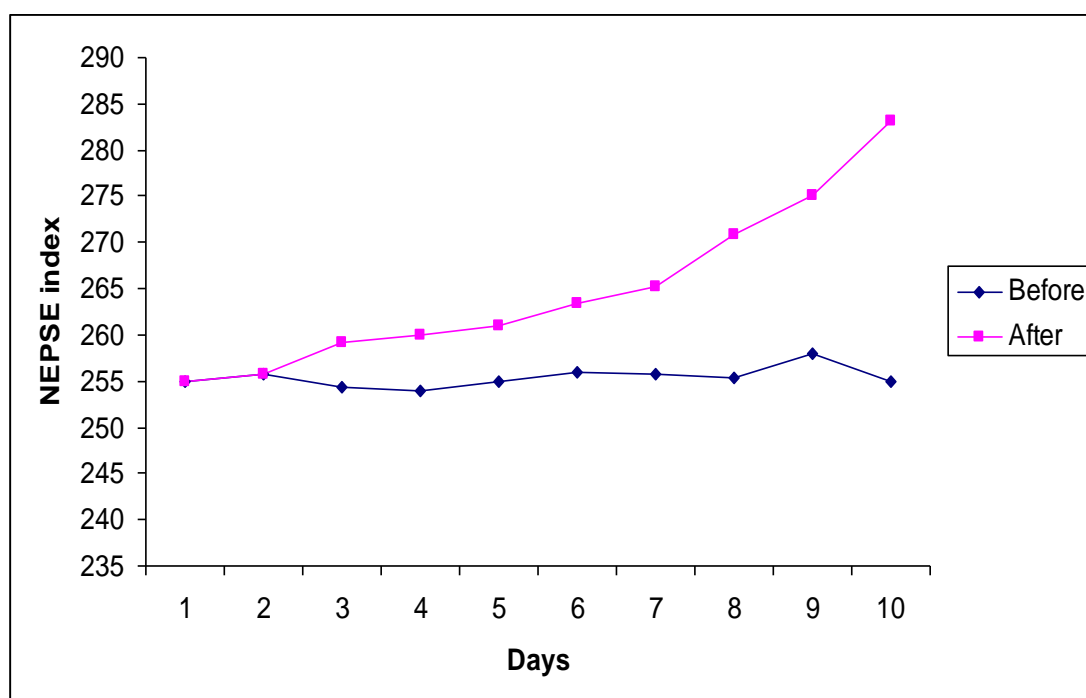
NEPSE index decreased by 3.47 percent on the first business day after the incident than that of last business day before the incident and went complete downward trend as shown in figure 4.4 shows how the political uncertainty has a negative impact on the economy of the country.

Royal movement (01 Feb, 2005)

After the collapse of ceasefire between the government and the Maoist, there was again too much violence and blood shed. There was once again the taking of all executive power gaining by king on 1 feb 2005 by dismissing the cabinet of Prime Minister Sher Bahadur Deuba`s cabinet. All political parties were banned and markets` including share market was closed. Due to cerfew the share market was opened after twenty days. As always there was speculations about the impact of the movement in share market. The effect was tested by the paired t-test and the result was found that the null hypothesis be rejected. It means that there were significant difference between the NEPSE index before and after the Royal Movement of February 1 at 5 percent level of significance and 9 degree of freedom.

Figure 4.5

Effect of Royal movement (1 Feb, 2005) on NEPSE index



Source: Appendix II.

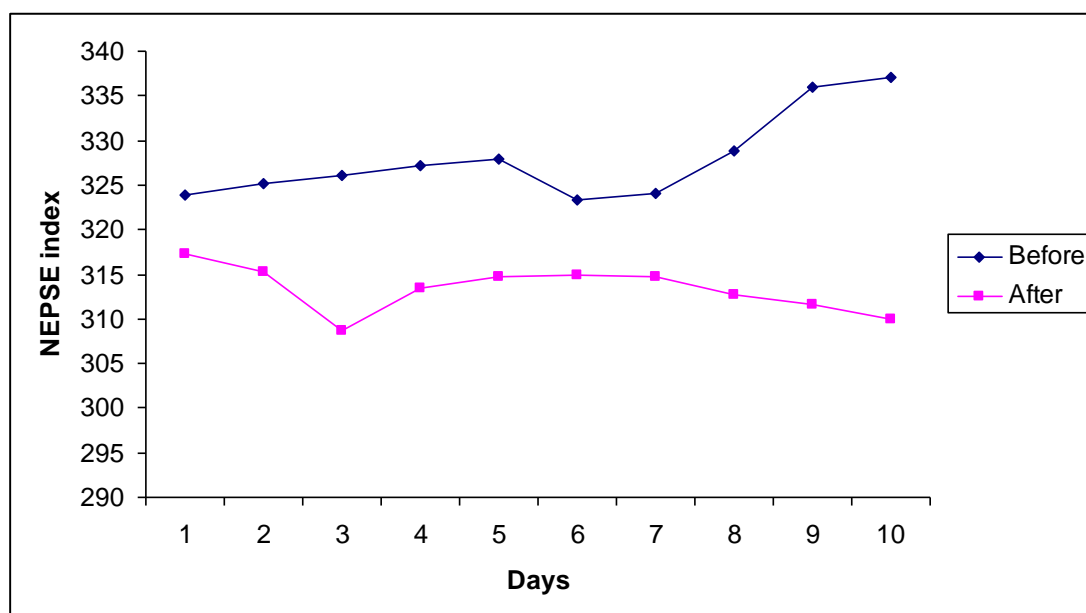
NEPSE index was almost the same the day market opened as it was in the last business day before the incident. The NEPSE index was in the increasing trend on the following business day. Although all the political parties against the movement of king, the financial market showed completely different trend as illustrated in fig 4.5.

Maoist's Explosion in Jyoti Spinning Mill (18 Aug, 2005)

Properties worth over 200 millions have been destroyed after the Maoists exploded bombs at the jyoti spinning mills in parsa district. The Federation Of Chamber of Commerce and Industry (FNCCI) condemned the bomb explosion and arson at the Jyoti Spinning Mills. The effect was tested by paired t-test. The result showed the rejection of null hypothesis. It means there was significant difference before and after the incident.

Figure 4.6

Effect Maoist's Explosion in Jyoti Spinning Mill (18 Aug, 2005) on NEPSE index



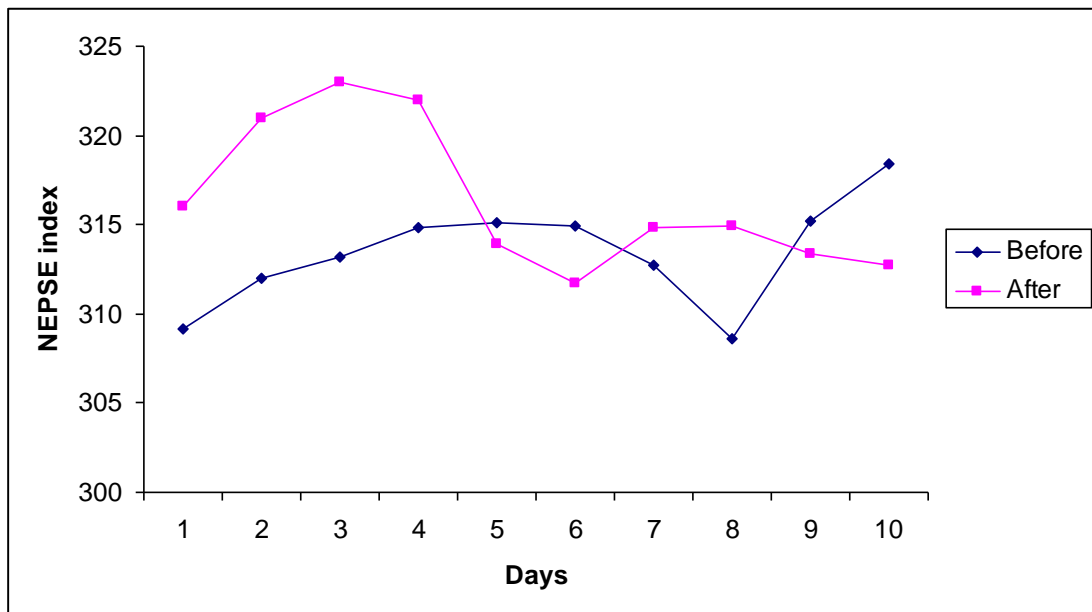
Source: Appendix II.

NEPSE index decreased by 1.67 percent on the following business day of the incident. The index dipped by 2 percent on second business day. The trend continued as there was no security for the investment sector. Investors were doubtful about the political situation as well as their own safety. This incident really hampered the financial sector.

Maoist's Ceasefire (18 Aug, 2005)

After the explosion in Jyoti Spinning Mill 18 Aug, 2005, Maoist were highly condemned from all sides for their attack over Nepalese commerce and industry. Members of FNCCI, civil society as well as all entrepreneurs of the country came forward against the Maoists such acts. In response of such movement of market and civil society Maoist party relatively reduced their attack over the economic sector. Observing the situation and keeping in view of coming festival Dashain and Tihar, maiosts declared the ceasefire earlier than the date (3 sep, 2005) they used to do in the earlier years. Hence, positive effect of ceasefire promptly observed in Nepal stock market. The paired t-test was performed to measure the effect of the incident. There was no significant difference before and after the incident was taken as null hypothesis.

Figure 4.7
Effect of Maoist Ceasefire (18 Aug. 2005) on NEPSE Index



Source: Appendix II.

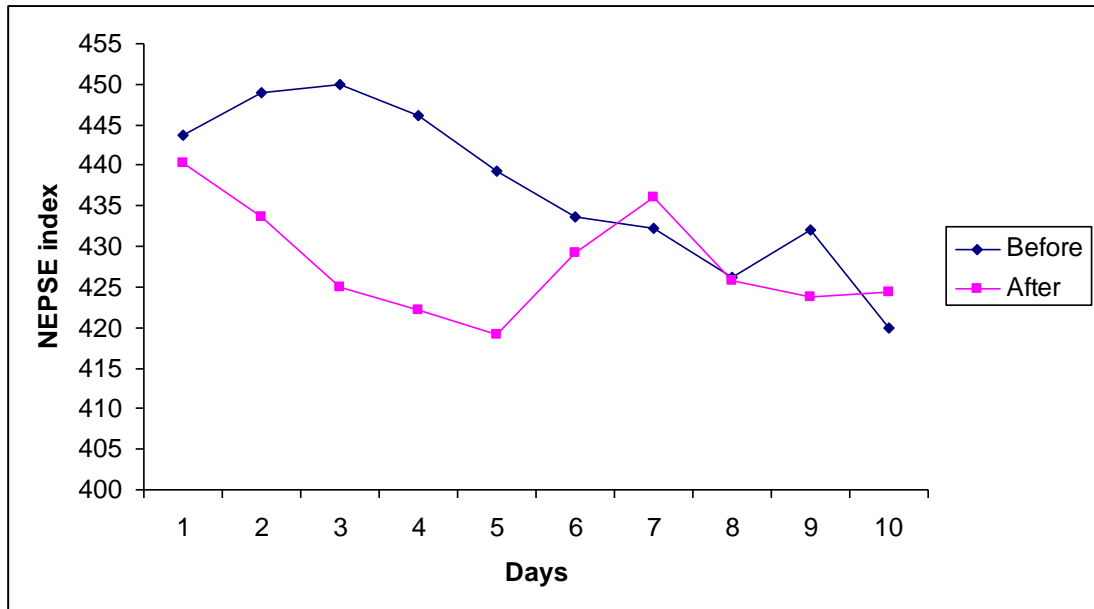
NEPSE Index was increased by 2 percent on the following business day of the incident than that of the previous day of the incident. The index continued to increase for few days and again started to decline. Through the ceasefire brought some hopes in the capital market it was only for few days and the scenario was not changed much as it was aimed for the festival season.

Establishment of GON (18 may, 2006)

After the royal coup of Feb 1 2005, Nepalese constitution of 1991 was paralyzed. Movement against the king act blow the country day by day. The 12 point agreement between seven political alliance and CPM-Maoist fueled the movement against king and in support to re-establish Democracy in country. The 19 days long revolution known as Jana Andolan II in which millions of citizen with the leadership of seven political alliance, civil society and Maoist marched in the street through out the country. Nepalese people completely halt every state mechanism, ultimately, on 24 April 2006 (11 Baisak 2063) ‘dissolved Parliament’ was re-established. It was the first step towards Nepalese peace process. This reestablishment parliament made its historic proclamation and established government by Nepal in 18th May 2006. This

incident was ending the decade long armed conflict. Hence, this incident is very important to see the signaling effect in Nepalese market.

Figure 4.8
Effect of Establishment of GON (3 Sept. 2005), on NEPSE Index



Source: Appendix II.

NEPSE index showed the little change on the first day after the incident. The dropping continued few days and started to increase. The t-test showed that there is no significant difference before and after the incident.

Finally, it can be concluded that signaling factors played significant role to determine NEPSE index in Nepalese security market. From the analysis of major eight events, it was found that signaling factors made NEPSE index fluctuating.

4.3 Financial Performance

This section intends further analyzes at the number of financial indicators of sampled banks to illustrate the financial status of the company.

This study analyzes all the financial indicators like market equity (ME), price earning (PE), market value to book value of equity(MV/BV), dividend per share to earning per share (DPS/EPS) and dividend per share to market price per share(DPS/MPS) as the dependent variable and leverage i. e. total debt/total assets (TD/TA), and total debt/net worth (TD/NW) and earning net income/net worth (NI/NW) and net

income/total assets (NI/TA) as independent variable. Different statistical methods are used to analyze the data and presented accordingly in the tables and figures.

Table 4.6

Mean and standard deviation of the Independent Financial Indicators

Name of banks	Leverage				Earning			
	TD/TA		TD/NW		NI/NW		NI/TA	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
	%	%	%	%	%	%	%	%
NABIL	91.72	1.06	1126.79	174.15	30.17	3.46	0.55	0.55
NIBL	92.05	1.76	1302.02	276.98	18.70	5.77	1.32	0.40
SCBNL	94.01	0.31	1391.71	68.51	35.91	2.45	2.50	0.15
HBL	94.70	0.79	1822.61	314.92	21.31	4.61	1.18	0.22
NSBIBL	92.84	0.64	1296.43	84.61	8.17	1.18	0.70	0.17
NBBL	95.85	1.48	2416.80	1547.33	-48.00	133.11	1.26	2.17
EBL	93.64	0.57	1498.46	16.90	22.92	3.63	1.47	0.27
BOK	92.72	0.66	1289.86	94.89	19.00	10.96	1.31	0.67

Source: Appendix III

All the stocks of commercial banks have the higher leverage. The ratio of TD/TA is above 90% marked for all the banks. The leverage of SCBNL, EBL and BOK seems less variable than others. As per TD/NW is concerned, again all the banks have the higher percentage. TD/NW is relatively less for NABIL and BOK on 1126.79 and 1289.96 percentage respectively while it is the highest in case of HBL where it is 1822.61.

The return on asset is highest at 2.50 of SCBNL followed by 1.47 of EBL; NBBL is the only bank to suffer negative percentage. It has -48 percent loss of return on assets. Here, again SCBNL and NABIL have more percentage of return on equity at 35.91 and 30.17 percent respectively.

Among the sampled banks SCBNL and NABIL have the highest equity of the sampled banks at Rs. 9265.7 and 7013.20 millions respectively. NSBIBL and NBBL

have the lowest market equity of Rs. 1681.27 and 2000.33 millions respectively. The stocks with higher ME are more variable compared to the stock with lower ME.

The PE is highest of BOK 33.69 and lowest is 16.63 of NBBL. Banks with less ME are more variable than others.

Table 4.7

Mean and standard Deviation of the dependent financial indicators

Name of Bank		ME	PE	MV/BV	DPS/MPS	DPS/EPS
		Million	Times	Times	%	%
NABIL	Mean	7013.20	15.78	11.93	4.46	57.59
	SD	3577.87	7.72	5.94	2.11	14.73
NIBL	Mean	2482.62	19.30	8.21	1.52	28.32
	SD	1432.01	3.23	2.88	0.83	16.42
SCBNL	Mean	9265.70	19.02	20.64	4.89	72.24
	SD	4416.48	12.07	9.03	2.13	9.45
HBL	Mean	6576.89	19.01	6.93	1.13	20.64
	SD	3647.17	3.41	3.79	1.24	21.66
NSBIBL	Mean	1681.27	27.69	3.50	0.52	11.63
	SD	922.27	16.57	0.88	1.28	28.48
NBBL	Mean	2000.33	16.63	3.16	0	0
	SD	922.27	16.57	3.16	0	0
EBL	Mean	2611.82	16.07	7.12	1.84	29.99
	SD	1494.42	3.22	3.70	1.73	26.27
BOK	Mean	2039.00	33.69	4.18	9.27	36.75
	SD	1158.86	45.85	2.37	16.70	13.58

Source: Appendix III

The MV/BV ratio varies from 3.5 times of NSBBL to 20.64 times of SCBNL. The MV/BV ratio is more variable for the SCBNL and less variable for NSBIBL.

The DPS/MPS is highest for BK at 9.27 and least is NBBL. The banks having higher ratio are more variable than having less ratio.

The DPS/EPS ratio is most in case4 of NABIL where it is 57.59 and NBBL has the least of 0 and is also less variable.

Regression Analysis

The multiple regression analysis with each dependent variable (ME, PE, MV/BV, DPS/MPS and DPS/EPS) with the given independent values of leverage and earnings namely TD/TA, TD/NW for leverage and NI/NW and NI/TA for earnings are carried out. The result showed very little degree of significance as there were data for the past six years fiscal years for each bank. Thus we have performed the correlation matrix to see the relationship of each dependent variable with independent variables of each sample banks is tested. The correlation between dependent and independent variables which is more than 0.30 is taken as significant and thus the regression analysis is done by those variables of each bank.

Table 4.8

Correlation matrix of NABIL

	ME	TD/TA	TD/NW	NI/NW	NI/TA	PE	MV/BV	DPS/MPS	DPS/EPS
ME	1								
TD/TA	-	1							
TD/NW	-	-	1						
NI/NW	0.47	-	-	1					
NI/TA	0.29	-	-	-	1				
PE	-	-0.04	-0.02	-	-0.19	1			
MV/BV	-	-	-	-	0.65	-	1		
DPS/MPS	-	-0.11	-0.15	-	0.32	-	-	1	
DPS/EPS	-	-0.34	-0.35	0.33	0.57	-	-	-	1

Source: Appendix IV

The above table 4.8 shows the correlation matrix of NABIL with different variables. NABIL has positive correlation of ME with the earning. Likewise, bank has negative correlation with both leverage and return on equity. MV/BV of bank shows significant relationship with earning. DPS/MPS and DPS/EPS have negative correlation with leverage but have the significant positive correlation with earning. It shows that the increase in DPS/MPS and DPS/EPS ratio is favourable for the earning of the bank.

Table 4.9**Correlation matrix of NIBL**

	ME	TD/TA	TD/NW	NI/NW	NI/TA	PE	MV/BV	DPS/MPS	DPS/EPS
ME	1								
TD/TA	-	1							
TD/NW	0.23	-	1						
NI/NW	0.22	-	-	1					
NI/TA	0.21	-	-		1				
PE	-	-0.46	-0.41	-0.73	-0.74	1			
MV/BV	-	-	-	-0.07	-0.48	-	1		
DPS/MPS	-	0.68	0.64	0.63	0.32	-	-	1	
DPS/EPS	-	0.62	0.59	0.46	0.09	-	-	-	1

Source: Appendix IV

Table 4.9 shows the correlation matrix of NIBL. ME of NIBL has positive correlation with TD/WW, NI/NW and NI/TA. NIBL have significant positive correlation of DPS/MPS and DPS/EPS with leverage and earnings. MV/BV has the negative correlation with share holders equity and return on equity. Similarly, PE of the bank has the significant negative correlation with all of the four independent variables.

Table 4.10**Correlation matrix of SCBNL**

	ME	TD/TA	TD/NW	NI/NW	NI/TA	PE	MV/BV	DPS/MPS	DPS/EPS
ME	1								
TD/TA	-0.29	1							
TD/NW	-0.3		1						
NI/NW	-	-	-	1					
NI/TA	0.61	-	-	-	1				
PE	-	-	-	-		1			
MV/BV	-	-	-	-	0.72		1		
DPS/MPS	-	-	-	-	-	-	-	1	
DPS/EPS	-	-	-	0.36	-0.26	-	-	-	1

Source: Appendix IV

Correlation matrix of SCBNL is shown in table 4.10 SCBNL has negative correlation with TD/TA and TD/NW but the bank has significant relationship of ME with return on equity. SCBNL has no significant correlation of PE and DPS/MPS with any of the independent variables so the relationship with independent variables will not be tested by the regression analysis. MV/BV shows positive correlation with NI/TA whereas DPS/EPS has positive correlation with NI/NW and negative correlation with NI/TA.

Table 4.11

Correlation matrix of HBL

	ME	TD/TA	TD/NW	NI/NW	NI/TA	PE	MV/BV	DPS/MPS	DPS/EPS
ME	1								
TD/TA	-0.81	1							
TD/NW	-0.77		1						
NI/NW	-	-	-	1					
NI/TA	0.66	-	-	-	1				
PE	-	-0.71	-0.67	-0.69	0.39	1			
MV/BV	-	-0.44	-0.48	-0.03	0.16	-	1		
DPS/MPS	-	-	-	0.88	0.59	-	-	1	
DPS/EPS	-	-	-	0.84	0.66	-	-	-	1

Source: Appendix IV

The table 4.11 represents the correlation matrix of HBL. The bank showed different correlation with different variables. ME had negative significant correlation with return on equity where PE showed negative correlation with both the variables of leverage and shareholder's equity.

MV/BV has negative correlation with TD/TA, TD/NW and NI/NW where as it has positive correlation with NI/TA. Similarly, DPS/MPS and DPS/EPS have the positive significant correlation with variables of earning but showed insignificant correlation with leverage.

Table 4.12**Correlation matrix of NSBIBL**

	ME	TD/TA	TD/NW	NI/NW	NI/TA	PE	MV/BV	DPS/MPS	DPS/EPS
ME	1								
TD/TA	-0.03	1							
TD/NW	-0.04	-	1						
NI/NW	-0.83	-	-	1					
NI/TA	0.86	-	-	-	1				
PE	-	-0.51	-0.54	-0.72	-	1			
MV/BV	-	-0.17	-0.14	-0.87	0.69	-	1		
DPS/MPS	-	-	-	-	-	-	-	1	
DPS/EPS	-	-	-	-	-	-	-	-	1

Source: Appendix IV

NSBIBL's correlation matrix is shown in table 4.12. ME has negative correlation with leverage and positive correlation with earnings. PE and MV/BV showed negative correlation with leverage. DPS/MPS showed no significant relationship with any of the independent variables.

Table 4.13**Correlation matrix of NBBL**

	ME	TD/TA	TD/NW	NI/NW	NI/TA	PE	MV/BV	DPS/MPS	DPS/EPS
ME	1								
TD/TA	-	1							
TD/NW	-	0.84	1						
NI/NW	0.03	-	-	1					
NI/TA	-	-	0.98	-	1				
PE	-	-0.61	-0.62	-0.72	-	1			
MV/BV	-	-0.62		-0.18	-	0.45	1		
DPS/MPS	-	-	-	-	-	-	-	1	
DPS/EPS	-	-	-	-	-	-	-	-	1

Source: Appendix IV

For NBBL, ME has no significant correlation with any of as independent variables of leverage and earning. PE too has no significant correlation with any of its independent variables. MV/BV has the significant negative correlation with TD/TA and NI/NW. In case of DPS/MPS and DPS/EPS, the correlation between dependent and independent variable is exactly the same.

Table 4.14

Correlation matrix of EBL

	ME	TD/TA	TD/NW	NI/NW	NI/TA	PE	MV/BV	DPS/MPS	DPS/EPS
ME	1								
TD/TA	-	1							
TD/NW	-	-	1						
NI/NW	0.51	-	-	1					
NI/TA	0.42	-	-	-	1				
PE	-	-	-	0.36	0.24	1			
MV/BV	-	-	-	-0.07	0.03	-	1		
DPS/MPS	-	-	-	-	-	-	-	1	
DPS/EPS	-	-	-	-	-	-	-	-	1

Source: Appendix IV

Table 4.14 represents the correlation matrix of EBL between dependent and independent variables. ME and MV/BV have positive correlation with independent variables whereas PE have a negative correlation with leverage and earnings.

Table 4.15

Correlation matrix of BOK

	ME	TD/TA	TD/NW	NI/NW	NI/TA	PE	MV/BV	DPS/MPS	DPS/EPS
ME	1								
TD/TA	0.67	1							
TD/NW	-	-	1						
NI/NW	0.66	-	-	1					
NI/TA	0.65	-	-	-	1				
PE	-	-0.66	-0.69	-0.72	-	1			
MV/BV	-	0.56	0.63	0.53	0.54	-	1		
DPS/MPS	-	-0.73	-0.71	-0.79	-	-	-	1	
DPS/EPS	-	-0.56	-0.09	-	-	-	-	-	1

Source: Appendix IV

BOK has positive correlation of ME with its leverage and earning. PE had a negative correlation with its independent variable. MV/BV has a positive correlation whereas DPS/MPS and DPS/EPS had a negative correlation with its earning.

Finally, different banks have different relationship between dependent and independent variables. All sampled bank differ in the relation with some way or another. The relationship depends upon various factor. Correlation matrix helps to identify the variables of different bank which have the significant correlation. Only those dependent and independent variables which are illustrated in correlation matrix will be taken for the regression analysis because it is useless to perform the regression analysis of the variables if they show no significant result.

Regression analysis based on various dependent variables

This section intends to analyze financial performance of the sample bank by regression. The result found after the statistical analysis is given here. To calculate the multiple regression different financial parameters were made. As previous section dealt the movement on security market of female banks, this section further analyses the number of financial indication of sampled banks to illustrate the financial status of the companies.

This study sorts out all the sampled banks as per the correlation matrix. Market equity (ME), price earning (PE), market value to book value of equity (MV/BV), dividend per share to market price per share (DPS/MPS), and dividend per share to earning per share (DPS/EPS) and the five dependent variables against which the independent variables of leverage i.e. total debt/total assets (TD/TA) and total debt/net worth (TD/NW) and earning i.e. net income/net worth (NI/NW) and net income/total assets (NI/TA) are tested. Each analysis is based upon the correlation matrix done in above section and classified separately for each of the sampled bank.

Regression Analysis Based on Dependent Variable ME

Table 4.16

Coefficient Value of Sample Companies

Description	NABIL	NIBL	SCBNL	NBBL	EBL
A(constant)	48229.49	1278.07	-13.12	2010.84	10343.83
B1 (TD/TA)	-	16.38	-	-	-
B2 (TD/NW)	-	-	6.67	-	-5.12
B3 (NI/NW)	1709.23	-8.03	-	0.22	-
B4 (NI/TA)	1120.45	-	-	-0.01	-
r	0.98	0.589	0.83	0.984	0.979
r ²	0.97	0.346	0.689	0.969	0.959
SE	238.21	691.18	1105.84	337.343	348.302

Source: Appendix IV.

Table 4.16 shows the result of regression analysis based upon the significance of the study as shown in correlation matrix. ME is dependent variable in this analysis. The relationship of ME is different with different banks. All sampled banks have significant relationship with return on equity (NI/NW and NI/NW). As per leverage is concerned, all the sampled bank have negative relationship of ME with TD/TA. NIBL and BOK have the positive relationship. ME has positive relationship with TD/NW of NIBL whereas all other sample banks have the negative relationship.

As per correlation matrix, out of sampled banks, six banks have the negative relationship with independent variables of leverage and earning. PE also does not have the significant relationship with all the independent variables it differs with each sampled banks. All the sampled bank had negative relationship with TD/TA and TD/NW. PE have the mixed relationship with NI/TA and NI/NW with different banks.

Regression Analysis Based on Dependent Variable PE

Table 4.17

Coefficient Value of Sample Companies

Description	NABIL	NIBL	SCBNL	NBBL	EBL
A(constant)	15.91	28.99	5.48	16.20	759.95
B1 (TD/TA)	0.07	-	-	-	-
B2 (TD/NW)	-	-	-	-	-0.58
B3 (NI/NW)	-	-0.21	0.28	-	-
B4 (NI/TA)	-2.66	-3.65	2.09	-0.01	-
r	0.941	0.93	0.860	0.911	0.940
r ²	0.885	0.86	0.751	0.831	0.884
SE	3.158	4.935	2.99	0.795	4.041

Source: Appendix IV.

Among all the sampled banks, most of the banks had no significant relationship of MV/BV with leverage whereas only BOK have the positive relationship with TD/TA. Only BOK had the significant positive relationship. SCBNL, HBL, NSBIBL and BOK had the positive relationship with independent variable NI/TA. Only SCBNL and BOK had the significant relation with MV/BV with all the four independent variables.

Regression Analysis Based on Dependent Variable MV/BV

Table 4.18

Coefficient Value of Sampled Companies

Description	NABIL	NIBL	SCBNL	NBBL	EBL
A(constant)	-91.83	-1.98	5.48	-8531.70	6.49
B1 (TD/TA)	-	-	-	91.79	-
B2 (TD/NW)	-	-	-	-	-
B3 (NI/NW)	8.47	0.97	0.28	-	-
B4 (NI/TA)	-60.70	-7.01	2.09	18.54	0.42
r	0.785	0.358	0.311	0.78	0.866
r ²	0.62	0.129	0.097	0.61	0.751
SE	4.98	2.521	8.822	0.739	2.299

Source: Appendix IV.

Regression Analysis Based on Dependent Variable DPS/MPS

Table 4.19

Coefficient Value of Sampled Companies

Description	NABIL	NIBL	HBL	BOK
A(constant)	665.45	-1.87	-4.63	262.28
B1 (TD/TA)	-7.26	-	-	-
B2 (TD/NW)	-	0.0018	-	-
B3 (NI/NW)	0.12	-	0.17	75.55
B4 (NI/TA)	0.01	0.64	1.91	-1283.88
r	0.977	0.893	1	0.969
r ²	0.944	0.798	1	0.938
SE	0.287	1.011	0.008	0.561

Source: Appendix IV.

The relationship of dependent variable DPS/MPS between leverage and earning is tabulated on above table. It is one of the important analysis. Amongst all the sample

commercial banks, only four relationship is analyzed. NABIL, NIBL and HBL have the significant level positive relation with its earning. The result of analysis is different for different banks. NABIL have only significant to analyze three variables, where and other are analyzed with two variables only.

Regression Analysis Based on Dependent Variable DPS/EPS

Table 4.20

Coefficient Value of Sampled Companies

Description	NABIL	NIBL	SCBNL	HBL	BOK
A(constant)	-11.451	-0.07	13.87	-105.26	267.43
B1 (TD/TA)	102.05	1.50	-	-	-0.06
B2 (TD/NW)	-	-	-	-	-
B3 (NI/NW)	70.62	-	1.67	3.34	-0.82
B4 (NI/TA)	-1.30	-44.46	-0.66	40.52	-
r	0.837	0.890	0.814	1	0.914
r ²	0.700	0.793	0.663	1	0.835
SE	7.30	20.547	3.436	0.113	12.043

Source: Appendix IV.

This is the last of the analysis. This section analyzes the relation of dependent variable DPS/EPS with the independent variable of leverage and earning. BOK has the negative relationship of DPS/EPS with TD/TA and NI/NW while EBL have negative and positive relationship with NI/TA and NI/NW. HBL have the positive relationship with its earnings whereas NIBL have the mixed result.

4.4 Major Findings of the Study

The major findings of the study can be summarized as under:

-) The price of traded share of commercial bank groups in secondary market was increased by 25.55 in fiscal year 2006/07 and 365.81 percent in fiscal year 2007/08. The deviation of price of share is observed highest in fiscal year 2007/08 and the lowest in fiscal year 2005/06. Although the highest and the lowest deviation in both volume and price are observed in similar fiscal year, the deviation is not similar.
-) Market capitalization is less in fiscal year 2004/05 and was increased significantly in fiscal year 2009/10. The market capitalization of the group as well as of individual banks were highly deviated. The deviation was highest in fiscal year 2004/05 and lowest in 2006/07.
-) NEPSE index is used as measuring tools to evaluate the performance of institutional portfolio and stock market. This clearly focuses on the price of stocks that is increasing and decreasing in the market. Present study illustrates that commercial banks are experienced increase till 2007/08 and then downward trend. This situation clearly shows the harsh effect of Nepalese political crises in Nepalese secondary market.
-) Market price of the stock moves everyday because of numbers of incidents of local and global scale. Hence, this study examines that how stock market of commercial banks is moving, and identifies associated cause or effect of some of the signaling factors on such movements. Mainly eight incidents were taken to study the signaling factor. This study analyzes the financial performance of commercial banks too.
-) The findings of this study are based on the analysis from the selected incidents and enterprises. All commercial banks listed prior to 2000 in SEBON are sampled for analysis. Financial performances of these banks for six years from 2005 to 2010 were analyzed. Ten observation of NEPSE index before and after the selected incidents were made. The data used for the study were obtained from annual trading report of SEBON and annual financial report of the bank.

-) The traded value of share of SCBNL traded in secondary market is highly deviated and the NIBL and BOK ranked second and third is the deviation respectively. Contrary to that, the volume of share of NABIL was found least deviated. The deviated volume of share of all banks was observed the highest in fiscal year 2004/05 and least in fiscal year 2005/06.
-) To know the financial status of the companies, market equity (ME), price earning (PE), market value to book value of equity (MV/BV), dividend per share to market price per share (DPS/MPS), and dividend per share to earning per share (DPS/EPS) as the dependent variable and variables of leverage i.e. (TD/TA) and (TD/NW) and earnings (NI/NW) and (NI/TA) as dependent variables were analyzed. The analysis shows that all the stocks of commercial banks have the higher leverage. All the banks have the ratios of TD/TA above 90 percentage and have higher percentage of TD/NW. The return on assets suffered negative percentage only for NBBL, whereas, SCBNL have the higher percentage in return on equity. SCBNL have the highest market equity whereas NSBIBL have the lowest market equity. The stocks of the banks with higher ME are more variable compared to the stock with lower ME.
-) The MV/BV ratio of SCBNL is more variable and NSBIBL is less variable. BOK has the highest and lowest is for NBBL in case of DPS/MPS. Contrary, in the case of DPS/MPS, EBL is the highest and the lowest for NBBL.
-) The study performs the correlation matrix to see the relationship. All the banks have the positive correlation of ME with earnings and leverage. Similarly, MV/BV has the mixed result with earning and leverage. DPS/MPS have the significant relationship with earning and leverage.

CHAPTER-V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

For the economic development of the country efficient capital market is needed. Security market includes mobilization of shares, bonds and debentures whereas non-security market includes mobilizations of shares, bonds and debentures where non-security market includes the mobilization of the financial resources from financial resources from financial institutions such as bank. Among the banks, commercial banks occupies an important place in financial management because it provides capital needed in the capital market, inspires savers to save and generates credits to investors. Hence, economic activities of country are influenced through the stock movement and financial performance of commercial banks in Nepalese capital market.

The basic concept for this study is developed form the review of different theories and empirical studies. Stock market and commercial banks are the central concepts used in the study. Capital, capital market, primary market, secondary capital market, security markets, common stocks, preferred stock, and financial performance are used in this study. Conventional approach, which consider market as efficient and is based on technical analysis theory and fundamental analysis theory, is one of the approach reviewed here. In general, there exist three theories namely: efficient market theory, fundamental analysis theory, and technical analysis theory concerning stock price behaviour.

The findings of this study are based on the analysis from the selected enterprises and incidents. Both the selection of incidents to observe the signaling effect, and selection of enterprises to analyze stock movement and financial performance are made through purposeful sampling. Only 8 commercial banks listed prior to 2000 is SEBO are studied. Financial performance of these of six fiscal years from 2005 to 2010 was analyzed. Ten observations of NEPSE index before and after the selected incident were made. To observe the signaling effect, 8 incident were selected. The data used for this study were obtained form annual trading report of SEBO and annual financial report of the banks and analyses was made using statistical package for social science (SPSS), and STATISTICAL software.

The traded volume of share of SCBNL traded in secondary market is highly deviated, and the NIBL and BOK ranked second and third respectively. The volume of share of NABIL was found least deviated. Accordingly, the deviated volume of share of all banks was observed the highest in fiscal year 2004/05 and lowest in fiscal year 2005/06.

The market capitalization of the group as well as individual banks are highly deviated. Market capitalization is decreased significantly in fiscal year 2005/06 and increased there after. The deviation was observed highest in fiscal year 2007/08 and the lowest in year 2005/06.

NEPSE index is used as measuring tool to evaluate the performance of individual portfolio and stock market. The harsh effect of Nepalese political crises in crises in Nepalese secondary market is clearly seen. There was an increasing trend till fiscal year 2007/08 and downward trend is observed thereafter.

Signaling effects of selected incident were tested through paired t-test. The incident state of emergency on 26 November 2001, brought the situation of falling NEPSE index. The paired t-test showed that the NEPSE indexes before and after the incident are significantly different and resulted negative effects of the incident is stock market. While testing the effect of Royal Movement of Ashoj, 18, the study too found significant difference before and after the incident. The effect showed the signs of the recovery despite lost of democracy freedom in the country.

In the case of case fire (29 Jan., 2003) between the Maoist and the government of Nepal, positive environment for the investors was justified since paired t-test showed significant difference in the NEPSE index before and after the incident. Immediate effect of signaling factor in NEPSE index also showed continually increased NEPSE after the incident. Contrary to ceasefire, collapse of ceasefire and resume of war stock market stated to loose its business. The result showed significant change on NEPSE index after the incident. This decrease was continued until the need of observation.

Royal Movement on 1 February, 2005 further hampered the peace process in Nepal. This incidents also shows significant different between the NEPSE index before and after the incident. It would not be suitable to claim the immediate effect of the incident because stock market was opened after 20 days of the incident. However, after the opening of stock market, gradual increase in the NEPSE index was observed.

The effect of booming in Jyoti Spinning Million NEPSE showed significant different before and after the incident. Investors were doubtful about the political situation as well as their own selfed illustrates negative effect of the incident. Contrary to this, positive effect of Maoist ceasefire on 18th August 2005 promptly observed. However, paired t-test did not showed significant difference before and after the incident, that could be due to the festival season in the country.

Establishment of GON in Nepalese stock market is not observed significant. Slight decrease in NEPSE was observed in the beginning of the business day and similar in later business days. In conclusion, signaling factor have played significant role to determine NEPSE index in Nepalese security market hence fluctuate NEPSE index.

5.2 Conclusion

Commercial banks occupies an important place in financial management through supplying capital needed in the capital needed in the capital market. However, the capital market in Nepal is recent phenomenon and neither the commercial banking is old. Capital market as well as banking sectors experienced remarkable fluctuations frequently. Both extreme events of gains and losses are experienced in short time span especially in capital market.

Numbers of factors are responsible for the fluctuations signaling factors have played significant role to determine NEPSE index in Nepalese security market thus NEPSE index is continually fluctuating. In this regard, it can be concluded that Nepalese stock market is not the perfect and matured one and signaling effect of different incidents have become the price determinant.

The financial status of the companies shows that all the stocks of commercial banks have the higher leverage and higher percentage of TD/TA. The ratio of TD/TA is above 90 percent for all the banks. It means the claim of creditors are higher than owners, which can be risky for commercial banks. However, high debt financing is positive sign for investors. High debt financing implies a higher probability of bankruptcy, and since the firm would be penalized contractually if bankruptcy occur, investors conclude that the firms has good reason to believe that things are better than the stock price implies.

5.3 Recommendations

Based on the major findings of the study following recommendations are made:

-) The development of comprehensive and transparent stock exchange guidelines is necessary in order to revive the downtrend in share market.
-) For the improvement of Nepalese stock market smoothly, the potential investors should be informed and educated properly about the prevailing rules and regulations of NEPSE.
-) In current political situation Nepalese capital market cannot function well. Stable government and proper rules and regulation in capital market become the prime necessities.
-) Commercial bank focusing within valley need to spread to every part of the country.
-) All the sampled banks are high debt financing. It is better to use debt financing to take the benefit of leverage but the banks should use debt financing so long as the benefit is higher than the interest cost.
-) Company management should follow whatever suggestion given by shareholders in annual general meeting. Action plan should be developed with clear cut and transparent strategies to achieve given target rate of return by linking with companies dividend policy.
-) The bank should provide updated reports to SBI periodically informing actual financial position of the bank.
-) At present, NEPSE has only a Kathmandu based office for entire exchange activities, which has reverse impact to the outsider investors as well as the bank and financial institution established in outside the Kathmandu valley. Thus, it is advisable to the NEPSE to open regional stock exchange in the country to provide and easy access to all investors and facilitate public transactions.
-) Lastly, the banks should periodically assess its performance through analysis of internal auditing in different function areas like HRM, finance, operation, R & D etc. to diagnose its strength, and weaknesses in order to improve its position.

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APPENDIX-I

Paired T-test

INCIDENT: State of Emergency (26 Nov, 2001)

Paired Samples Calculations

Pair	State of Nature	N	Mean	S.D.	S.E.	R	Sig.
1	NEPSE Index before incident	10	316.205	2.76	0.8779	-0.418	0.23
	NEPSE Index after incident	10	302.81	4.2005	1.4283		

Paired Samples Test

Pair	State of Nature	Paired Differences					t	df	Sig. (2-tailed)
		Mean	S.D.	S.E.	5% Confidence Interval of the Difference				
					Lower	Upper			
1	NEPSE Index before incident NEPSE Index after incident	13.395	5.924	1.873	13.274	13.516	7.151	9	0.00

INCIDENT: Royal Movement (4 Oct, 2002)

Paired Samples Calculations

Pair	State of Nature	N	Mean	S.D.	S.E.	R	Sig.
1	NEPSE Index before incident	10	211.179	2.8071	0.8877	0.84	0.002
	NEPSE Index after incident	10	213.244	1.3862	0.4384		

Paired Samples Test

Pair	State of Nature	Paired Differences					t	df	Sig. (2-tailed)
		Mean	S.D.	S.E.	5% Confidence Interval of the Difference				
					Lower	Upper			
1	NEPSE Index before incident NEPSE Index after incident	-2.065	1.807	0.572	-2.102	-2.028	-3.614	9	0.006

INCIDENT: Ceasefire (29 Jan, 2003)

Paired Samples Calculations

Pair	State of Nature	N	Mean	S.D.	S.E.	R	Sig.
1	NEPSE Index before incident	10	190.822	2.3635	0.7474	-0.57	0.086
	NEPSE Index after incident	10	214.474	10.4392	3.3012		

Paired Samples Test

Pair	State of Nature	Paired Differences					t	df	Sig. (2-tailed)
		Mean	S.D.	S.E.	5% Confidence Interval of the Difference				
					Lower	Upper			
1	NEPSE Index before incident NEPSE Index after incident	-23.65	11.945	3.777	-23.895	-23.409	-6.262	9	.000

INCIDENT: Collapse of Ceasefire (27 Aug, 2003)

Paired Samples Calculations

Pair	State of Nature	N	Mean	S.D.	S.E.	R	Sig.
1	NEPSE Index before incident	10	206.267	2.6277	0.8309	-0.397	0.256
	NEPSE Index after incident	10	198.712	2.5235	0.7980		

Paired Samples Test

Pair	State of Nature	Paired Differences					t	df	Sig. (2-tailed)
		Mean	S.D.	S.E.	5% Confidence Interval of the Difference				
					Lower	Upper			
1	NEPSE Index before incident NEPSE Index after incident	7.555	4.3050	1.3614	7.4672	7.6428	5.55	9	.000

INCIDENT: Royal Movement (01 Feb, 2005)

Paired Samples Calculations

Pair	State of Nature	N	Mean	S.D.	S.E.	R	Sig.
1	NEPSE Index before incident	10	255.746	0.6729	0.2128	0.462	0.179
	NEPSE Index after incident	10	264.040	8.8565	2.8007		

Paired Samples Test

Pair	State of Nature	Paired Differences					t	df	Sig. (2-tailed)
		Mean	S.D.	S.E.	5% Confidence Interval of the Difference				
					Lower	Upper			
1	NEPSE Index before incident NEPSE Index after incident	-9.294	8.5666	2.707	-9.469	-9.1193	-3.431	9	.007

INCIDENT: Maoist Explosion in Jyoti Spinning Mills (18 Aug, 2005)

Paired Samples Calculations

Pair	State of Nature	N	Mean	S.D.	S.E.	R	Sig.
1	NEPSE Index before incident	10	327.2488	4.8842	85.564	-0.652	0.041
	NEPSE Index after incident	10	313.153	2.9196	92.33		

Paired Samples Test

Pair	State of Nature	Paired Differences					t	df	Sig. (2-tailed)
		Mean	S.D.	S.E.	5% Confidence Interval of the Difference				
					Lower	Upper			
1	NEPSE Index before incident NEPSE Index after incident	14.695	7.089	2.2418	14.5505	14.8395	6.555	9	.000

INCIDENT: Ceasefire of Maoist (3 Sep, 2005)

Paired Samples Calculations

Pair	State of Nature	N	Mean	S.D.	S.E.	R	Sig.
1	NEPSE Index before incident	10	313.153	2.9196	0.9233	-0.227	0.528
	NEPSE Index after incident	10	316.861	3.7563	1.1879		

Paired Samples Test

Pair	State of Nature	Paired Differences					t	df	Sig. (2-tailed)
		Mean	S.D.	S.E.	5% Confidence Interval of the Difference				
					Lower	Upper			
1	NEPSE Index before incident NEPSE Index after incident	-3.707	5.2554	1.6619	-3.8152	-3.6008	-2.231	9	.053

INCIDENT: Establishment of GON (18 May, 2006)

Paired Samples Calculations

Pair	State of Nature	N	Mean	S.D.	S.E.	R	Sig.
1	NEPSE Index before incident	10	435.877	11.1755	3.534	0.23	0.523
	NEPSE Index after incident	10	427.5000	7.0100	2.2167		

Paired Samples Test

Pair	State of Nature	Paired Differences					t	df	Sig. (2-tailed)
		Mean	S.D.	S.E.	5% Confidence Interval of the Difference				
					Lower	Upper			
1	NEPSE Index before incident NEPSE Index after incident	-8.377	11.747	3.7147	8.1375	8.6165	2.255	9	.051

APPENDIX-II

State of Emergency

Days	1	2	3	4	5	6	7	8	9	10
NEPSE index before incident	314	317	318	320	319	318	316	314	315	314
NEPSE index after incident	295	303	300	301	302	301	302	307	309	308

Royal Movement (4 Oct, 2002)

Days	1	2	3	4	5	6	7	8	9	10
NEPSE index before incident	211.5	211.9	212.5	212.5	212.3	213	213.9	313.2	212.1	213.2
NEPSE index after incident	210.2	209.1	209	209.3	210	210.1	210.3	212.4	215.7	216.9

Cease fire (29, Jan 2003)

Days	1	2	3	4	5	6	7	8	9	10
NEPSE index before incident	190.8	190.2	188	189.3	189.8	189.7	190	195	195	195
NEPSE index after incident	196	211	228	231.3	221	216	213	210	209.8	208.1

Collapse of cease fire (27 Aug, 2003)

Days	1	2	3	4	5	6	7	8	9	10
NEPSE index before incident	209	209	208.7	208.6	207	206	205.7	204.7	203	202
NEPSE index after incident	202	200	198	196	195	195.1	198	199.7	200.5	202

Royal Movement (01, Feb 2005)

Days	1	2	3	4	5	6	7	8	9	10
NEPSE index before incident	255	255.7	254.3	254	255	256	255.7	255.3	258	255
NEPSE index after incident	255	255.7	259.1	260	261	263.4	265.3	270.9	275.1	283.2

Maoist Explosion in Jyoti spinning mills (18 aug, 2005)

Days	1	2	3	4	5	6	7	8	9	10
NEPSE index before incident	323.9	325.2	326	327.2	327.9	323.3	324	238.9	336	337
NEPSE index after incident	317.3	315.2	308.7	313.4	314.7	315	314.7	312.8	311.7	309.9

Maoist Ceasefire (18 aug, 2005)

Days	1	2	3	4	5	6	7	8	9	10
NEPSE index before incident	309.2	312	313.2	314.8	315.1	315.9	312.7	308.6	315.2	318.4
NEPSE index after incident	316	321	323	322	313.9	311.7	314.8	314.9	313.4	312.7

Establishment of GON (18, may,2006)

Days	1	2	3	4	5	6	7	8	9	10
NEPSE index before incident	443.7	448.9	450	446.2	439.3	433.7	432.3	426.1	432.2	420
NEPSE index after incident	440.2	433.7	424.9	422.2	419.1	429.2	436	425.7	423.8	424.3

Source: Different newspapers, articles, journals, reports.

APPENDIX 3

Bank	F/Y	Market Equity (RS in million)	P/E Ratio (Times)	MV/BV (Times)	DPS/MPS (%)	DPS/EPS (%)	Leverage		Earning	
							TD/TA (%)	TD/NW (%)	NI/NW (%)	NI/TA (%)
NBL	2005	3613.36	13.3	7.35	4.08	54.3	93.5	1433.77	23.69	1.54
	2006	3613.36	8.68	7.35	6.8	59.06	92.07	1160.3	31.67	2.51
	2007	4916.5	10.8	10	6.5	70.19	91.15	1030	30.73	2.72
	2008	7399.33	14.27	15.5	4.65	66.36	90.3	913.28	31.38	3.05
	2009	11012.96	17.34	22.4	3.79	65.78	91.6	1090.93	33.88	2.85
	2010	11523.71	30.33	9	0.99	29.84	91.74	1132.46	29.69	2.16
Mean		3577.87	15.78	11.93	4.46	57.59	91.72	1126.79	30.17	0.55
S.D.		3577.87	7.72	5.94	2.11	14.73	1.06	174.15	3.46	0.55

Bank	F/Y	Market Equity (RS in million)	P/E Ratio (Times)	MV/BV (Times)	DPS/MPS (%)	DPS/EPS (%)	Leverage		Earning	
							TD/TA (%)	TD/NW (%)	NI/NW (%)	NI/TA (%)
NIBL	2005	1291.85	22.63	7.6	0	0	89.48	850.19	10.91	1.16
	2006	2347.56	20.1	7.95	2.52	50.56	92.92	1311.72	18.3	1.3
	2007	2775.73	18.18	9.4	1.6	29.01	94.5	1718.21	20.94	1.15
	2008	4701.92	20.25	8	1.56	31.65	92.56	1261.21	19.67	1.45
	2009	744.1	21.23	12.6	1.59	33.7	90.79	1368.8	24.77	1.64
	2010	3378.83	13.42	3.71	1.86	25	92.05	1302.01	27.61	2.21
Mean		2482.65	19.3	8.21	1.52	28.32	92.05	1302.02	18.7	1.32
S.D.		1432.01	3.23	2.88	0.83	16.42	1.76	276.98	5.77	0.4

Bank	F/Y	Market Equity (RS in million)	P/E Ratio (Times)	MV/BV (Times)	DPS/MPS (%)	DPS/EPS (%)	Leverage		Earning	
							TD/TA (%)	TD/NW (%)	NI/NW (%)	NI/TA (%)
SCBNL	2005	5263.03	10.98	15.2	6.45	70.86	93.3	1392.78	38.79	2.6
	2006	5568.62	10.98	16.4	6.71	73.68	93.48	1434.1	37.03	2.41
	2007	6537.47	12.16	17.45	6.3	76.63	93.67	1480.63	35.96	2.27
	2008	8785.31	16.31	23.45	5.12	83.33	92.74	1276.48	33.89	2.46
	2009	14142.68	21.47	37.75	3.44	73.93	93.19	1369.46	37.55	2.56
	2010	15297.1	42.23	13.61	1.3	55	93.28	1390.69	32.22	2.7
Mean		9265.7	19.02	20.64	4.89	72.24	94.01	1391.71	35.91	2.5
S.D.		4416.48	12.07	9.03	2.13	9.45	0.31	68.51	2.45	0.15

Bank	F/Y	Market Equity (RS in million)	P/E Ratio (Times)	MV/BV (Times)	DPS/MPS (%)	DPS/EPS (%)	Leverage		Earning	
							TD/TA (%)	TD/NW (%)	NI/NW (%)	NI/TA (%)
HBL	2005	3900	16.59	1	2.5	41.49	95.85	2309.07	27.39	1.14
	2006	3586.44	16.91	8.36	0.16	2.65	95.45	2096.84	19.95	0.91
	2007	4505.5	17.12	8.4	0	0	94.65	1770	19.84	1.06
	2008	5902.2	19.2	9.2	1.26	24.17	94.38	1678.37	20	1.12
	2009	8494.2	18.57	11	2.73	50.64	94	1568.03	25.9	1.55
	2010	13056	25.66	3.6	0.11	4.86	93.87	1513.37	14.79	1.29
Mean		6576.89	19.01	6.93	1.13	20.64	94.7	1822.61	21.31	1.18
S.D.		3647.17	3.41	3.79	1.24	21.66	0.79	314.92	4.61	0.22

Bank	F/Y	Market Equity (RS in million)	P/E Ratio (Times)	MV/BV (Times)	DPS/MPS (%)	DPS/EPS (%)	Leverage		Earning	
							TD/TA (%)	TD/NW (%)	NI/NW (%)	NI/TA (%)
NSBIBL	2005	1703.81	41.71	4.01	0	0	92.02	1153.01	7.29	0.58
	2006	1084.16	22.24	2.55	3.14	69.75	92.47	1227.75	8.55	0.64
	2007	1310.52	21.53	3.07	0	0	92.58	1246.93	9.71	0.72
	2008	1446.75	25.21	3.35	0	0	93.34	1401.48	8.33	0.55
	2009	1410.7	24.15	3.02	0	0	93.8	1320	8.8	0.65
	2010	3131.69	31.28	5.02	0	0	92.84	1269.83	6.35	1.03
Mean		1681.27	27.69	3.5	0.52	11.63	92.84	1296.43	8.17	0.7
S.D.		738.43	7.69	0.88	1.28	28.48	0.64	84.61	1.18	0.17

Bank	F/Y	Market Equity (RS in million)	P/E Ratio (Times)	MV/BV (Times)	DPS/MPS (%)	DPS/EPS (%)	Leverage		Earning	
							TD/TA (%)	TD/NW (%)	NI/NW (%)	NI/TA (%)
NBBL	2005	1764	26.82	4.9	0	0	94.36	1672.13	10.5	0.59
	2006	1296	18.12	3.6	0	0	94.27	1644.74	10.46	0.6
	2007	1274.4	48.03	3.54	0	0	95.39	2071.58	0.4	0.02
	2008	1907.61	-2.55	2.65	0	0	98.23	5559.97	-319.52	5.65
	2009	1980.55	19.2	2.45	0	0	96.5	1800.56	10.06	0.7
	2010	3779.39	14.41	1.84	0	0	95.75	1751.83	0.1	0.01
Mean		2000.33	16.63	3.16	0	0	95.85	2416.8	-48	1.26
S.D.		922.27	16.57	1.08	0	0	1.48	1547.33	133.11	2.17

Bank	F/Y	Market Equity (RS in million)	P/E Ratio (Times)	MV/BV (Times)	DPS/MPS (%)	DPS/EPS (%)	Leverage		Earning	
							TD/TA (%)	TD/NW (%)	NI/NW (%)	NI/TA (%)
EBL	2005	1050.24	12.31	4.05	0	0	94.08	1590.2	21.83	1.29
	2006	1401.75	14.89	4.45	4.49	66.89	94.13	1602.98	19.92	1.17
	2007	2142	14.92	6.8	2.94	43.88	92.92	1312.38	21.1	1.49
	2008	2740.5	16.05	8.7	0	0	92.9	1558.11	20.51	1.46
	2009	5212.62	21.97	13.79	1.81	39.82	93.97	1483.61	24.64	1.46
	2010	3123.83	16.26	4.91	1.8	29.35	93.83	1509.46	29.52	1.97
Mean		2611.82	16.07	7.12	1.84	29.99	93.64	1498.46	22.92	1.47
S.D.		1494.42	3.22	3.7	1.73	26.27	0.57	1.6.90	3.63	0.27

Bank	F/Y	Market Equity (RS in million)	P/E Ratio (Times)	MV/BV (Times)	DPS/MPS (%)	DPS/EPS (%)	Leverage		Earning	
							TD/TA (%)	TD/NW (%)	NI/NW (%)	NI/TA (%)
BOK	2005	1171.49	126.96	2.54	43.31	50	91.82	1122.01	1.78	0.15
	2006	917.89	11.18	1.98	2.53	28.22	92.22	1185.52	14.18	1.1
	2007	1367.63	10.73	2.95	3.39	36.36	93.15	1359.27	19.59	1.34
	2008	1993.39	14.29	4.3	3.49	49.83	92.71	1272	19.36	1.41
	2009	3940.44	19.46	8.5	2.12	41.22	93.16	1362.16	24.11	1.65
	2010	2837.18	19.5	4.79	0.77	14.79	93.61	1260.19	34.95	2.18
Mean		2039	33.69	4.18	9.27	36.75	92.72	1289.86	19	1.31
S.D.		1158.86	45.85	2.37	16.7	13.58	0.66	94.89	10.96	0.67

APPENDIX-IV

Dependent variable ME

Companies	TD/TA	TD/NW	NI/NW	NI/TA
NBBIL	–	–	0.47	0.29
NIBL	0.56	0.23	0.22	0.21
SCBNL	-0.29	-0.31	–	0.61
HBL	-0.87	-0.77	–	0.66
SBIBNL	0.21	-0.04	–	0.86
NBBL	–	–	–	–
EBL	–	–	–	0.42
BOK	0.67	–	0.66	0.65

Dependent variable PE

Companies	TD/TA	TD/NW	NI/NW	NI/TA
NBBIL	-0.04	-0.02	–	-0.19
NIBL	-0.06	-0.41	-0.73	-0.74
SCBNL	–	–	–	–
HBL	-0.71	-0.67	-0.69	–
SBIBNL	-0.51	-0.54	-0.72	0.04
NBBL	–	–	–	–
EBL	–	–	0.36	0.24
BOK	-0.66	-0.69	-0.72	–

Dependent variable MV/BV

Companies	TD/TA	TD/NW	NI/NW	NI/TA
NBBIL	–	–	0.64	0.65
NIBL	–	–	-0.07	-0.48
SCBNL	–	–	–	0.52
HBL	-0.44	-0.48	-0.03	0.16
SBIBNL	-0.17	-0.14	-0.87	0.69
NBBL	-0.62	-0.24	-0.18	–
EBL	–	–	-0.07	0.03
BOK	0.56	0.63	0.53	0.54

Dependent variable DPS/MPS

Companies	TD/TA	TD/NW	NI/NW	NI/TA
NBBIL	-0.11	-0.15	0.18	0.32
NIBL	0.68	0.64	0.63	0.32
SCBNL	–	–	–	–
HBL	–	–	0.88	0.59
SBIBNL	–	–	–	–
NBBL	–	–	–	–
EBL	–	–	–	–

BOK	-	-	-	-
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