

**A STUDY ON SHARE PRICE BEHAVIOR OF NEPAL  
INVESTMENT BANK LIMITED &  
NABIL BANK LIMITED**

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# **RECOMMENDATION**

This is to certify that the thesis

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**Entitled:**

**A STUDY ON SHARE PRICE BEHAVIOR OF NEPAL  
INVESTMENT BANK LIMITED &  
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# VIVA-VOCE SHEET

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accepted as partial fulfillment of the requirement for the degree of*

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## **DECLARATION**

I hereby declare that the work reported in this thesis entitled "**A Study on Share Price Behavior of Nepal Investment Bank Limited & Nabil Bank Limited**" submitted to Office of the Dean, Faculty of Management, Tribhuvan University, is my original work done in the form of partial fulfillment of the requirement for the degree of Master of Business Studies (MBS) under the supervision of **Shree Bhadra Neupane** and **Biswo Raj Poudel** of Shanker Dev Campus.

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## ABBREVIATIONS

AGM	:	Annual General Meeting
ATM	:	Automatic Teller Machine
BOD	:	Board of Director
C.V	:	Coefficient of Variation
Co.	:	Company
DPS	:	Dividend Per Share
EBL	:	Everest Bank Limited
EPS	:	Earning Per Share
FY	:	Fiscal Year
GON	:	Government of Nepal
HPR	:	Holding Period Return
IPOs	:	Initial Public Offerings
Ltd.	:	Limited
MPS	:	Market Price Per Share
NABIL	:	Nabil Bank Limited
NEPSE	:	Nepal Stock Exchange Limited
NIBL	:	Nepal Investment Bank Limited
NIDC	:	Nepal Industrial Development Corporation
NRB	:	Nepal Rastra Bank
P.E.	:	Probable Error
SD	:	Standard Deviation
SEBON	:	Securities Exchange Board Nepal
SEC	:	Securities Exchange Centre
	:	Beta Coefficient

# CHAPTER-I

## INTRODUCTION

### 1.1 General Background

Nepal is one of the least developed among developing countries of the world. It lies between the two giant neighboring countries China and India and it also has cultural, traditional, economic, social and geographical relationship with those two countries from the ancient time. Agriculture is the main source of economic development of the country in generating gross domestic production, income and employment. But non-agricultural sectors like commercial banks and finance companies has also significant contribution in the national economy. The development of any country depends upon the investment and mobilization of capital in various productive sectors like industries and business. The financial sectors like securities market accumulate the scattered savings and invest in the form of capital in various industrial sectors as required. The financial market generates long term funds for future growth and prosperity.

A wide range of investment alternatives are available in the market. They are common stocks, preferred stocks, bonds, debentures, convertibles, warrants, rights options etc. Nepalese capital market has not been well developed to provide such all investment alternatives. Common stocks, preferred stocks and government securities are the main investment alternatives. But other investment alternatives like option, convertibles, rights, futures are not practice yet.

Financial market is defined as the buying and selling of financial claims and services. It performs various functions. They enable individuals to choose more effectively between current and future consumption. Borrowing enables individuals to consume more, whereas lending enables them to postpone consumption. Second, the interaction between buyers and sellers in a financial market determines the price of the assets or the return demanded by investors to invest in the company. Firms can raise further capital if the return on their investment exceeds the return demanded by the investors.

Third, financial markets provide liquidity to investors. That is, the owner of the financial asset can sell off the asset in the market place to realize cash. It facilitates the transfer of funds from the savers to those who wish to invest in capital goods.

The securities market plays an important role in mobilizing savings and channeling them into productive investment for the development of commerce and industry in the country. It assists the capital formation and economic growth in the country. But, the Nepalese securities market still is in growing stage. Its further development is crucial.

An efficient capital market is an essential requirement of economic development and the development of the capital market in a country is depended upon the availability of saving, proper organization of intermediary institutions to bring the investors and business ability together for mutual interest, regulation of investment etc. If the capital market is efficient, the current share prices of the companies fully reflect available information and there is no question of share price being underor over valuation of shares. Thus, a well-developed capital market presumes the existence of not only the investors- individual and institutional, but more significantly the existence of a network of specialized institutions and agencies which are always waiting for investment in new ventures.

Demand and supply plays a vital role in the determination of share price. When the share price is high, shareholders want to sell their shares for earning profit and also the investors do not want to purchase any new additional shares from the market. This decreases the demand of shares as it needs to decrease the share price. Similarly, if the share price decreases, the new and existing shareholders try to buy and hold more shares. This results high demand of shares in the market. Supply is the ability to fulfill the demand. When the share price is high, most of the investors sell their shares as a result the supply becomes higher than the demand in the market and it needs to decrease the share price. Similarly, the supply is found to be at low level when the share price is low as the people do not want to sell their shares. Thus, it needs to

increase the share price. So the optimum share price is determined at that point where the demand and supply curves meet each other.

The performance of bank also plays a vital role in the determination of share price. The joint venture banks like Standard Chartered Bank, NIBL, EBL etc. have a good performance than other local developments and finance companies. A good performance can be shown by the profit earned, dividend declared, loan investment and recoveries, liquidity etc. Everyone deserves to purchase the shares of such companies. But, the price of shares of such financial institutions is very high and also they do not issue new shares to the general public. Similarly, the share price of development banks and finance companies are less than the book value. Public are not interested on those shares. Not only is that, investors also aware of risk that may emerge from investing their valuable funds in non-profitable sectors.

### **1.1.1 Brief Introduction of the Banks under the Study**

Among the 32 listed commercial banks during the F/Y 2011/12, only two banks have been taken as a sample for the purpose of this study. This section contains general introduction of the banks under the study for the easy reference of the samples to the research which is supposed to be useful in the proper understanding and its inferences.

#### **a) Nabil Bank Limited**

Nabil Bank Ltd. is the first foreign joint venture bank set up in the nation with an objective to introduce modern banking services. It commenced its operations on 12<sup>th</sup> July 1984 with Rs. 28 million capitals. Dubai Bank Limited, Dubai was the foreign joint venture partner who extended Nabil a technical service agreement in the initial period. This bank was listed on the stock exchange on 24<sup>th</sup> November 1985. Currently it is providing its services with a network of 49 branches and 79 ATM locations across Nepal. Its head office is at Durbarmarg, Kathmandu.

## **b) Nepal Investment Bank Ltd.**

Nepal Investment Bank Ltd. was established in 1986 as a joint venture between Nepalese and French Partners in the name Nepal Indosuez Bank Ltd. later the name of the bank was changed to Nepal Investment Bank Limited upon the approval of the Bank's Annual General Meeting, Nepal Rastra Bank and Company Registrar's Office. The French partner holds 50% of the capital, Rastriya Banijya Bank holds 15% of the capital, Rastriya Beema Sansthan holds 15% of the capital and the remaining shares being held by the general public. This bank was listed on the stock exchange on 22<sup>nd</sup> July 1986. Currently, it is providing its services through 42 branches and 68 ATM locations across Nepal.

## **1.2 Focus of the Study**

Public company obtains funds from the public investors through financial market. The long run objective of every firm is to minimize shareholders wealth position whereas the investors invest their money with hope of getting good return in the future.

In the Nepalese context, there is the lack of wider investment opportunities that provide good return. So, there has still being a huge amount of unutilized saving funds with public. But most of the public investors i.e. existing and potential are not well knowledgeable about the real financial strength and weakness of the public companies in which they are investing or going to invest their funds. Further they cannot well analyze and interpret the real financial position of a company on the basis of available data and information to reach the right conclusion.

Hence, this study has been focused on the share price behavior of two selected listed commercial banks which may help investors to think about restricting their investment portfolio. Similarly, potential investors may also take better timely investment decision on the basis of the study.

### **1.3 Statement of the Problems**

Nepalese financial system is characterized by small but a growing capital market. Capital market investment in Nepal plays the major role in the economic development of the country. But existing economic imbalances, political instability and ineffective implementation of liberal economic policy have severe impact in the economy. The stage of development of capital market and its effective growth depends upon the aggregate economic condition, saving and investment opportunities etc.

A number of listed companies have been increasing rapidly in the capital market without effective performance. The investors have no self-control, self-judgment in the choice of securities for investment that they could not identify the good and bad stocks. The Finance Ministers of various governments have not brought any special package to reform the stock market. Thus, having inadequate information and knowledge of stock and companies, the investors are unsystematically investing in stocks.

Similarly, the price of common stock have been randomly fluctuating and declining due to imbalance economy, political instability and poor performance of the companies. We find the price of stock of joint venture banks are high than that of local private and public companies. The prices of the stock which have sustained loss for a long period reached to peak level while that of some stocks with sustained profits could not increase. Thus, the market price of stock does not seem in accordance with the financial indicators. Not only that, there is lack of co-ordination among concerned authorities, market players and other individuals and also there is insufficient skill manpower. Investors are also investing their valuable funds in a traditional way.

The present study is intended to examine the behavior of price of shares and causes of fluctuation in market price of shares. So the study will be focused on the following problems related to the subject chosen:

- ) What is the stock price behavior or trend of the stock price of commercial banks?

- )] Is there is any specific relationship of MPS with fundamental financial indicators i.e. DPS & EPS?
- )] What are the causes of the fluctuations in the stock price?
- )] What is the position of commercial bank listed in the stock market?

#### **1.4 Objectives of the Study**

The basic objective of the study is to analyze the performance of the stock market and behavior of share price of listed commercial banks in Nepal. The following objectives of the research are pinpointed below:

- )] To analyze the behavior of NEPSE index.
- )] To make the comparative study of risk, return, share price fluctuations of two commercial banks listed at NEPSE.
- )] To examine the relationship of MPS with DPS and EPS.

#### **1.5 Significance of the Study**

Stock market facilitates the situation of country's economy. In Nepal, the earning power of the people is very low; as a result, they hardly save their valuable funds to invest in the profitable sector. Similarly, the stock market is not well developed and the listed companies are not being able to show effective performance to the investors in order to encourage the potential investors. Besides, the present and the potential investors do not get fair and accurate information about the financial strengths and weakness of the companies they are going to invest and also the investors do not have such capacity to analyze the available stocks. So, this study will be significant to the present investors in the area of restructuring their investment portfolio as it provides suggestions to some extent. Similarly, this study is significant to other researchers to conduct various detailed studies on this related topic. It is also helpful for the policy makers and controllers to make friendly rules and regulations of stock market and share price.

Thus, this study is significant to various parties and groups.

## **1.6 Limitations of the Study**

There are several limitations in data collection procedure as well as analytical procedure. Time constraints and lack of research experience will be the primary limitations and other limitations of research are as follows:

- ) The study has been designed concentrating at banks listed at NEPSE, which is a part of total capital market.
- ) Data are collected from website of NEPSE and it is assumed that the data provided in websites are accurate.
- ) Only common stock is taken for the study.
- ) The study is done on the basis of secondary data and information. So, the consistency of findings and conclusions is dependent on the reliability of secondary data and information.
- ) Data are based on five-year transaction period from the fiscal year 2007/08 to 2011/12. The five-year study period does not conclude the overall analysis of share price.
- ) Various techniques are available to interpret and analyze the data. But the study is focused only on risk, return, and correlation, run test, MPS and DPS analysis.

## **1.7 Organization of the Study**

The whole study is divided into five different chapters.

### **Chapter-I: Introduction**

This chapter consists of general background, objectives, significance, limitations and organization of the study.

### **Chapter-II: Literature Review**

This chapter consists of review of books, articles, journals and past Master degree dissertations relevant to the study.

### **Chapter-III: Research Methodology**

This chapter consists of research design, sample and population, nature and sources of data and methodology adopted on carrying out the study.

### **Chapter-IV: Data Presentation and Analysis**

This chapter consists of analysis, evaluation and presentation of available data and information practically.

### **Chapter-V: Summary, Conclusions and Recommendations**

This chapter consists of the major findings, conclusions and recommendations based on analysis and presentation of share price behavior of two commercial banks in Nepal.

At the end of the research, bibliography and appendices are also presented.

## **CHAPTER-II REVIEW OF LITERATURE**

This is a very important part of thesis writing as the ideas of the thesis writing is being generated by the old relevant experience, researches, journals, books etc. conducted inside and outside the country. It presents the views and reviews of various authors, researchers and their suggestions.

### **2.1 Theoretical Review**

The history of stock market of Nepal is not so old. But the growing globalization and industrialization have been increasing the importance of investment opportunities for the overall development of the country. So, it is necessary to get the general concepts of share and its related matters.

#### **2.1.1 Common Stock**

Common stock is the basic form of ownership in a company. People who hold common stock have a claim on the assets of a firm only after those preferred stockholders and bond holders. As a result, a stockholder's return on investment is less certain than the return to a lender to a lender or to a preferred stockholder. A share of common stock can be authorized either with or without par value. The par value of stock is merely stated figure in the corporate charter. A company should not issue stock at a price less than par value, because stockholders who bought stock for less than par value would be liable for the difference between below the par price they paid and the par value.

“Common stock holders are sometimes referred to as a residual owner since in essence he or she receives what is left the residual after claims on the firm's income and asset have been satisfied. All the companies issue common stock. Common stockholders are true owners of business firm. They invest money with the expectations of getting high return. The return from common stock is usually from the

capital gain earned. If they increase in value after public buy them. That is why, the price of common shares can be more volatile. They move up and down due to the factors like economy and company performance”.(Gitman; 1991:573)

### **i) Common Stocks Values**

#### **a) Par Value**

Par value is the face value of a share of stock. It was originally used to guarantee that the corporation receives a fair price for the value of the firm represented by a share of stock. The par value of new issue is generally Rs. 100, as directed by company act 1993.(“In the case, a stated value must be recorded in a place as the par value”).(Sharpe, Alexander and Bailey; 2000: 461)

#### **b) Book Value**

Book value per share can be calculated by adding the common stock’s total value(or par value plus paid in surplus plus retained earnings accounts)in the net worth section of the balance sheet and then dividing by the number of shares of common stock outstanding. It gives a picture of the assets of the corporation.

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

### **Market Value**

Market value in the secondary markets is determined by the demand and supplies factors. It is influenced by many factors including economic and industry conditions, expected earnings and dividends, and market and company risk considerations. The market price of shares varies from one company to another. Since the common shareholders are the owner of the organizations and have least priority to claim in liquidation, the share price is highly volatile and very sensitive to the environmental factors. Therefore, the organization tries to maintain the favorable environment to maximize the share price of the stock market.

## **i) Characteristics of Common Stocks**

### **a) Voting Rights**

The common stockholders are the real owners of the company. Thus, they have right to vote for the board of directors and for or against major issues like mergers, expansion etc.

### **b) Preemptive Rights**

The preemptive right allows stockholders to subscribe to any new issue of stock so that they can maintain their previous fraction of the total number of shares sold. Thus, the preemptive right, if exercised, guarantees the investor's undiluted maintenance of voting control, share in earnings, and share in assets.

### **c) Right to Income and Distribution of Other Shares**

The common stockholders have right to achieve dividends like cash dividends, stock dividends, property dividends, etc. declared by the company.

## **2.1.2 Market Index Calculation**

Market index is a single figure obtained from averaging the prices of selected securities, which reflects the overall investment performance of a particular market for financial assets for a particular point of time. There are three weighting methods of construction of market index, which are most often used.

### **i) Price Weight Market Index**

A market index in which, the contribution of a security to the value of the index is a function of the securities market capitalization. It is calculated by summing the price of stocks that are included in the index, and dividing this sum by a constant (the divisor).

## **ii) Value Weighted Index**

It is a market index in which the contribution of a security to the value of the index is a function of the securities market capitalization. It is calculated by multiplying the price of the stocks in the index and their respective number of share outstanding and then dividing the corresponding figure for the day the index was started(i.e. base period).

NEPSE has adopted value weighted index method till the date, 13<sup>th</sup> Feb 1994 is the base period for the construction of the index NEPSE multiplies index by 100 as base where as India and USA multiply the same figure by 1000 and 10 respectively.

## **iii) Equal Weighted Index**

It is computed daily by multiplying the level of the index on the previous day to the arithmetic mean of the daily price relative (today's price divided by yesterday price) of the different individual stocks which are included in the construction on index.

### **2.1.3 Stock Certificates**

The ownership of a firm's stock has typically been represented by a single certificate, with the number of shares held by the particular investor noted on it. Such a stock certificate is usually registered with the name, address and number of shares holding of the investor. Dividends payments, voting material and quarterly reports and other mailings are then sent directly to the investor, in consideration of the size of his/her holdings.

Shares of stock held by investors may be transferred to a new owner with the assistance of either the issuing corporation or more commonly its designated transfer agent. Then, this agent will cancel the old stock certificate and issue a new one to the new owner and register to make sure that the canceling and issuing of certificates have been done properly. These certificates can be used for borrowing loans from the financial institutions. Thus, these are the procedures to be followed when executing the shares transaction.

#### **2.1.4 Securities**

In general, only a piece of paper represents the investor's rights to certain prospects or property and the conditions under which he or she may exercise those rights. This piece of paper, serving as evidence of property right is called a security. It may be transferred to another investor, and with it will go all its rights and conditions. Thus, the term of security can be understood as a legal representation of the right to receive prospective future benefits under the terms and conditions of the company and government policies. "The primary task of security analysis is to identify misplaced securities by determining these prospective future benefits, the conditions under which they will be received and the likelihood of such conditions". (*Francis; 2002:31*)

#### **2.1.6 Securities Market**

In general, securities market is a place for bringing together buyers and sellers of financial sectors in order to facilitate trading of financial instruments. In order to allocate capital efficiently and to maintain higher degree of liquidity in securities, the securities market should be efficient enough in pricing the shares solely by economic considerations based on publicly available information. The shares of listed companies are traded or transferred from one hand to another at a fair price through the organized brokerage system in the stock market.

##### **2.1.6.1 Primary Market**

Primary market is the market where new issues are sold to the investors. The volume of new issues in the primary market, particularly of common stock is directly related to market conditions. When the market is rising, the number of new issues being offered to public rises and when the market is falling, the number declines. The performance of initial public offerings (IPOs) has made it an attractive market for the investors. Whenever the public limited companies issue new shares, the stock market gets busy with crowds of share applicants. It is evident by the heavy oversubscription and very good initial market returns in the NEPSE. The IPO market gives issuers and their underwriters a choice of either to issue the ordinary share at par or at premium

incase the AGM of the company decides to do so. Thus, this is the only market in which the corporate or government issuer is directly involved in the transaction and receives direct benefit from the issue.

#### **2.1.5.2 Secondary Market**

The market where already issued and listed securities are bought and sold is known as secondary market. After securities have been purchased from the primary market, they are traded in the secondary market. It is the market that creates the price and allow for liquidity as the investors would have no any place to sell their assets if secondary marker did not exist and without liquidity many people would not invest it at all. Thus, the secondary market deals with previously issued shares mainly traded through stock exchange, over the counter market or direct dealing.

### **2.2 Behavior of Stock Market Prices**

There are two approaches to explain the behaviors of stock market prices i.e. classical approach and efficient market theory approach. Classical approach assumes market as inefficient whereas the efficient market theory argues that the market is efficient.

#### **2.2.1 Classical Approach**

Classical Approach is also known as conventional approach.This approach includes fundamental analysis and technical analysis theories. Fundamental approach forecast stock price on the basis of earnings and dividends of the company whereas technical analysis forecast stock prices on the basis of past price behavior of the company.

##### **2.2.1.1 Fundamental Analysis**

In the 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 asset expects to forecast the timing and size of the asset expects to forecast the timing and size of these cash flows and then converts the cash flows to their equivalent present value using and appropriate discount rate. “The value of the common stock is simply

the present value of all the future income which the owner of the share will receive.”(*Francis;1986:398*)

After estimating the true value of stock of a particular firm, it is compared with the current market price of the common stock to determine whether the stock is fairly priced. Stocks whose estimated value 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 their market in the near future, meaning that prices overvalued socks will show unusual appreciation and prices of undervalued stocks will show unusual depreciation.

Fundamental analysis approach involves working to analyze various factors like economic influences, industry factors, firm’s financial statement and pertinent company information such as product demand, earnings, dividends and management in order to calculate an intrinsic value for the firm’s securities. This theory assumes that knowledge about the future of companies is not perfect, some stocks ate under priced and others are overpriced. The investor’s task is to study certain Fundamental factors that may be enable them to select understand stocks for purchase and sell overvalued stocks.

The objective of fundamental analysis is to appraise the intrinsic value of a security. The intrinsic value is the true economic work of financial assets. Therefore, fundamental analysis works to find new information before other investors, so they can get into the position to profit from price changes they anticipate. Fundamental analysis use different model like Top-Down versus Bottom-Up forecasting, probabilistic forecasting, economic models, financial statement analysis etc.

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

### 2.2.1.3 Technical Analysis

In the simplest form, technical analysis involves the study of stock market prices in an attempt to predict future price movement. Past prices are examined to identify recurring trends or patterns in price movements. Then more recent stock prices are analyzed to identify emerging trends or patterns that are similar to past ones. This analysis is done trends or patterns, the analysts hope to predict accurately future price movements for a particular stock”.(Sharpe;2001:12)

The technician usually attempts to predict short-term price movements and thus makes recommendation concerning the timing of purchase and sales of either specific stocks or groups of stocks (such as industries) or stock in general. It is sometimes said that fundamental analysis is designed to answer the question “what?” And technical analysis to answer the question “when?”(Sharpe, Alexander and Bailey;1999:344)More especially the technical analyst seems to be trying to forecast short-run shifts in supply and demand that will affect the market prices of one or more securities.

Typically, technical analysts record historical financial data on charts, study these charts in search of patterns that they find meaningful, an endeavor to use the patterns to predict future price. Some charts are used to predict the movements of market index and, still others are used to predict the action of both individual assets and the market.

Thus, the technical analysts believe that changes in the pattern or trend of security prices take place on account of changes in the demand and supply of the securities, and that crucial insight into these patterns can be obtained by keeping track of price chart. The technical analyst whether the price of a share is on upswing or on the downswing in future. Technical analysts maintain that the price of a share at any time(present price) is the balance struck by buyers and sellers at a point in time price movement take place on account of changes in buying and selling pressures.This

occurs in account of diverse internal and external factors(profits,political environment, prediction and the likes).

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

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 results nine times out of ten, one can assume a strongly likelihood of the same outcome whenever this pattern appears in the future. It should be emphasized, however that a large part of the methodology of technical analysis lacks a strictly logical explanation.

The basic assumption of technical analysis is as follows:

- ) Share price is determined by the interaction of supply and demand.
- ) Demand and supply are determined by various factors, both rational and irrational.
- ) Series of prices contain trends that persist for appreciable length of time.
- ) Changes in trends are caused by the shifts in demand and supply.
- ) Some chart patterns tends to repeat themselves.

Various studies evidenced that technical analysis is useful in enabling investors to beat the market. The analysis, however, attempts to predict future stock prices by analyzing past behavior of stock prices. In general, tomorrow's stock price is influenced by today's price. The direction of price change is important as the relevant size of changes. With the application of various tools the technicians attempt to correctly catch changes in trend and take advantage of them.

### 2.2.2 Efficient Market Theory

In a competitive market, the equilibrium price of any good or service at a particular moment of a time is such that the available supply is equated to aggregated demand. This is the true worth of the goods or services, based on all publicly available information. The new equilibrium price will hold until another bit of information is available for analysis and interpretation. When security prices at all times rationally reflect the available, relevant information, the market in which they are traded is said to be efficient. This implies that any new information coming to light, which bears on a particular firm, will be incorporated into the market price of the security. An efficient capital market is one in which security prices adjust rapidly to the arrival of new information and therefore the current prices of securities reflect all information about security.

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. In an efficient capital market, current market prices fully reflect available information. Therefore, if market is efficient, it uses all available information to it in setting price.

There are several concepts of market efficiency and there are many degrees of efficiency, depending on the market. Markets in general are efficient when:

- ) Prices adjust rapidly to new information;
- ) There is a continuous market, in which each successive trade is made at a price close to the previous price (the faster that the price responds to new information and the smaller the difference in price changes the more efficient the market);
- ) The market can be absorb large amounts of securities without destabilizing the prices

“An efficient market is defined as a market where are large numbers of rational profit maximizes actively competing with each trying to predict future market values of individual securities, and where important current information is almost freely

available to all participants”. (*Fama; 1970: 384-85*) In other words, in an efficient market at any point in time the actual price of a security will be a good estimate of its intrinsic values.

In an efficient market, a security price would correctly reflect the important variables for that security and would represent an unbiased estimate of its investment value. (*Cheney and Mosses; 1992: 746*) The efficient market hypothesis suggests that investors cannot expect to outperform the market consistently on a risk-adjusted basis over an extended period of time. This hypothesis is based on the premise that security prices reflect all available information concerning a firm and that security prices change rapidly in response to new information. Market efficiency also implies that as new information becomes available, the market quickly analyses it, and any necessary price adjustments occur rapidly.

The requirements for a securities market to be efficient are:

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

In an efficient market, investors should expect to make only normal profits and earn a normal rate of return on their investments. In such a market, any new, information immediately and fully reflected in price. New information is just that new, meaning a

surprise. In a perfectly efficient market, price changes are close to random. The efficient market hypothesis has been subdivided into three categories.

They are:

- ) Weak-form efficiency
- ) Semi- strong form efficiency and
- ) Strong-form efficiency

Under the weak form of efficiency, stock price are assumed to reflect information that may be contained in the past history of the stock price itself. It helps to test whether all the information contained in historical prices is fully reflected in current prices. This hypothesis holds that no investors can earn excess return by developing trading rules based on historical prices or return information. The significance conclusion derived from the weak form hypothesis is that past rates of return and any over security market information should have no relationship with future stock prices and future rates of return. There have been a number of tests conducted to verify the weak form version of the efficiency market hypothesis. While expectations have been found the bulk of the evidence supports the notion that stock prices do indeed fully reflect all security market information.

Under the semi strong efficiency market hypothesis states that stock prices fully reflect all public information also included economies , the current political state abroad or specific, stock splits etc. The implication of the semi strong form efficiency market hypothesis is that investors should not be able to derive above average rates of return from public information. A number of tests have been conducted to verify the semi strong form of the efficiency market hypothesis with majority of tests providing mixed evidence. Some of the notable exceptions include a January effect, in which stocks that experienced losses during the prior year tended to provide abnormal rates of return around January 1 and 2 a Monday effect, and a book value to market value effect.

The strong forms of the efficiency marker hypothesis states that stock price fully reflect all public and private information. The strong form encompasses both the weak

form and the semi strong form. This version implies that no opportunities should exist for any investor to derive above average rates of return. Like the semi-strong version, the tests of this hypothesis provided mixed results. However, the bulk of the tests were supportive. Two glaring anomalies exist; corporate insiders and market specialists seem to be able to consistently earn above average rates of return, which implies that, they possess monopolistic access to important information. In addition, there was evidence to support that notion that superior security analysis could also consistently earn above average rates of return, although this group tends to be very small.

### **2.2.2.1 The Random Walk Theory**

The weak form says that the current prices of stocks already fully reflect all the information that is contained in the historical sequence 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. Random walk theory describes whether past prices can predict future prices.

According to Fama, “The existence of intrinsic value for individual securities is not inconsistent with random walk hypothesis, in the market securities are over or under valued because of inappropriate estimation of the incoming information by the investors”. This 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 evaluate the influence of an appearance of incoming information on security price to improve his prospects of gain. But in the world of uncertainty, the intrinsic values of securities are not known exactly. It depends on the earning prospects of the company, economic, political, industrial and company specific factors.

The random walk theory asserts that price movements will not follow any patterns or trends and that past price movements cannot be used to predict future price movements. “Random walk model say that previous price changes in return are useless in predicting future prices or return changes”.(Fischer and Jordan;2000:553)

It means if we attempt to predict future prices in absolute terms using only historical price change information, we will not be successful i.e. successive price changes at any time will on the average reflect the intrinsic value.

## **2.3 Regulation of Securities Market in Nepal**

Securities markets are the mechanism for the trading of securities and it should be strictly regulated to develop efficiently. Securities Board of Nepal is the supreme body to regulate the Nepalese securities markets which regulates primary and secondary markets like issue managers, stock brokers, dealers, market makers and corporations. SEBON works under the Ministry of Finance. It also monitor whether the activities carried out by the NEPSE are in accordance with the laws or not.

### **2.3.1 Securities Board, Nepal (SEBON)**

Securities Board, Nepal was established on May 26, 1993 under the provision of Securities Exchange Act, 1993 (first amendment). Since the establishment of SEBON, it has been concentrating its effort on improving the legal and statutory frameworks which are the bases for the healthy development of the capital market. As a part of its continuous efforts to build a sound system, the securities Exchange Act, 1983 was amended for the second time on January 30, 1997. This amendment paved the way for establishing SEBON as an apex regulatory body as it widened and also made it mandatory for the corporate bodies to report to SEBON annually regarding their performance.

SEBON works under the Ministry of Finance. It also monitors whether the activities carried by the NEPSE are in accordance with the laws or not. At present, the governing board of SEBON comprises 7 members including one full time chairman appointed by the government for tenure of four years. Other members of the board include joint secretary of Ministry of Finance, joint secretary of Ministry of Law, Justice and Parliamentary Affairs, representative from Nepal Rastra Bank, representative from Institute of Chartered Accountants of Nepal, representative from

Federation of Nepalese Chambers of Commerce and Industries, and one member appointed by the government from among the experts pertaining to management of securities market, development of capital market, financial or economic sector.

The general objectives of SEBON are:

- ) To promote and protect the investors by regulating the issuance, sale and distribution of securities and purchase, sale or exchange of securities.
- ) To supervise, look after and monitor the activities of the stock exchange and of corporate bodies carrying on securities business.
- ) To render contribution to the development of capital markets by making securities transactions fair, healthy, efficiently and responsible.

### **2.3.2 Nepal Stock Exchange (NEPSE)**

Nepal Stock Exchange in short NEPSE is a non-profit organization, operating under Securities Act, 2006. The basic objective of NEPSE is to impart free marketability and liquidity to the government and corporate securities by facilitating transactions in its trading floor through market intermediaries such as brokers and market makers etc. NEPSE opened its trading floor on January 13, 1994 through its newly appointed licensed members and adopted an “Open Out-Cry” system for the transaction of securities. The trading floor is restricted to listed corporate securities and government bonds with the market intermediaries in buying and selling of such securities. On 24 August, 2007, NEPSE replaced the old open-out-cry system of securities trading, which was in place since the beginning of secondary trading in 1994, with the automated trading system (ATS). The ATS has not only mechanized securities trading, but also reduced the manipulation of prices and human errors. The system has helped eliminate all possible human errors as seen in the open-out-cry trading procedures. Several international practices have been incorporated to make the system internationally compatible and modifications have also been made to customize the existing rules and regulations of the country.

Thus, various studies have been conducted in the field of share price behavior. As the share prices are the crucial phenomenon in the stock market and large numbers of investors are attracted in this investment, upgrading of previous studies is the most important. The new aspect of this study is to find out the factors on the successive daily price changes of all listed commercial banks. In the same time risk and return of the sampled commercial banks are also examined to analyze the individual returns patterns and risk involved.

## **2.4 Review of Journal and Articles**

Scholars have been studying the way of security price fluctuate for over a century. The empirical evidence in the random walk literature existed before the theory was established. Some of the available relevant studies are reviewed in this part. It is tried to review of those related literatures carried out in the review of foreign studies as well as in the review of national studies.

Gupta (1985), analyzed the “*Equity Share Price Behavior in India*” during the period from January 1971 to March 1976 and extensively tested indices. He employed the auto correlation analysis, run test, and found the evidence in support of the RWH. He also concluded random walk model appeared to be an appropriate model even for the share price behavior.

Additional evidence that security prices followed a random walk was found by Halbrook Working in 1934. He extensively analyzed commodity prices and noted that speculative price patterns might be shown to be random comparing with artificially generated series of price. According to him, “It has several times been noted that time series commodity prices in many respects the characteristics of series of cumulated random numbers. The separate items in such time series are by a means random in character, but the change between successive items tends to be largely random.”

Kendall (1953), “*The Analysis of Economic Time Series*” 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 change in the current week and the previous week. After extensive analysis of serial correlations, he suggested that “The series looks like a wandering one, almost as if once a week the demon chance of drew a random number from a population of fixed dispersion and added it to the current price to determine the next week’s price”.

Roberts (1959), conducted a study on *"Stock Market Patterns and Financial Analysis: Methodological Suggestions"*. He 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 stock market index. Thus, monthly end volume series from the New York Stock market using Dow Jones, Standard & Poor and other various indices as well as price series if individual stock. Especially there exists no linear relationship of dependence between lagged price changes.

Dockery (2000), *"Some Consideration in the Governance and Price Behavior of the Warsaw Stock Exchange"* examined the governance and supervision of the Warsaw Stock Exchange” and investigated the price behavior of the market using variance ratio tests and the Z test. The findings suggested that although an adequate infrastructure, both legal and physical is in place, the behavior of the market cannot be said to follow a random walk process. The implications of such results were important not only for the institutional and private investors who may make improper portfolio choices, but also for the public policymakers.

Fama and Blume (1966),conducted a study on *"Filters Rules and Stock Market Trading"* using the filter technique to overcome the shortcomings of Alexander’s mechanical rules. They tested the profitability of 24 filters ranging from 0.5% to 50%to buy and hold return of each of the stock of the Dow Jones. Ignoring transactions costs, only two out of thirty is superior to buy and hold policy, when commissions are taken into consideration only four out of thirty have positive returns

and not comparable with buy and hold return. Therefore, according to their demonstration, it seems that filter technique cannot provide returns larger than those under a buy and hold policy.

Dryden(1970), conducted a study on "*Statistical Study of U.K. Share Price*". He concluded that the share price movement were non random. However in his later study, he used serial correlation and runs analysis to examine the daily closing prices of 14 individual stocks of U.K market and supported that the independence hypothesis of successive price change. Similarly, Kemp and Remp's study(1971) was also against the random walk theory. They derived the conclusion that share price movements were conspicuously non- random over the period considered.

Fama, Fisher, Jensen and Roll (1969),on "*The Adjustment of Stock Prices to New Information*" examined the effect of stock splits on security prices. A number of prior studies had suggested that the stock splits increase the value of the firm. This was disturbing to many because stock splits simply involve changing the percentage ownership of any share holder or the asset of earning of the company. Fama and other scholars argued that stock splits might be associated with other more fundamental changes and the effects that researchers were attributing with other more fundamental changes and the effects that researchers were attributing to stock splits might be better attributed to these other phenomena.

Rao (1989), conducted the study on "*Stock Market Efficiency and Price Behavior*" in which the weekend prices of the eight blue-chip stocks for five years from July 1982 to June 1987 has been used. He applied serial correlation analysis, runs tests, and filter rule technique. The result from all the tests supported the random walk hypothesis. Thus, on the basis of above mentioned review of previous research works, it can be concluded that stock market prices shows random movement and the security prices appear to be serially independent. So, investors cannot develop any profitable trading strategy using the information of past series.

K.C. (2004), has conducted a study entitled “*Development of Stock Market and Economic Growth in Nepal*” based upon the data of ten years. The study reports that the relationship between financial development and economic growth depends upon the development of stock market. In the history of Nepal, many problems have been developed significantly in Nepal like most of the developments were confined to the banking sectors and they are mostly influenced by the government financial policies. Various measures of stocks market deployment indicate that the stock market in Nepal is underdeveloped and has failed to show the impact on the overall national economy. Low turnover ratio and value-traded ratio to volatility and high concentration ratio indicate that the stock market in Nepal is liquid and risky. Investors tend to avoid the stock market because they do not have option to it since stock market is less reliable source of raising funds for them. Thus, the financial system of Nepal is dominated on the banks especially on joint venture commercial banks.

Baral and Shrestha, (2006) has conducted a study on “*Daily Stock Price Behavior of Commercial Banks in Nepal*” using the data set on daily stock prices movements of 7 commercial banks sampled randomly during the fiscal year 2005/06. This study attempts to analyze the stock price behavior of commercial banks in Nepalese markets. Descriptive statistical tools: mean, standard deviation (SD) and coefficient of variation (CV) are used to analyze the volatility of the daily stock prices and indices of commercial banks and NEPSE. And inferential statistical tools: serial correlation and runs test are employed to measure the independence and the randomness in daily successive stock prices. From his study it is concluded that the Nepalese stock market is inefficient in pricing the shares. Most of the serial coefficients are significantly deviated from zero and statistically insignificant. It signifies that the successive price changes are dependent. Runs test results also show that the percentage of deviation between the observed and actual number of runs in the series of price changes is significant. It is obvious that the successive price changes are not random. Thus, the results of serial correlation and run tests conclude that the Random Walk Hypothesis (RWH) in Nepalese stock markets does not hold true.

### 2.4.1 Review of Thesis

Many investment researches have been conducted on the behavior of share price in Nepalese stock market. It is not possible to analyze all those research works. Thus, some of the available relevant studies are reviewed below. Even though these studies were carried out few years back, it can provide intellectual ground in our domestic stock market and its dimension in the present context also.

Poudyal (2003), also conducted a study on “*Study on Share Price Behavior of Joint Venture Commercial Banks*”. The objective of his study is to find the determinants of share price of joint venture commercial banks. He used two-tailed t-test and other financial tools in analyzing the data. He found that the analysis of growth rates of each of the banks under study in different key areas of the performance of the banking firm had been devised; in this it is concluded that the growth rate analysis as a standalone may not be adequate for the analysis of the share price behavior. Market share analysis of different banking indicators used is not completely captured by market value of these banks but the importance of such analysis cannot be underrated anyway as the firms under the study grow mature. Market share of the banks in different key business area plays a great role in share price representation by the historical information. The ordinary least square equation of book value per share on market value per share and other test conducted within this frame reveals that the independent variable does not fully the dependent variables. Values growth analysis however showed some rosy picture for the investors as in most of the time this analysis explained the market status of the shares on the basis of corporate and market generated information. To make it clear it should be revealed that sometimes there were contradictions between the inferences extracted from the two different tools of values/growth analysis. Through the analysis of data, he came into conclusion that Nepal Stock Exchange operates in a weak form of efficient market hypothesis, indicating that the market prices move randomly.

Acharya (2008), his study on “*Determinants of Stock Price in Nepalese Commercial Banks*” with randomly selected 10 commercial banks. The main objectives of the study were to study and analyze the stock price and volume and to study and examine the signaling factors impact on stock price with the help of NEPSE index. The major finding of the study is that the market price per share has high degree of positive relationship with EPS in all sample banks and largely depends on EPS. Lastly, she concluded that the share price are affected by different kinds of micro and macro variable such as EPS, DPS, information disclosed, political instability, growth rate according to respondents survey. However, interest rate, retention ratio, cost of equity, market liquidity, change in management do not significantly affect the share price in NEPSE.

Upadhyaya (2010), her study on “*Impact of Stock Price Behavior Entitled in Nepal Stock Exchange*” randomly selected 5 commercial banks. It covered 5 years period (2005-2009). This study aims to identify the factors respective for determinants of stock price and relationship with the stock price like earnings, book value, dividend and to examine the randomness of share price behavior. To achieve these objectives, the information are interpreted and analyzed by using simple and multiple regression analysis on MPS, EPS, DPS and BVPS, correlation analysis and run test. The major findings of her study are that the C.V. of MPS of BOK is high and that of SCBNL is low, C.V. of EPS of SBL is highest and that of SCBNL is lower comparing to other banks. Similarly, the C.V. of DPS of EBL is the highest and SCBNL has the. The EBL has the highest and SCBNL has the lowest C.V. of BVPS. Finally, she concluded that the internal factors like earnings, book value, dividend payment, growth rate and risk associated with the company affect the share price. Similarly, other environmental factors like government instability, information, rumors and whims affect the market price of share.

Giri (2011), carried out a study on “*Determinants of Stock Price in Nepal*” taking 5 sample organizations using various financial and statistical tools. The main objectives of the study are to evaluate the factors affecting the stock price in NEPSE and to

determine the effect of EPS and BVPS on MPS and dividend policy on the stock price.

His findings are as follows:

- ) Coefficient of Variation of MPS in LBL is high among the selected banks.
- ) The correlation analysis shows that there is a high degree of positive relationship of MPS with EPS and is significant at 0.01 level of significance (2-tailed).
- ) The simple regression analysis of MPS on DPS shows that MPS of MBL and EBL are highly affected by DPS and EPS.
- ) Dividend, interest rate, political instability, information and rumors, NRB rules and regulations also affect the share price.
- ) He concluded that even though DPS, BVPS and EPS jointly have significant effect on the share price individually, they do not have consistent relationship with MPS. It means there are some other factors that have been influencing and determining the share price significantly.

Bhandari (2011), has conducted a study on “*Impact of Dividend on Market Price of Share of Selected Commercial Banks*” taking 5 sample organizations using various financial and statistical tools like F-test, t-test, correlation analysis, mean, standard deviation and coefficient of variation. The main objective of the study is to obtain the knowledge about the impact of dividend policy adopted by the selected companies to its market price of shares as well as the overall valuation of firms in terms of EPS, MPS, DY and DPR. Her major findings are that the DPS, DPR, MPS and EPS of NABIL is highest among other banks. The average DY of NIBL is highest of 2.56% among the selected banks and there is insignificant relationship between DPS and MPS of all banks. She concluded that there are differences in financial position of high dividend paying and low dividend paying companies. The market price of share of banks is highly affected by dividend policy. The dividend practices followed of Nepalese commercial bank is payment of dividend after financing in appropriate investment opportunities. The test of t-statistics concludes that the relationship

between MPS and EPS of all banks is significant. Similarly, there is significance difference between mean of DPS and EPS of sample commercial banks whereas there is no significant difference between mean DPR of sample banks.

## **2.5 Research Gap**

There have been several researches conducted on various aspects of stock market and stock market price formation. All those studies have also much useful findings and limitations as the study conducted in developed security markets may not be entirely relevant in the security markets of developing countries like Nepal. The changes taken place after the completion of these studies might have reduce their relevance in the present context. Therefore, it is necessary to test the validity of these studies and their applicability in our context. Most of the above stated studies use technical and statistical methods like regression analysis, correlation analysis of NEPSE trends for analysis purpose. Only few of studies use fundamental analysis tools for the research work and some of few studies are concerned about the financial indicators like EPS, DPS which are the most influencing factors for the MPS. So, this study tries to analyze the major quantitative determinants of share price of the selected commercial banks by relating year end MPS with various financial indicators in consideration with correlation analysis. Company wise analysis has also been made on the basis of information available from the concerned banks. Thus, it has been believed that this study will be different from the earlier studies.

## **CHAPTER-III**

### **RESEARCH METHODOLOGY**

In the previous chapter review of the available literature has been done and now it has been attempted to present a basic frame of methodology with in which the research will be conducted. It covers quantitative methodology using statistical and financial tools. But, the study is mainly based on secondary data collected from NEPSE and from the annual reports of commercial banks.

#### **3.1 Research Design**

The design of research is of academic type. It attempts to get the empirical result of the stock price movement. To conduct the study, analytical and descriptive research approach is adopted for the readily available historical data. All data used in this study are secondary in nature.

#### **3.2 Population and Samples of the Study**

Population refers to the entire group of people events or things of interest that the researcher wishes to investigate. All the commercial banks listed with NEPSE are considered to be the total population of the study. Out of them, the commercial banks that were listed and are doing share transaction in NEPSE were considered as the sample of the study. The study will try to explore the objectives set in previous section and it is also expected that this study will help in analyzing the stock market scenario. This study is aimed at producing effect of historical information on future price movements of the commercial bank's stocks. Therefore, the following two banks have been considered as so far.

- ) Nabil Bank Limited
- ) Nepal Investment Bank Limited

### **3.3 Sources of Data**

The data used in this study consists of daily closing price of each of the listed commercial banks in NEPSE. All the obtained price series data that are used in this study are from the daily newspaper and website of NEPSE. The sample period covers 2008-2012 for examining the relationships as well as for using different indicators.

The data are collected from the trading reports, annual reports of NEPSE, publications of Securities Board of Nepal and annual reports of NIBL and NABIL bank. The review of theory of the proposed study is based on text books and thesis related to the topic.

### **3.4 Analysis of the Data**

The book value per share is the total equity divided by numbers of common shares outstanding. The book value will increase with an increase in equity capital components or with a decrease in number of shares outstanding. Other things remaining the same, a growing firm's book value per share will increase every year with the amount of increased profits. The amount of profits can be utilized to pay out dividend or to retain in the firm. The dividend has rising trend of market value per share. On the other hand, if the firm retains a large portion of profits in business, the value per share will be affected with the changes in the book value. Therefore, our assumptions for testing the form of stock exchange is based on whether the book value of shares dictate the market value of shares or not. In other words, if a linear relationship exists between the variables, the stock exchange may be regarded as a semi-strong form of the secondary market. If no any exists, in that case the form of stock market may be weak.

In order to test the significance of correlation co-efficient and regression equation, a two tailed t-test will be applied. Financial performance analysis is another way to test the objectives of the proposed study. Therefore, the financial analysis, which includes different indicators that are major in analysis of the share prices, will be used to test

why the shares of commercial banks emerge as blue chips for the prospective investors. For this growth analysis, market share analysis and ratio analysis of key performance indicators are attempted. Element of risk and return is inherent to every type of investment portfolio. In order to test the risk of riskiness of shares, the risk and return analysis have been attempted in this the expected rate of return over the period of review, the standard deviation, and the coefficient of variation, stock will be used in the form of statistical tools. In the market sensitivity analysis, beta coefficient of individual stock has been presented for the understanding of market volatility in Nepal. In addition to that, growth vs. value analysis and discriminate analysis has been attempted.

### 3.4.1 Statistical Tool

Statistical tools such as standard deviation, co-efficient of variation, beta coefficient are the main tools applied for the study. Other statistical tools are also applied where necessary.

#### 3.4.1.1 Rate of Return

The rate of return measures the speed at which the investor's wealth increases or decreases. An investor's single period rate of return during the investment period is computed as,

$$\text{Realized Rate of Return at a time } (R_j) = \frac{\text{Dividend} + (\text{Ending Price} - \text{Beginning Price})}{\text{Beginning Price}}$$

$$\text{Expected Realized Rate of Return of Stock } (\bar{R}_j) = \frac{\sum R_j}{n}$$

Where,

$(\bar{R}_j)$  = Expected Realized Rate of Return.

n = Number of Observations in Sample.

$R_m$  = Summation of Annual Market Returns.

### 3.4.1.2 Standard Deviation

It is the quantitative measure of total risk of assets. It provides more information about the risk of the asset. The standard deviation of a distribution is the square root of the variance or returns around the mean. The following formula is applied to calculate the standard deviation, using historical returns:

$$\text{Standard Deviation } (\sigma_j) = \frac{\sum (R_j - \bar{R}_j)^2}{n}$$

### 3.4.1.3 Coefficient of Variation

Coefficient of variation is another measure of risk, which is the standard deviation divided by the expected return. It measures the risk per unit of return can be used to measure the inherent risk of individual securities.

$$\text{Coefficient of Variation (C.V.)}_j = \frac{\sigma_j}{\bar{R}_j}$$

Where,

$CV_j$  = Coefficient of Variation.

$\sigma_j$  = Standard Deviation of Stock j.

### 3.4.1.4 Co-variance

The covariance measures how two variables co-vary. It is the measure of the absolute association between two variables. Here, how the returns of the individual stocks and market return co-vary will be measured by covariance between the return of the individual stocks and market return. It is computed as:

$$\text{Cov } (R_j R_m) = \frac{\sum (R_j - \bar{R}_j)(R_m - \bar{R}_m)}{n}$$

### 3.4.1.5 Beta Coefficient

The beta coefficient is an index of systematic risk. It may be for ranking the systematic risk of different assets. If beta is larger than one, then the asset is more volatile than the market which is used is called aggressive asset i.e. more risky. If the

beta is less than one, then the asset is considered defensive asset i.e. less risky as its price fluctuations are less than the marker. On other hand, if the beta is equal to one, then the asset is said to average as its price moves proportionate to the market changes.

$$\beta_j = \frac{\text{Cov}(R_j, R_m)}{\sigma_m^2}$$

Where,

- $\beta_j$  =Beta Coefficient of Stock j.
- Co-variance ( $R_j, R_m$ ) = Covariance of the Returns of Stock j and Market.
- $\sigma_m^2$  = Variance of the Market.

Individual stock is classified as aggressive or defensive or average on the basis of beta coefficient.

Beta Coefficient	Stock Classification	Degree of Risk
Less than 1	Defensive stock	Less risky than the market
Exactly 1	Average stock	Equally risky as the market
Greater than 1	Aggressive stock	More risky than the market

### 3.4.1.6 Return on Market

Annual return on the market is the average return of market based on the index of the market. It is denoted by  $R_m$ . Under this study, NEPSE index will be used. It is value weighted index and comprises of all the stocks listed in NEPSE. The NEPSE index is used for the study.

$$\text{Annual Market Return } (R_m) = \frac{\text{Ending NEPSE Index} - \text{Begining NEPSE Index}}{\text{Begining NEPSE Index}}$$

### 3.4.1.7 Run Test

A run test can be defined as a sequence of consecutive price change of the same sign followed and preceded by price change of other sign. There exist three types of price changes in a series i.e. positive, negative and zero. Run test is a non-permanent test, which can also be used to examine the independence of a series as a check of results generated by serial correlation tests. Runs test is performed to examine whether the actual number of runs confirmed to the expected number of runs under the independent Bernoulli process. Of the observed runs and the expected runs are not significantly different from each other, then it is concluded that the independence assumption of the successive price changes is maintained. The difference between expected and actual numbers of runs has been analyzed by total number of runs of each sign.

#### 3.4.1.7.1 Analysis by Runs of Each Sign

The expected number of runs of price changes is also of three kinds i.e. positive, negative and zero. The expected number of each sign is just the breakdown by sign of the total expected number of runs of all signs. In this case, if there is significant inconsistency between total actual number of runs of all sign and total expected numbers, there will be greater deviations between total actual number of runs of each sign and the total expected number of runs of each sign. If the signs were generated by an independent Bernoulli process, the expected number of runs of price changes for each sign is given by:

$$R(+)=R[P(+\overline{run})]$$

$$R(-)=R[P(-\overline{run})]$$

$$R(0)=R[P(0\overline{run})]$$

Where,

P (+), P (-) and P (0) are the probabilities of each sign i.e. positive, negative and zero respectively.

R(+), R (-) and R (0) are the expected number of positive, negative and zero runs.

### 3.4.1.8 Karl Pearson's Coefficient of Correlation

It is a kind of statistical tool used for measuring the intensity or magnitude of linear relationship between the two variables. It is also known as Pearson an correlation coefficient between two variables (say X and Y), denoted by 'r<sub>xy</sub>' or simply 'r' can be obtained as

$$r = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$$

Where,

$$x = X - \bar{X}$$

$$y = Y - \bar{Y}$$

$$\bar{X} = \text{Mean of Series X}$$

$$\bar{Y} = \text{Mean of Series Y}$$

The value of correlation coefficient, 'r', always lies between '-1' to '+1'.

If r= +1, it can be stated that there is perfect positive relationship between variables X and Y.

If r= -1, it can be stated that there is perfect negative relationship between variables X and Y.

If r= 0, it can be stated that there is no correlations at all between the two given variables.

### 3.4.2 Financial Tools

The financial parameter helps to measure the financial status of the organization. The parameter is found from financial statement and financial disclosure. Some of the financial variables are stated below:

### **3.4.2.1 Market Price per Share (MPS)**

Market price is one of a number of ways of establishing the monetary value of a good or a transaction. It is the prevailing or the actual price of the share paid in the market transaction. For this study, yearend closing price of NEPSE is taken as a Market price per share.

### **3.4.2.2 Dividend per Share (DPS)**

Dividend per share is the amount of the dividend that the shareholders have (or will) receive over a year, for each share they owned. It is calculated as the net profit distributed to the shareholders divided by the number of shares outstanding.

$$\text{DPS} = \frac{\text{Amount Provided to Equity Shareholders}}{\text{No.of Outstanding Shares}}$$

### **3.4.2.3 Earning per Share (EPS)**

Earnings per share are the portion of the company's profit allocated to each outstanding share of common stock. EPS is generally considered to be the single most important variable in determining a share's price. It is calculated by dividing the profit available to the shareholders by the number of outstanding shares.

$$\text{EPS} = \frac{\text{Net Profit}}{\text{No.of Existing Equity Shares}}$$

## **CHAPTER – IV**

### **DATA PRESENTATION AND ANALYSIS**

This chapter deals with the presentation, analysis and interpretation using different tools and techniques of analysis explained in the previous chapter, research methodology. In this, different types of statistical and financial analysis have been attempted on the share price behavior with a huge practically as it has academic importance. This chapter reveals the performance of securities during the year 2007/08 to 2011/12.

#### **4.1 Behavior of Market Index**

The market index is an indicator of the movement of overall securities prices in the secondary market. It is a number used to represent the changes occurred in a set of values between the base time period and another time period. The market index is used to determine the performance of individual and institutional securities and portfolios like systematic risk. Different people, institutions and analysts use market index in their own ways. It focuses on the stock price that is increasing or decreasing. The increasing share price shows the good performance and the decreasing represents the poor performance of the stock in the market with compare to other stocks.

##### **4.1.2 Monthly Trend Analysis of NEPSE Index**

In this study, index has been used as measuring tool to determine the performance of stock market. It focuses on the closing price of stocks that is increasing and decreasing trend in the marker due to the various changing variables. The higher index shows the increase in the market price of securities and the better performance of companies and vice-versa.

**Table 4.1****Monthly Trend Analysis of NEPSE Index**

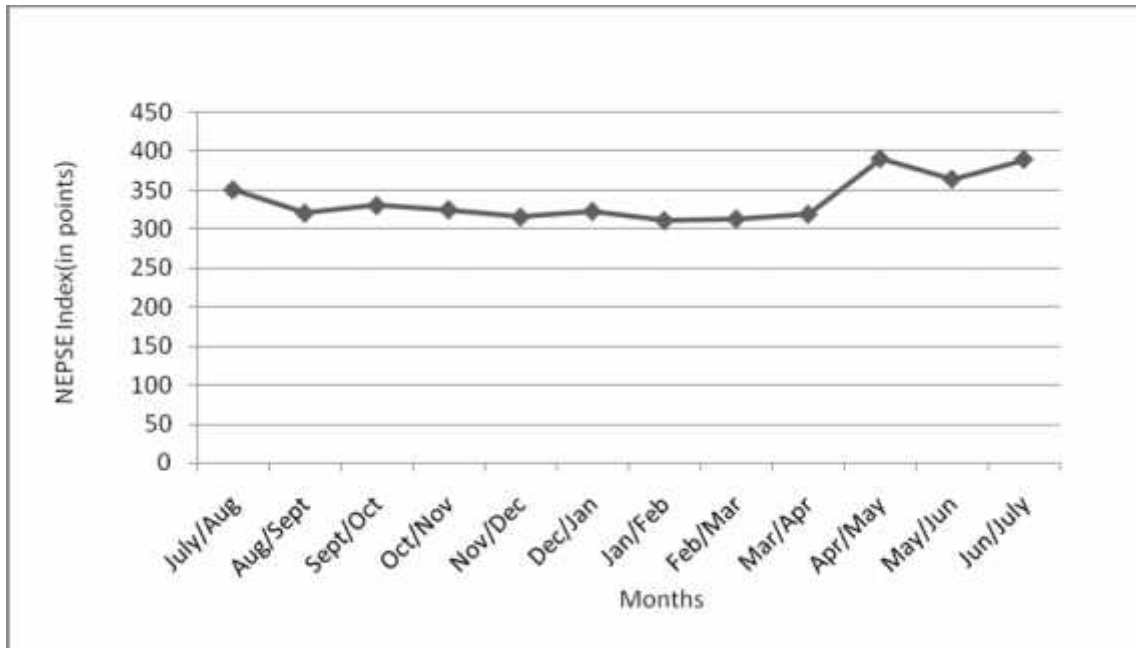
<b>S.No.</b>	<b>Months</b>	<b>NEPSE Index</b>	<b>% Change</b>
1.	Jul/Aug 11	351.01	-
2.	Aug/Sept 11	321.18	-8.50
3.	Sept/Oct 11	330.99	3.06
4.	Oct/Nov 11	325.61	-1.63
5.	Nov/De 11	316.27	-2.87
6.	Dec/Jan 12	323.62	2.33
7.	Jan/Feb 12	311.88	-3.63
8.	Feb/Mar 12	313.92	0.66
9.	Mar/Apr 12	319.95	1.92
10.	Apr/May12	390.63	22.09
11.	May/Jun 12	364.67	-6.65
12.	Jun/Jul12	389.74	6.88

*(Source: Monthly Reports of NEPSE 2011/12)*

The table 4.1 shows the movement of NEPSE during the month July/ August 2011 to June/ July 2012 i.e. Asadh 2069. The NEPSE shows a fluctuating trend from the month July/August 2011 to Jan/Feb 2012 and it has been slightly increased to 313.92 and 319.95 respectively during the month Feb/March 2012 and March/ April 2012. The highest index was recorded at 390.63 points in the month April/May whereas lowest index was 311.88 points on Jan/ Feb 2012. Lastly, by the end of F/Y 2011/2012, the NEPSE index of the listed securities remained by 389.74 points, which is 26.89 points higher than that of the last fiscal year end index of 362.85 points. The calculation is shown in appendix-3.

**Figure4.1**

**Monthly NEPSE Index (Closing) for the FY 2011/12**



The figure 4.1 depicts the movement of NEPSE index for the fiscal year 2011/12.

#### **4.1.2 Market Sensitivity Analysis**

We have small and imperfect market. There is only one stock market, NEPSE. All the transactions are made in NEPSE and overall market movement is represented by market index (i.e. NEPSE index). The following table shows the market risk and return.

**Table 4.2**  
**NEPSE Index & Annual Return**

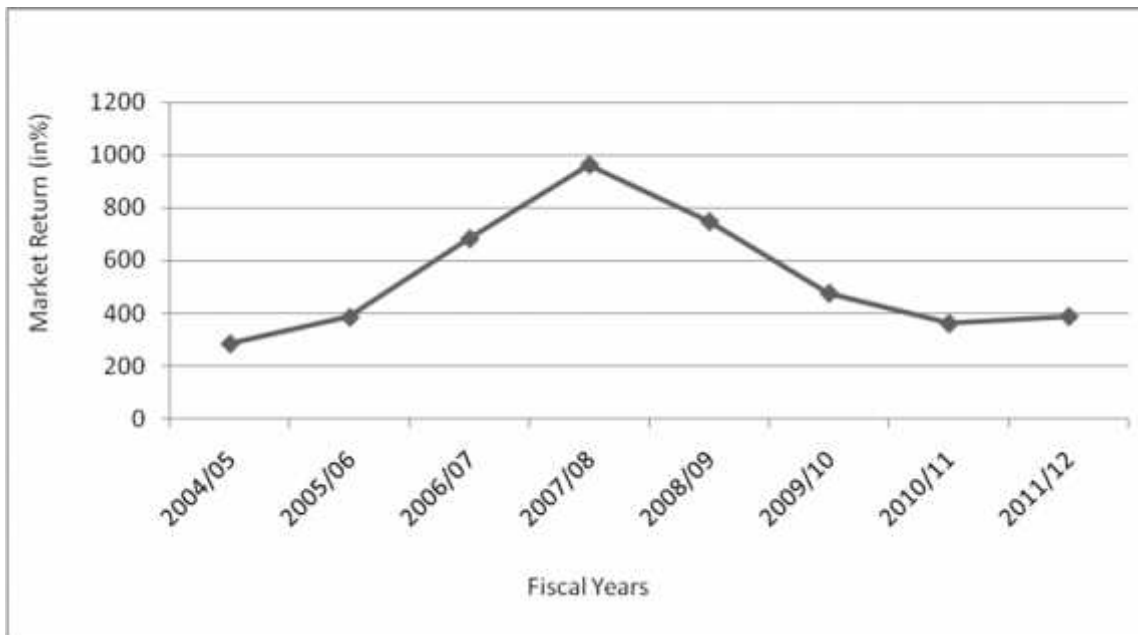
<b>Fiscal Year</b>	<b>NEPSE Index</b>	<b>Annual Return (<math>R_m</math>) %</b>
2004/05	286.67	-
2005/06	386.83	34.94
2006/07	683.95	76.81
2007/08	963.36	40.86
2008/09	749.10	-22.24
2009/10	477.73	-36.23
2010/11	362.85	-24.05
2011/12	389.74	7.41

*(Source: NEPSE Annual Trading Reports)*

The table 4.2 shows the movement of NEPSE index during the F/Y 2004/05 to 2011/12. The market index indicates that there is no similarity for all years i.e. it is in a fluctuating trend. The NEPSE index is in increasing trend from the F/Y 2005/06 to F/Y 2007/08 and reached to 963.36. Then, it has followed a declining trend from F/Y 2008/09 to F/Y 2010/11. But it has slightly increased during the research period F/Y 2011/12 to 389.74 points.

The table shows the market return as the market return is highest in the F/Y 2006/07 and goes on declining over the F/Y 2008/09 to F/Y 2010/11 and slowly increased in 2011/12. The market return is worst in 2009/10. The calculation is shown in appendix-4.

**Figure 4.2**  
**Market Return Analysis**



The figure 4.2 depicts the return analysis on the NEPSE points over the period of 8 fiscal years.

#### **4.1.3 Number of Listed Companies, Transacted Companies**

As concerned with the number of listed companies present in the table 4.3 shows that the rate of listing companies for the fiscal year 2011/2012 is 4.35%. In every stock exchange, the size of the security market is determined by the number of companies listed in the stock exchange and those companies which are keenly transacting in the security market. In Nepal, Securities Exchange Act 2006 prohibits security trading without listing and registration in Nepal Stock Exchange Ltd.

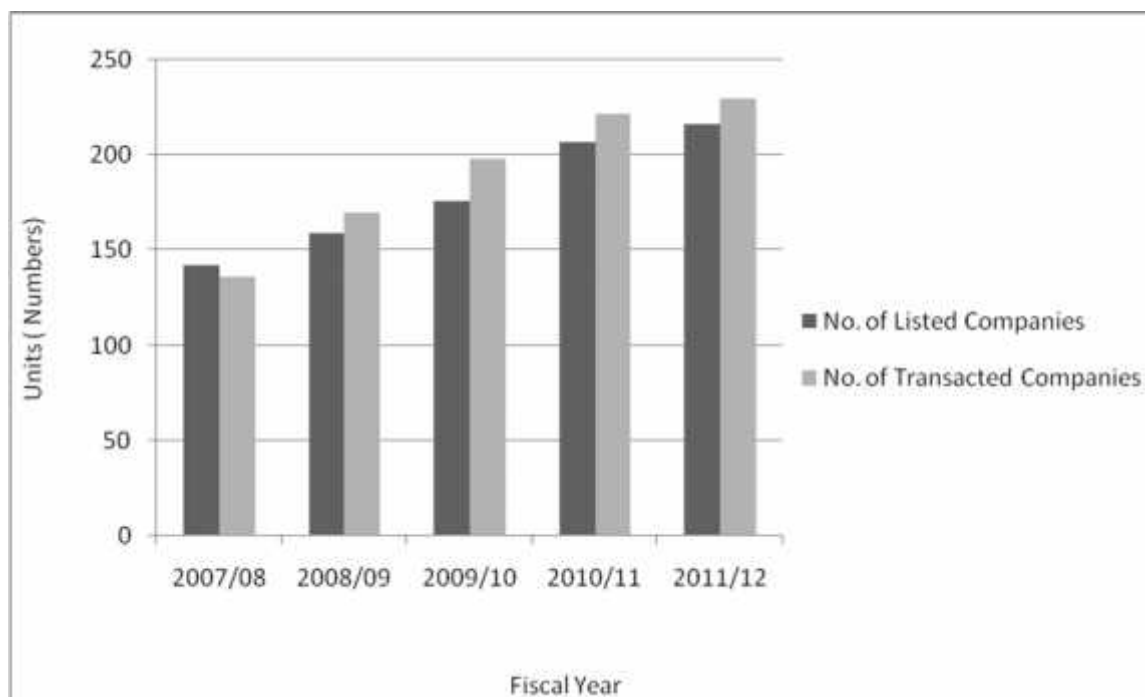
**Table 4.3**  
**Listing Rate of Companies in NEPSE for Different Fiscal Years**

<b>Fiscal Year</b>	<b>No. of Listed Companies</b>	<b>% Change</b>	<b>No. of Transacted Companies</b>	<b>% Change</b>
2007/08	142	-	136	-
2008/09	159	11.97	170	25
2009/10	176	10.69	198	16.47
2010/11	207	17.61	222	12.12
2011/12	216	4.35	230	3.60

*(Source: NEPSE, Annual Trading Reports)*

The table 4.3 shows that the number of listed companies and transacted companies in NEPSE from the F/Y 2007/08 to F/Y 2011/12. The table shows the increasing trend of the number of listed companies and transacted companies in the NEPSE. The number of listed companies was 142 in F/Y 2007/08 and it has increased to 216 in the F/Y 2011/12. During the same period, the number of transacted companies has also increased from 136 in F/Y 2007/08 to 230 in F/Y 2011/2012.

**Figure 4.3**  
**Number of Listed Companies & Transacted Companies**



The figure 4.3 depicts the trend of annual changes in the number of companies listed and transacted in NEPSE over the five year period.

#### **4.1.4 Market Capitalization of NEPSE**

Market capitalization refers the present value of the investment and it is related to market price of shares. The value of market capitalization changes due to changing sentiments of capital market. If the market capitalization is favorable, the market value of assets increases substantially so that the value of the company is increased and vice-versa. The increased market value further suggests the good performance of the concerned companies. So, the investors are highly interested to such companies. It is derived by multiplying the number of listed securities of all companies by the closing market price of corresponding securities and summing them up.

**Table 4.4**  
**Market Capitalization of NEPSE**

Fiscal Year	Market Capitalization(Rs.In Millions)	% Change
2007/08	366247.56	-
2008/09	512939.07	40.05
2009/10	376871.37	-26.53
2010/11	323484.34	-14.17
2011/12	368262.13	13.84

*(Source: Annual Reports of NEPSE)*

The table 4.4 shows the market capitalization of NEPSE during the F/Y 2007/08 to 2011/12 based on closing market price of listed securities. The market capitalization was Rs. 366247.56 million in the F/Y 2007/08. The annual growth rate on the market capitalization is fluctuating as it is negative and it has been increased to 13.84% in F/Y 2011/12. The highest market index is recorded in F/Y 2008/09 which is Rs. 512939.07 million and lowest in F/Y 2010/11 which is Rs. 323484.34 million.

## **4.2 Runs Analysis (Random)**

It is possible that security prices might fluctuate randomly but, in addition they sometimes follow trends that filter rules and serial correlation could not detect. That is, price changes may be random most of the time but occasionally runs tests may be used to determine if there are runs in the price changes. A run occurs in a series of numbers whenever the changes in the numbers reverse sign.

### **4.2.1 Analysis by Three Different Runs**

There are three different runs namely positive, zero and negative runs. If the price of stock increases, then the run is positive and if it declines there will be a negative run and if the price remains same then there will be a zero run. Run test is determined to see how many positive, negative and zero, or total runs may be expected to occur in a series of truly random numbers of size. Since, it is not possible to take whole year's

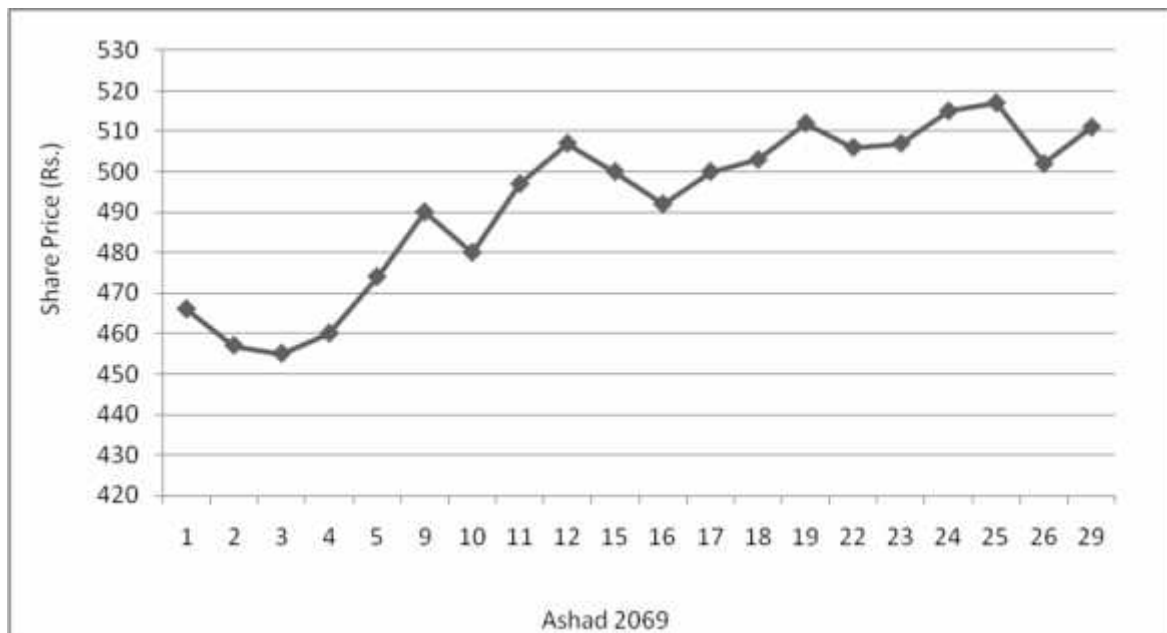
daily share price as a study, I have taken daily share price of the month Ashad 2069 (i.e. 17<sup>th</sup> June 2012 to 16<sup>th</sup> July 2012).

#### 4.2.1.1 Share Trading for the Month of Ashad 2069-Nepal Investment Bank

The appendix 11 shows as how the share price changes from each consecutive days. The table shows that there are altogether 10 runs in different days for the month of Ashad 2069. It has 5 positive runs and 5 negative runs i.e. the movement of share price is 10 times increasing and decreasing. The range of the share price variability is - 15 to 17.

**Figure 4.4**

**Share Trading for the Month of Ashad 2069-Nepal Investment Bank**



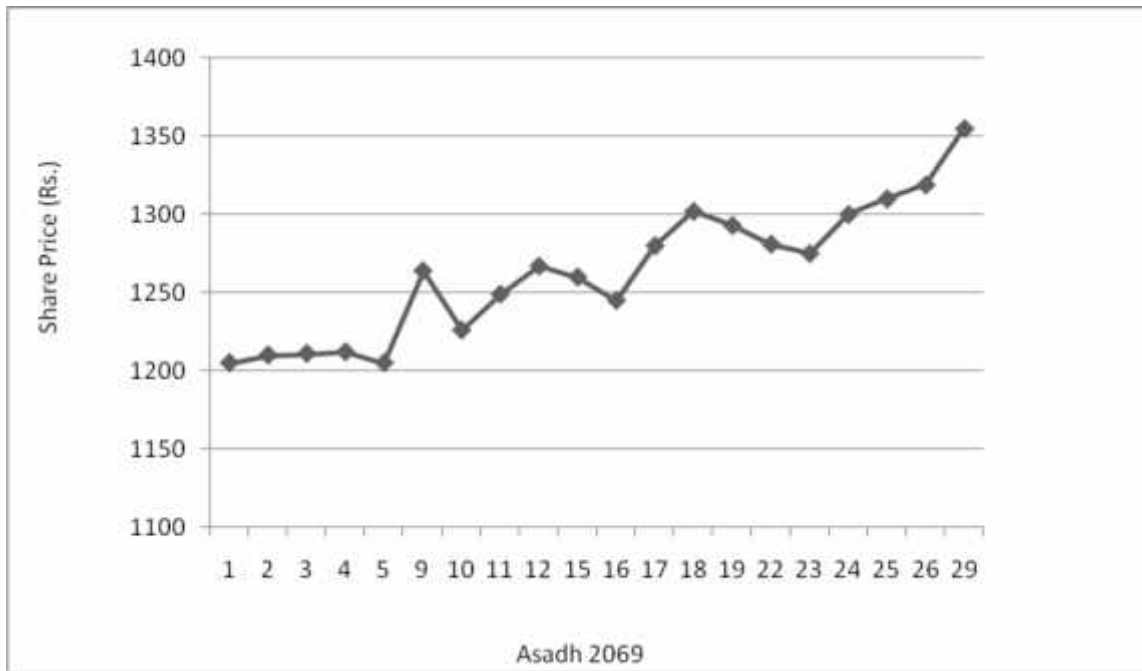
The figure 4.4 depicts the changes in share price of NIBL bank during the month of Ashad 2069.

#### 4.2.1.2 Share Trading for the Month of Ashad 2069 - NABIL Bank

The appendix 12 shows the different share price of the month Asadh 2069. The table & figure clearly show the two different runs delivering 9 different runs of 5 positive runs and 4 negative runs. But there is no any zero run. The price of share fluctuates over the month range of share price fluctuation is -38 to 59.

**Figure 4.5**

**Share Trading for the Month of Ashad 2069 - NABIL Bank**



The figure 4.5 depicts the changes in share price of NABIL bank during the month of Asadh 2069.

#### 4.3 Risk and Return Analysis

Risk and return analysis is considered as one of the best ways of analyzing the behavior of prices of the shares in the market. Risk measures the degree of volatility in the market price movement of individual securities. The higher the magnitude of fluctuations, higher will be degree of risk. In this analysis, it is attempted to find out the periodical realized rate of return to the investment, its expected return or average rate of return over the period of review, the standard deviation of the return over the

period, co-efficient of variation and beta co-efficient by using formula as described in research methodology chapter.

### 4.3.1 Standard Deviation

Standard deviation is a strong statistical device to measure the total risk involved in an investment which consists of both market risk and diversifiable risk. It denotes the volatility of the expected rate of return. The calculated value of expected return and standard deviation are presented in the table 4.7.

**Table 4.5**  
**Standard Deviation of Individual Banks**

<b>Stock</b>	<b>Expected Realized Return (%)</b>	<b>Standard Deviation (%)</b>	<b>Ranking of Riskiness based on Standard Deviation</b>
NABIL Bank	-22.99	26.30	1
Nepal Investment Bank	-28.29	18.73	2

*(Source: NEPSE, Appendix-5&6)*

Based on the implied assumption of the standard deviation, investment in the common stocks of NABIL is more risky than the investment in the common stocks of NIBL. The common stock of NABIL Bank is associated with 26.30% of the highest risk, which indicates that the expected return can be deviated by 26.30% in case of common stock investment than NIBL.

### 4.3.2 Co-efficient of Variation

The standard deviation may not be appropriate measure of risk when the realized rates of return are not same in all of the companies taken under consideration. The average realized rate of return are not same for the two each banks under the study. Therefore, it is recommended to use the coefficient of variation to measure the risk involved in individual banks. The coefficient of variation of the realized rate of the sample banks are shown in the table 4.8.

**Table 4.6**  
**Coefficient of Variation of Individual Banks**

<b>Stocks</b>	<b>Coefficient of Variation</b>
NABIL Bank	-1.1440
Nepal Investment Bank	-0.6621

*(Source: NEPSE Appendix -5&6.)*

On the basis of coefficient of variation, common stock of NIBL seems to be more risky than the common stock of NABIL for investment.

### 4.3.3 Beta Coefficient

Standard deviation measures the total risk of an investment and the coefficient of variation measures the risk per unit of return. But, the beta coefficient measures the market sensitivity or systematic risk of an investment. Systematic risk is such risk that cannot be diversified. Beta coefficient measures the volatility of stock relative to that of the average. NEPSE index is taken into consideration to measure the movements of the general market regarding the stocks of listed commercial banks. Higher beta indicates the greater reaction by individual common stock with the given movement in the market status. The following table shows the degree of riskiness of each stock of entire sample in relation to the general market.

**Table 4.7**  
**Beta Coefficients of Sampled Commercial Banks**

<b>Stocks</b>	<b>Beta Coefficient</b>	<b>Ranking of Riskiness Based on Beta Coefficient</b>
NABIL	1.4070	1
NIBL	1.0698	2

*(Source: NEPSE, Appendix -5&6.)*

By analyzing the above table, we concluded that the beta coefficients of both banks are positive and greater than 1. The beta coefficient of NABIL bank is greater than that of Nepal Investment Bank Limited. So NABIL bank seems to be more risky than NIBL in the market. For example in case of NABIL bank, the calculated beta

coefficient represents that one percent variation on the market rate of return leads to 1.407% variations in their realized rate of return. Hence, it is concluded that the highly sensitive stock make quick response to the market change.

#### **4.4 Major Financial Indicators of Sample Commercial Banks**

It is necessary to evaluate the movement of share price on the basis of financial indicators like EPS, DPS and MPS. In this study, the data has been extracted from the respective annual reports of the banks.

#### **4.5 Correlation Analysis**

Correlation analysis is performed in order to detect the relationship and to detect if there is any role of the various factors in forming the price of common stocks of sampled commercial banks. In this analysis, product moment method has been used to find out the relationship between EPS and MPS, DPS and MPS.

For the purpose of decision making under correlation, decision making based on following interpretation terms:

When,  $r = +1$ , there is perfect positive correlation.

When,  $r = -1$ , there is perfect negative correlation.

When,  $r = 0$ , there is no correlation.

When, 'r' lies between 0.7 and 0.999, (-0.7 to 0.999), there is a high degree of positive, (or negative) correlation.

When 'r' lies between 0.5 and 0.699, there is a moderate degree of correlation.

When 'r' is less than 0.5, there is low degree of correlation.

##### **4.5.1 Correlation between EPS and MPS**

###### **4.5.1.1 Correlation between EPS and MPS of Nabil Bank**

The correlation between EPS and MPS of Nabil bank calculated below shows the relationship between the EPS of Nabil bank and its MPS and its degree of relationship.

**Table 4.8**  
**Correlation Table**

<b>Coefficient of Correlation (r)</b>	<b>Relationship</b>	<b>6*P.E (r)</b>	<b>Probable Error (r)</b>	<b>Significant or Insignificant</b>
0.9737	High Degree of Positive Correlation	0.0942	0.0157	Significant

**Decision**

From the computation table 4.10, the conclusion can be drawn that there was high degree of positive correlation between EPS of NABIL and its MPS. Again, the probable error is used to measure the significance of the relation between two variables. In case of this study, the significant relationship between EPS and MPS is measured by calculating probable error of correlation coefficient of correlation. Since, the coefficient of correlation (r) is greater than 6P.E. (r), therefore, it can be concluded that the relation between the two variables is significant. The calculation is shown in appendix-9.

**4.5.1.2 Correlation between EPS and MPS of Nepal Investment Bank**

**Table 4.9**  
**Correlation Table**

<b>Coefficient of Correlation (r)</b>	<b>Relationship</b>	<b>6*P.E (r)</b>	<b>Probable Error (r)</b>	<b>Significant or Insignificant</b>
0.6437	Moderate Degree of Positive Correlation	1.0602	0.1767	Nothing can be concluded

**Decision**

From the computation table 4.11, the conclusion can be drawn that there was high degree of positive correlation between EPS of NIBL and its MPS. Again, the probable error is used to measure the significance of the relation between two variables. In case of this study, the significant relationship between EPS and MPS is measured by calculating probable error of correlation coefficient of correlation. Since, the coefficient of correlation (r) is lower than 6P.E. (r) and greater than the calculated

value of P.E., therefore, no any conclusion can be drawn from the calculation. The calculation is shown in appendix-10.

#### **4.5.2 Correlation between DPS and MPS**

##### **4.5.2.1 Correlation between DPS and MPS of Nabil Bank**

The correlation between DPS and MPS of Nabil bank is calculated below. It shows the relationship between DPS and MPS and its degree of relationship.

**Table 4.10**  
**Correlation Table**

<b>Coefficient of Correlation (r)</b>	<b>Relationship</b>	<b>6*P.E (r)</b>	<b>Probable Error</b>	<b>Significant or Insignificant</b>
0.6219	Moderate Degree of Positive Correlation	1.11	0.1850	Nothing can be concluded

#### **Decision**

From the computation table 4.12, the conclusion can be drawn that there was moderate degree of positive correlation between DPS of NABIL and its MPS.

Again, the probable error is used to measure the significance of the relation between two variables. In case of this study, the significant relationship between DPS and MPS is measured by calculating probable error of coefficient of correlation (r) and 6 P.E. As the calculated value of correlation coefficient (r) is

greater than the calculated value of P.E. and lower than the calculated value of 6P.E. Thus, nothing can be concluded. The calculation is shown in appendix-7.

#### 4.5.2.2 Correlation between DPS and MPS of Nepal Investment Bank

The correlation between DPS and MPS of Nepal Investment bank is calculated below. It shows the relationship between DPS and MPS and its degree of relationship.

**Table 4.11**  
**Correlation Table**

<b>Coefficient of Correlation (r)</b>	<b>Relationship</b>	<b>6*P.E (r)</b>	<b>Probable Error (r)</b>	<b>Significant or Insignificant</b>
-0.3981	Low Degree of Negative Correlation	1.5228	0.2538	Insignificant

#### **Decision**

From the computation table 4.13, the conclusion can be drawn that there was low degree of negative correlation between DPS of NIBL and its MPS. Again, the probable error is used to measure the significance of the relation between two variables. In case of this study, the significant relationship between DPS and MPS is measured by calculating probable error of coefficient of correlation (r) and 6 P.E. It can be concluded that the relation between the two variables is insignificant as the calculated value of 'r' is lower than the calculated value of P.E. (r). The calculation is shown in appendix-8.

#### **4.6 Major Findings**

- ) The monthly trend analysis of NEPSE index during the period of F/Y 2011/12 is decreasing but in fluctuating trend. Some improvements have been found in the NEPSE index at the end of the month. Thus, the above NEPSE index during the F/Y 2011/12 does not show the satisfactory data to an investor to invest. (Table:4.1)
- ) In the F/Y 2011/12, there are altogether 216 companies listed in NEPSE and number of the transacted companies are 230. The listing and transacting rate is in

increasing trend. This shows the strong and growing coverage of stock market in Nepal.(Table:4.3)

) Over the study period, the annual market capitalization is found highest during the F/Y 2008/09. After that, it is in declining trend. This shows that the performance of the listed companies of NEPSE is not good.(Table:4.4)

) The run analysis of the month Asadh 2069 of the samples commercial banks shows that the prices of stock tend to change from time to time delivering different two runs. There is no stability in share price of both banks. So, there is no zero run. The total no. of runs delivered by NABIL bank was 9 runs of 5 positive and 4 negative runs. Similarly, the total number of runs of NIBL was 10 of which 5 is positive runs and 5 negative runs. Thus, the price of share of each banks fluctuate due to the different factors.(Appendix:11&12 and figure:4.4&4.5)

) The average five-year market return for all the stocks in the market using the overall five year closing market indices is found to be just -18.78%. The overall market return is low due to the lower trend of the prices of common stocks of most of the companies in the market. (Appendix:5)

) Based on the total risk, the s.d. of NABIL is higher than s.d. of NIBL. This reveals that the risk involved in common stock of NABIL is higher than that of NIBL. (Table:4.5)Based on risk per unit of return, the stock of NIBL is found more risky than the stock of NABIL as the C.V. of NIBL is -0.6621 and that of NABIL is -1.1440.(Table:4.6)

) The beta coefficients from the given figures of five year period are 1.4070 and 1.0698 for the banks NABIL and NIBL respectively. This states that the stocks of both banks are aggressive to market changes. Even that, the market sensitivity of the stock prices of NABIL is higher than NIBL as revealed by the highest beta coefficient. (Table: 4.7)

The key financial performance indicators such as EPS,DPS and MPS of the two samples commercial banks for the past five year periods are presented in the respective tables.

The correlation coefficient between EPS and MPS of NABIL and NIBL are calculated as + 0.9737 and + 0.6437 respectively. Likewise, the test for significance of the coefficient of NABIL suggests that the calculated correlation coefficient is highly significant and there is high degree of positive correlation between price formation and earnings of NABIL bank.

But in case of NIBL, there is moderate degree of positive correlation and the test for significance of the coefficient doesn't conclude any decisions. (Table: 4.8 and 4.9 )

The correlation coefficient between DPS and MPS NABIL and NIBL are 0.6219 and -0.3981 respectively. The calculated correlation coefficients are found moderate degree of positive and low degree of negative relationship between price formation and dividend. The test for significance of the coefficient of NABIL doesn't conclude any relationship except NIBL, which suggests calculated correlation coefficient is insignificant. (Table: 4.10 and 4.11 ).

## **CHAPTER-V**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

The last chapter of the thesis presents the findings, summary, conclusion and recommendations obtained from the study of the price behavior of samples commercial banks. The first section of this chapter is summary, second is conclusions of the study and the last is recommendations to deal with the problems observed on the basis of the findings.

#### **5.1 Summary**

The study was conducted with the main objective to analyze the share price behavior of listed commercial banks mainly NABIL and NIBL. Capital Market is a basically a place or platform where transfer of funds takes place from the savers to the borrowers. The firms obtain long term funds and utilize them for the purpose of attaining defined objectives. To get the higher rate of return in the market, people have developed a concept to invest in the securities of the established companies having good performance. The investment should be made in accordance with the perfect analysis of securities on the basis of various factors. Thus, the objectives of the firm should be to maximize the wealth of the shareholder and maximizing the market value of shares of the company.

In order to conclude the study in the manner of the academic research, this study follows the conceptions of the methodology set by university. In the first chapter introduction to the security/capital market, statement of problem, objectives of the study, significance of the study and limitations of the study were attempted. Next chapter is review of literature. In this chapter, the concepts of security market, theories of the share price behavior, studies on the security market conducted held inside the country and abroad are presented and also deal with the overview of the Nepalese stock market. The recent position and performance of stock market in Nepal has been analyzed. After that, methodology of research is dealt in detail for understanding the

various methods applied for exploring the conclusion of the study. The next chapter is data presentation and analysis which is the major part of the study. In this chapter, the data of sampled commercial banks are presented and analyzed using various methods mentioned in the chapter of research methodology and the present chapter is summary, conclusion and recommendations. In this chapter, the summary of the study, conclusions derived out of the study and recommendations have been presented.

Different elements like price trend of NEPSE index, rate of listing, market capitalization, and correlation coefficient analysis of different financial indicators like EPS, DPS and MPS have been presented and analyzed to derive the conclusions. These are the important factors for stock market to analyze the behavior of stock market prices. The annual and monthly trend of NEPSE index is not found satisfactory as the market price of the stocks is being declining due to various internal and external factors.

The absence of zero runs in both sampled commercial banks indicates that there is no stability in the price of shares as they are changing over time. To relate the study towards the market sensitivity, beta coefficient was analyzed and explained. For finding out the riskiness of shares, risk and return analysis was applied to the data of each individual banks in which expected rate of return, standard deviation and coefficient of variation were used. The sampled commercial banks are ranked on the basis of data obtained from the above risk and return analysis. As common stock is risky asset, the stock of above mentioned banks are also found riskier due to their trend of good financial position, continuous declarations of dividends and broad market coverage.

## **5.2 Conclusions**

The major results of the study on share price behavior of commercial banks of Nepal are summarized below:

The number of listed companies has been increased during the study period. These facts imply that there is an expansion of Nepalese capital market.

- ) The price changes in the future market will not be independent from the price changes of the future days. Not only that, the past historical price changes is helpful in future price changes.
- ) The development of stock is not in the satisfactory level. Only the stocks of banking and financial sectors are having the high performance than others and they are especially 'A' class joint venture commercial banks. The price of stock of other development banks is lesser than the book value. So, the investors are attracted to invest in 'A' class commercial banks than the development banks.
- ) The run test of the sampled banks showed that the prices of shares tends to fluctuate from time to time as an investor can buy shares when the value of shares decreases and hold till the share price increases and sell them.
- ) Due to the decreasing trend of market price of stocks, the return of sampled commercial banks seems to be low and the risk involved is found higher than the average stock. The average realized rate of return of all these banks are not same over the sample period. Therefore, the coefficient of variation can be preferred over the standard deviation as measure of risk. On the basis of coefficient of variation NIBL shares can be considered as more risky.
- ) The beta coefficient in the selection in the market sensitivity analysis, which measures the riskiness of individual security, suggests that most of the shares of these two banks are higher risky as compared to other average stocks traded in the stock exchange.
- ) The financial indicators like EPS, DPS have direct role in forming the market prices (MPS). In other words, MPS is a function of DPS and EPS. But, there are also other major determinants of the share prices in the market. Hence, the quantitative factors studied in this study are a part not all the factors that helps determine the stock prices of commercial banks.

### 5.3 Recommendations

After analyzing the price behavior of stock market with the help of various literatures, relevant data, financial and statistical techniques following recommendations can be outlined:

- ) There exists excessive price fluctuations observed from the share market during the study period. So the regulatory bodies like NEPSE, SEBON and NRB should formulate effective provisions to control such random price fluctuations.
- ) The performance of listed companies in NEPSE can be improved by adopting regular liberal dividend policy, secure investment policies, maintaining balance liquidity etc. This will also helps to improve the trend of NEPSE index.
- ) Government should be keeping on revising and issuing suitable rules and regulations in order to develop the healthy economic system in the country. However, the rules so emerging should be on the interest of the general public and the development of securities market. The violations and deregulations should also be checked out.
- ) Companies should provide accurate and updated information to the investors time to time without any discrimination so that the investors will be able to explain the investment opportunities through short term speculation.
- ) The public investors should not invest directly in shares haphazardly as they should analyze or get suggestions from expert and carry out regular research works related to the financial position and level of risk prior to taking an investment decision.
- ) The investors are recommended to determine a value of share based on the fundamental earnings (EPS), dividend payment (DPS) and risks of the company on which they are going to invest.

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## APPENDICES

### Appendix - 1

#### List of Commercial Banks in Nepal

In the fiscal year 2011/12, the number of listed commercial banks stood as follows:

<b>List of Commercial Banks in Nepal</b>			
S.N.	Name of Companies	Listed Date	Address
1	Nabil Bank Ltd.	42-9-8	KamaladiKtm
2	Nepal Investment Bank Ltd.	42-8-5	DurbarmargaKtm
3	Standard Chartered Bank Ltd.	45-3-20	New BaneshorKtm
4	Himalayan Bank Ltd.	50-3-21	ThamelKtm
5	Nepal SBI Bank Limited	51-10-3	HattisarKtm
6	Nepal Bangladesh Bank Ltd.	52-9-9	BijulibazarKtm
7	Everest Bank Ltd	52-12-25	Lajimpat
8	Bank of Kathmandu	54-4-2	KamaladiKtm
9	Nepal Industrial & Co. Bank	57-2-31	KamaladiKtm
10	Machhapuchhre Bank Ltd	60-2-14	PutalisadakKtm
11	Laxmi Bank Limited	61-1-8	HattisarKtm
12	Kumari Bank Ltd	61-4-14	PutalisadkKtm
13	Lumbini Bank Ltd.	61-7-25	DurbarmargaKtm
14	Nepal Credit & Com. Bank	62-10-18	BagbajarKtm
15	Siddhartha Bank Limited	63-11-2	KamaladiKtm
16	NMB Bank Limited	58-3-12	Kathmandu Nepal
17	Grand Bank Ltd.	59-2-30	Kathmandu Plaza Ktm
18	Global IME Bank Ltd.	65-12-13	Panipokhari KTM
19	KIST Bank Limited	61-9-13	Anamnagar
20	Citizen Bank International Ltd.	66-2-11	SharadaSadankamaladi
21	Bank of Asia Nepal Ltd.	66-2-11	Tripureshwor Kathmandu
22	Prime Commercial Bank Ltd.	66-5-27	New Road Kathmandu
23	Sunrise Bank Limited	66-5-27	Gairidhara Kathmandu
24	Agricultural Development Bank Ltd.	10-Aug-10	Ramsahapathktm
25	Sanima Bank Ltd.		NagpokhariKtm
26	Janata Bank Ltd.	2069-3-12	ShankhamulMarga New Baneshwor
27	Mega Bank Ltd.		Mega Mahal, Kantipath
28	Civil Bank		Sundhara, Kathmandu
29	Century Bank		Putalisadak, Kathmandu
30	Commerz and Trust Bank		Kamaladi, Kathmandu
31	RastriyaBanijya Bank		Central Office Singhadurbar Plaza, Kathmandu
32	Nepal Bank Limited		Dharmapath, Kathmandu (Head Office)

The shares of only 16 companies were traded in 1993, the year when NEPSE was started. At present 145 companies are listed in NEPSE.

## Appendix - 2

### Summary of Financial Indicators of the Sampled Commercial Banks under the Study

#### Value of MPS, EPS and DPS of NABIL and NIBL

S.No.	Description	2007/08	2008/09	2009/10	2010/11	2011/12
1.	NABIL					
	MPS	5275	4899	2384	1252	1355
	EPS	115.86	113.44	83.81	70.67	83.57
	DPS	60	35	30	30	40
2.	NIBL					
	MPS	2450	1388	705	515	511
	EPS	57.87	37.42	52.55	39.10	27.60
	DPS	7.5	20	25	25	5

## Appendix - 3

### Monthly Trend Analysis of NEPSE Index

#### Example of Calculation

Percentage Change in Monthly Closing Index =

$$= \frac{\text{Ending NEPSE Index} - \text{Beginning NEPSE Index}}{\text{Beginning NEPSE Index}}$$

$$\text{For the Month of Aug\Sept 11} = \frac{321.18 - 351.01}{351.01} = -8.50\%$$

## Appendix- 4

### Annual Return of NEPSE Index

#### Example of Calculation

$$\text{Annual Market Return}(R_m) = \frac{\text{Ending NEPSE Index} - \text{Beginning NEPSE Index}}{\text{Beginning NEPSE Index}}$$

$$\text{For the Fiscal Year 2005/06} = \frac{386.83 - 286.67}{286.67} = 34.94\%$$

## Appendix-5

### Rate of Return, Standard Deviation and Variance of Market

Fiscal Year	NEPSE Index	Market Return (R <sub>m</sub> )	(R <sub>m</sub> - $\bar{R}_m$ )	(R <sub>m</sub> - $\bar{R}_m$ ) <sup>2</sup>
2007/08	963.36	-	-	-
2008/09	749.10	-0.2224	-0.0346	0.0012
2009/10	477.73	-0.3623	-0.1745	0.0305
2010/11	362.85	-0.2405	-0.0527	0.0028
2011/12	389.74	0.0741	0.2619	0.0686
		R <sub>m</sub> = -0.7511		0.1031

Calculation of Realized Rate of Return, Expected Realized Rate of Return, Standard Deviation and Variance of Market.

#### A. Calculation of Realized Rate of Return

$$\text{Annual Market Return}(R_m) = \frac{\text{Ending NEPSE Index} - \text{Beginning NEPSE Index}}{\text{Beginning NEPSE Index}}$$

$$\text{For the Fiscal Year 2008/09} = \frac{749.10 - 963.36}{963.36}$$

$$= -0.2224$$

#### B. Calculation of Expected Realized Rate of Return

$$(\bar{R}_m) = \frac{\sum R_m}{n}$$

$$= -0.7511/4$$

$$= -0.1878$$

#### C. Calculation of Standard Deviation

$$\sigma_m = \sqrt{\frac{\sum (R_m - \bar{R}_m)^2}{n}}$$

$$= 0.1605$$

#### D. Calculation of Variance

$$\sigma_m^2 = (0.1605)^2 = 0.0258$$

## Appendix - 5

### Risk and Return Analysis of NABIL Bank and Market

Fiscal Year	Closing Price (Rs.)	DPS	Return (R <sub>j</sub> )	(R <sub>j</sub> - $\bar{R}_j$ )	(R <sub>m</sub> - $\bar{R}_m$ )	(R <sub>j</sub> - $\bar{R}_j$ ) <sup>2</sup>	$\frac{(R_j - \bar{R}_j)}{(R_m - \bar{R}_m)}$
2007/08	5275	60	-	-	-	-	-
2008/09	4899	35	-0.0646	0.1653	-0.0346	0.0273	-0.0057
2009/10	2384	30	-0.5072	-0.2773	-0.1745	0.0769	0.0484
2010/11	1252	30	-0.4622	-0.2323	-0.0527	0.0540	0.0122
2011/12	1355	40	0.1142	0.3441	0.2619	0.1184	0.0901
	Total		-0.9198			0.2766	0.145

Calculation of Realized Rate of Return, Expected Realized Rate of Return, Standard Deviation, Coefficient of Variation, Co- Variance and Beta Coefficient.

#### A. Calculation of Realized Rate of Return

$$\text{Realized Rate of Return at a time (R}_j\text{)} = \frac{\text{Dividend} + (\text{Ending Price} - \text{Beginning Price})}{\text{Beginning Price}}$$

$$\text{For FY 2008/09} = \frac{35 + (4899 - 5275)}{5275}$$

$$= -0.0646$$

#### B: Calculation of Expected Realized Rate of Return

$$\text{Expected Realized Rate of Return of Stock J} (\bar{R}_j) = \frac{\sum R_j}{n}$$

$$= -0.9198/4 = -0.2299$$

#### C. Calculation of Standard Deviation

$$\text{Standard Deviation } (\sigma_j) = \sqrt{\frac{\sum (R_j - \bar{R}_j)^2}{n}}$$

$$= 0.2630$$

#### D. Calculation of Coefficient of Variation

$$\text{Coefficient of Variation (C.V. j)} = \frac{\sigma_j}{\bar{R}_j}$$

$$= 0.2630 / -0.2299$$

$$= -1.1440$$

E. Calculation of Co – Variance

$$\text{Cov}(R_j, R_m) = \frac{\sum(R_j - \bar{R}_j)(R_m - \bar{R}_m)}{n}$$

$$= 0.145/4 = 0.0363$$

F. Calculation of Beta Coefficient

$$\beta_j = \frac{\text{Cov}(R_j, R_m)}{\sigma_m^2}$$

$$= 0.0363/0.0258$$

$$= 1.4070$$

**Appendix – 6**  
**Risk and Return Analysis of NIBL Bank and Market**

Fiscal Year	Closing Price (Rs.)	DPS	Return (R <sub>j</sub> )	$(R_j - \bar{R}_j)$	$(R_m - \bar{R}_m)$	$(R_j - \bar{R}_j)^2$	$\frac{(R_j - \bar{R}_j)}{(R_m - \bar{R}_m)}$
2007/08	2450	7.5	-	-	-	-	-
2008/09	1388	20	-0.4253	-0.1424	-0.0346	0.0203	0.0049
2009/10	705	25	-0.4741	-0.1912	-0.1745	0.0366	0.0334
2010/11	515	25	-0.2340	0.0489	-0.0527	0.0024	-0.0026
2011/12	511	5	0.0019	0.2848	0.2619	0.0811	0.0746
	Total		-1.1315			0.1404	0.1103

Calculation of Realized Rate of Return, Expected Realized Rate of Return, Standard Deviation, Coefficient of Variation, Co- Variance and Beta Coefficient.

A. Calculation of Realized Rate of Return

$$\text{Realized Rate of Return at a time (R}_j\text{)} = \frac{\text{Dividend} + (\text{Ending Price} - \text{Beginning Price})}{\text{Beginning Price}}$$

$$\text{For FY 2008/09} = \frac{20 + (1388 - 2450)}{2450}$$

$$= -0.4253$$

B. Calculation of Expected Realized Rate of Return

$$= -0.2829$$

C. Calculation of Standard Deviation

$$= 0.1873$$

D. Calculation of Coefficient of Variation

$$= -0.6621$$

E. Calculation of Co – Variance

$$= 0.0276$$

F. Calculation of Beta Coefficient

$$= 1.0698$$

## Appendix – 7

### Correlation between DPS and MPS of NABIL Bank

Fiscal Year	DPS (X)	MPS (Y)	$x = X - \bar{X}$	$y = Y - \bar{Y}$	$x^2$	$y^2$	Xy
2007/08	60	5275	21	2242	441	5026564	47082
2008/09	35	4899	-4	1866	16	3481956	-7464
2009/10	30	2384	-9	-649	81	421201	5841
2010/11	30	1252	-9	-1781	81	3171961	16029
2011/12	40	1355	1	-1678	1	2815684	-1678
Total	195	15165			620	14917366	59810

$$\bar{X} = \frac{\sum X}{n} = 195/5 = 39$$

$$\bar{Y} = \frac{\sum Y}{n} = 15165/5 = 3033$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$$

$$r = \frac{59810}{\sqrt{620 \times 14917366}} = 0.6219$$

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

$$P.E. = \frac{0.6745(1-0.6219^2)}{\sqrt{5}} = 0.1850$$

$$6P.E. = 6 \times 0.1850$$

$$= 1.11$$

**Appendix – 8**  
**Correlation between DPS and MPS of NIBL Bank**

Fiscal Year	DPS (X)	MPS (Y)	$x = X - \bar{X}$	$y = Y - \bar{Y}$	$x^2$	$y^2$	xy
2007/08	7.5	2450	-9	1336.20	81	1785430.44	-12025.80
2008/09	20	1388	3.5	274.20	12.25	75185.64	959.70
2009/10	25	705	8.5	-408.80	72.25	167117.44	-3474.80
2010/11	25	515	8.5	-598.80	72.25	358561.44	-5089.80
2011/12	5	511	-11.5	-602.80	132.25	363367.84	6932.20
Total	82.50	5569			370	2749662.80	-12698.50

$$\bar{X} = \frac{\sum X}{n} = 82.50/5 = 16.50$$

$$\bar{Y} = \frac{\sum Y}{n} = 5569/5 = 1113.80$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$$

$$r = \frac{-12698.50}{\sqrt{370 \times 2749662.80}} = -0.3981$$

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

$$P.E. = \frac{0.6745(1-(-0.3981)^2)}{\sqrt{5}}$$

$$= 0.2538$$

$$6 * P.E. = 6 * 0.2538$$

$$= 1.5228$$

**Appendix – 9**  
**Correlation between EPS and MPS of NABIL Bank**

Fiscal Year	EPS (X)	MPS (Y)	$x = X - \bar{X}$	$y = Y - \bar{Y}$	$x^2$	$y^2$	Xy
2007/08	115.86	5275	22.39	2242	501.3121	5026564	50198.38
2008/09	113.44	4899	19.97	1866	398.8009	3481956	37264.02
2009/10	83.81	2384	-9.66	-649	93.3156	421201	6269.34
2010/11	70.67	1252	-22.80	-1781	519.84	3171961	40606.80
2011/12	83.57	1355	-9.9	-1678	98.01	2815684	16612.20
Total	467.35	15165			1611.2786	14917366	150950.74

$$\bar{X} = \frac{\sum X}{n} = 467.35/5 = 93.47$$

$$\bar{Y} = \frac{\sum Y}{n} = 15165/5 = 3033$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$$

$$r = \frac{150950.74}{\sqrt{1611.2786 \cdot 14917366}} = 0.9737$$

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

$$P.E. = \frac{0.6745(1-0.9737^2)}{\sqrt{5}} = 0.0157$$

$$6 * P.E. = 6 * 0.0157 = 0.0942$$

**Appendix –10**  
**Correlation between EPS and MPS of NIBL Bank**

Fiscal Year	EPS (X)	MPS (Y)	$x = X - \bar{X}$	$y = Y - \bar{Y}$	$x^2$	$y^2$	xy
2007/08	57.87	2450	14.962	1336.20	223.8614	1785430.44	19992.2244
2008/09	37.42	1388	-5.488	274..20	30.1181	75185.64	-1504.8096
2009/10	52.55	705	9.642	-408.80	92.9682	167117.44	-3941.6496
2010/11	39.10	515	-3.808	-598.80	14.5009	358561.44	2280.2304
2011/12	27.60	511	-15.308	-602.80	234.3349	363367.84	9227.6624
Total	214.54	5569			595.7835	2749662.80	26053.658

$$\bar{X} = \frac{\sum X}{n} = 214.54/5 = 42.908$$

$$\bar{Y} = \frac{\sum Y}{n} = 5569/5 = 1113.80$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$$

$$r = \frac{26053.658}{\sqrt{595.7835 \times 2749662.80}} = 0.6437$$

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

$$P.E. = \frac{0.6745(1-0.6437^2)}{\sqrt{5}} = 0.1767$$

$$6 * P.E. = 6 * 0.1767$$

$$= 1.0602$$

**Appendix –11**  
**Share Trading for the Month of Ashad 2069-Nepal Investment Bank**

Date	Day	Share Values in Rupees		Price Change (Rs.) (A-B)	% Change	Run Analysis
		Closing (A)	Previous Closing (B)			
3/3	1	466	-	-	-	
3/4	2	457	466	-9	-1.93	Run 1 is Negative Run
3/5	3	455	457	-2	-0.44	
3/6	4	460	455	5	1.10	Run 2 is Positive Run
3/7	5	474	460	14	3.04	
3/11	9	490	474	16	3.38	
3/12	10	480	490	-10	-2.04	Run 3 is Negative Run
3/13	11	497	480	17	3.54	Run 4 is Positive Run
3/14	12	507	497	10	2.01	
3/17	15	500	507	-7	-1.38	Run 5 is Negative Run
3/18	16	492	500	-8	-1.6	
3/19	17	500	492	8	1.63	Run 6 is Positive Run
3/20	18	503	500	3	0.60	
3/21	19	512	503	9	1.79	
3/24	22	506	512	-6	-1.17	Run 7 is Negative Run
3/25	23	507	506	1	0.20	Run 8 is Positive Run
3/26	24	515	507	8	1.58	
3/27	25	517	515	2	0.39	
3/28	26	502	517	-15	-2.90	Run 9 is Negative Run
3/31	29	511	502	9	1.79	Run 10 is Positive Run

**Appendix –12**  
**Share Trading for the Month of Ashad 2069 - NABIL Bank**

Date	Day	Share Values in Rupees		Price Change (Rs.) (A-B)	% Change	Run Analysis
		Closing (A)	Previous Closing (B)			
3/3	1	1205	-	-	-	-
3/4	2	1210	1205	5	0.42	Run 1 is positive run
3/5	3	1211	1210	1	0.08	
3/6	4	1212	1211	1	0.08	
3/7	5	1205	1212	-7	-0.58	Run 2 is negative run
3/11	9	1264	1205	59	4.90	Run 3 is positive run
3/12	10	1226	1264	-38	-3.01	Run 4 is negative run
3/13	11	1249	1226	23	1.88	Run 5 is positive run
3/14	12	1267	1249	18	1.44	
3/17	15	1260	1267	-7	-0.55	Run 6 is negative run
3/18	16	1245	1260	-15	-1.19	
3/19	17	1280	1245	35	2.81	Run 7 is positive run
3/20	18	1302	1280	22	1.72	
3/21	19	1293	1302	-9	-0.69	Run 8 is negative run
3/24	22	1281	1293	-12	-0.93	
3/25	23	1275	1281	-6	-0.47	
3/26	24	1300	1275	25	1.96	Run 9 is positive run
3/27	25	1310	1300	10	0.77	
3/28	26	1319	1310	9	0.69	
3/31	29	1355	1319	36	2.73	