CHAPTER I
INTRODUCTION

1.1 General Background:

Nepal is one of the least development countries in the world. The main course for underdevelopment is lack of capital. For the balance development of the country, it has been adopting planned economy development. It is also a land locked country with agro based economy. The country is divided into mountain, hills and terai region with its geographical nature. Economic status of our country is growing very slowly. Development of the different institutions is equally essentials for the rapid economic development of the country. Although being an agricultural development country, the non agricultural sector should given priority. This will help not only to solve the problems of unemployment but also help in the economic development of the country. Only successful operation every industry every industry and organization needs finance. So development and expansion is essential for the rapid economic growth of the county. It helps economic development by mobilizing long term capital needed for productive sector. The main objective is to created opportunity for maximum number of people to get benefits from the return obtained by directing the economic towards the productive sector.

In stock price behavior, the behavior series of prices has been always a subject of debate to the extreme extent among the academics of financial economic circles. The main concern in the problem's to understand the behavior of prices of share in the organized market places where the trading actually takes place. Moreover, to understand the causes of the changes in the market places to make successful anticipation concerning the future terms of the stock price.

The behavior series of stock price of commercial banks and finance companies always fluctuate. There are always changes in the stock price of commercial banks and finance companies are some of the main components of non-percentage of market capitalization on GDP were 8.45% by the end of the fiscal year 2011/12. The finance is directly concerned with conversion and accumulation of capital to meet the financial

needs of various institutions. For efficient mobilization of finance resources, the financial market has an intermediary role to bridge funds from surplus units to deficit units. Financial market provides a forum in which suppliers and demanders of fund can transact business funds directly. Financial market constitutes money market and capital market.

"Every business organization uses money and probably credit whether it uses steel, petroleum or other products. Both companies assist both the flows of goods and services from the producer to consumer and the financial activities of the government. Both companies provide the country with a monetary system of making payments and are in important part of the financial system which makes loans to maintain and increase the level of consumption and production in economy. (The American bankers association, principal of bank operation, American institute of banking, edition1972.P.5).

"The role and importance of the financial institution and commercial bank is highly above and it has its own contribution in the economic development of country. They are regarded as the heart of the financial system because they hold the deposits of many persons, government establishments and business units, and the make funds available through the lending and investing activities to borrower's individual's business firms and government establishment. It maintains economic confidence of various segments and extends credit to people". (R. Grawinshki, "The New Fashioned Banking", Harvard Business Review, May-June, 1991, P-87).

The stock market is a place where shares of listed companies are traded or transferred from one hand to another at a fair market price through the organized brokerage in the stock market has been a global phenomenon in the present world regardless of the size of the economy of any particular nation. It is also a global market of fact and arising the scholar and practitioners to seek more knowledge of the real place of the trading and tracking of the securities. Stock market refers to the secondary market for new issued. It also a financial market, which probably has the greater glamour and is perhaps the least, understood. It is a backbone for development, growth and smooth functioning of capital market in order to allocate capital efficiently and to maintain higher degree of liquidity in securities.

The stock price and the liquidity in the stock market increased sharply after the introduction of modern system of trading and conversion of SEC into the NEPSE. It

attracts the general public to invest their savings in the stocks, which caused the stock prices to rise further. The stock price hike and the more liquidity in the secondary market left positive and immediate impact on the capital mobilization in the economy. The level of equilibrium demand for and supply of funds from the general public measures under and overvalued of stock prices. The highly overvalued stock prices began to decrease and then price of all stocks falls simultaneously. This down was trend in the stock prices caused the liquidity of the secondary market and continued to fall. The under subscription of the public issue other than banking and insurance sectors was realized in primary market, which led to lower demand for funds for the public. It shows that the primary market is positively and highly elastic with the stock prices the liquidity in the secondary market.

In the context of Nepalese economy, the stock price is in developed phase. So in order to speed up this pace of economic development, financial sector may have crucial role as they accumulate scattered saving for capital formulation. The public investors are interested to invest their money in the common stock of financial institutions. As a result, such institution shares are traded among the investors in the secondary market in larger volume everyday. The major function of stock in is to provide ready and continuous market for purchase and sales of security at a competitive price, thereby, impaling future market ability and liquidity.

An efficient stock price is an essential prerequisite of economic development and the development of stock price in a country is dependent upon the availability of savings , proper organization of intermediary institution to bring the investors and business ability together for mutual interest, regulation of investment etc. As a vital part of economic development and activities, stock price encourages saving, helps channel saving into productive investment, in the discipline of corporate management through competitive selection in the market for corporate control. But the main concern is to be proper materialization of it in practice to achieve maximum benefits. The stock price is not only on the ideological backgrounds but also on the assumption that stock price expansion is partly a natural progression of the development of a country’s financial sector as long term economic growth proceeds. More important it is argued that the existing financial system which the country has invariability involved , government directed and more

often subsidized credit to priority industries or firms have proved ro be fruitless and unsuccessful economic activities.

The behavior series of stock price is totally dependent upon NEPSE and SEBO/N.

NEPSE is a non - profit organization is operated under securities exchange Act, 1983. The basic objectives of NEPSE is to impart free marketability and liquidity to the government and corporate securities by facilitating transaction in its trading floor through market intermediaries such as brokers, market makers etc. NEPSE opened its trading floor on 13th January 1994 through licensed members. His Majesty's Government, Nepal Rastra Bank, Nepal Industrial Development Corporation(NIDC) and licensed members are the shareholders of the NEPSE.

NEPSE appointed eleven issue managers and twenty-seven brokers to avail the initial offering of the shares to the public and to smoothly conduct the daily transaction of buying and selling of securities under its restructure program in 1993(2050BS). The authorized capital of exchange is Rs50 million. The issued capital is Rs50 million of this Rs34.91 millions is subscribed by HMG/N. Nepal Rasta Bank, Nepal Industrial Development Corporation and licensed members.

Table: 1

Capital structure:

SN	Shareholders	Rs in million	Percentage (%)
1	HMG/N	20.48	58.67
2	NRB	12.08	34.60
3	NIDC	2.14	6.13
4	Members	0.21	0.60
	Total	34.91	100

The establishment of the specialized firm as NEPSE proved to be strong step towards the liberalization of the economy and a milestone in the path of economic development in the nation.

SEC was established with an objective of facilitating and promoting the growth of capital market. Before conversion into stock exchange it was only the capital market

institution undertaking the job of brokering, underwriting. Managing public issue, market making for government bonds and other financial services.

His Majesty's Government, under a programmed initiated to reform capital market, converted security exchange centre into Nepal Stock Exchange in 1993. The history of securities market began with the flotation of shares by Biratnagar Jute Mills Ltd and Nepal Bank Limited in 1937. Introduction of the company Act in 1964, the first issue of government bond in 1964 and the establishment of securities exchange centre ltd in 1976 were other significant development resulting to capital market.

A security market can be defined on a mechanism for bringing together buyers and sellers of financial assets in order to facilitate trading. Securities markets are secondary (as opposed to primary) market because the financial asset traded on them were issued at some previous point in time.

General Objectives of SEBO/N

General objectives of SEBO/N are mentioned below:

- To promote and protect interest of 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 stock exchange and of corporate bodies and carrying on securities business.
- To render contribution to the development of capital market by making securities transaction fair, efficient and responsible.

Functions:

General functions of SEBO/N are mentioned below:

- To improve stock exchange for the operation and oversee them for healthy trading of securities.
- To register and regulate market intermediaries involved in the primary issues as well as the secondary trading of the securities.
- To regulate the public issues of securities including the mutual fund.
- To monitor and supervise the security transaction.
- To conduct the researchers and studies along the area of security market.

General Policies:

The policies of SEBO/N consist of:

- Improvement in the statutory and regulatory framework of the capital market.
- Development of market standard and information system.
- Development of widely participate (participating) stock market.
- Improvements in the securities board's institutional capacity.

The shares of commercial banks play a vital role in the overall index of NEPSE and SEBO/N. different set of regulation regarding the behaviour of the stock exchange and trading securities. In our context, the securities board of Nepal (SEBO/N) has issued a directive, which specifies that the first transaction price of any day should be within the band of 10% of the closing price of the day before the transaction take place. Similarly, any subsequent trading of share should be within the bad of 5% of the price fixed in the latest transaction.

Securities Board (SEBO) and Nepal Stock Exchange (NEPSE) are the main bodies to make the stock margin as competent and efficient as possible. Actual efforts have been made to develop the Nepalese stock market with the promulgation of securities Transaction Act in1983, which was subjected to frequent amendments. (Shrestha 2001).

1.2. Statement of Problem:

The number of public limited companies is increasing tremendously in response to the economic liberalization and globalization policies adopted by the Nepalese government. Such institutions provide banking services, insurance services, financial sector services etc participating in development works, manufacturing and processing, industrial development and others. Although opportunities are limited such institutions are mushrooming and competing with themselves intensely. Now a day there is lots of competition in public limited companies due to their high demand in market. The stock price of their company is also increasing day by day.

After the establishment of the Nepal Stock exchange Limited (NEPSE) in 1991, the concept of capital market had emerged and grown rapidly within a very short span of

time. The number of listed companies with NEPSE reached to more than hundred. The shares of commercial banks play a vital role in the overall index of NEPSE. NEPSE creates liquidity on shares of such companies issued in the primary market and provides floor for trading of shares. The efficient market hypothesis (EMH) states that three from of stocks markets prevail in theory. They are:

- Strong
- Semi strong
- Weak

The forms of markets are determined on the basis of how publicly available information is reflected in the market price of the shares. In the real world, the first form of market does not exist. The Nepalese stock market is a weak form of market because of the reason that the investors do not thoroughly analyze the financial indicators of the public limited companies listed with the NEPSE. The market rumors have significant role in share price behaviours though the EMH focuses on historical information to determine the market price shares, different set of regulations regarding the behaviour of the stock exchange and trading of securities. The shares of publicly quoted commercial banks seem to be the blue chips to the potential investors. The overall index is highly influenced by the shares of commercial banks.

Most of the investors are not aware of the financial position of the companies in terms of their financial indicators, in which they are investing their funds through secondary market- NEPSE. The market price of common stock (share) does not seem to be in accordance with the financial indicators-NWPS, EPS, DPS, DPR etc. instead in determination of the market price of share has been major influence of rumors rather than strength of the companies. The MPS of commercial banks, especially foreign joint venture banks has been much larger than MPS of other sectors. Moreover, the overall NEPSE is dependent upon MPS of such companies.

In the case of stock price behaviour, the stock market facilitates the situation of country's economy when stock market is booming the financial market is good and when the stock market decline financial market is bad. It also represents the countries policy towards industry. Economy policy as well as stock market policy is formulated by government rules and regulation of different sectors.

Behaviour of the stock prices shows the misevaluation of the stock prices the secondary market. The price earning information was not made available timely to the investors. The investors could not identify the good and bad stocks. The prices of some stocks which have sustained profit could not increase. The MPS of public quoted companies is above their book value. The market value is determined by the supply and demand functions. However in an efficient market MPS fully reflects all the historical information publicly available.

1.3. Objectives of the Study:

This study is undertaken basically with the objective of discussing, examing and evaluating the financial operation and position of the financial institution and commercial banks. So following are the major objectives of this research.

1. To study the present position of the financial institution and joint venture banks.
2. To examine and evaluate the relationship of MPS with various financial indicators like EPS, NWPS, DPS and DPR.
3. To analyze the degree of risk involved in the common stocks investment of the sampled companies.
4. To identify whether stocks of the sampled companies equilibrium priced or not.
5. To analyze and have the comparative study about the performance of financial institution and commercial banks with regard to their profitability and liquidity position.
6. To present some recommendations based on the findings of the study.

1.4. Significance of the Study:

This study helps to know the behaviour of stock price of financial institution and commercial banks so it will be useful managers, shareholders, government, customers and public who take simply interest in this institution.

1.5. Limitation of the Study:

As every research or study has its own limitations, this study has some limitation as below:

1. Only seven public companies have been taken into consideration for the study i.e. four from commercial banks and three from financial institution.
2. The study covers all the relevant data and information only for five years.
3. The study is focused only on the analysis of relationship of MPS with financial indicators and the level of risk associated with the common stock investment of the sampled companies.
4. The major portions of analysis and interpretation have been done on the basis of the available secondary data and information. So, the consistency of findings and conclusion are strictly dependent upon the reliability of secondary data and information.

1.6. Structure of the Study:

The study report is structure as follows:

Chapter 1: Introduction:

It includes general introduction, statement of problem, and significance of the study and limited of the study.

Chapter 2: Review of Literature:

This chapter consists of the review of books, articles, Journals, reports and other relevant material.

Chapter 3: Research Methodology:

This chapter with the methodology adopted carrying out the research and it includes research design sources of data and the method of data collected.

Chapter 4: Data Presentation and Analysis:

This chapter attempts to analyze and evaluate data with the help of analytical tools and interpretation the results obtained.

Chapter 5: Summary, Conclusion and Recommendation:

It sums up the results obtained through analysis and recommends some suggestion.

CHAPTER II

REVIEW OF LITERATURE

This chapter highlights on the literature that is available in the topic. Specifically, it includes those studies conducted outside the country and same of the available studies inside the country are also reviewed.

It will be better to review some fundamental aspects of relevant literature before doing analysis so it is attempted to present brief glimpses on the common stocks, risk and return as well as findings of the related previous studies. The review of literature has been divided into these categories which are as follows:

2.1. Introduction:

In this chapter, some of the basic literatures on the stock price behaviour are reviewed. It includes literatures regarding theories on the topic and review of the empirical evidences of previous studies done. Few books, articles and research studies have been reviewed on this subject. The purpose of the literature review is to find out what research studies have been conducted in one's choosen for developing a research design. Thus the previous studies cannot be ignored because they provide the foundation to the present study.

In other words, there has to be continuity in research. This continuity in research is ensured by linking the present study with the past research studies.

Thus this chapter is broadly discussed under :

- Conceptual framework
- Common Stock (share)
- Corporate firms
- Features of common stocks

- Behaviours of stock prie
- Review of Journal & Research work
- Review of Master Level Thesis

2.2. Conceptual Framework:

Before getting into the core subject matter of stock price behaviour of financial institution and commercial banks it is imperative to be acquainted with the general concepts of the stock, share and other related matters and the general profiles of the companies under study as well. Following sub section to this study will be examining the conceptual matters of the stock price and give an introduction of the companies under the study.

2.2.1. Common Stocks (Shares):

Common stocks represent equity, or an owner position in a corporation. The holders of common stocks, called shareholders or stockholders are the legal owners of accompany. The common stocks are the permanent and vital source of capital residual claim, in the sense that creditors and preferred stock holders must be paid as scheduled before common stockholders can receive any payments.

The common stocks are issued by the firms to raise ownership capital and the investors buy the, with the expectation that they receive a share of profit periodically. The common stocks legally represent the equity of business firm and the holders are the owners who share all the profits and losses of the business. They enjoy all earnings after meeting the obligations of interest on debts and dividends on preferred stocks. Thus they enjoy all net benefits of the business by assuming the risk of loosing their capital. (Pradhan, 1196:132-133 &333).

In bankruptcy common stockholders are in principle entitled to any value remaining after all other claimants have been satisfied. The great advantage of the corporate form of organization is the limited liability of its owner. Common stocks are generally “fully paid and non-assessable”, meaning that common stockholders may lose their initial investment, but not more. That is if the corporation fails to meet its obligations, the stockholders cannot be forced to give the corporation the funds that are needed to pay off the obligations. However, as a result of such failure it is possible that

the value of a corporation's share will be negligible. This will result in the stockholders having lost an amount equal to the price previously paid to buy the shares.

2.2.2. Corporate Firms:

A corporation exists only when it has been granted a charter or certificate of incorporation by a state. This document specifies the rights and obligations of stockholders. It may be amended with the approval of shareholders, perhaps by a majority or two-thirds vote, which's each shares of stocks generally entitles its owner to one vote. Both the initial terms of the chapter and the terms of any must also be approved by the state in which the corporation is chartered. (Weston & Copeland, 2002:879).

The ownership of affirms stock has typically been represented by a single certificate with the number of share certificate is usually registered with the name, address and holding or the material, annual and quarterly reports and other mailings are than sent directly to the investors taking into account the size of his or her holding.

Shares of stock by an investor may be transferred to anew owner with the assistance of either the issuing corporation or, more commonly, its designated transferred agent. This agent will cancel the old stock certificate and issue a new one in its place made out to the owner. Frequently, a register will make sure that this canceling and issuing of certificates ahs been done properly. Usually, banks and trust companies act as transfer agents and registrars. Many stockholders have choosen to avoid these rather cumber some process. Instead depository arrangements are used which substitute computerized records for embossed certificates. However, the above mentioned process may not go exactly to the Nepalese practice but in the theoretical ground these are the producers to be followed when executing the share transactions. (Weston & Copeland, 2002:931-948).

2.2.3. Features of Common Stocks (Shares):

Claim on Income: The common stockholders have a claim to residual income, which is earnings available for ordinary shareholders, after paying expenses, interest

charges, taxes and preference dividend, if any. The income may be split into two parts, dividends and retained earnings. Dividends are immediate cash flow to shareholders, whereas retained earnings are reinvested in the business. A company is not under a legal obligation to distribute dividends out of the available earnings.

Claim to Assets: The common stockholders have a residual claim on the company's assets incase of liquidation. Out of the realized value of assets, first the claims of debt-holder and then preference shareholders are satisfied, and the remaining balance, if any, is paid to the common stockholders.

Right to Control: The ordinary shareholders have the legal power to elect directors to the board. If the board fails to protect their interest, they can replace the directors. They are able to participate in the management of the company through their voting right and right to maintain proportionate ownership.

Voting Rights: Common Stockholders have the right to vote on stockholder matter, such as the selection of the board of directors, sale of fixed assets, merger of the company, amendment of corporate charter etc. when the stockholders need to cast vote in different matters in the company then either there present themselves or use proxy i.e. a proxy is a form that a shareholders can use it to transfer the voting right temporarily to the others. (Rabindra Bhattarai: P-150).

Preemptive Right: Preemptive right is the right to do something before others. It is also a right of stockholders.In this right, the existing stockholders have right to purchase any additional shares issued by the company before they are offered to the public. If the preemptive right is contained in firm's charter, then the firm must offer any new common stock to existing shareholders. If the charter does not prescribe a preemptive right, the firm has a choice of making the sale of the existing stockholders or to an entirely new set of investors. If it sells to the existing stockholder the stock issue is called right offering.

The preemptive right gives holders of common stock the first option to purchase additional issues of common stock. The purpose of preemptive right is to protect the power of control of present stockholders. (Rabindra Bhattarai: P-151,152).

Limited Liability: The common stock holders are the true owners of the company, but their liability is limited to the amount of their investment in shares. If a

stockholder has already fully paid the issue price of shares purchased, he has nothing more to contribute in the event of financial distress or liquidation. The limited liability feature of share encourages unwilling investors to invest their funds in the company which helps company to raise funds. (Pandey 1995: P-905,908).

2.3. Behaviour of Stock Price:

There are numerous reasons that cause the share price fluctuation. Of them are economic, non-economic and other factors. The prices of securities are typically very sensitive, responsive to all events, both real and imagined, that cast light into the market future. Though all factors give rise to the observed movement of share prices, it would be very hard to find a completely accepted formation theory.

There are two theories of stock price behaviour before describing the random walk efficient market theory, it would be proper to explain the first two conventional theories viz, technical analysis theory and fundamental analysis theory.

Technical Analysis Theory:

Technical analysis theory study of past price and volume data of stocks to forecast future price movements. It is an alternative approach to predicting stock price behaviour in literatures of investment management. Technical analysis is market-oriented philosophy and it can concentrate on the force of supply of and the demand for shares as reflected in the actions of market rather than the intrinsic worth of share. The analyst or prospective investors who analyze the security to predict the future price a share on the basis of a study of its price movements in the past are known as technical analysts.

Technical analysts maintain that the price of a share at anytime present time is the balance struck by buyers and sellers at a point in time price movements take place on account of change in buying and selling pressures. This occurs in account of diverse internal and external factors (Profits, Political Environment, Predictions and the likes). Prices stabilize when equilibrium between buyers and sellers is achieved. They believe that a record of price movements over a period of time in the past. As the whole theory is based on the assumptions that history repeats itself. That human nature does not change and that man is likely to repeat his patterns of past movements will repeat themselves in the future". (Raghu 1991: P-172).

The technician believes the forces of supply and demand are reflected in patterns of price and volume of trading. By examination of these patterns, technician predicts whether prices are moving higher or lower, and even by how much. Therefore, the patterns or a trend in prices is the basis of technical analysis. Various charts are prepared to determine trends and to determine whether prices are likely to rise or fall. Technician attempts to predict short term price movements and thus makes recommendations concerning the timing of purchase and sales of either specific stock or groups of stocks(such as industries) or stocks 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 2001: P-844).

Technical analysts discern past pattern or trends which they believe to repeat in the future and recommend for the timely holding and disposing mechanism¸ which is profitable or that recommend for short-term speculation based its forecast of profitable pattern. The technical analysts estimate prices instead of values. They largely ignored the fundamental facts such as the firm's risks and earning growth rates in favour of concentration on various barometers of supply and demand that they have devised. (Dahal 2002: P-30).

The main assumption of the technical analysis theory are:

1. Price is determined by the interaction of demand and supply.
2. Demand and supply are governed by various factors, both rational and irrational.
3. Series of prices contain trends that persist for appreciable length of time.
4. The change in trend caused by shifts in demand and supply are detectable in the analysis of past price and volume data and,
5. The patterns tend to repeat itself.

In other words, technical analysis believe that past patterns of market action will recur in future and can therefore be used for predictive purchase.(Robert A.Levy. P-348 Vol: 22).

Fundamental Analysis Theory:

Fundamentalists forecast stock prices on the basis of economic, industry and company statistics. The principle decision variables ultimately take the form of earnings and dividends. The fundamentalists make a judgement of the stock's value with a risk return framework based upon earning power and the economic environment.

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

A fundamentalist claims that at any point of time an individual stock has an intrinsic value, which equal to present value of the future cash flow from the security discounted at appropriate risk adjusted discount rate. "The value of the common stock is simply the present value of all future income which the owner of the share will receive". (Jack Clark Francis 1986: P-398).

The actual price should reflect intrinsic value of the stock i.e. good anticipation of cash flows and capitalization rate corresponding to future time period. But in practice, first it is not known in advance what the appropriate discount rate should be for a particular stock. Therefore fundamentalist estimate their intrinsic value by studying in details all matters that are relevant to company. "The study would involve examining its sales earnings, profit margins, dividends, management proficiency, industrial and business outlook, labour competence any factor that would have a bearing on its performance in the future".(Raghu,1991:P-167).

"Fundamental analysis use different models like Top Down versus Bottom up forecasting, probabilistic forecasting, econometric Models, financial statement analysis etc. to estimate the value of security".(William F.Sharpe,Gordon J.Alexander and Jeffery V.Bailey 1999:P-850-853).

On the basis of such a study fundamentalists project a company ought future profits and earning capacity with reasonable accuracy what the price of a company's

share ought to be. This estimated price is termed as intrinsic value. The intrinsic value of the stock is generally away from its present market value. Thus there is difference a gap between them fundamentalist reaches and investment decision by comparing this value with current market value, it is believed that price will rises. In this situation, fundamentalists will acquire share as this difference present them with an opportunity to make a profit. Alternatively, if the intrinsic value is lower than the market value, the shares is overpriced and is an indication to the fundamentalists to sell. Following this rule, they believe above average return can be attained, given that market is inefficient in pricing the shares. (Dahal, 2002: P-27).

Random Walk-Efficient Theory:

The third theory involves study of random walk or efficient market hypothesis. In 1990, a French mathematician, Louis Bachelier wrote a scientific paper suggesting that day to day security price fluctuation were random. His idea is known as random walk theory.

But instead in the model did not begin until the publication of two papers, one by Roberts and the other Osborne in 1959. The random walk- efficient market theory is in completely at variance with the technical and fundamental analysis theory. A number of empirical researches have been done on varied set of data for different time periods to test the random-walk efficient market model for describing share price behaviour.(Fischer and Jordan,2000:P-553).

Level of Market Efficiency:

Market efficiency refers to the ability of financial assets to quickly adjust and reflects all information that is relevant to value in its price. The subject to market efficiency involves a thorough study of the efficient market hypothesis. The efficient market hypothesis has three sub hypothesis.

1.Weakly Efficient Market Hypothesis.

2.Semi strong Efficient Market Hypothesis.

3.Strong Efficient Market Hypothesis.

The weakly efficient market hypothesis states that stock prices fully reflect all security market information, which includes all historical data. The significant conclusion derived from the weak efficient market hypothesis is that past rates of return and any other security market information should have relationship with future stock prices or future rate of return.

Two main types of empirical test have been performed to determine if the stock market is consistent with the weakly efficient market hypothesis. The first are tests for serial independence many test have been performed to see if stock price changes are correlated overtime. While a small amount of autocorrelation in stock price changes has been found, not enough exists to make their study worthwhile in a monetary sense. This is devising mechanical trading strategies using stock prices to beat the market. While numerous mechanical trading rules have been investigated, none appear to help the investor beat the market.

Filter Rules:

A technical analysis technique stated as a rule for buying or selling stock according to past price movements. They are Eugene Fama and Marshall Blume filter rules and Sweeney filter rules.

Eugene Fama and Marshall Blume Filter Rule:

Eugene Fama and Marshall Blume programmed their computer to trade through as mechanical security trading strategy called an x percent filter rule that operates as follows:-

If the price of a security rises at least X percent buy and hold the security until its price drops at least X percent from a subsequent high. Then, liquidate the long position and assume a short position until the price rises X percent.

Richard J.Sweeney Filter Rules:

If the price of a security rises at least X percent, buy and hold the security until its price drops at least X percent from a subsequent high. Then liquidate the long position and invest the proceeds in risk-free short term bonds until the price reaches its next trough and then rises X percent.

Semi Strong Efficient Market Hypothesis:-

The semi strong from of the market efficiency hypothesis says that current security prices reflect all publicly available information. The semi strong market hypothesis is stipulated that all public information has its effect on market prices. No valuable investment information could be gained from reading such sources as the wall street journal or standard and Poor's publications if this second hypothesis is accurate.

The Strongly Efficient Market Hypothesis:

The strongly efficient market hypothesis requires that security prices reflect all information. If the markets are strongly efficient, even those who posses inside information would not have investment information of any value.

2.4. Review of Journal and Research Works:

Articles, Journal and bulletins are of great significance for thesis writing. So in order to make this study more comprehensive some articles, books etc related to stock price are consulted and reviewed.

Louis Bachelier first tested the random walk model in1990. He tested the model in commodity prices and found that those prices followed a random walk. He presented the evidence that the commodity speculation in France was a 'Fair Game'. He also concluded that the certain price of a commodity was an unbiased certain estimate of its future price. After the first discovery of the random walk model in 1900 by Louis Bachelier, empirical testing of the model in the stock market prices almost remained

stagnant until 1960s.There are large numbers of studies most of which are briefly reviewed below:-

According to Cootner 1962 states, “If any substantial group of buyers thought price were too low, their buying would force up the prices. The reverse would be true for sellers, except for appreciation due to earning retention the conditional expectation of tomorrow’s price, given today’s price is today’s price. In such a world the only price change that would occur are those that result fro new information. Since there is not reason to expect that information to be no-random in appearance, the period-to-period price changes of a stock are random movements, statistically independent of one another.

H.V.Roberts carried next study in 1959. He conducted simulation test by comparing the accumulation of random number and the Dow Jones Industrial Average Index (DJIAI) for about one year starting from Dec 30, 1955 to Dec 28, 1956. He found similarity between these two series. He further observed that the first difference of these two series produce the same pattern. His work was significant in that he gave a number of methodological suggestions for testing what he calls the choice model. In particular, he suggested runs analysis for testing independence of price changes.

In 1962, granger and Morgenstern applied spectral methods of analysis to the weekly, monthly and volume series from the New York stock market using Dow Jones, standard and poor and other various indices as well as price series of individual stocks. The result confirmed the random walk hypothesis for weekly and monthly price data from the New York stock market.

Fama’s study (1965) on the random walk model was one of the best definitive and comprehensive every study conducted. He observed the daily proportionate prices of 30 individual stocks of the Dow Jones Industrial Average Index (DJIAI) for the period of 1957 to 1962. He employed the statistical tools such as serial correlation and runs test to draw inference about dependence of the price series. He calculated auto-correlation coefficient for daily changes in log prices for lag from 1 to 30 and found that the coefficient were almost close to zero in overall. The correlation coefficient for daily changes in average was +0.03, which is near to zero. But on the daily price changes, 11 out of 30 stocks had correlation coefficient more than twice their computed standard errors. The coefficient ranged from smallest 0.06 to largest 0.123. However Fama

concluded, “Dependence as such a small order of magnitude is, from a practical point of view, probably unimportant for both the statistician and the investor”. Fama also calculated serial correlation for lag from 1 to 10 for no-overlapping differencing intervals of four, nine and sixteen days to examine the possibility if price change across longer interval shows dependence. All the results are again not significantly different from zero.

In 1972, Niarchos studied price series of 15individual stocks from the Athens stock exchange (Greece) for the period from 1957-1968. He reported the average 1 lag serial correlation coefficient 0.036 for the individual stock prices. The coefficients for individuals stock were close to zero. So he concluded that the price fluctuations were random walks and past price has no meaningful information for future.

In 1988, Roa, conducted the study on the weekend prices of the eight blue chip stocks for five from July 1982 to June 1987. He applied serial correlation analysis, run test and filter rules. The results from all the tests supported the random walk hypothesis.

In 1988, Sweeney’s study developed a filter rule was able to earn modest profit. He replicated Fama and Blume’s test and found that the part of their filter rule that resulted in the short positions usually generated the trading losses. In contrast, Sweeney found that the long run were often profitable.

“Lack of adequate and effective trading mechanism with Nepal Stock Exchange (NEPSE), the only secondary market in the country for securities transaction, is virtually blocking an early issuance of a new financial the securities board, the regulatory authority governing the stock market operations in the country conceded that lack of proper set up has prevented new entrants into the financial markets and the development of capital markets”. (The Kathmandu Post).

2.5. Review of Master Level Thesis:

Under this section various master’s level dissertation related to this study have been reviewed. These are as follows:-

Timilisina on "Dividend and stock prices: An empirical study" used pooled data of the sample companies run the multivated and other regression models and revealed that there

is positive relationship between dividend and stock prices and dividend have a predominant influence on stock price.

Mr. Surya Chandra Shrestha has conducted research on "Stock Price Behaviour in Nepal". This study has focused to examine the efficiency of the stock market in Nepal. The serial correlation coefficient of the daily price changes for 1 and lag2 days and runs of the series of daily price changes lead to conclude that the successive price changes are not independent random variable for the 30 sample stocks listed in the Nepal Stock Exchange (NEPSE). Therefore, the random walk theory is not a suitable description for the stock price behaviour in Nepal. The dependence in the series of price changes observed simply that the price changes observed simply that the price changes in the future market will not be independent from the price changes of the previous days. It implies that the information of the past price changes is helpful in predicting future price changes in a way that the speculation through technical analysis can make higher expected profit that they would be under naïve-buy-and-hold strategy (i.e. average market return). Therefore, opportunities are available to sophisticated (both institution and individual) investors to earn high return in the market. The existence and participation of the sophisticated investors have dominated in the market that can cause prices to diverge significantly from intrinsic values because the very existence of the sophisticated traders causes to erase the opportunities of persistence in prices which establish independence of successive price changes".

Mr. Khagendra Prasad Ojha has conducted a research on "Financial Performance and Common Stock Pricing". The main objectives of his research were:

- To study and examine the difference of financial performance and stock prices.
- To examine the relationship of dividends and stock price.
- To explore the signaling effects in stock price.

Nepalese stock market is in infancy stage. In general it is very new and just started to develop. Dominance of banking sector is prevalent in the market due to other industries including finance companies, insurance and manufacturing is not encouraging. Corporate

firm with long history have a relatively stable profitability parameters that the firm established after the economic liberalization of 1990. Older firms have been issuing bonus share more times than the new one. Dividend per share is relatively more stable than the dividend payout ratio. That's why payout ratio and dividend yields have been highly fluctuating. Due to lack of proper investment opportunity most of the investors have directed their saving towards the secondary stock market. There is significant positive correlation between the dividends paid and stocks prices of banking and manufacturing industries. All other industries have not a perfect correlation between the dividends paid and stock prices. There is a positive correlation between the net worth per share and stock prices of banking, airline and hotel industries, there is no perfect correlation between the net worth per share and common stock price".(Ojha,2000:P-75-82).

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

predicting the occurrence of future potential and economic events that their eventual effects on price series." (Aryal, 1995:100-105).

A study **(Bhatta 1995)** done on, "A study on performance of listed companies in Nepal", concludes that:

- Most of the companies yield and variation in price shows opposite behaviour.
- Relatively high priced companies 'market book value ratio seems less than one which indicates the companies' deteriorating market performance due to mainly inefficient management.
- A high significant positive correlation has been addressed between risk and return character of the company. Investors expect higher returns from those stocks which are associated with higher risk.
- The Nepalese capital market is not efficient one, so the stock prices do not contain all the information relating to market and company itself. Neither investors analyze the overall relevant information of stocks nor do the information, so both the market return and risk may represent the reality.

A study **(Gautam 1999)** on "Dividend policy in commercial banks" focuses on the following objectives to identify the type of dividend policy that is being adopted and to find out whether the policy is appropriate.

- To examine the impact of dividend on share price.
- To identify the relationship between DPS and other financial indicators.
- To know if there is any uniformity among DPS, EPS and DPR sampled commercial banks.

The major findings of the study are as follows:

- There is the largest fluctuation in EPS and DPS.
- The relationship between DPS and EPS is positive; however it is not significant.
- There may be various other factors beside EPS to affects MPS.
- The growth rate of dividend is inconsistent.
- No sampled commercial banks have followed distinctly defined dividend policy.

Kharel (2002) also studied stock efficiency and behaviour of share prices. He used serial correlation test and runs tests as statistical tools, further he used technical trading rule named filter rule for analyzing the data. He found that standard deviations of each and every individual stock's price changes are higher than the mean. Thus, the general shape of empirical frequency distribution is flatter than normal distribution's shape. Most of the results obtained from the serial correlation test for 30 stocks are absolutely large and significantly isolated from zero. The results obtained from the runs test are also consistent with the results of serial correlation test. When the runs test analyzed by length, it was found that actual numbers of runs are not normally distributed. Therefore, there exists substantial persistence in the successive price changes series or Nepalese stock market. Similarly, the result obtained from the filter test showed that sophisticated mechanical trading rule could beat the average market return. As most of the filter's trading returned higher than buy-and-hold strategy, it supports the results of serial correlation and runs test. Thus, he concluded that today's price changes are not and unbiased outcome of yesterday's price change.

Another study (Poudel 2001) on "A study on Share price movements of Joint Venture Commercial banks in Nepal" is undertaken by using financial and statistical tools (SD, CV, T-test, etc). The major objectives of the study are:

- To examine Nepal Stock Exchange Market and to judge whether the market share of different banking indicators (book value per share and major financial ratio) explain the share price movements.
- To analyze the scenario why the shares of selected banks emerge as blue chips to the potential investors and to make a conclusion on the basis of financial ratio analysis.
- To examine how risky the investment in commercial bank's shares are.

The main findings of the study are:

- The market share and growth rates of different banking indicators used are not captured by the market shares of these banks.

- The ordinary least square equation of book value per share on market value per share reveals that the independent variables does not fully explain the dependent variable on the basis of the above mentioned two points; Nepal Stock Exchange operates in a weak from of efficient market hypothesis, indicating that the market price move randomly. The market value per share does not accommodate all the available historical information.
- Having good track record of the financial position. The market potential investors buy the shares of joint venture commercial banks. Therefore, the shares of joint venture commercial banks emerge as blue-chip in the Nepalese stock Market.

- The beta coefficient, which measures the riskiness of individual security in relative term, suggests that none of the shares of eight sampled banks are risky. Therefore, even a risk averter can go for making an investment in shares of these banks. The shares of publicly quoted joint venture commercial banks are less risky as compared to other average stocks traded in the stock exchange.

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.

3.1. Research Design:

A research design is a plan of the proposed research work. A research design represents a compromised dictated by mainly practical consideration. This research attempts to analyze the impact of historical information on the stock price behaviour of financial institution and commercial banks. For this several tools to fulfill such targets have been employed.

This is the study of Stock Price Behaviour of Financial Institution and Commercial Banks. It is to examine the inter relation of MPS with NWPS, EPS, DPS and other financial indicators and the degree of risk in the investment if common stocks of the selected companies. To achieve these objectives, both the analytical and descriptive research designs have been employed.

3.2. Population and Sample to the Study:

All the companies listed in NEPSE are considered to be the total population of the study. Out of them the commercial banks and finance companies were listed and are doing share transaction in NEPSE were considered as the sample of the study. The companies were categorized into eight groups as done by the stock exchange. The number of listed companies reached 207 by the end of fiscal year 2068/2069. The table below clearly describes total population and sample.

Table-2

Total Population, Sample and Sample Percentage

Serial Number	Types of the Listed Companies	Total Population	Percentage (%)	Sample Considered
1	Commercial Banks	23	11	4
2	Finance Companies	70	33.97	3
3	Insurance Companies	21	10.05	-
4	Manufacturing & Processing Companies	18	8.61	-
5	Trading Companies	4	1.91	-
6	Hotel	4	1.91	-
7	Development Bank	61	29.67	-
8	Other	6	6	-
Total		207	100	

For the purpose of this study, a total 93 companies (23 commercial banks, 70 finance companies) are considered as sample population. As these 93 companies dominate all other rest companies. Among them only seven companies are considered to the population and samples to the study. There are 207 public companies that are listed in Nepal Stock Exchange Ltd.

This study try to explore the objective set in the previous section and it is also expected that this study will help in analyzing the stock market scenario. This study is aimed at producing tested effect of historical information on future price movements of the finance companies and commercial banks.

In this study of "Stock Price Behaviour of Financial Institution and Commercial Banks" only seven companies have been taken as sample (i.e. three from finance companies and four from commercial banks) for the study.

The named of the Sampled Companies are:

1. Standard Chartered Bank Ltd (SCBL).
2. Nabil Bank Ltd (NBL).
3. Nepal Investment Bank Ltd (NIBL).

4. Everest Bank Ltd (EBL).
5. National Finance Company (NFC).
6. Annarpurna Finance Company (AFC).
7. Nepal Merchant Banking & Finance Company (NMBFC).

As the study tried to explore the objectives set in the previous section it is expected that this study helped to analyze the stock price scenario as well as the individual bank's financial performance in relation to that of other having equal business characteristics. This study is also aimed at producing tested effect of historical information on future price movements.

3.3. Sources of Data:

Data have been attempted from secondary sources. Concerned banks and finance companies and Nepal Stock Exchange Ltd are the providers of the data. The sample period covers 2007-2012 for examining the relationship as well as for using different indicators. The data obtained are.

- The year ended equity share data sheet showing MPS, EPS, NWPS, DPS, DPR, Balance sheet, profit &loss a/c of the company.
- Information that are relevant to the study available ion various websites (i.e. websites of NEPSE, Security Board of Nepal, Nepal Rastra Bank and other related banks and finance companies).
- Relevant Books, Journals, Magazines, Reports, Bulletins etc.
- Previous Thesis and Studies.

3.4. Analysis of Data:

3.4.1. Dividend Payout Ratio (DPR):

This ratio depicts the percentage of profit distribution to the shareholders as dividend. In other words, it is the ratio between DPS and EPS.

$$\text{Dividend Payout Ratio (DPR)} = \frac{DividendPerShare(DPS)}{EarningperShare(EPS)}$$

3.4.2. Dividend per Share (DPS):

Dividend per Share is the net distributed profit to the shareholders dividend by the number of ordinary shares outstanding. It is calculated as:

$$\text{Dividend Per share (DPS)} = \frac{\text{Amount provide to equity share holders}}{\text{no. of existing equity shareholders}}$$

3.4.3. Earning per Share (EPS):

The earning per share measures the profit available to the equity shareholder on a per share basis i.e. the amount that they can get on every share held. It is calculated by dividing the profit available to the shareholders by the number of outstanding shares.

$$\text{Earning Per share (EPS)} = \frac{\text{Net profit}}{\text{No. of Existing Equity Shares}}$$

3.4.4. Standard Deviation (SD):

The standard deviation is commonly used to measures the risk. It shows the deviation of actual mean with average mean. The standard deviation measures the absolute dispersion of variability of a distribution. The greater the variability or dispersion the greater would be the magnitude of the deviation of the value from their mean.The smaller the dispersion or variability, smaller would be the standard deviation. There would be high degree of uniformity in the observation and homogeneity in the series. Hence, the standard deviation is extremely useful in judging the representative ness of the mean.

We can find the SD from the following formula.

$$\text{SD } (\exists) = \sqrt{\frac{X^2}{n} Z \left(\frac{X}{n}\right)^2}$$

Where,

($\exists$)= Standard Deviation

X= Value of the Variable

n= Number of Years.

Therefore, the standard deviation is used to analyze the stock position of finance company and commercial banks. The SD of seven companies are calculated and analyzed under the study.

3.4.5. The coefficient of Variance (CV):

The corresponding relative measure of dispersion is known as the coefficient of variation. The series for which the coefficient of variation is greater is said to be more variable or conversely less consistent or less uniform. On the other hand the series for which coefficient of variation is said is less to be less variable or more consistent or more uniform. It is denoted by CV and obtained as follows:

Coefficient of Variation (CV) = $\frac{\text{SD}\int\sigma\text{A}}{\overline{\text{X}}}\text{X}100$

Where,

SD (∃) = Standard Deviation

$\overline{X} = \frac{X}{n}$ (Mean of Series)

3.4.6. Karl Pearson's Coefficient of Correlation:

It is a statistical tool for measuring the magnitude of linear relationship between the two variables. Karl Pearson's measure, known as Personian Correlation Coefficient between two variables Series X and Y, usually denoted by r(x, y) or r_{xy} or simply r can be obtained as:

$$\text{r}=\frac{N \quad XY\,\text{Z} \quad X \quad Y}{\sqrt{N \quad X^2\,\text{Z}\int \quad X\,\text{A}^2}\sqrt{N \quad Y^2\,\text{Z}\int \quad Y\,\text{A}^2}}$$

Where,

R=correlation coefficient

N= no. of Years.

X = Sum of X series

Y X Sum of Y series

XY X Sum of X&Y series

X^2 X Sum of square of series X

Y^2 X Sum of square of series Y

The value of coefficient of correlation always lies between +1 & -1. When coefficient of correlation ®=+1, it means there is perfect positive correlation between the variables, when ®=-1, it means there is perfect negative correlation between the variables and ®=0, refers there is no relationship between variables. The coefficient of correlation finds not only the magnitude of correlation but also its direction.(Previous Thesis).

The closer the value of 'r' is 1 or -1, the closer the relationship between the variables and the closer 'r' is to 0, the less close relationship. (Shrestha & Manandhar, 1999(2056):234)

3.4.7. Regression Analysis:

Regression analysis means the estimation or prediction of the unknown value of one variable from the known value of the other value.

In other words, regression analysis is used a tool of determining the strength of relationship between two variables. Thus, it is a statistical device, with the help of which we can estimate or predict the value of one variable when the value of other variable is known. The unknown variables which we have to predict are called dependent variable and the variable whose value is known is called independent variable. The analysis used to describe the average relationship between two variables is known as simple regression analysis. (B.C.Bajracharya).

Line of Regression

If there exists a relationship between two variables X and Y, the dots of the scatter diagram will be concentrating around a certain curve and will be concentrating around a certain curve and if the curve is a straight line, it is said to be the line of regression and the relationship between two variables as the linear regression.

A line of regression gives the best estimate (in the least square sense) of one variable for any given value of the other variable. So, there are two lines of regression referring as the line of regression of Y on X and the line of regression of X on Y respectively. (B.C.Bajracharya).

Regression Equation of X on Y:

The regression equation is expressed as :

Y=a+bx

We shall get the normal equations for estimating ‘a’ and ‘b’ as:

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

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

Where,

Y=the value of dependent variable.

a=Y-intercept.

b=slope of the trend line/coefficient of regression

x=value of independent variable.

Coefficient of Regression:

The coefficient ‘b’, which is the slope of line of regression of Y on X is called the coefficient of regression of Y on X. it represents the increment in the value of the independent Y for a unit change in the value of the independent variable X. in other words, it represents the rate of change. The convenient way to calculate the variable of ‘b’ is as:

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

Similarly, the value of Y-intercept can be computed as:

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

Standard Error of Estimate:

A measure of precision of the estimates so obtained from the regression equations is provided by standard error (S.E) of the estimate. Standard error is a word analogous to standard deviation (which is dispersion of observations about the mean of the

distribution) and gives us a measure of the scatter ness of the observations about the line of regression.

Thus,

S_{yx}= S.E of Estimate of Y for given X.

$$S_{yx}=\sqrt{\frac{\sum Y-Y_c)^2}{n}}=\sigma_y\sqrt{1-r^2}$$

$$S_{yx}=\sqrt{\frac{\sum Y^2-a\sum Y-b\sum XY}{n-2}}$$ (Shrestha & Manandhar, 1999(2056):246)

3.4.8. Test of Regression Coefficient by t-Test:

Introduction of t-Test:

It was developed for the significant contribution in the theory of sampling applicable in case of small samples. When population variance is not known, the test is commonly known as student's t-test and is based on the t-distribution. As the sample size gets larger, the shape of the t-distribution loses its flatness and becomes approximately equal to the normal distribution.

For applying t-test in context of small samples, the t-value is calculated first of all and then compared with table value't' at certain level of significance for given degree of freedom. If the calculated value of 't' exceeds the table value say ($t_{0.05}$) it infers that the difference is significant at 5% level but if 't' is less than the concerning table value of 't', the difference is not treated as significant.

The t-test is used when two conditions are fulfilled:

I. The sample size is less than 30.
II. The population standard deviation must be unknown.

In using t-test we assume the following:

1) That the population is normal approximately normal.

2) That the observations are independent and the samples are randomly draw samples.
3) That there is no measurement error.
4) That incase of two samples, population variance is regarded as equal if equality of the two population means is to be tested.

3.4.9. T-Test for Significance of an Observed Sample Correlation Coefficient.

Let r be the observed sample correlation coefficient a sample of n pairs of observations from bivariate normal population. In order to test whether the sample correlation coefficient is significant of any correlation between the variables in the population, t-test for significance of an observed sample correlation coefficient is applied. The steps for testing of significance of an observed sample correlation coefficient are as follows.

Step1:-

Null Hypothesis. (H_o): $\partial=0$. That is population correlation coefficient is zero. In other words, the variables are insignificantly correlated in the population i.e. r is not significant of correlation in the population.

Alternative Hypothesis. (H_1): $\rho \mid 0$. That is population correlation coefficient is not zero. In other words, the variables are significantly correlated in the population i.e. r not significant of correlation in the population.

Step 2.

Test Statistic, under H_o, the test statistic is

$T=\frac{r}{\sqrt{1 Z r^2}}$ x $\sqrt{n Z 2}$ $\quad t_{nZ2}$

i.e. follows t-distribution with (n-2) D.F., n being the sample.

Step 3:

Obtained the tabulated value of t for (n-2) d.f at ά level of significance according as whether the alternative hypothesis is one tailed test or two tailed test.

Step 4.

Decision:

Make a decision by comparing the calculated value of t with tabulated value of t.

If calculated of t< tabulated value of t, it is not significant and $H_1$is accepted. Otherwise, it is rejected.

CHAPTER IV

DATA PRESENTATION AND ANALYSIS.

4.1. Introduction:

This chapter deals with data presentation, analyze and interpretation following the research methodology dealt with in the third chapter. In this course of analysis, data gathered from various sources have been inserted in the tabular form in Annex. The basic objective of this chapter is to analyze and elucidate the collected data following the conversion of unprocessed data to an understandable presentation. Thus this chapter presents the analysis of Stock Price Behaviour of Financial Institution and Commercial Banks. The collected secondary data have been analyzed using sophisticated statistical tools.

4.1.1. The Number of listed companies in Stock Exchange:

The table shows the number of listed companies in Nepal Stock Exchange (NEPSE) from the fiscal year 2064/2065 to 2068/2069.

Table-3

Number of Listed Companies (FY 2064/2065 to 2068/2069)

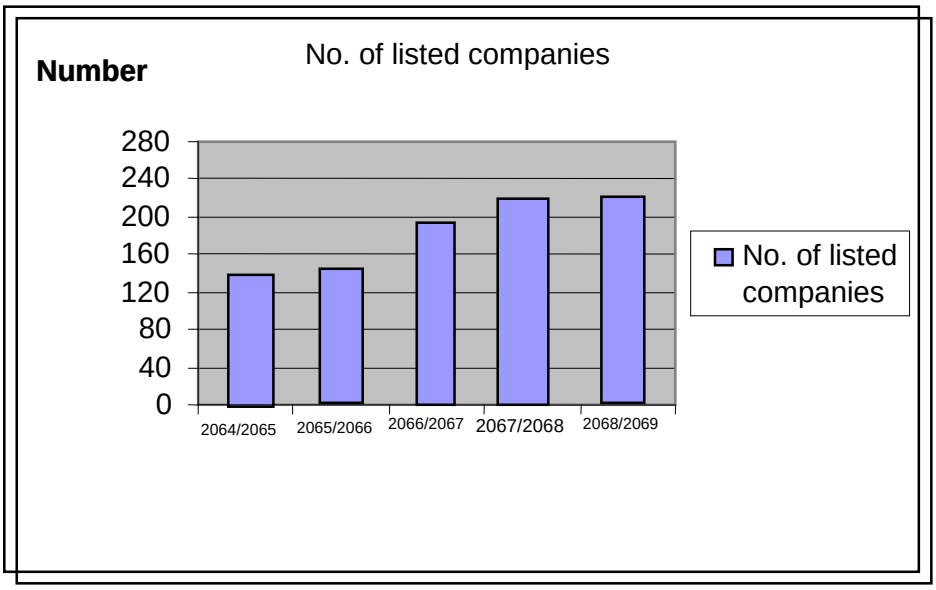
Fiscal Year	No. of listed companies	% of Increase & Decrease
2064/2065	142	-
2065/2066	159	11.97
2066/2067	176	10.69
2067/2068	207	17.61
2068/2069	216	4.34

Source: SEBO, Annual Report 2068/2069

The following bar diagram is used to present the no. of listed companies from FY 2064/2065 to 2068/2069.

Figure-1

Number of Listed Company.



From the table it is clear that the rates of listing are in increasing trend though the overall fiscal year. The no. of listed companies has been increased by 17 in the beginning two fiscal year 2065/2066 and 2066/2067. By the end of the fiscal year 2067/2068 and 2068/2069, the number of listed companies increases by 31 and 9 respectively.

4.1.2. The Number of Listed Companies Under different Sector in Stock Exchange.

The table below shows the total number number of listed companies under different sector by the end of fiscal year 2068/2069.

Table-4

Listing Summary of Companies (FY 2068/2069).

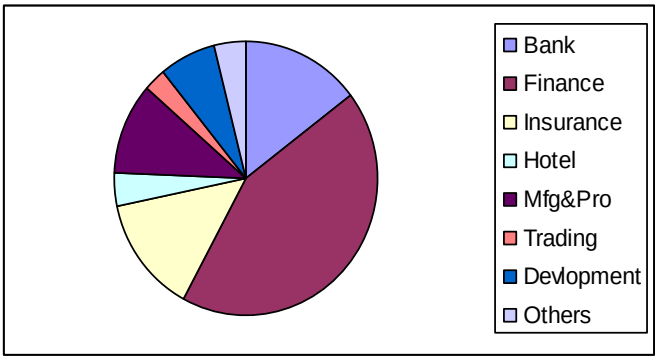
Serial Number	Types of the Listed Companies	Total Population	Percentage (%)	Sample Considered
1	Commercial Banks	23	11	4
2	Finance Companies	70	33.97	3
3	Insurance Companies	21	10.05	-
4	Manufacturing & Processing Companies	18	8.61	-
5	Trading Companies	4	1.91	-
6	Hotel	4	1.91	-
7	Development Bank	61	29.67	-
8	Other	6	6	-
Total		207	100	

Source: SEBO, Annual Report 2068/2069

The following chart presents the number of listed companies under different sector by the end of the fiscal year 2068/2069.

Figure-2

Listed Companies of the FY 2068/2069.



From the above table, we can clearly se that the number of listed companies under different sector in stock exchange by the end of fiscal year 2068/2069 was 207. The table shows that the number of finance companies is higher i.e. 33.97% and the number of trading companies and hotel companies are only 1.91%.

4.1.3. Number of Companies delisted From the Stock Exchange.

According to stock exchange Act 1983 there is provision of delisting the companies which are not able to disclose the documents regarding annual general meeting, audit report, and unable to pay the annual fees of listing in NEPSE up to two years can be deleted from NEPSE. Due to these vary provisions NEPSE recently has deleted some companies from its list. NEPSE has started such type of activities for the first time in its history. The names of companies that are deleted from NEPSE are given in *Annex I.*

4.2. Analysis of Financial Indicators:

Earning per share, Dividend per share, market per share and dividend payout ratio some of the most important financial indicators of a firm. Detailed analysis is of these financial indicators along with their mean, standard deviation and coefficient of variation is presented with the help of the results obtained in Annex II.

4.2.1. Earning Per Share (EPS):

Earning per share (EPS) is one of the most important financial indicators, which measures the earning capacity of a firm. It measures the profitableness of the shareholders investment on a per share basis. It is computed by dividend net profit after taxes by the total number of common stocks outstanding. Table no.5 is presented below shows the EPS of the sample firms:

Table: 5

Analysis of EPS

Earning Per Share of Sampled Commercial Banks.

Year	NBL	SCBL	NIBL	EBL	Average
2064/2065	83.79	115.62	53.68	34.84	71.98
2065/2066	59.26	126.88	33.18	31.56	62.72
2066/2067	55.25	141.13	33.59	32.91	65.72
2067/2068	84.66	149.30	39.56	29.90	75.86
2068/2069	92.61	143.55	51.70	45.58	83.36
Total	375.57	676.48	211.71	174.79	359.64
Mean	75.114	135.296	42.342	34.958	71.928
S.D	14.956	12.298	8.768	5.553	7.34
C.V	19.92	9.09	20.71	15.88	10.20

That the comparative table no.5 has shown the earning per share of four commercial banks with their average as well as the standard deviation and coefficient of variation of the EPS covering the period from FY 2064/2065 to 2068/2069. Here, SCBL has the highest EPS throughout the study period where as EBL has the lowest EPS during the same periods. Comparatively, the earning position of NBL, NIBL is better than that of EBL. The earning position of EBL is also good. But in comparison to other three banks its earning position is low.

Here, the total risk can be measured by SD, higher the SD higher the risk. Here the SD of NBL is higher than the SCBL, NIBL and EBL. Thus the risk of NBL is greater than other three banks (i.e. SCBl, NIBL and EBL). Similarly, higher CV indicates more price fluctuation and less CV indicates less price movement. Here, the CV of investment bank is more fluctuating i.e. 20.71% than the CV of SCBL, NBL, EBL. We can better present the comparative EPS of the selected firms with the help of bar diagram and graph as in figure no. 3(A) & 3(B).

Figure 3 (A)

Analysis of EPS

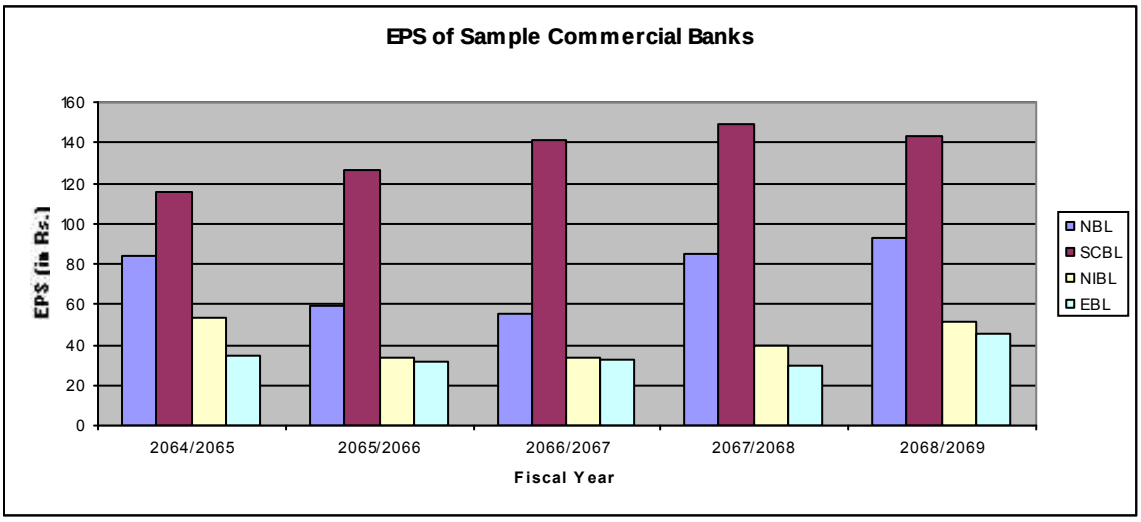


Figure 3(B)

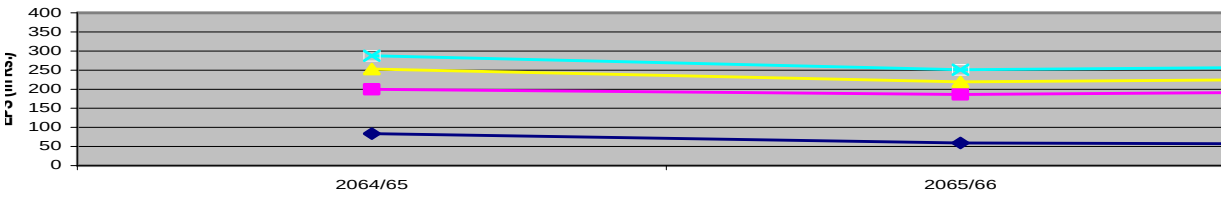


Table-6

Analysis of EPS of Finance Companies

Year	NFCL	AFCL	NMBFCL	Average
2064/65	63.93	88.71	14.71	55.78
2065/66	67.20	70.66	15.59	51.15
2066/67	55.70	70	14.54	46.75
2067/68	35.75	67.16	15.12	39.34
2068/69	42.15	105.57	21.08	56.27
Total	264.73	402.1	81.04	249.29
Mean	52.946	80.42	16.208	49.86
SD	12.196	14.703	2.643	6.28
CV	23.03	18.28	15.03	12.60

The comparative table no. 6 has shown the earning per share of three finance companies with their average as well as the SD and CV of the EPS covering the period from FY 2064/2065 to 2068/2069. Here EPS of AFCL is highest whereas EPS of NMBFC is lowest. Here NFCL and AFCL earning position are better than the earning position of NMBFC. The EPS of NFCL and AFCL is in increasing phase.

Here, the mean of AFCL is more than the mean of NFCL & NMBFCL. Mean of AFCL is 80.42. From the above table, SD of AFCL is higher than that of NFCL & NMBFCL i.e. the risk of AFCL is greater than the risk of NFCL & NMBFCL. SD of AFCL is 14.703. Moreover NFCL have higher CV i.e. 23.03 which shows more price fluctuation. We can better present the comparative EPS of the selected firms with the help of bar diagram and graph 4(A) & 4(B). With the help of those figures also, we can say that AFCL is the most successful finance companies whose average EPS is almost double.

Figure 4 (A)

Analysis of EPS of Finance Companies

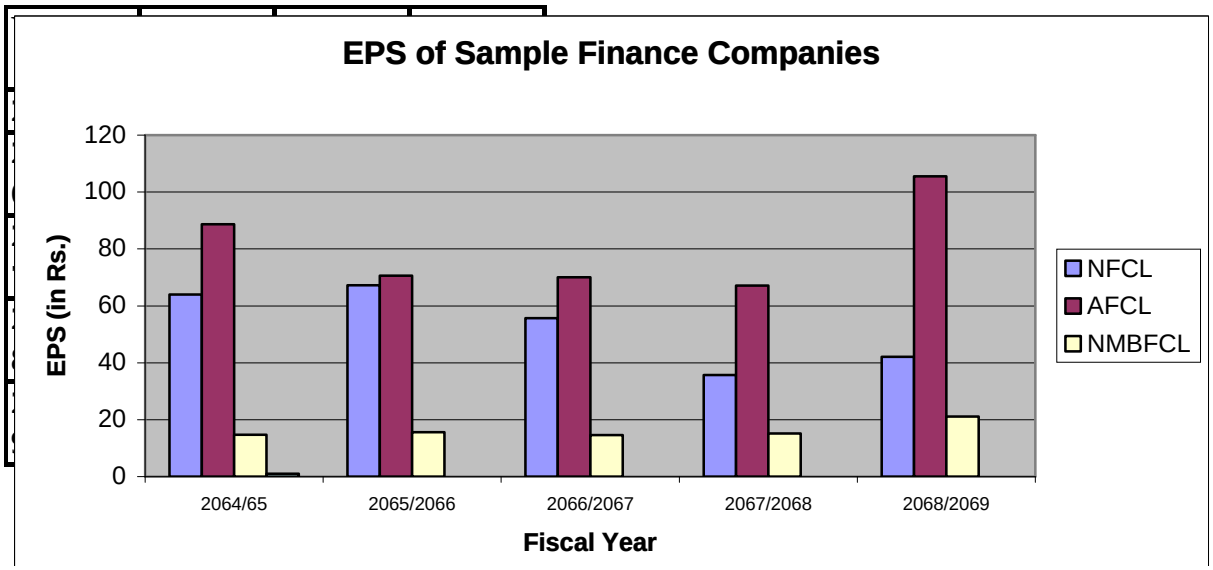
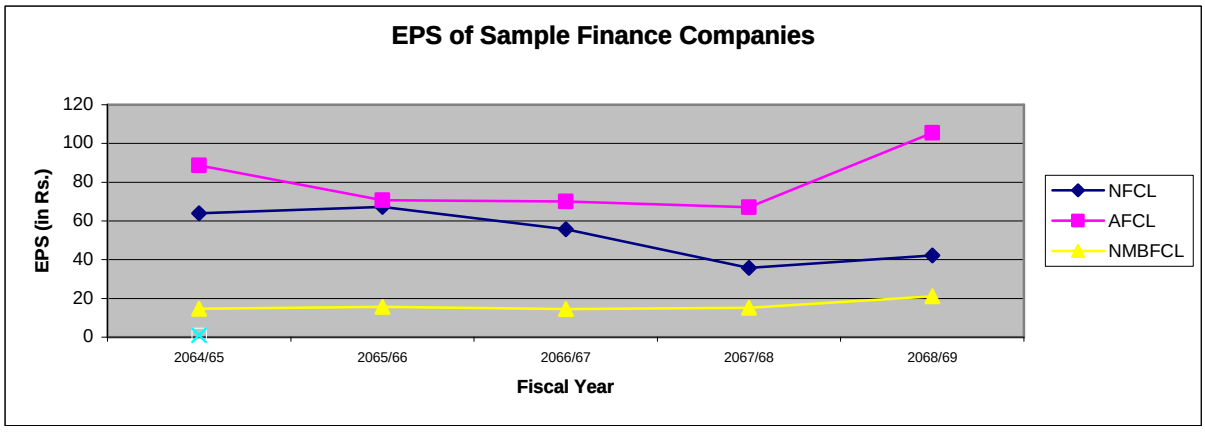


Figure 4 (B)



4.2.2. Dividend per Share (DPS):

Dividend per share (DPS) is another important financial indicator, which measure the dividend distributed to each equity shareholders. It is calculated by dividing the total dividend distributed to equity shareholders by the total number of equity shareholders outstanding. The following table shows the DPS of the sample firms over the observed period.

Table-7

Analysis of DPS of Commercial Banks.

Year	NBL	SCBL	NIBL	EBL	Average
2064/65	55	100	25	0	180
2065/66	40	100	0	0	140
2066/67	30	100	0	0	130
2067/68	50	110	20	20	340
2068/69	65	110	15	0	190
Total	240	520	60	20	980
Mean	48	104	12	4	196
SD	12.08	4.90	10.30	8	75.52
CV	25.17	4.71	85.83	2	38.53

The above table no.7 shows the dividend per share of commercial banks with their average DPS as well as the SD and CV of the DPS of those banks over the period FY 2064/2065 to 2068/2069. From the above table we can see that the most appreciable bank is SCBL that is its DPS is almost 2&1/2 times greater than other selected banks. The mean of SCBL is 104. NBL also can be taken as in the satisfactory level as it has distributed its dividend in whole five years period. NIBL & EBL DPS is in declining phase i.e. its dividend is zero. For EBL its DPS is zero in 2064/2065, 2065/2066. And NIBL its DPS is zero in 2064/2065, 2065/2066, 2066/2067, 2068, 2069. So it might have negative message in the share market. In comparison with average value, SCBL and NBL has the satisfactory DPS.We can better present the comparative DPS of the banks with the help of bar diagram and graph as in figure no. 5(A) and 5(B).

Figure 5 (A)
Analysis of DPS of Commercial Banks

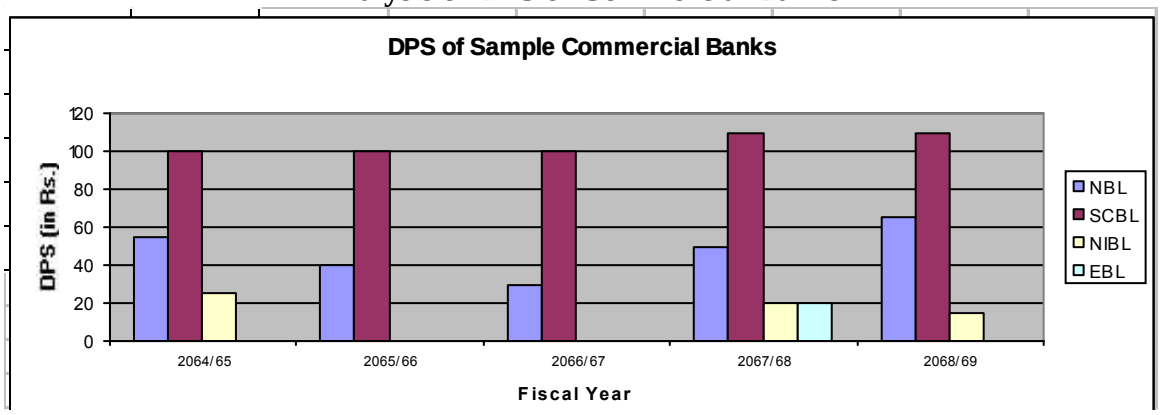


Figure 5

(B)

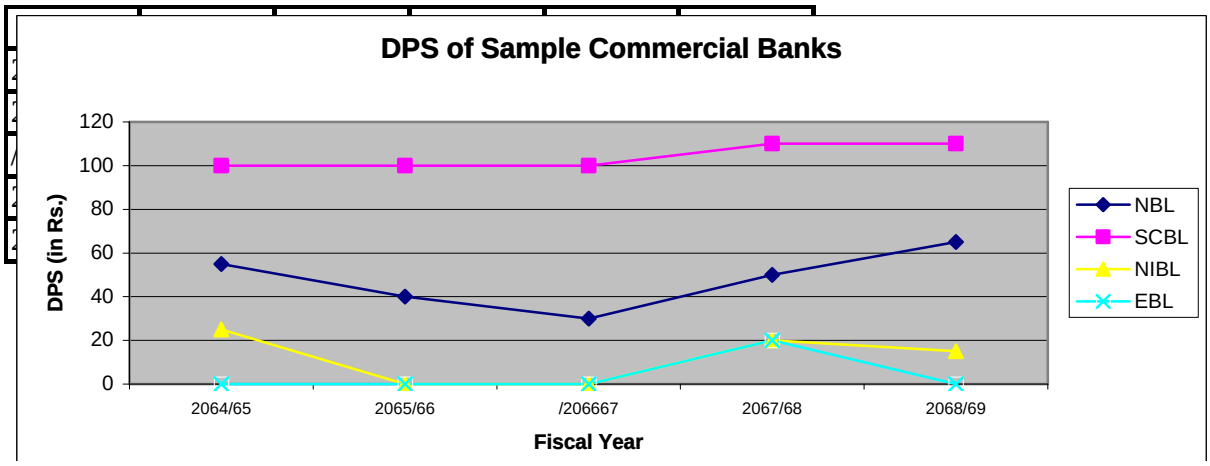


Table-8
Analysis of DPS of Finance Companies.

Year	NFCL	AFCL	NMBFCL	Average
2007/2008	28	10	10	48
2008/2009	30	12	12.50	54.5
2009/2010	20	12	10	42
2010/2011	20	12	10	42
2011/2012	21.05	2.63	15	38.68
Total	119.05	48.63	57.5	225.18
Mean	23.81	9.726	11.5	45.036
SD	4.30	3.63	2	5.61
CV	18.06	37.32	17.39	12.47

The above table no.7 shows the dividend per share of Finance Companies with their average DPS as well as the SD and CV of the DPS of those banks over the period FY 2007/2008 to 2011/2012. Here Average DPS of NFCL is 23.81 is greater than the DPS of AFCL & NMBFCL.NFCL is more appreciable finance companies among the selected finance companies. In the overall period of 5 years NFCL has high DPS than other two selected companies i.e. AFCL & NMBFCL.We can better present the comparative DPS of the banks with the help of bar diagram and graph as in figure no. 6(A) and 6(B).

Figure 6 (A)

DPS of Finance Companies

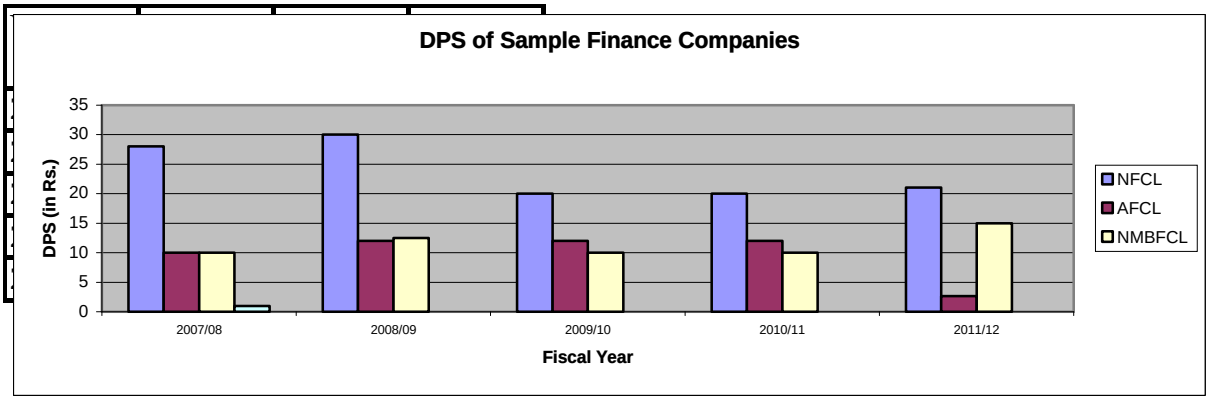
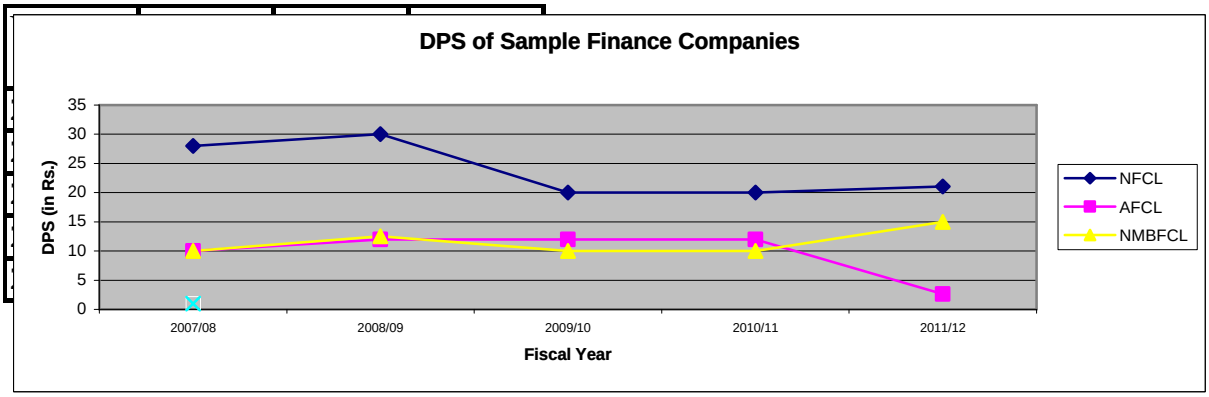


Figure 6 (B)



4.2.3. Market per Share (MPS):

MPS is the value of stock, which can be obtained by a firm from the sale of a share in the market. The capital market determines MPS. The following table shows the market price of the shares of the sample firm as indicated in NEPSE index.

Table-9

Analysis of MPS of Commercial Banks.

Year	NBL	SCBL	NIBL	EBL	Average
2007/2008	1400	1985	1401	995	5781
2008/2009	1500	2144	1150	650	5444
2009/2010	700	1575	760	405	3440
2010/2011	740	1640	795	445	3620
2011/2012	1000	1745	940	680	4365
Total	5340	9089	5046	3175	22650
Mean	1068	1817.8	1009.2	635	4530
SD	329.99	214.58	239.21	210.17	942.74
CV	30.90	11.80	23.70	33.10	20.81

The above table no.9 shows the MPS of the commercial banks with their average MPS as well as the SD and CV of Variable of the MPS of those banks over the period from FY 2007/2008 to 2011/2012.Here, average price of SCBL is higher i.e. 1817.8 than other selected banks NBL,NIBL,EBL. So SCBL is the most appreciable bank among the selected ones. NBL MPS is also in satisfactory level i.e. 1068.

Here, the total risk of commercial banks can be measured by SD, CV. Higher the SD higher the risk. Here SD of NBL is higher (i.e. 329.99) than the SD of SCBL, NIBL, EBL, thus the risk of NBL is greater than the selected banks.

Similarly, higher CV indicates more price fluctuation and less CV indicates less price movements. Here the MPS of EBL is more fluctuating i.e. 33.10 than MPS of other selected banks. EBL CV is greater than other selected banks. We can better present the comparative MPS of the banks with the help of bar diagram and graph as in figure no 7(A) and 7(B).

Figure 7 (A)

Analysis of MPS of Commercial Banks

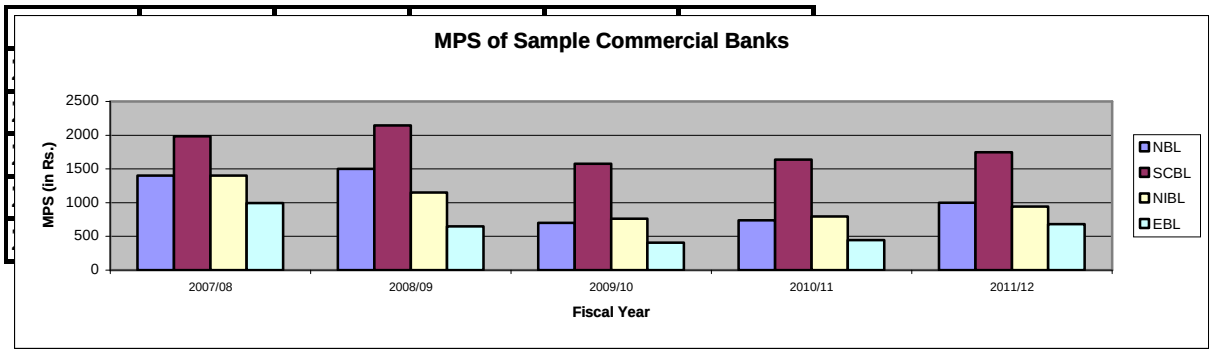


Figure 7 (B)

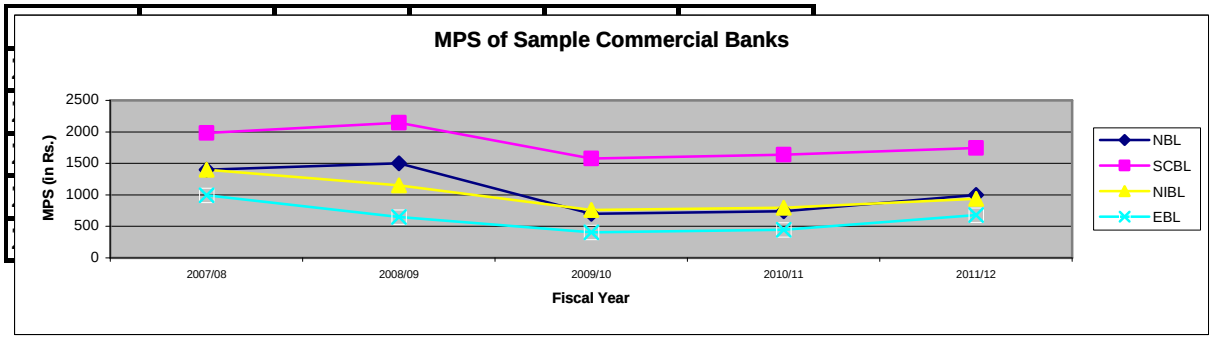


Table-10

Analysis of MPS of Finance Companies.

Year	NFCL	AFCL	NMBFC	Average
2007/2008	470	450	641	1561
2008/2009	560	535	690	1785
2009/2010	445	410	1053	1908
2010/2011	415	425	1000	1840
2011/2012	400	470	1235	2105
Total	2290	2290	4619	9199
Mean	458	458	923.8	1839.8
SD	56.44	43.66	225.381	176.47
CV	12.32	9.53	24.40	9.59

The above table no.10 shows the MPS of the Finance Companies with their average MPS as well as the SD and CV of Variable of the MPS of those Finance

Companies over the period from FY 2007/2008 to 2011/2012.Here, average price of NMBFC is higher i.e. 923.8 than other selected Finance Companies NFCL,AFCL. NFCL &AFCL has the same average during five years. Here MPS of NMBFCL is the most appreciable Finance Companies than other two selected Finance Companies. NFCL &AFCL is also an satisfactory finance company.

Here, the total risk of Finance Companies can be measured by SD, CV. Higher the SD higher the risk. Here SD of NMBFCL is higher (i.e. 225.381) than the SD of NFCL&AFCL thus the risk of NMBFCL is greater than the selected Finance Companies.

Similarly, higher CV indicates more price fluctuation and less CV indicates less price movements. Here the MPS of NMBFCL is more fluctuating i.e. 24.40 than MPS of other selected Finance Companies. NMBFCL CV is greater than other selected Finance Companies. We can better present the comparative MPS of the Finance Companies with the help of bar diagram and graph as in figure no 8(A) and 8(B) .

Figure 8(A)

MPS of Finance Companies

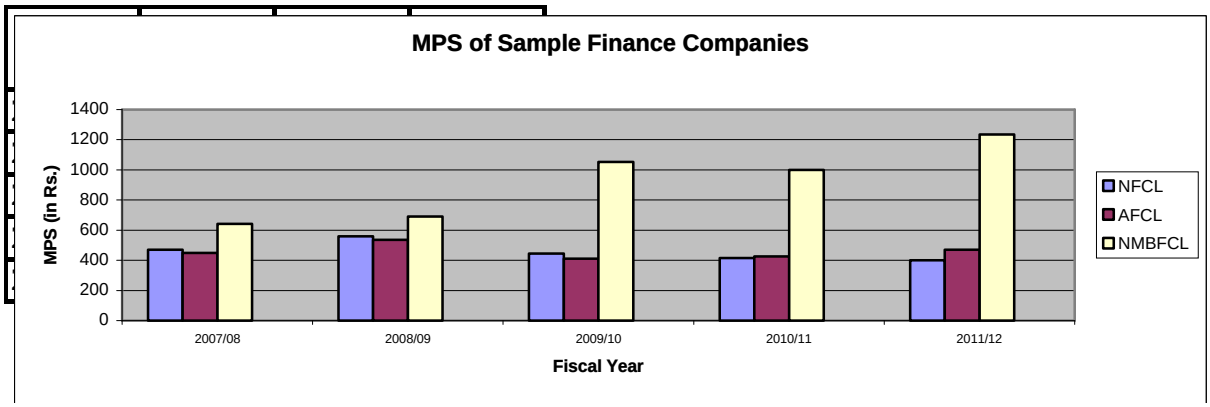
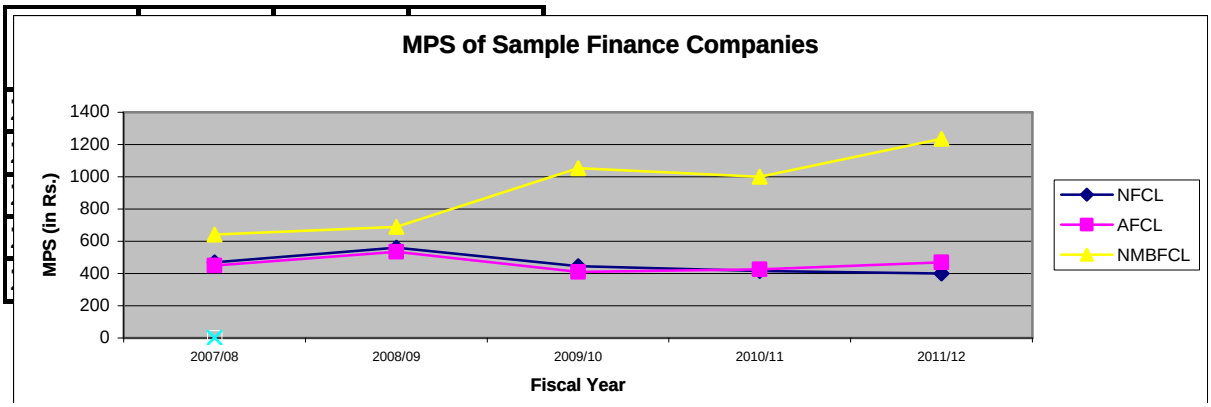


Figure 8 (B)



4.3. Correlation Coefficient Analysis:

This table EPS&DPS, EPS&NWPS, EPS&DPR is presented in order to analyze the relationship between EPS and various financial indicators their test by correlation coefficient ® and probable error ®. As we know the correlation coefficient helps to determine whether their exists any relationship among different variables.

Probable error is used to test whether the calculated value of sample correlation is significant.

i. If r<P.E®, then the value of r is insignificant.
ii. If r>6xP.E®, then the value of r is definitely significant.
iii. In other situations, nothing can be calculated with certainty.

Interpretation of Correlation Coefficient.

i. It lies always between +1 and -1.
ii. Where r=+1, there is perfect negative correlation.
iii. Where r=-1, there is negative correlation.
iv. Where r=0, there is no correlation.
v. Where r lies between 0.7 to 0.999 (-0.7 to -0.999) then a high degree of positive (or negative) correlation.
vi. Where r lies between 0.5 to 0.699, there is a moderate degree of correlation.
vii. When r is less than 0.5, there is low degree of correlation.

Correlation Coefficient Analysis between EPS & DPS

(ANNEX III).

Table No: 11

Correlation Coefficient Analysis between EPS & DPS

S. N.	Name of the Company	Correlation coefficient fR_{DPS} A	Probable Error(PE)
1	Nabil Bank Ltd.	0.9536	0.027
2	Standard Chartered Bank Ltd.	0.739	0.137
3	Nepal Investment Bank Ltd.	0.816	0.101
4	Everest Bank Ltd.	-0.455	0.239
5	National Finance Company Ltd.	0.835	0.091
6	Annarpurna Finance Company Ltd	-0.945	0.032
7	Nepal merchant Banking &Finance Company Ltd.	0.926	0.043

The statistical table no.11 of Annex III clearly demonstrate that the degree of relationship between EPS&DPS seems to be significant except the case of EBLand AFCL. Where correlation coefficient recorded as EBL=-0.455 and AFCL=-0.945. It reveals that the relationship between EPS &DPS of the EBL and AFCL demonstrate if DPS of EBL increases by 45.5% than the bank looses EPS by margin of 100%. Again, in case of AFCL if DPS of AFCL increase 94.5% than the finance companies looses EPS by margin of 100%. Such a situation is not a healthy financial environment for the commercial bank and finance company in the developing countries like Nepal.

From the above table No.11 we can clearly se that the correlation of EPS with DPS 0.9536 in case of NBL, which shows that the increase in value of DPS by 95.36% causes to increase 100% value of EPS. Thus, there exists high degree of positive correlation. Similarly in case of SCBL the correlation Coefficient of EPS with DPS is 0.739 which shows that the increase in value of DPS by 73.9% causes to increase 100% value of EPS of SCBL. Again, in case of NIBL the correlation coefficient of EPS with

DPS is 0.816, which shows that the increase in value of DPS by 81.6% causes to increase 100% value of EPS of NIBL and there exists high degree of positive correlation. Similarly in case of finance companies i.e. NFCL &NMBFCL the correlation coefficient of EPS with DPS is NFCL = 0.835 and NMBFCL=0.92,which shows that the increase in value of DPS by 83.5% and 92.6% causes to increase 100% value of EPS of Finance companies. Such an increasing value of EPS with DPS is a healthy indicator of the financial activities of commercial banks and finance companies in the least developed countries like Nepal.

In otherwords, if independent variables (DPS) increase then it causes to increase dependent variable (EPS) by 100% & vice-versa in case of positive correlation.

Again, if independent variables (DPS) decrease then it causes to decrease dependent variable (EPS) by 100% & vice-versa in case of negative correlation.

4.3.2. Correlation Coefficient Analysis between EPS & NWPS.

Table No: 12

Correlation Coefficient Analysis between EPS & NWPS

S.N.	Name of the Company	Correlation coefficient fR_{NWPS} A	Probable Error(PE)
1	Nabil Bank Ltd.	0.888	0.061
2	Standard Chartered Bank Ltd.	0.975	0.014
3	Nepal Investment Bank Ltd.	-0.051	0.301
4	Everest Bank Ltd.	0.639	0.178
5	National Finance Company Ltd.	-0.403	0.253
6	Annarpurna Finance Company Ltd	0.848	0.085
7	Nepal merchant Banking &Finance Company Ltd.	0.783	0.117

The statistical table no.12 of Annex III clearly demonstrate that the degree of relationship between EPS & NWPS seems to be significant except the case of NIBL & NFCL where the correlation coefficient recorded as NIBL=-0.051 & NFCL=-0.403. It

reveals that the relationship between EPS & NWPS of the NIBL &NFC demonstrate if DPS increases by 5.1% & 40.3% then the NIBL & NFC looses EPS by margin of 100%. Such a situation is not a healthy financial environment for the commercial bank and finance company in the developing countries like Nepal.

It helps to draw the conclusion that there is high degree of managerial problem in issuing and managing the shares of NIBL & NFCL.

From the above table, it can be concluded that the correlation coefficient of EPS with NWPS of NBL, SCBL, EBL, AFCL &NMBFCL is 0.888, 0.975, 0.639, 0.848 &0.783. Thus, there exists high degree of positive correlation of EPS with NWPS, as the relationship between them is greater than zero. But in case of EBL, the value of r is less than 6times P.E. which shows that the correlation coefficient of EBL is insignificant. In the case of positive correlation if independent variables (NWPS) increases then it causes to increase dependent variable (EPS) by 100% & vice-versa.

Similarly in this case, NBL,SCBL,EBL,AFCL & NMBFCL increase in value of DPS by 88.8%,97.5%,63.9%,84.8% & 78.3% causes to increases 100% value of EPS of NBL,SCBL,EBL,AFCL &NMBFCL. Such a case is a healthy indicator of the financial activities of commercial banks & finance companies in the least developed countries like Nepal.

4.3.3. Correlation Coefficient Analysis between EPS & DPR:

Table No: 13

Correlation Coefficient Analysis between EPS & DPR:

S.N.	Name of the Company	Correlation coefficient fR_{DPR}	Probable Error(PE)
1	Nabil Bank Ltd.	0.488	0.230
2	Standard Chartered Bank Ltd.	-0.878	0.069
3	Nepal Investment Bank Ltd.	0.688	0.159
4	Everest Bank Ltd.	-0.455	0.239
5	National Finance Company Ltd.	-0.700	0.154
6	Annarpurna Finance Company Ltd	0.754	0.130
7	Nepal merchant Banking &Finance Company Ltd.	0.142	0.296

In positive correlation, if independent variable increases then it causes to increase dependent variable by 100% & vice-versa. Here, EPS is dependent variable and DRP is independent Variable.

From the above table no.13, we can see that the correlation coefficient of EPS with DPR of NBL, NIBL, AFC & NMBFCL is increasing by 48.8%, 68.8%, 74.4% &14.2% respectively which shows that the increase in value of DPR causes to increase 100% value of EPS of NBL, NIBL, AFC & NMBFCL. Such a case is a healthy indicator of the financial activities of commercial banks and finance companies in the least developed countries like Nepal.

Again from the statistical table no.13 of Annex III clearly demonstrate that the degree of relationship between EPS & DPR seems to be significant except the case of SCBL,EBL & NFCL where the correlation coefficient recorded as -0.878,-0.455,-0.700. It reveals that the relationships between EPS & DPR of the SCBL, EBL & NFCL

demonstrate if DPR increases by 87.8%, 45.5% &70% than the bank & finance companies looses EPS by margin of 100%. Such a situation is not a healthy financial environment for the commercial bank & finance companies in the developing countries like Nepal. It helps to show that there is high degree of managerial problem in issuing & managing the shares of SCBL, EBL & NFCL.

4.4. Regression Equation of Market Price on EPS by Using the Method of t-Test:

Null Hypothesis. (H_o): ρ=0. That is population correlation coefficient is zero. In other words, the variables are insignificantly correlated in the population i.e. r is not significant of correlation in the population.

Alternative Hypothesis. (H_1): ρ ≠ 0. That is population correlation coefficient is not zero. In other words, the variables are significantly correlated in the population i.e. r not significant of correlation in the population.

Table No: 14
Regression Equation of Market Price on EPS by Using the Method of t-Test:

		Regression Coefficient					
S. N.	Name of the Company	Constant (a)	Slope(b)	r^2	Calculated Value |t|	Tabulated value t	Significance
1	Nabil Bank Ltd.	77.27	-0.002	0.0016	0.075	3.182	Insignificant
2	Standard Chartered Bank Ltd.	218.91	-0.046	0.64	2.32	3.182	Insignificant
3	Nepal Investment Bank Ltd.	24.1764	0.018	0.254	1.010	3.182	Insignificant
4	Everest Bank Ltd.	29.751	0.0082	0.097	.05668	3.182	Insignificant
5	National Finance Company Ltd.	-30.87	0.183	0.7174	2.76	3.182	Insignificant
6	Annarpurna Finance Company Ltd	60.268	0.044	0.113	0.230	3.182	Insignificant

7	Nepal merchant Banking &Finance Company Ltd.	9.936	0.0068	0.393	1.394	3.182	Insignificant

Table 14 deficits the major output of simple regression between market price and EPS of the sampled companies by using the method of T. test. The regression coefficient (b) of NIBL, EBL, NFCL, AFCL, NMB are positive of 0.018, 0.0082, 0.183, 0.044 and 0.0068 respectively. They indicate that there exists positive relationship between market price and EPS. If market price increases by 1.8%, 0.82%, 18.3%, 4.4%, and 0.68% then heads to increase EPS by 100% and vice versa.

But increase of NBL, SCBL, the value of 'b' is negative i.e., -0.002, -0.046, which means that there exists negative relationship between market price and EPS which demonstrate that if EPS (independent variable) decreases by 0.2% and 4.6% then it leads to increase MPS by 100% and vice versa. In case of slope if one variable increases then other variable decreases.

The prediction of MPS is strong only for SCBL, NIBL, NFCL and NMB and very weak for NBL, EBL, and AFCL because the respective coefficient of determination (r^2) are 0.64, 0.254, 0.0174, 0.393 which indicate that the change in MPS is due to change of EPS are 64%, 25.4%, 71.74% and 39.3% respectively and the remaining variables 36%, 74.65, 28.26%, 60.71% is due to the effect of other factor.

In case of t. test, the calculated value of t < tabulated value of t at 0.05 level of significance and their Ho is accepted. The acceptance of Null Hypothesis shows that MPS and EPS are not significantly correlated (i.e., insignificant) such a situation is not a healthy indicator for the banking sector and finance sector in the country.

In the above table all the selected companies are insignificant i.e. calculated value of t < tabulated value of t (NBL, SCBL,NIBL,EBL,NFCL,AFCL and NMBFCL) hence it can be said that by using the method of t tests the relationships obtained from MPS on EPS are not statistically significant. (For detail see annex)

4.5. Regression Equation of Market Price on NWPS by Using the Method of t-Test.

Table No: 15.

Regression Equation of Market Price on NWPS by Using method of t-Test.

		Regression Coefficient					
S.N.	Name of the Company	Constant (a)	Slope(b)	r^2	Calculated Value |t|	Tabulated value t	Significance
1	Nabil Bank Ltd.	220.492	-0.031	0.1260	0.658	3.182	Insignificant
2	Standard Chartered Bank Ltd.	104.036	-0.140	0.5520	1.924	3.182	Insignificant
3	Nepal Investment Bank Ltd.	208.47	0.061	0.1781	0.806	3.182	Insignificant
4	Everest Bank Ltd.	217.829	-0.007	0.0030	0.905	3.182	Insignificant
5	National Finance Company Ltd.	287.928	-0.029	0.0046	0.118	3.182	Insignificant
6	Annarpurna Finance Company Ltd	475.528	-0.357	0.0230	0.304	3.182	Insignificant
7	Nepal merchant Banking &Finance Company Ltd.	-138.95	0.229	0.7974	3.347	3.182	Significant

The table table no. 15 shows the major output of simple regression analysis between market price and NWPS of the sampled companies by using the method of t test. The regression coefficient (b) of NIBL and NMBFCL are positive of 0.061 and 0.229 respectively. This indicates that there exists positive relationship between MPS and NWPS. If NWPS increases by 6.1% and 22.9% then it leads to increase MPS by 100% and vice versa.

But incase of NBL, SCBL,EBL, NFCL,AFCL the value of 'b' is negative i.e., -0.031, -0.140,-0.007,-0.0269 and -0.357 which means that there exists negative relationship between market price and NWPS which demonstrate that if NWPS (independent variable) decreases by 3.1% ,14%, 0.7%, 2.9%, and 35.7% then it leads to increase MPS by 100% and vice versa. The prediction of NWPS is strong for SCBL, NMBFCL, and very weak for NBL, NIBL, EBL, NFCL and AFCL because the respective coefficient of determination (r^2) are 0.5520 and 0.7974 for strong SCBL and NMBFCL which indicate that the change in MPS is due to change of NWPS are 55.20%, and 79.74% and the remaining variables 44.80%, and 20.26% is due to the effect of other factor.

In case of t. test, the calculated value of t < tabulated value of t in case of NBL, SCBL,NIBL, EBL, NFCL and AFCL which indicates that the relationship is not statistically significant of t at 0.05 level of significance and their H_o is accepted. The acceptance of Null Hypothesis shows that MPS and NWPS are not significantly correlated (i.e., insignificant) such a situation is not a healthy indicator for the banking sector and finance sector in the country.

An exceptional case is recorded in the case of NMBFCL where the calculated value of t > tabulated value of t at 0.05 level of significance and their H_1 (alternative hypothesis) is accepted in this case of NMBFCL. It shows that MPS and NWPS are significantly correlated which can be recognized as a positive indicator of the development of banking and financial sector in the country.

4.6. Regression Equation of Market Price on DPS by Using the Method of T-Test.

Table No: 16.

Regression Equation of Market Price on DPS by Using the Method of T-Test.

		Regression Coefficient					
S. N.	Name of the Company	Constant (a)	Slope(b)	r^2	Calculated Value |t|	Tabulated value t	Significance
1	Nabil Bank Ltd.	40.524	0.007	0.034	0.3253	3.182	Insignificant
2	Standard Chartered Bank Ltd.	123.814	0.0109	0.228	0.940	3.182	Insignificant
3	Nepal Investment Bank Ltd.	-4.1472	0.016	0.1318	0.6747	3.182	Insignificant
4	Everest Bank Ltd.	14.922	-0.0172	0.2043	0.878	3.182	Insignificant
5	National Finance Company Ltd.	-6.418	0.066	0.7552	3.042	3.182	Insignificant
6	Annarpurna Finance Company Ltd	14.3518	-0.0101	0.0149	0.2129	3.182	Insignificant
7	Nepal merchant Banking &Finance Company Ltd.	7.990	0.0038	0.1858	0.8273	3.182	Insignificant

The table table no. 16 shows the major output of simple regression analysis between market price and DPS of the sampled companies by using the method of t-test. The regression coefficient (b) of NBL, SCBL, NIBL, NFCL, NMBFCL are positive of 0.007 and 0.0109, 0.016,00666 &0.0038 respectively. This indicates that there exists

positive relationship between MPS and DPS. If DPS increases by 0.7&,1.09%,1.6%,6.6% &0.38% respectively then it leads to increase MPS by 100% and vice versa.

But incase of EBL, AFCL the value of 'b' is negative i.e., -0.0172 & -0.0101which means that there exists negative relationship between market price and DPS which demonstrate that if DPS (independent variable) decreases by 1.72% &1.01 then it leads to increase MPS by 100% and vice versa.

The prediction of MPS is strong for NFCL and very weak for NBL, SCBL, NIBL, EBL, AFCL & NMBFCL because the respective coefficient of determination (r^2) are 0.7552 for strong NFCL which indicate that the change in MPS is due to change of DPS are 75.52% and the remaining variables 24.48% is due to the effect of other factor.

In case of t-test, the calculated value of t < tabulated value of t in case of NBL, SCBL, NIBL,EBL,NFCL AFCL & NMBFCL which indicates that the relationship is not statistically significant of t at 0.05 level of significance and their H_o is accepted. The acceptance of Null Hypothesis shows that MPS and DPS are not significantly correlated (i.e., insignificant) such a situation is not a healthy indicator for the banking sector and finance sector in the country.

4.7. Regression Equation of Market Price on DPR by Using the Method of t-Test.

Table No: 17

Regression Equation of Market Price on DPR by Using the Method of t-Test.

		Regression Coefficient					
S. N.	Name of the Company	Constant (a)	Slope(b)	r^2	Calculated Value |t|	Tabulated value t	Significance
1	Nabil Bank Ltd.	49.988	0.0125	0.5047	1.7482	3.182	Insignificant
2	Standard Chartered Bank Ltd.	43.483	0.0186	0.5627	1.9646	3.182	Insignificant
3	Nepal Investment Bank Ltd.	6.0532	0.019	0.0429	0.3667	3.182	Insignificant
4	Everest Bank Ltd.	49.89	-0.0575	0.2043	0.8777	3.182	Insignificant
5	National Finance Company Ltd.	26.35	-0.043	0.0489	0.6817	3.182	Insignificant
6	Annarpurna Finance Company Ltd	3.2944	0.0422	0.0178	0.2335	3.182	Insignificant
7	Nepal merchant Banking &Finance Company Ltd.	77.3106	-0.007	0.1168	0.630	3.182	Insignificant

The table table no. 17 the results of simple regression analysis equation of dependent variable MPS & independent variable DPR have been presented. So far as 'b' concerned, it is positive in case of NBL, SCBL, NIBL & AFCL are positive of 0.0125, 0.0186, 0.019, 0.043.This indicates that there exists positive relationship between market price DPR. If DPR increase 1025%, 1.86%, 1.9% &4.22% respectively then it leads to increase MPS by 100% & vice versa.

Conversely in the case of EBL,NFCL<NMBFCL the values of 'b' are negative i.e. -0.0575,-0.043,-0.007 which shows that there exists negative relationship between market price & DPR which demonstrate that if DPR (independent variable) decreases by 5.75%,4.3%,0.7% then it leads to increase market price (dependent variable)by 100% & vice versa. Thus, the regression model MPS and DPR for these companies is not applicable. Therefore, it can be said that MPS of these companies is not dependent on DPR. (For detail see Annex table).

The prediction of MPS of r^2 is strong for NBL & SCBL and very weak for NIBL, EBL, NFCL, AFCL & NMBFCL. Because the respective coefficient of determination (r^2) NBL,SCBL are 0.5047,0.5627 for strong which indicate that the change in MPS is due to change of DPS are 50.47%,56.27% and the remaining variables 49.53%,43.73% is due to the effect of other factor.

The calculated value of t < tabulated value of t in case of NBL, SCBL, NIBL,EBL,NFCL AFCL & NMBFCL which indicates that the relationship is not statistically significant of t at 0.05 level of significance and their H_o is accepted. The acceptance of Null Hypothesis shows that MPS and DPR are not significantly correlated (i.e., insignificant) such a situation is not a healthy indicator for the banking sector and finance sector in the country.

CHAPTER V

SUMMARY, CONCLUSION AND RECOMMENDATIONS.

5.1 Summary:

The general public investors do invest their scarce saving funds in the common stocks of the public companies through primary or the secondary market, with the expectation of good return in the future. We know that determination of MPS of any public companies should be in accordance with their financial performance. In otherwords, the key financial indicators like EPS, NWPS, DPS, and DPR etc have major influence in the fixation of MPS.

Similarly, the investors should be average of the level of risk associated with the common stocks investment. The awareness of investment risk helps them to take necessary steps minimize or avoid the risk investment.

Therefore, this study is focused on the analysis of the relation of EPS, MPS with different financial indicators of sampled companies comprising commercial banks & finance companies.

This study is totally based on the secondary data and information obtained from various financial reports, annual reports, regular publication, news, journals, official web sites etc. for the analysis 7 public companies, 4 commercial banks and 3 finance companies have been taken as sample.

The sample has attempted to identify the listed of no. companies in NEPSE, deleted companies from NEPSE, analysis of financial indicator of the companies through EPS, DPS, NWPS & DPR. The interrelationship of EPS with major financial indicator like DPS, NWPS, DPR etc. in order to check the reliability of statistically analysis T-test have been applied through simple regression equation.

The major or findings of this study are revealed in analysis are summarized here under:

The number of listed companies in stock exchange has been increasing in F.Y. 2065/2066 to 2068/2069.

In FY 2068/2069, there are altogether 207 companies listed in stock exchange. Out of these 23 are banking, 70 finance, 21 insurance, 4 hotels, 18 manufacturing & processing, 4 trading, 61 development banks & 6 are others companies. Among them finance companies & banking have major percentage i.e. 33.81% & 11.11% respectively.

From the analysis of financial indicators, it is seen that in case of EPS of commercial banks the mean of SCBL is higher than NBL, NIBL&EBL. The total risk (SD) of NBL is higher than SCBL, NIBL & EBL. It indicated that there is more risk in NBL than other selected banks. Similarly, NIBL have high CV than other selected bank which indicates that NIBL is more fluctuating.

In case of finance companies, EPS of AFCL is more than other selected Finance companies. The mean of AFCL is higher. There is high risk AFCL i.e. SD of AFCL is greater than other selected companies. But the CV of NMBFCL is higher there is, more price fluctuation in NMBFCL than in other selected finance companies.

Again, incase of DPS of commercial banks & finance companies it is seen that DPS of commercial bank of SCBL is higher than NBL, NIBL, EBL. In comparison with average value of DPS of SCBL &NBL has the satisfactory DPS. In finance companies, DPS of NFCL is higher than AFCL, NMBFCL. It is seen that DPS of NFCL is in satisfactory level.

Again incase of MPS of commercial banks & finance companies. It is seen that the MPS of commercial banks of SCBL is higher than NBL, NIBL&EBL.SCBL is the most appreciable bank among the selected ones. The risk of NBL is higher than SCBL, NIBL & EBL. It indicates that there is high risk in NBL. The CV of EBL is more fluctuating i.e. there is higher CV in EBL.

In finance companies, MPS of NMBFCL is most appreciable SD of NMBFCL is higher i.e. there is high risk in NMBFCL.

Similarly, NMBFCL is more price fluctuation i.e. it has high CV.

Again, from the analysis correlation coefficient. The correlation of coefficient of EPS & DPS seems to be significant except the case of EBL &AFCL i.e. correlation coefficient recorded as EBL & AFCL is in negative. Thus there exists negative correlation

coefficient which shows that if DPS decreases then it leads to increase EPS by 100% and vice versa in case of negative correlation. But in case of positive correlation coefficient, it shows that increase in value of DPS causes to increase 100% value of EPS.

In case of NIBL & NFCL there exists negative correlation coefficient of EPS & NWPS which is insignificant which shows that there is higher degree of managerial problem in issuing and managing shares of NIBL&NFCL.The correlation coefficient of EPS and NWPS of NBL,SCBL,EBL,AFCL&NMBFCL is positive. It indicates that there is positive relationship between EPS&NWPS which shows that if NWPS increase then it causes to increase EPS by 100% vice-versa.

Again the correlation coefficient of EPS&DPR seems to be significant except the case of SCBL, EBL&NFCL where the correlation coefficient of these companies are in negative. It indicates that if DPR increase than in causes to decrease EPS by 100%. This is not a healthy situation of financial environment for banks and finance companies. The EPS&DPR of NBL, NIBL, AFCL&NMBFCL is positive correlation coefficient. It indicates that if DPR increases then it causes to increase EPS by 100%.

The findings of simple regression analysis between market price and EPS of the sampled companies are as follows. The regression coefficient (b) of all the sampled companies except NBL &SCBL are positive which indicates that there exits positive relationship between market price & EPS. If market prices increase then it leads to increase EPS by 100% and vice versa. But in case of NBL &SCBL the value of 'b' is negative of -0.002 &-0.046, which means there exists negative relationship between market price & EPS and its price fluctuation is less volatile.

The coefficient of determination (r^2) of SCBL, NIBL, NFCL&NMBFCL are strong of 0.64, 0.254, 0.7174, 0.393 which indicates that 64%,25.4%,71.74% &39.3% of the total variation in market price has been explained by the influence of EPS and remaining 36%,74.6%,28.26%,60.7% is due to the effect of other factor .

The calculated value of t-test value of NBL, SCBL, NIBL, EBL, NFCL, AFCL& NMBFCL is less than tabulated value of t at 0.05 level of significance and their H_o is accepted. The acceptance of H_o shows that market price and EPS are not significantly correlated. Such a situation is not a healthy indicator for bank and finance company in the country.

The major findings of simple regression analysis between market price and NWPS of the sampled companies are described as follows. The regression coefficient (b) of all the sampled companies NIBL & NMBFCL are positive, which indicates that there exits positive relationship between market price & NWPS of 0.061& 0.229. If market prices increase then it leads to increase NWPS by 100% and vice versa. But in case of NBL, SCBL, EBL,NFCL and AFCL the value of 'b' is negative of -0.031,-0.140,-0.007,-0.029 &-0.357, which means there exists negative relationship between market price & NWPS.

The coefficient of determination (r^2) of SCBL &NMBFCL are strong of 0.5520& 0.7974 which indicates that 55.20% & 79.74% of the total variation in market price has been explained by the influence of NWPS and remaining 44.80%,20.26% is due to the effect of other factor .

The calculated value of t-test value of NBL, SCBL, NIBL, EBL, NFCL, and AFCL is less than tabulated value of t at 0.05 level of significance and their H_o is accepted. The acceptance of H_o shows that market price and NWPS are not significantly correlated. Such a situation is not a healthy indicator for bank and finance company in the country.

But in case of NMBFCL calculated value of t-test >tabulated value of t- test at 0.05 level of significance and their H_1(Alternatives hypothesis) is accepted. The acceptance of H_1 shows that market price and NWPS are significantly correlated which can be recorded as a positive indicator of the development of the banking & financial sector.

The major output of simple regression analysis between market price and DPS of the sampled companies are as follows. The regression coefficient (b) of all the sampled companies except EBL & AFCL are positive which indicates that there exits positive relationship between market price & DPS i.e. 0.007, 0.0109, 0.016, 0.066&0.0038. If market prices increase then it leads to increase DPS by 100% and vice versa. But in case of EBL & AFCL the value of 'b' is negative of -0.0172 &-0.0101, which means there exists negative relationship between market price & DPS and its price fluctuation is less volatile.

The coefficient of determination (r^2) of NFCL are strong of 0.7552 which indicates that 75.52% of the total variation in market price has been explained by the influence of DPS and remaining 24.48% is due to the effect of other factor .

The calculated value of t-test value of NBL, SCBL, NIBL, EBL, NFCL, AFCL& NMBFCL < tabulated value of t at 0.05 level of significance and their H_o is accepted. The acceptance of H_o shows that market price and DPS are not significantly correlated. Such a situation is not a healthy indicator for bank and finance company in the country.

The findings of simple regression analysis between market price and DPR of the sampled companies are as follows. The regression coefficient (b) of all the sampled companies NBL, SCBL, NIBL &AFCL are positive which indicates that there exists positive relationship between market price & DPR i.e0.0125,0.0186,0.019&0.0422. If market prices increase then it leads to increase DPS by 100% and vice versa. But in case of EBL, NFCL & NMBFCL the value of 'b' is negative of 0.0575, 0.043 &-0.007, which means there exists negative relationship between market price & DPR.

The coefficient of determination (r^2) of NBL &SCBL are strong of 0.5047 &0.5627 which indicates that 50.47% &56.27% of the total variation in market price has been explained by the influence of DPR and remaining 49.53%,43.73% is due to the effect of other factor. The data of r^2 denote that the changes in MPS due to changes in DPR.

The calculated value of t-test value of NBL, SCBL, NIBL, EBL, NFCL, AFCL& NMBFCL < tabulated value of t at 0.05 level of significance and their H_o is accepted. The acceptance of H_o shows that market price and DPS are not significantly correlated. Such a situation is not a healthy indicator for bank and finance company in the country.

5.2 Conclusions:

There is not a single financial indicator that has dominated role to determine MPS, EPS. The same financial indicator that has significant role fixation MPS, EPS for one company is not significant for another company. The degree of interrelationship of MPS, EPS with different financial indicators varies from one company to another. There is uniformity in the relationship between MPS& EPS of various financial indicators of the sampled companies.

If considered on the basis of the average data for the past 5 years, EPS & MPS of 7 financial institutions & commercial banks has higher positive correlation with major financial indicators such as NWPS, DPS and DPR.

Similarly the market price, earning price and dividend price of sample companies are analyzed using mean, standard deviation and coefficient of variation. The correlation coefficient analysis has done between EPS and DPS, EPS and NWPS and between EPS and DPR. Similarly, the Regression Equation of Market price on EPS, NWPS, DPS and DPR has been analyzed by using the method of T-test. Which shows if Calculated value of t > tabulated value of t then there exists significant relationship between market prices of stock of banking sector and finance sector. Otherwise it is insignificant, which is not a healthy indicator for bank and finance companies.

5.3 Recommendations:

1. The Nepalese stock market should take some effective initiatives to control random fluctuation of EPS & MPS and establish the system of regular monitoring and evaluation of stock price.

2. The listed company's data, their performance appraisal, their conduction of work, their productivity, their commitment to NEPSE should be updated and analyzed in time and again. If any company is found in doing works against NEPSE should immediately fired from its list achieving the best result.

3. Securities Board of Nepal should be in the state of high alert for checking deregulations and violations affected by the corporate sectors, investors and other related professionals. Securities Board of Nepal being the apex body in our nation for the regulation and development of the capital market, it should initiate Research and Development Program, continuing Educational program, Training program, seminars and workshops in the interval of time.

4. Concrete steps should be undertaken to compel the public companies for the disclosure of factual information about themselves and their financial performance in proper time.

5. The public investors should not invest their shares of public companies haphazardly (randomly). They should at least analyze or get suggestions from experts about the financial position and the level of investment risk prior to taking an investment decision.

6. People in Nepal have shown the tendency to run after those companies which have been allocated higher bonus, probably at the cost of future growth and opportunities. People invest their hard money on the basis of rumors and here say that are spread in financial market rather than intuitive financial thinking. Therefore, there is need of credit rating agencies and investment banks to analyze the companies.

7. The finance companies should provide updated reports to the investors periodically, informing actual financial position of the company.

8. The ultimate objective of firm is to maximize the wealth position of its investors, which largely depends upon the proper trends of EPS, MPS, DPS, DPR and NWPS. This reality should be well imparted to the investors in order to make them rational in the field of investment which the public companies themselves should frequently launch their well-designed awareness campaigns.

Lastly, there are some recommendations to the HMG Nepal as well. In order to develop the healthy economic system in the country government should be keeping on devising and issuing rules and regulations regarding the operations of stock market, however the rules so emerging should be on the interest of the general public and the development of security market. Further to this, government should arrange to trade its securities on the floor of Nepal Stock Exchange Limited, the only organized stock market in the country, which will avail the investors wide of security options under the same roof which will strengthen the position of security market and the Nepal Stock Exchange Limited as well.

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(Annex I)

Listed of Deleted Companies from NEPSE

1. Kathmandu Pauroti Udhyog.
2. Pokhara Pauroti Udhyog.
3. Hetauda Chhala Udhyog.
4. Indreni Soyabean Udhyog.
5. Nepal Jugal Wool Public Ltd.
6. Everest Wool Ltd.
7. Balaju Yantrashala Sanitary E.Ltd.
8. The Juddha Match Factory, Birgung.
9. Balaju Yantrashala Electronic Ltd.
10. Kacho Chhala Sankalan Tatha Bitaran Sansthan.
11. Agro Nepal Ltd.
12. Nepal Track Temp Ltd.
13. White Everest Byapar Co.ltd.
14. Nepal Everest Co.ltd.
15. Nepal Wool Import and export Co.Ltd.
16. Intrade Byapar Ltd.
17. Greenhill Trading Co.Ltd.
18. Nepal Progressive Trading Co.Ltd.
19. Lumbini Trading Co.Ltd.
20. Kastmandap Trading Co.Ltd.
21. Himalayan Trading Co.Ltd.
22. Nepal Unique Trading Co.Ltd.
23. Ram Janaki Trading Co.Ltd.
24. Nepal Metal Co.Ltd.
25. Ganapati Trading Co.Ltd.

(Annex II)

Summary of Financial Indicators

S.N	Description	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	Average
1	Nabil Bank Ltd.						
	Market Per Share(MPS)	1400	1500	700	740	1000	1068
	Earning Per Share(EPS)	83.79	59.26	55.25	84.66	92.61	75.114
	Net Worth Per Share (NWPS)	251	216	233	267	301	253.6
	Dividend Per Share (DPS)	55	40	30	50	65	48
	Dividend Payout Ratio (DPR)	65.64	67.50	54.30	59.06	70.19	63.338
2.	Standard Chartered Bank (SCBL)						
	Market Per Share (MPS)	1985	2144	1575	1640	1745	1817.8
	Earning Per Share(EPS)	115.62	126.88	141.13	149.30	143.55	135.296
	Net Worth Per Share (NWPS)	298.88	327.50	363.86	403.15	399.25	358.528
	Dividend Per Share (DPS)	100	100	100	110	110	104
	Dividend Payout Ratio (DPR)	86.49	78.81	70.86	73.68	76.63	77.294
3.	Nepal Investment Bank Ltd (NIBL)						
	Market Per Share (MPS)	1401	1150	760	795	940	1009.2
	Earning Per Share(EPS)	56.68	33.18	33.59	39.56	51.70	42.342
	Net Worth Per Share (NWPS)	303.10	275.96	307.95	216.24	246.89	270.028
	Dividend Per Share (DPS)	25	0	0	20	15	12
	Dividend Payout Ratio (DPR)	46.57	0	0	50.56	29.01	25.228
4	Everest Bank Ltd (EBL)						
	Market Per Share (MPS)	995	650	405	445	680	635
	Earning Per Share(EPS)	34.84	31.56	32.91	29.90	45.58	34.958
	Net Worth Per Share (NWPS)	215.49	173.01	241.63	194.89	241.90	213.384
	Dividend Per Share	-	-	-	20	-	4

	(DPS)						
	Dividend Payout Ratio (DPR)	-	-	-	66.89	-	13.378
5.	National Finance company (NFC)						
	Market Per Share (MPS)	470	560	445	415	400	458
	Earning Per Share(EPS)	63.93	67.20	55.70	35.75	42.15	52.946
	Net Worth Per Share (NWPS)	243.67	277.43	291.79	307.51	252.83	274.646
	Dividend Per Share (DPS)	28	30	20	20	21.05	23.81
	Dividend Payout Ratio (DPR)	43.79	44.64	35.91	55.94	49.94	46.044
6.	Annarpurna Finance Company(AFC)						
	Market Per Share (MPS)	450	535	410	425	470	458
	Earning Per Share(EPS)	88.71	70.66	70	67.16	105.57	80.42
	Net Worth Per Share (NWPS)	304.17	208.26	258.06	313.22	476.40	312.022
	Dividend Per Share (DPS)	10	12	12	12	2.63	9.726
	Dividend Payout Ratio (DPR)	11.27	16.98	17.14	17.87	49.85	22.622
7.	Nepal Merchant Banking & Finance Company(NMBFC)						
	Market Per Share (MPS)	641	690	1053	1000	1235	923.8
	Earning Per Share(EPS)	14.71	15.59	14.54	15.12	21.08	16.208
	Net Worth Per Share (NWPS)	68	66	71	76	82	72.6
	Dividend Per Share (DPS)	10	12.50	10	10	15	11.5
	Dividend Payout Ratio (DPR)	67.98	80.18	68.76	66.14	71.16	71.844

Sources: Related Banks and Finance Companies Reports.

Annex III

Correlation Coefficient Analysis between EPS& DPS

1. Nabil Bank Limited:

Year	EPS(x)	DPS(y)	X^2	Y^2	XY
2007/2008	83.79	55	7020.7641	3025	4608.45
2008/2009	59.26	40	3511.7476	1600	2370.4
2009/2010	55.25	30	3052.5625	900	1657.4
2010/2011	84.66	50	7167.3156	2500	4233
2011/2012	92.61	65	8576.6121	4225	6019.65
n=5	x =375.57	Y X240	X^2 X 29329.0019	Y^2 X 12250	xy X 18889

Coefficient of Correlation,

$$r = \frac{n \quad xy \,Z \quad x \quad y}{\sqrt{n \quad x^2 Zf \quad xA^2}\sqrt{n \quad y^2 Zf \quad yA^2}} = 0.9536$$

Probable Error (P.E) $= 0.6745x\frac{1Zr^2}{\sqrt{n}} = 0.027$

2. Standard Chartered Bank Ltd.

Year	EPS(x)	DPS(y)	X^2	Y^2	XY
2007/2008	115.62	100	13367.9844	10000	11562
2008/2009	126.88	100	16098.5344	10000	12688
2009/2010	141.13	100	19917.6769	10000	14113
2010/2011	149.30	110	22290.49	12100	16423
2011/2012	143.55	110	20606.6025	12100	15790.5
n=5	x =67 6.48	Y X5 20	X^2 X92281.2 882	Y^2 X542 00	xy X705 76.5

Coefficient of Correlation,

$$r = \frac{n \quad xy \,Z \quad x \quad y}{\sqrt{n \quad x^2 Zf \quad xA^2}\sqrt{n \quad y^2 Zf \quad yA^2}} = 0.739$$

Probable Error (P.E) $= 0.6745x\frac{1Zr^2}{\sqrt{n}} = 0.137$

3. Nepal Investment Bank Ltd.

Year	EPS(x)	DPS(y)	X^2	Y^2	XY
2007/2008	53.68	25	2881.5424	625	1342
2008/2009	33.18	0	1110.9124	0	0
2009/2010	33.59	0	1128.2881	0	0
2010/2011	39.56	20	1564.9936	400	791.2
2011/2012	51.70	15	2672.89	225	775.5
n=5	x = 211.71	Y X 60	X^2 X9348.6265	Y^2 X1250	xy X 2908.7

Coefficient of Correlation,

$$r = \frac{n \quad xy \, Z \quad x \quad y}{\sqrt{n \quad x^2 \, Z f \quad x A^2} \sqrt{n \quad y^2 \, Z f \quad y A^2}} = 0.816$$

Probable Error (P.E) $= 0.6745 x \frac{1 Z r^2}{\sqrt{n}} = 0.101$

4. Everest Bank Ltd:

Year	EPS(x)	DPS(y)	X^2	Y^2	XY
2007/2008	34.84	-	1213.8256	-	-
2008/2009	31.56	-	996.0336	-	-
2009/2010	32.91	-	1083.0681	-	-
2010/2011	29.90	20	894.01	400	598
2011/2012	45.58	-	2077.5364	-	-
n=5	x =174.79	Y X20	X^2 X6264.4737	Y^2 X400	xy X5 98

Coefficient of Correlation,

$$r = \frac{n \quad xy \, Z \quad x \quad y}{\sqrt{n \quad x^2 \, Z f \quad x A^2} \sqrt{n \quad y^2 \, Z f \quad y A^2}} = -0.455$$

Probable Error (P.E) $= 0.6745 x \frac{1 Z r^2}{\sqrt{n}} = 0.239$

5. National Finance Company Ltd.

Year	EPS(x)	DPS(y)	X^2	Y^2	XY
2007/2008	63.93	28	4087.0499	784	1790
2008/2009	67.20	30	4515.84	900	2016
2009/2010	55.70	20	3102.49	400	1114
2010/2011	35.75	20	1278.0625	400	715
2011/2012	42.15	21.05	1776.6225	443.1025	887.2575
N=5	x = 264.73	Y X 119.05	X^2 X 14760.0599	Y^2 X 2927.1025	xy X 6522.2975

Coefficient of Correlation,

$$r = \frac{n \; xy \; Z \; x \; y}{\sqrt{n \; x^2 \; Z f \; xA^2} \sqrt{n \; y^2 \; Z f \; yA^2}} = 0.835$$

Probable Error (P.E) $= 0.6745 x \frac{1 Z r^2}{\sqrt{n}} = 0.091$

6. Annarpurna Finance Company Ltd.

Year	EPS(x)	DPS(y)	X^2	Y^2	XY
2007/2008	88.71	10	7869.4641	100	887.1
2008/2009	70.66	12	4992.8356	144	847.92
2009/2010	70	12	4900	144	840
2010/2011	67.16	12	4510.4656	144	805.92
2011/2012	105.57	2.63	11145.0249	6.9169	277.6491
n=5	x = 402.1	Y X 48.63	X^2 X 33417.7902	Y^2 X 538.9169	xy X 3658.5891

Coefficient of Correlation,

$$r = \frac{n \; xy \; Z \; x \; y}{\sqrt{n \; x^2 \; Z f \; xA^2} \sqrt{n \; y^2 \; Z f \; yA^2}} = -0.945$$

Probable Error (P.E) $= 0.6745 x \frac{1 Z r^2}{\sqrt{n}} = 0.032$

7. Nepal Merchant Banking & Finance Company Ltd.

Year	EPS(x)	DPS(y)	X^2	Y^2	XY
2007/2008	14.71	10	216.3841	100	147.1
2008/2009	15.59	12.50	243.0481	156.25	194.875
2009/2010	14.54	10	211.4116	100	145.4
2010/2011	15.12	10	228.6144	100	151.2
2011/2012	21.08	15	444.3664	225	316.2
2007/2008	x = 81.04	Y X 57.5	X^2 X 1343.8246	Y^2 X 681.25	xy X 954.775

Coefficient of Correlation,

$$r = \frac{n \sum xy - \sum x \sum y}{\sqrt{n \sum x^2 - (\sum x)^2}\sqrt{n \sum y^2 - (\sum y)^2}} = 0.926$$

Probable Error (P.E) $= 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.043$

Correlation Coefficient Analysis between EPS& NWPS

1. Nabil Bank Limited:

Year	EPS(x)	NWPS(y)	X^2	Y^2	XY
2007/2008	83.79	251	7020.7641	63001	21031.29
2008/2009	59.26	216	3511.7476	46656	12800.16
2009/2010	55.25	233	3052.5625	54289	12873.25
2010/2011	84.66	267	7167.3156	71289	22604.22
2011/2012	92.61	301	8576.6121	90601	27875.61
N=5	x = 375.57	Y X 1268	X^2 X 29329.0019	Y^2 X 325836	xy X 97184.53

Coefficient of Correlation,

$$r = \frac{n \sum xy - \sum x \sum y}{\sqrt{n \sum x^2 - (\sum x)^2}\sqrt{n \sum y^2 - (\sum y)^2}} = 0.888$$

Probable Error (P.E) $= 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.061$

2. Standard Chartered Bank Ltd.

Year	EPS(x)	NWPS(y)	X^2	Y^2	XY
2007/2008	115.62	298.88	13367.9844	89329.2544	34556.5056
2008/2009	126.88	327.50	16098.5344	107256.25	41553.2
2009/2010	141.13	363.86	19917.6769	132394.0996	51351.5618
2010/2011	149.30	403.15	22290.49	162529.9225	60190.295
2011/2012	143.55	399.25	20606.6025	159400.5625	57312.3375
N=5	$x =$ 676.48	Y X 1792.64	X^2 X 92281 .2882	Y^2 X 650910.089	xy X 244963.8999

Coefficient of Correlation,

$$r = \frac{n \quad xy \, Z \quad x \quad y}{\sqrt{n \quad x^2 Z f \quad x A^2} \sqrt{n \quad y^2 Z f \quad y A^2}} = 0.975$$

Probable Error (P.E) $= 0.6745 x \frac{1 Z r^2}{\sqrt{n}} = 0.014$

3. Nepal Investment Bank Ltd.

Year	EPS(x)	NWPS(y)	X^2	Y^2	XY
2007/2008	53.68	303.10	2881.5424	91869.61	16270.408
2008/2009	33.18	275.96	1110.9124	76153.9216	9156.3528
2009/2010	33.59	307.95	1128.2881	94833.2025	10344.0405
2010/2011	39.56	216.24	1564.9936	46759.7376	8554.4544
2011/2012	51.70	246.89	2672.89	60954.6721	12764.213
n=5	$x =$ 211.71	Y X 1350.14	X^2 X 9348.6265	Y^2 X 370571.1438	xy X 57089.4687

Coefficient of Correlation,

$$r = \frac{n \quad xy \, Z \quad x \quad y}{\sqrt{n \quad x^2 Z f \quad x A^2} \sqrt{n \quad y^2 Z f \quad y A^2}} = -0.051$$

Probable Error (P.E) $= 0.6745 x \frac{1 Z r^2}{\sqrt{n}} = 0.301$

4. Everest Bank Ltd:

Year	EPS(x)	NWPS(y)	X^2	Y^2	XY
2007/2008	34.84	215.49	1213.8256	46435.9401	7507.6716
2008/2009	31.56	173.01	996.0336	29932.4601	5460.1956
2009/2010	32.91	241.63	1083.0681	58385.0569	7952.0433
2010/2011	29.90	194.89	894.01	37982.1121	5827.211
2011/2012	45.58	241.90	2077.5364	58515.61	11025.802
n=5	$x =$ 174.79	Y X 1066.92	X^2 X 6264.4737	Y^2 X 231251.1792	xy X 37772.9235

Coefficient of Correlation,

$$r = \frac{n \quad xy \, Z \quad x \quad y}{\sqrt{n \quad x^2 \, Z f \quad x A^2} \sqrt{n \quad y^2 \, Z f \quad y A^2}} = 0.639$$

Probable Error (P.E) $= 0.6745 \text{x} \frac{1 Z r^2}{\sqrt{n}} = 0.178$

5. National Finance Company Ltd.

Year	EPS(x)	NWPS(y)	X^2	Y^2	XY
2007/2008	63.93	243.67	4087.0499	59375.0689	15577.8231
2008/2009	67.20	277.43	4515.84	76967.4049	18643.296
2009/2010	55.70	291.79	3102.49	85141.4041	16252.703
2010/2011	35.75	307.51	1278.0625	94562.4001	10993.4825
2011/2012	42.15	252.83	1776.6225	63923.0089	10656.7845
N=5	$x =$ 264.73	Y X 1373.23	X^2 X 14760.0599	Y^2 X 379969.2869	xy X 72124.0891

Coefficient of Correlation,

$$r = \frac{n \quad xy \, Z \quad x \quad y}{\sqrt{n \quad x^2 \, Z f \quad x A^2} \sqrt{n \quad y^2 \, Z f \quad y A^2}} = -0.403$$

Probable Error (P.E) $= 0.6745 \text{x} \frac{1 Z r^2}{\sqrt{n}} = 0.253$

6. Annarpurna Finance Company Ltd.

Year	EPS(x)	NWPS(y)	X^2	Y^2	XY
2007/2008	88.71	304.17	7869.4641	92519.3889	26982.9207
2008/2009	70.66	208.26	4992.8356	43372.2276	14715.6516
2009/2010	70	258.06	4900	66594.9636	18064.2
2010/2011	67.16	313.22	4510.4656	98106.7684	21035.8552
2011/2012	105.57	476.40	11145.0249	226956.96	50293.548
n=5	x = 402.1	Y X 560.11	X^2 X 33417.7902	Y^2 X 527550.3085	xy X 131092.1755

Coefficient of Correlation,

$$r = \frac{n \; xy - x \; y}{\sqrt{n \; x^2 - x^2}\sqrt{n \; y^2 - y^2}} = 0.848$$

Probable Error (P.E) $= 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.085$

7. Nepal Merchant Banking & Finance Company Ltd.

Year	EPS(x)	NWPS(y)	X^2	Y^2	XY
2007/2008	14.71	68	216.3841	4624	1000.28
2008/2009	15.59	66	243.0481	4356	1028.94
2009/2010	14.54	71	211.4116	5041	1032.34
2010/2011	15.12	76	228.6144	5776	1149.12
2011/2012	21.08	82	444.3664	6724	1728.56
n=5	x = 81.04	Y X 363	X^2 X 1343.8246	Y^2 X 26521	xy X 5939.24

Coefficient of Correlation,

$$r = \frac{n \; xy - x \; y}{\sqrt{n \; x^2 - x^2}\sqrt{n \; y^2 - y^2}} = 0.783$$

Probable Error (P.E) $= 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.1167$

Correlation Coefficient Analysis between EPS& DPR

1. Nabil Bank Limited:

Year	EPS(x)	DPR(y)	X^2	Y^2	XY
2007/2008	83.79	65.64	7020.7641	4308.6096	5499.9756
2008/2009	59.26	67.50	3511.7476	4556.25	4000.05
2009/2010	55.25	54.30	3052.5625	2948.49	3000.075
2010/2011	84.66	59.06	7167.3156	3488.0836	5000.0196
2011/2012	92.61	70.19	8576.6121	4926.6361	6500.2959
n=5	x = 375.57	Y X 316.69	X^2 X 29329.0019	Y^2 X 20228.0693	xy X 24000.4261

Coefficient of Correlation,

$$r = \frac{n \; xy - x \; y}{\sqrt{n \; x^2 - x^2}\sqrt{n \; y^2 - y^2}} = 0.488$$

Probable Error (P.E) $= 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.230$

2. Standard Chartered Bank Ltd.

Year	EPS(x)	DPR(y)	X^2	Y^2	XY
2007/2008	115.62	86.49	13367.9844	7480.5201	9999.9738
2008/2009	126.88	78.81	16098.5344	6211.0161	9999.4128
2009/2010	141.13	70.86	19917.6769	5021.1396	10000.4718
2010/2011	149.30	73.68	22290.49	5428.7424	11000.424
2011/2012	143.55	76.63	20606.6025	5872.1569	11000.2365
n=5	x = 676.48	Y X 386.47	X^2 X 2281 .2882	Y^2 X 30013.5751	xy X 52000.5189

Coefficient of Correlation,

$$r = \frac{n \; xy - x \; y}{\sqrt{n \; x^2 - x^2}\sqrt{n \; y^2 - y^2}} = -0.878$$

Probable Error (P.E) $= 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.069$

3. Nepal Investment Bank Ltd.

Year	EPS(x)	DPR(y)	X^2	Y^2	XY
2007/2008	53.68	46.57	2881.5424	2168.7649	2499.8776
2008/2009	33.18	0	1110.9124	0	0
2009/2010	33.59	0	1128.2881	0	0
2010/2011	39.56	50.56	1564.9936	2556.3136	2000.156
2011/2012	51.70	29.01	2672.89	841.5801	1499.817
n=5	$x =$ 211.71	Y X 126.14	X^2 X 9348.6265	Y^2 X 5566.6586	xy X 5999.8482

Coefficient of Correlation,

$$r = \frac{n \quad xy \, Z \quad x \quad y}{\sqrt{n \quad x^2 \, Z f \quad x A^2} \sqrt{n \quad y^2 \, Z f \quad y A^2}} = 0.688$$

Probable Error (P.E) $= 0.6745 x \frac{1 Z r^2}{\sqrt{n}} = 0.159$

4. Everest Bank Ltd:

Year	EPS(x)	DPR(y)	X^2	Y^2	XY
2007/2008	34.84	0	1213.8256	0	0
2008/2009	31.56	0	996.0336	0	0
2009/2010	32.91	0	1083.0681	0	0
2010/2011	29.90	66.89	894.01	4474.2721	2000.011
2011/2012	45.58	0	2077.5364	0	0
n=5	$x =$ 174.79	Y X 66.89	X^2 X 6264.4737	Y^2 X 4474.2721	xy X 2000.011

Coefficient of Correlation,

$$r = \frac{n \quad xy \, Z \quad x \quad y}{\sqrt{n \quad x^2 \, Z f \quad x A^2} \sqrt{n \quad y^2 \, Z f \quad y A^2}} = -0.455$$

Probable Error (P.E) $= 0.6745 x \frac{1 Z r^2}{\sqrt{n}} = 0.239$

5. National Finance Company Ltd.

Year	EPS(x)	DPR(y)	X^2	Y^2	XY
2007/2008	63.93	43.79	4087.0499	1917.5641	2799.4947
2008/2009	67.20	44.64	4515.84	1992.7296	2999.808
2009/2010	55.70	35.91	3102.49	1289.5281	2000.187
2010/2011	35.75	55.94	1278.0625	3129.2836	1999.855
2011/2012	42.15	49.94	1776.6225	2494.0036	2104.971
n=5	$x =$ 264.73	Y X 230.22	X^2 X 14760.0599	Y^2 X 10823.109	xy X 11904.3157

Coefficient of Correlation,

$$r = \frac{n \sum xy - \sum x \sum y}{\sqrt{n \sum x^2 - (\sum x)^2}\sqrt{n \sum y^2 - (\sum y)^2}} = -0.700$$

Probable Error (P.E) $= 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.154$

6. Annarpurna Finance Company Ltd.

Year	EPS(x)	DPR(y)	X^2	Y^2	XY
2007/2008	88.71	11.27	7869.4641	127.0129	999.7617
2008/2009	70.66	16.98	4992.8356	288.3204	1199.8068
2009/2010	70	17.14	4900	293.7796	1199.8
2010/2011	67.16	17.87	4510.4656	319.3369	1200.1492
2011/2012	105.57	49.85	11145.0249	2485.0225	5262.6645
n=5	$x = 402.1$	Y X 113.11	X^2 X 33417.7902	Y^2 X 3513.4723	xy X 9862.1822

Coefficient of Correlation,

$$r = \frac{n \sum xy - \sum x \sum y}{\sqrt{n \sum x^2 - (\sum x)^2}\sqrt{n \sum y^2 - (\sum y)^2}} = 0.754$$

Probable Error (P.E) $= 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.130$

7. Nepal Merchant Banking & Finance Company Ltd.

Year	EPS(x)	DPR(y)	X^2	Y^2	XY
2007/2008	14.71	67.98	216.3841	4621.2804	999.9858
2008/2009	15.59	80.18	243.0481	6428.8324	1250.0062
2009/2010	14.54	68.76	211.4116	4727.9376	999.77405
2010/2011	15.12	66.14	228.6144	4374.4996	1000.0368
2011/2012	21.08	71.16	444.3664	5063.7456	1500.0528
n=5	x = 81.04	Y X 354.22	X^2 X 1343.8246	Y^2 X 25216.2956	xy X 5749.852

Coefficient of Correlation,

$$r = \frac{n \quad xy \,\mathrm{Z} \quad x \quad y}{\sqrt{n \quad x^2 \,\mathrm{Z} f \quad x \text{Æ}} \sqrt{n \quad y^2 \,\mathrm{Z} f \quad y \text{Æ}}} = 0.142$$

Probable Error (P.E) $= 0.6745 \mathrm{x} \frac{1 \,\mathrm{Z} r^2}{\sqrt{n}} = 0.296$

(ANNEX IV)

Simple Correlation and Regression Analysis between Market price and various Financial Indicators by using the methods of T-test:

A. Simple Correlation and Regression Analysis between Market price and EPS

1. Nabil Bank Ltd:

Year	MPS(x)	EPS(y)	X^2	Y^2	XY
2007/2008	1400	83.79	1960000	7020.7641	117306
2008/2009	1500	59.26	2250000	3511.7476	88890
2009/2010	700	55.25	490000	3052.5625	38675
2010/2011	740	84.66	547600	7167.3156	62648.4
2011/2012	1000	92.61	1000000	8576.6121	92610
n=5	x = 5340	Y = 375.57	X^2 X 6247600	Y^2 = 29329.0019	xy X 400129.4

Coefficient of Correlation,

$$r = \frac{n \quad xy \, Z \quad x \quad y}{\sqrt{n \quad x^2 \, Z \int \quad x \AA^2} \sqrt{n \quad y^2 \, Z \int \quad y \AA^2}} = -0.04$$

Coefficient of Determination (r^2) =0.0016.

Independent variable (predictor): EPS (Say y)
Dependent variable: MPS (Say x)

Regression equation of Y on X is, Y=a + bX
Where,

a=Regression Constant
b= Regression Coefficient (Slope of the Regression Line)

According to the principles of least squares, two normal equations for estimating two numerical constants a and b are given by,

$$Y \, X na \, \Gamma b \quad X$$

$$XY \, X a \quad X \, \Gamma b \quad X^2$$

Solving these two normal equations, we get

$$b = \frac{n \quad XY \, Z \quad X \quad Y}{n \quad X^2 \, Z \int \quad X \AA^2} = -0.002$$

$$a = \overline{Y} - b \, \overline{X} = 77.27$$

T-test= $\frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$ = |0.075|

Here, calculated value of t (|0.075|) < tabulated value of t (3.182). It is insignificant and here H_o is accepted.

2. Standard Chartered Bank Ltd:

Year	MPS(x)	EPS(y)	X^2	Y^2	XY
2007/2008	1985	115.62	3940225	13367.9844	229505.7
2008/2009	2144	126.88	45926736	16098.5344	272030.72
2009/2010	1575	141.13	2780625	19917.6769	222279.75
2010/2011	1640	149.30	2689600	22290.49	244852
2011/2012	1745	143.55	3045025	20606.6025	250494.75
N=5	x = 9089	Y = 676.48	X^2 = 16752211	Y^2 = 92281.2882	xy = 1219162.92

Coefficient of Correlation,

r = $\frac{n\ xy - x\ y}{\sqrt{n\ x^2 - x^2}\sqrt{n\ y^2 - y^2}}$ = -0.80

Coefficient of Determination (r^2) =0.64.

Independent variable (predictor): EPS (Say y)
Dependent variable: MPS (Say x)

Regression equation of Y on X is, Y=a + bX
Where,

a=Regression Constant
b= Regression Coefficient (Slope of the Regression Line)

According to the principles of least squares, two normal equations for estimating two numerical constants a and b are given by,

$Y = na + b\ X$

$XY = a\ X + b\ X^2$

Solving these two normal equations, we get

b= $\frac{n\ XY - X\ Y}{n\ X^2 - X^2}$ = -0.046

a= $\bar{Y}$ -b $\bar{X}$ =218.91

t-test= $\frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$ = |2.32|

Here, calculated value of t (|2.32|) < tabulated value of t (3.182). It is insignificant and here H_o is accepted.

3. Nepal Investment Bank Ltd:

Year	MPS(x)	EPS(y)	X^2	Y^2	XY
2007/2008	1401	53.68	1962801	2881.5424	75205.68
2008/2009	1150	33.18	1322500	1100.9124	38157
2009/2010	760	33.59	576600	1128.2881	25528.4
2010/2011	795	39.56	632025	1564.9936	31450.2
2011/2012	940	51.70	883600	2672.89	48598
N=5	x =5046	Y = 211.71	X^2 = 5378526	Y^2 = 9348.6265	xy = 218939.28

Coefficient of Correlation,

r = $\frac{n\ xy - x\ y}{\sqrt{n\ x^2 - (x)^2}\sqrt{n\ y^2 - (y)^2}}$ = 0.504

Coefficient of Determination (r^2) =0.254.

Independent variable (predictor): EPS (Say y)
Dependent variable: MPS (Say x)

Regression equation of Y on X is, Y=a + bX
Where,

a=Regression Constant
b= Regression Coefficient (Slope of the Regression Line)

According to the principles of least squares, two normal equations for estimating two numerical constants a and b are given by,

$Y = na + b\ X$

$XY = a\ X + b\ X^2$

Solving these two normal equations, we get

b= $\frac{n\ XY - X\ Y}{n\ X^2 - (X)^2}$ = 0.018

a= $\bar{Y}$ -b $\bar{X}$ =24.1764

t-test= $\frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$ = |1.010|

Here, calculated value of t (|1.010|) < tabulated value of t (3.182). It is insignificant and here H_o is accepted.

4. Everest Bank Ltd.

Year	MPS(x)	EPS(y)	X^2	Y^2	XY
2007/2008	995	34.84	990025	1213.8256	34665.8
2008/2009	650	31.56	422500	996.0336	20514
2009/2010	405	32.91	164025	1083.0681	13328.55
2010/2011	445	29.90	198025	894.01	13305.5
2011/2012	680	45.58	462400	2077.5364	30994.4
N=5	x = 3175	Y = 174.79	X^2 = 2236975	Y^2 = 6264.4737	xy = 112808.25

Coefficient of Correlation,

r = $\frac{n\ xy - x\ y}{\sqrt{n\ x^2 - x^2}\sqrt{n\ y^2 - y^2}}$ = 0.311

Coefficient of Determination (r^2) =0.097.

Independent variable (predictor): EPS (Say y)
Dependent variable: MPS (Say x)

Regression equation of Y on X is, Y=a + bX
Where,

a=Regression Constant
b= Regression Coefficient (Slope of the Regression Line)

According to the principles of least squares, two normal equations for estimating two numerical constants a and b are given by,

$Y = na + b\ X$

$XY = a\ X + b\ X^2$

Solving these two normal equations, we get

b= $\frac{n\ XY - X\ Y}{n\ X^2 - X^2}$ = 0.0082

a= $\bar{Y}$ -b $\bar{X}$ =29.751

t-test= $\frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$ = |0.5668|

Here, calculated value of t (|0.5668|) < tabulated value of t (3.182). It is insignificant and here H_o is accepted.

5. National Finance Company Ltd:

Year	MPS(x)	EPS(y)	X^2	Y^2	XY
2007/2008	470	63.93	220900	4087.0449	30047.1
2008/2009	560	67.20	313600	4515.84	37632
2009/2010	445	55.70	198025	3102.49	24786.5
2010/2011	415	33.75	172225	1278.0625	14836.25
2011/2012	400	42.15	160000	1776.6225	16860
N=5	x = 2290	Y = 264.73	X^2 1064750	Y^2 14760.0599	xy 124161.85

Coefficient of Correlation,

r = $\frac{n\ xy - x\ y}{\sqrt{n\ x^2 - x^2}\sqrt{n\ y^2 - y^2}}$ = 0.847

Coefficient of Determination (r^2) =0.7174.

Independent variable (predictor): EPS (Say y)
Dependent variable: MPS (Say x)

Regression equation of Y on X is, Y=a + bX
Where,

a=Regression Constant
b= Regression Coefficient (Slope of the Regression Line)

According to the principles of least squares, two normal equations for estimating two numerical constants a and b are given by,

$Y = na + b\ X$

$XY = a\ X + b\ X^2$

Solving these two normal equations, we get

b= $\frac{n\ XY - X\ Y}{n\ X^2 - X^2}$ = 0.183

a= $\bar{Y}$ -b $\bar{X}$ =-30.87

t-test= $\frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$ = |2.76|

Here, calculated value of t (|2.76|) < tabulated value of t (3.182). It is insignificant and here H_o is accepted.

6. Annarpurna Finance Company:

Year	MPS(x)	EPS(y)	X^2	Y^2	XY
2007/2008	450	88.71	202500	7869.4641	39919.5
2008/2009	535	70.66	286225	4900.8356	37803.1
2009/2010	410	70	168100	4900	28700
2010/2011	425	67.16	180625	4510.4656	28543
2011/2012	470	105.57	220900	11145.0249	49617.9
N=5	$X =$ 2290	$Y =$ 402.1	X^2 1058350	Y^2 33417.7902	xy 184583.5

Coefficient of Correlation,

r = $\frac{n\ xy - x\ y}{\sqrt{n\ x^2 - x^2}\sqrt{n\ y^2 - y^2}}$ =0.1314

Coefficient of Determination (r^2) =0.1113.

Independent variable (predictor): EPS (Say y)
Dependent variable: MPS (Say x)

Regression equation of Y on X is, Y=a + bX
Where,

a=Regression Constant
b= Regression Coefficient (Slope of the Regression Line)

According to the principles of least squares, two normal equations for estimating two numerical constants a and b are given by,

$Y = na + b\ X$

$XY = a\ X + b\ X^2$

Solving these two normal equations, we get

b= $\frac{n\ XY - X\ Y}{n\ X^2 - X^2}$ = 0.044

a= $\bar{Y}$ -b $\bar{X}$ =60.268

t-test= $\frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$ = |0.230|

Here, calculated value of t (|0.230|) < tabulated value of t (3.182). It is insignificant and here H_o is accepted.

7. Nepal Merchant Banking & Finance Company Ltd:

Year	MPS(x)	EPS(y)	X^2	Y^2	XY
2007/2008	641	14.71	410881	216.3841	9429.11
2008/2009	690	15.59	476100	243.0481	10757.1
2009/2010	1053	14.54	1108809	211.4116	15310.62
2010/2011	1000	15.12	1000000	228.6144	15120
2011/2012	1235	21.08	1525225	444.3664	26033.8
n=5	X = 4619	Y = 81.04	X^2 X 4521015	Y^2 X 1343.8246	xy X 76650.63

Coefficient of Correlation,

$$r = \frac{n \quad xy\,Z \quad x \quad y}{\sqrt{n \quad x^2\,Z\int \quad x\AA^2}\sqrt{n \quad y^2\,Z\int \quad y\AA^2}} = 0.627$$

Coefficient of Determination (r^2) =0.393.

Independent variable (predictor): EPS (Say y)
Dependent variable: MPS (Say x)

Regression equation of Y on X is, Y=a + bX
Where,

a=Regression Constant
b= Regression Coefficient (Slope of the Regression Line)

According to the principles of least squares, two normal equations for estimating two numerical constants a and b are given by,

$$Y\ \mathrm{X} na\,\Gamma b \quad X$$

$$XY\ \mathrm{X} a \quad X\,\Gamma b \quad X^2$$

Solving these two normal equations, we get

$$b = \frac{n \quad XY\,\mathrm{Z} \quad X \quad Y}{n \quad X^2\,\mathrm{Z}\int \quad X\AA^2} = 0.0068$$

$$a = \overline{Y} - b\,\overline{X} = 9.936$$

$$\text{t-test} = \frac{r\sqrt{n\,\mathrm{Z}2}}{\sqrt{1\,\mathrm{Z}\int r\AA^2}} = |1.394|$$

Here, calculated value of t (|1.394|) < tabulated value of t (3.182). It is insignificant and here H_o is accepted.

B.Simple Correlation and Regression Analysis between Market price and NWPS:

1. Nabil Bank Ltd:

Year	MPS(x)	NWPS(y)	X^2	Y^2	XY
2007/2008	1400	251	1960000	63001	351400
2008/2009	1500	216	2250000	46656	324000
2009/2010	700	233	490000	54289	163100
2010/2011	740	267	547600	71289	197580
2011/2012	1000	301	1000000	90601	301000
N=5	x = 5340	Y X 1268	X^2 X 6247600	Y^2 X 325836	xy X 1337080

Coefficient of Correlation,

$$r = \frac{n \quad xy\,Z \quad x \quad y}{\sqrt{n \quad x^2\,Zf \quad xA^2}\sqrt{n \quad y^2\,Zf \quad yA^2}} = -0.355$$

Coefficient of Determination (r^2) =0.1260.

Independent variable (predictor): EPS (Say y)
Dependent variable: MPS (Say x)

Regression equation of Y on X is, Y=a + bX
Where,

a=Regression Constant
b= Regression Coefficient (Slope of the Regression Line)

According to the principles of least squares, two normal equations for estimating two numerical constants a and b are given by,

$$Y\,Xna\,\Gamma b \quad X$$

$$XY\,Xa \quad X\,\Gamma b \quad X^2$$

Solving these two normal equations, we get

$$b = \frac{n \quad XY\,Z \quad X \quad Y}{n \quad X^2\,Zf \quad XA^2} = -0.031$$

$a = \overline{Y} - b\,\overline{X} = 220.492$

t-test= $\frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$ = |0.658|

Here, calculated value of t (|0.658|) < tabulated value of t (3.182). It is insignificant and here H_o is accepted.

2. Standard Chartered Bank Ltd.

Year	MPS(x)	NWPS(y)	X^2	Y^2	XY
2007/2008	1985	298.88	3940225	89329.2544	593276.8
2008/2009	2144	327.50	45926736	107256.25	702160
2009/2010	1575	363.86	2780625	132394.0996	573079.5
2010/2011	1640	403.15	2689600	162529.9225	661166
2011/2012	1745	399.25	3045025	159400.5625	696691.25
n=5	x = 9089	Y X 1792.64	X^2 X 16752211	Y^2 X 650910.089	xy X 3226373.55

Coefficient of Correlation,

r = $\frac{n\ xy - x\ y}{\sqrt{n\ x^2 - x^2}\sqrt{n\ y^2 - y^2}}$ =-0.743

Coefficient of Determination (r^2) =0.5520

Independent variable (predictor): EPS (Say y)
Dependent variable: MPS (Say x)

Regression equation of Y on X is, Y=a + bX
Where,

a=Regression Constant
b= Regression Coefficient (Slope of the Regression Line)

According to the principles of least squares, two normal equations for estimating two numerical constants a and b are given by,

$Y = na + b\ X$

$XY = a\ X + b\ X^2$

Solving these two normal equations, we get

b= $\frac{n\ XY - X\ Y}{n\ X^2 - X^2}$ = -0.140

a= $\bar{Y}$ -b $\bar{X}$ =104.036

t-test= $\frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$ = |1.924|

Here, calculated value of t (|1.924|) < tabulated value of t (3.182). It is insignificant and here H_o is accepted.

3. 3. Nepal Investment Bank Ltd.

Year	MPS(x)	NWPS (y)	X^2	Y^2	XY
2007/2008	1401	303.10	1962801	91869.61	424643.1
2008/2009	1150	275.96	1322500	76153.9216	317354
2009/2010	760	307.95	576600	94833.2025	234042
2010/2011	795	216.24	632025	46759.7376	171910.8
2011/2012	940	246.89	883600	60954.6721	232076.6
N=5	x = 5046	Y X 1350.14	X^2 X 5378526	Y^2 X 370571.1438	XY X 1380026.5

Coefficient of Correlation,

r = $\frac{n \quad xy - \quad x \quad y}{\sqrt{n \quad x^2 - \quad x}\sqrt{n \quad y^2 - \quad y}}$ = 0.422

Coefficient of Determination (r^2) =0.1781.

Independent variable (predictor): EPS (Say y)
Dependent variable: MPS (Say x)

Regression equation of Y on X is, Y=a + bX
Where,

a=Regression Constant
b= Regression Coefficient (Slope of the Regression Line)

According to the principles of least squares, two normal equations for estimating two numerical constants a and b are given by,

$Y = na + b \quad X$

$XY = a \quad X + b \quad X^2$

Solving these two normal equations, we get

b= $\frac{n \quad XY - \quad X \quad Y}{n \quad X^2 - \quad X}$ = 0.061

a= $\bar{Y}$ -b $\bar{X}$ =208.47

t-test= $\frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$ = |0.806|

Here, calculated value of t (|0.806|) < tabulated value of t (3.182). It is insignificant and here H_o is accepted.

4. Everest Bank Ltd:

Year	MPS(x)	NWPS(y)	X^2	Y^2	XY
2007/2008	995	215.49	990025	46435.9401	214412.55
2008/2009	650	173.01	422500	29932.4601	112456.5
2009/2010	405	241.63	164025	58385.0569	97860.15
2010/2011	445	194.89	198025	37982.1121	86726.05
2011/2012	680	241.90	462400	58515.61	164492
N=5	x =	Y	X^2	Y^2	xy
	3175	1066.92	2236975	231251.1792	675947.25

Coefficient of Correlation,

r = $\frac{n\ xy - x\ y}{\sqrt{n\ x^2 - x^2}\sqrt{n\ y^2 - y^2}}$ = -0.055

Coefficient of Determination (r^2) =0.0030.

Independent variable (predictor): EPS (Say y)
Dependent variable: MPS (Say x)

Regression equation of Y on X is, Y=a + bX
Where,

a=Regression Constant
b= Regression Coefficient (Slope of the Regression Line)

According to the principles of least squares, two normal equations for estimating two numerical constants a and b are given by,

$Y = na + b\ X$

$XY = a\ X + b\ X^2$

Solving these two normal equations, we get

b= $\frac{n\ XY - X\ Y}{n\ X^2 - X^2}$ = -0.007

a= $\bar{Y}$ -b $\bar{X}$ =217.829

t-test= $\frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$ = |0.095|

Here, calculated value of t (|0.095|) < tabulated value of t (3.182). It is insignificant and here H_o is accepted.

5. National Finance Company Ltd.

Year	MPS(x)	NWPS(y)	X^2	Y^2	XY
2007/2008	470	243.67	220900	59375.0689	114524.9
2008/2009	560	277.43	313600	76967.4049	155360.8
2009/2010	445	291.79	198025	85141.4041	129846.55
2010/2011	415	307.51	172225	94562.4001	127616.65
2011/2012	400	252.83	160000	63923.0089	101132
N=5	x = 2290	Y = 1373.23	X^2 = 1064750	Y^2 = 379969.2869	xy = 628480.9

Coefficient of Correlation,

r = $\frac{n\ xy - x\ y}{\sqrt{n\ x^2 - x^2}\sqrt{n\ y^2 - y^2}}$ = -0.068

Coefficient of Determination (r^2) =0.0046.

Independent variable (predictor): EPS (Say y)
Dependent variable: MPS (Say x)

Regression equation of Y on X is, Y=a + bX
Where,

a=Regression Constant
b= Regression Coefficient (Slope of the Regression Line)

According to the principles of least squares, two normal equations for estimating two numerical constants a and b are given by,

$Y = na + b\ X$

$XY = a\ X + b\ X^2$

Solving these two normal equations, we get

b= $\frac{n\ XY - X\ Y}{n\ X^2 - X^2}$ = -0.029

a= $\bar{Y}$ -b $\bar{X}$ =287.928

t-test= $\frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$ = |0.118|

Here, calculated value of t (|0.118|) < tabulated value of t (3.182). It is insignificant and here H_o is accepted.

6. Annarpurna Finance Company Ltd.

Year	MPS(x)	NWPS(y)	X^2	Y^2	XY
2007/2008	450	304.17	202500	92519.3889	136876.5
2008/2009	535	208.26	286225	43372.2276	111419.1
2009/2010	410	258.06	168100	66594.9636	105804.6
2010/2011	425	313.22	180625	98106.7684	133118.5
2011/2012	470	476.40	220900	226956.96	223908
N=5	x = 2290	Y = 1560.11	X^2 = 1058350	Y^2 = 527550.3085	xy = 711126.7

Coefficient of Correlation,

r = $\frac{n\ xy - x\ y}{\sqrt{n\ x^2 - x^2}\sqrt{n\ y^2 - y^2}}$ = -0.1727

Coefficient of Determination (r^2) =0.0230

Independent variable (predictor): EPS (Say y)
Dependent variable: MPS (Say x)

Regression equation of Y on X is, Y=a + bX
Where,

a=Regression Constant
b= Regression Coefficient (Slope of the Regression Line)

According to the principles of least squares, two normal equations for estimating two numerical constants a and b are given by,

$Y = na + b\ X$

$XY = a\ X + b\ X^2$

Solving these two normal equations, we get

b= $\frac{n\ XY - X\ Y}{n\ X^2 - X^2}$ = -0.357

a= $\bar{Y}$ -b $\bar{X}$ =475.528

t-test= $\frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$ = |0.304|

Here, calculated value of t (|0.304|) < tabulated value of t (3.182). It is insignificant and here H_o is accepted.

7. Nepal Merchant Banking & Finance Company Ltd.

Year	MPS(x)	NWPS(y)	X^2	Y^2	XY
2007/2008	641	68	410881	4624	43588
2008/2009	690	66	476100	4356	45540
2009/2010	1053	71	1108809	5041	74763
2010/2011	1000	76	1000000	5776	76000
2011/2012	1235	82	1525225	6724	101270
N=5	x = 4619	Y X 363	X^2 X 4521015	Y^2 X 26521	xy X 341161

Coefficient of Correlation,

$$r = \frac{n \quad xy \,\mathrm{Z} \quad x \quad y}{\sqrt{n \quad x^2 \,\mathrm{Z} f \quad x \mathrm{A}^2}\sqrt{n \quad y^2 \,\mathrm{Z} f \quad y \mathrm{A}^2}} = 0.893$$

Coefficient of Determination (r^2) =0.7974.

Independent variable (predictor): EPS (Say y)
Dependent variable: MPS (Say x)

Regression equation of Y on X is, Y=a + bX
Where,

a=Regression Constant
b= Regression Coefficient (Slope of the Regression Line)

According to the principles of least squares, two normal equations for estimating two numerical constants a and b are given by,

$$Y \,\mathrm{X} na \,\Gamma b \quad X$$

$$XY \,\mathrm{X} a \quad X \,\Gamma b \quad X^2$$

Solving these two normal equations, we get

$$b = \frac{n \quad XY \,\mathrm{Z} \quad X \quad Y}{n \quad X^2 \,\mathrm{Z} f \quad X \mathrm{A}^2} = 0.229$$

$$a = \overline{Y} - b\,\overline{X} = -138.95$$

$$\text{t-test} = \frac{r\sqrt{n \,\mathrm{Z} 2}}{\sqrt{1 \,\mathrm{Z} f r \mathrm{A}^2}} = |3.347|$$

Here, calculated value of t (|3.347|) > tabulated value of t (3.182). It is significant and here H_1 is accepted.

C. Simple Correlation and Regression Analysis between Market price and DPS

1. Nabil Bank Ltd:

Year	MPS(x)	DPS(y)	X^2	Y^2	XY
2007/2008	1400	55	1960000	3025	77000
2008/2009	1500	40	2250000	1600	60000
2009/2010	700	30	490000	900	21000
2010/2011	740	50	547600	2500	37000
2011/2012	1000	65	1000000	4225	65000
N=5	x = 5340	Y = 240	X^2 6247600	xy 12250	260000

Coefficient of Correlation,

$$r = \frac{n \quad xy - \quad x \quad y}{\sqrt{n \quad x^2 - \quad x}\sqrt{n \quad y^2 - \quad y}} = 0.1846$$

Coefficient of Determination (r^2) =0.034.

Independent variable (predictor): EPS (Say y)
Dependent variable: MPS (Say x)

Regression equation of Y on X is, Y=a + bX
Where,

a=Regression Constant
b= Regression Coefficient (Slope of the Regression Line)

According to the principles of least squares, two normal equations for estimating two numerical constants a and b are given by,

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

$$XY = a \quad X + b \quad X^2$$

Solving these two normal equations, we get

$$b = \frac{n \quad XY - \quad X \quad Y}{n \quad X^2 - \quad X} = 0.007$$

$$a = \bar{Y} - b\,\bar{X} = 40.524$$

$$\text{t-test} = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}} = |0.3253|$$

Here, calculated value of t (|0.3253|) < tabulated value of t (3.182). It is insignificant and here H_o is accepted.

2. Standard Chartered Bank Ltd.

Year	MPS(x)	DPS(y)	X^2	Y^2	XY
2007/2008	1985	100	3940225	10000	198500
2008/2009	2144	100	45926736	10000	214400
2009/2010	1575	100	2780625	10000	157500
2010/2011	1640	110	2689600	12100	180400
2011/2012	1745	110	3045025	12100	191950
N=5	x = 9089	Y X 520	X^2 X 16752211	Y^2 X 54200	xy X 942750

Coefficient of Correlation,

$$r = \frac{n \quad xy \,\mathrm{Z} \quad x \quad y}{\sqrt{n \quad x^2 \,\mathrm{Z} f \quad x \mathrm{A}^2}\sqrt{n \quad y^2 \,\mathrm{Z} f \quad y \mathrm{A}^2}} = -0.477$$

Coefficient of Determination (r^2) =0.228

Independent variable (predictor): EPS (Say y)
Dependent variable: MPS (Say x)

Regression equation of Y on X is, Y=a + bX
Where,

a=Regression Constant
b= Regression Coefficient (Slope of the Regression Line)

According to the principles of least squares, two normal equations for estimating two numerical constants a and b are given by,

$$Y \,\mathrm{X} na \,\Gamma b \quad X$$

$$XY \,\mathrm{X} a \quad X \,\Gamma b \quad X^2$$

Solving these two normal equations, we get

$$b = \frac{n \quad XY \,\mathrm{Z} \quad X \quad Y}{n \quad X^2 \,\mathrm{Z} f \quad X \mathrm{A}^2} = 0.0109$$

$$a = \bar{Y} - b\,\bar{X} = 123.814$$

$$\text{t-test} = \frac{r\sqrt{n \,\mathrm{Z} 2}}{\sqrt{1 \,\mathrm{Z} f r \mathrm{A}^2}} = |0.940|$$

Here, calculated value of t (|0.940|) < tabulated value of t (3.182). It is insignificant and here H_o is accepted.

3. Nepal Investment Bank Ltd.

Year	MPS(x)	DPS(y)	X^2	Y^2	XY
2007/2008	1401	25	1962801	625	35025
2008/2009	1150	0	1322500	0	0
2009/2010	760	0	576600	0	0
2010/2011	795	20	632025	400	15900
2011/2012	940	15	883600	225	14100
N=5	x = 5046	Y X	X^2 X 5378526	Y^2 X 1250	XY X 65025

Coefficient of Correlation,

$$r = \frac{n \quad xy \,\mathrm{Z} \quad x \quad y}{\sqrt{n \quad x^2 \,\mathrm{Z} f \quad x \mathrm{A}^2}\sqrt{n \quad y^2 \,\mathrm{Z} f \quad y \mathrm{A}^2}} = 0.363$$

Coefficient of Determination (r^2) =0.1318.

Independent variable (predictor): EPS (Say y)
Dependent variable: MPS (Say x)

Regression equation of Y on X is, Y=a + bX
Where,

a=Regression Constant
b= Regression Coefficient (Slope of the Regression Line)

According to the principles of least squares, two normal equations for estimating two numerical constants a and b are given by,

$$Y \,\mathrm{X} na \,\Gamma b \quad X$$

$$XY \,\mathrm{X} a \quad X \,\Gamma b \quad X^2$$

Solving these two normal equations, we get

$$b = \frac{n \quad XY \,\mathrm{Z} \quad X \quad Y}{n \quad X^2 \,\mathrm{Z} f \quad X \mathrm{A}^2} = 0.016$$

$$a = \overline{Y} - b\,\overline{X} = -4.1472$$

$$\text{t-test} = \frac{r\sqrt{n \,\mathrm{Z} 2}}{\sqrt{1 \,\mathrm{Z} f r \mathrm{A}^2}} = |0.6747|$$

Here, calculated value of t (|0.6747|) < tabulated value of t (3.182). It is insignificant and here H_o is accepted.

4. Everest Bank Ltd:

Year	MPS(x)	DPS(y)	X^2	Y^2	XY
2007/2008	995	-	990025	-	-
2008/2009	650	-	422500	-	-
2009/2010	405	-	164025	-	-
2010/2011	445	20	198025	400	8900
2011/2012	680	-	462400	-	-
N=5	x = 3175	Y X 20	X^2 X 2236975	Y^2 X 400	xy X 8900

Coefficient of Correlation,

$$r = \frac{n \quad xy\,Z \quad x \quad y}{\sqrt{n \quad x^2\,Zf \quad xA^2}\sqrt{n \quad y^2\,Zf \quad yA^2}} = -0.452$$

Coefficient of Determination (r^2) =0.2043.

Independent variable (predictor): EPS (Say y)
Dependent variable: MPS (Say x)

Regression equation of Y on X is, Y=a + bX
Where,

a=Regression Constant
b= Regression Coefficient (Slope of the Regression Line)

According to the principles of least squares, two normal equations for estimating two numerical constants a and b are given by,

$$Y\,Xna\,\Gamma b \quad X$$

$$XY\,Xa \quad X\,\Gamma b \quad X^2$$

Solving these two normal equations, we get

$$b = \frac{n \quad XY\,Z \quad X \quad Y}{n \quad X^2\,Zf \quad XA^2} = -0.0172$$

$$a = \overline{Y} - b\,\overline{X} = 14.922$$

$$\text{t-test} = \frac{r\sqrt{n\,Z2}}{\sqrt{1\,Zfr A^2}} = |0.878|$$

Here, calculated value of t (|0.878|) < tabulated value of t (3.182). It is insignificant and here H_o is accepted.

5. National Finance Company Ltd.

Year	MPS(x)	DPS(y)	X^2	Y^2	XY
2007/2008	470	28	220900	784	13160
2008/2009	560	30	313600	900	16800
2009/2010	445	20	198025	400	8900
2010/2011	415	20	172225	400	8300
2011/2012	400	21.05	160000	443.1025	8420
N=5	x = 2290	Y X 119.05	X^2 X 1064750	Y^2 X 2927.1025	xy X 55580

Coefficient of Correlation,

$$r = \frac{n \quad xy \,Z \quad x \quad y}{\sqrt{n \quad x^2 Zf \quad xA^2}\sqrt{n \quad y^2 Zf \quad yA^2}} = 0.869$$

Coefficient of Determination (r^2) =0.7552

Independent variable (predictor): EPS (Say y)
Dependent variable: MPS (Say x)

Regression equation of Y on X is, Y=a + bX
Where,

a=Regression Constant
b= Regression Coefficient (Slope of the Regression Line)

According to the principles of least squares, two normal equations for estimating two numerical constants a and b are given by,

$$Y \,Xna \,\Gamma b \quad X$$

$$XY \,Xa \quad X \,\Gamma b \quad X^2$$

Solving these two normal equations, we get

$$b = \frac{n \quad XY \,Z \quad X \quad Y}{n \quad X^2 Zf \quad XA^2} = 0.066$$

$$a = \overline{Y} - b\,\overline{X} = -6.418$$

$$\text{t-test} = \frac{r\sqrt{n \,Z\, 2}}{\sqrt{1 \,Z\, fr^2 A}} = |3.042|$$

Here, calculated value of t (|3.042|) < tabulated value of t (3.182). It is insignificant and here H_o is accepted.

6. . Annarpurna Finance Company Ltd.

Year	MPS(x)	DPS(y)	X^2	Y^2	XY
2007/2008	450	10	202500	100	4500
2008/2009	535	12	286225	144	6420
2009/2010	410	12	168100	144	4920
2010/2011	425	12	180625	144	5100
2011/2012	470	2.63	220900	6.9169	1236.1
N=5	$x =$ 2290	Y X 48.63	X^2 X 1058350	Y^2 X 538.9169	xy X 22176.1

Coefficient of Correlation,

$$r = \frac{n \quad xy \,Z \quad x \quad y}{\sqrt{n \quad x^2 Zf \quad xA^2}\sqrt{n \quad y^2 Zf \quad yA^2}} = -0.122$$

Coefficient of Determination (r^2) =0.0149

Independent variable (predictor): EPS (Say y)
Dependent variable: MPS (Say x)

Regression equation of Y on X is, Y=a + bX
Where,

a=Regression Constant
b= Regression Coefficient (Slope of the Regression Line)

According to the principles of least squares, two normal equations for estimating two numerical constants a and b are given by,

$$Y \,Xna \,\Gamma b \quad X$$

$$XY \,Xa \quad X \,\Gamma b \quad X^2$$

Solving these two normal equations, we get

$$b = \frac{n \quad XY \,Z \quad X \quad Y}{n \quad X^2 Zf \quad XA^2} = -0.0101$$

$$a = \overline{Y} - b\,\overline{X} = 14.3518$$

$$\text{t-test} = \frac{r\sqrt{n \,Z 2}}{\sqrt{1 \,Z fr^2}} = |0.2129|$$

Here, calculated value of t (|0.2129|) < tabulated value of t (3.182). It is insignificant and here H_o is accepted.

7. Nepal Merchant Banking & Finance Company Ltd.

Year	MPS(x)	DPS(y)	X^2	Y^2	XY
2007/2008	641	10	410881	100	64100
2008/2009	690	12.50	476100	156.25	8625
2009/2010	1053	10	1108809	100	10530
2010/2011	1000	10	1000000	100	10000
2011/2012	1235	15	1525225	225	18525
n=5	x = 4619	Y X 57.5	X^2 X 4521015	Y^2 X 681.25	xy X 54090

Coefficient of Correlation,

$$r = \frac{n \quad xy \,Z \quad x \quad y}{\sqrt{n \quad x^2 \,Z f \quad x A^2}\sqrt{n \quad y^2 \,Z f \quad y A^2}} = 0.4310$$

Coefficient of Determination (r^2) =0.1858.

Independent variable (predictor): EPS (Say y)
Dependent variable: MPS (Say x)

Regression equation of Y on X is, Y=a + bX
Where,

a=Regression Constant
b= Regression Coefficient (Slope of the Regression Line)

According to the principles of least squares, two normal equations for estimating two numerical constants a and b are given by,

$$Y \,X na \,\Gamma b \quad X$$

$$XY \,X a \quad X \,\Gamma b \quad X^2$$

Solving these two normal equations, we get

$$b = \frac{n \quad XY \,Z \quad X \quad Y}{n \quad X^2 \,Z f \quad X A^2} = 0.0038$$

$$a = \overline{Y} - b\,\overline{X} = 7.990$$

$$\text{t-test} = \frac{r\sqrt{n \,Z 2}}{\sqrt{1 \,Z f r A^2}} = |0.8273|$$

Here, calculated value of t (|0.8273|) < tabulated value of t (3.182). It is significant and here H_o is accepted.

D. **Simple Correlation and Regression Analysis between Market price and DPR**

1. Nabil Bank Ltd:

Year	MPS(x)	DPR(y)	X^2	Y^2	XY
2007/2008	1400	65.64	1960000	4308.6096	91896
2008/2009	1500	67.50	2250000	4556.25	101250
2009/2010	700	54.30	490000	2948.49	38010
2010/2011	740	59.06	547600	3488.0836	43704.4
2011/2012	1000	70.19	1000000	4926.6361	70190
n=5	x = 5340	Y = 316.69	X^2 X 6247600	Y^2 X 20228.0693	xy X 345050.4

Coefficient of Correlation,

$$r = \frac{n \quad xy \,Z \quad x \quad y}{\sqrt{n \quad x^2 Zf \quad xA^2}\sqrt{n \quad y^2 Zf \quad yA^2}} = 0.71.4$$

Coefficient of Determination (r^2) =0.5047.

Independent variable (predictor): EPS (Say y)
Dependent variable: MPS (Say x)

Regression equation of Y on X is, Y=a + bX
Where,

a=Regression Constant
b= Regression Coefficient (Slope of the Regression Line)

According to the principles of least squares, two normal equations for estimating two numerical constants a and b are given by,

$$Y \,Xna \,\Gamma b \quad X$$

$$XY \,Xa \quad X \,\Gamma b \quad X^2$$

Solving these two normal equations, we get

$$b = \frac{n \quad XY \,Z \quad X \quad Y}{n \quad X^2 Zf \quad XA^2} = 0.0125$$

$$a = \overline{Y} - b\,\overline{X} = 49.988$$

$$\text{t-test} = \frac{r\sqrt{n \,Z 2}}{\sqrt{1 \,Z fr A^2}} = |1.7482|$$

Here, calculated value of t (|1.7482|) < tabulated value of t (3.182). It is insignificant and here H_o is accepted.

2. Standard Chartered Bank Ltd.

Year	MPS(x)	DPR(y)	X^2	Y^2	XY
2007/2008	1985	86.49	3940225	7480.5201	171682.65
2008/2009	2144	78.81	45926736	6211.0161	168968.64
2009/2010	1575	70.86	2780625	5021.1396	111604.5
2010/2011	1640	73.68	2689600	5428.7424	120835.2
2011/2012	1745	76.63	3045025	5872.1569	133719.35
N=5	$\sum x=$ 9089	$\sum Y=$ 386.47	$\sum X^2=$ 16752211	$\sum Y^2=$ 30013.5751	$\sum xy=$ 706810.34

Coefficient of Correlation,

$$r = \frac{n\sum xy - \sum x \sum y}{\sqrt{n\sum x^2 - (\sum x)^2}\sqrt{n\sum y^2 - (\sum y)^2}} = 0.7501$$

Coefficient of Determination (r^2) =0.5627

Independent variable (predictor): EPS (Say y)
Dependent variable: MPS (Say x)

Regression equation of Y on X is, Y=a + bX
Where,
a=Regression Constant
b= Regression Coefficient (Slope of the Regression Line)

According to the principles of least squares, two normal equations for estimating two numerical constants a and b are given by,

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

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

Solving these two normal equations, we get

$$b = \frac{n\sum XY - \sum X \sum Y}{n\sum X^2 - (\sum X)^2} = 0.0186$$

$$a = \overline{Y} - b\overline{X} = 43.483$$

$$\text{t-test} = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}} = |1.9646|$$

Here, calculated value of t (|1.9646|) < tabulated value of t (3.182). It is insignificant and here H_o is accepted.

3. Nepal Investment Bank Ltd.

Year	MPS(x)	DPR(y)	X^2	Y^2	XY
2007/2008	1401	46.57	1962801	2168.7649	65244.57
2008/2009	1150	0	1322500	0	0
2009/2010	760	0	576600	0	0
2010/2011	795	50.56	632025	2556.3136	40195.2
2011/2012	940	29.01	883600	841.5801	27269.4
N=5	x = 5046	Y X 126.14	X^2 X 5378526	Y^2 X 5566.6586	XY X 132709.17

Coefficient of Correlation,

$$r = \frac{n \quad xy \,Z \quad x \quad y}{\sqrt{n \quad x^2 \,Z\int \quad x\AA^2}\sqrt{n \quad y^2 \,Z\int \quad y\AA^2}} = 0.2071$$

Coefficient of Determination (r^2) =0.0429.

Independent variable (predictor): EPS (Say y)
Dependent variable: MPS (Say x)

Regression equation of Y on X is, Y=a + bX
Where,

a=Regression Constant
b= Regression Coefficient (Slope of the Regression Line)

According to the principles of least squares, two normal equations for estimating two numerical constants a and b are given by,

$$Y \,X na \,\Gamma b \quad X$$

$$XY \,X a \quad X \,\Gamma b \quad X^2$$

Solving these two normal equations, we get

$$b = \frac{n \quad XY \,Z \quad X \quad Y}{n \quad X^2 \,Z\int \quad X\AA^2} = 0.019$$

$$a = \overline{Y} - b\,\overline{X} = 6.0532$$

$$\text{t-test} = \frac{r\sqrt{n \,Z 2}}{\sqrt{1 \,Z\int r\AA^2}} = |0.3667|$$

Here, calculated value of t (|0.3667|) < tabulated value of t (3.182). It is insignificant and here H_o is accepted.

4. Everest Bank Ltd:

Year	MPS(x)	DPR(y)	X^2	Y^2	XY
2007/2008	995	0	990025	0	0
2008/2009	650	0	422500	0	0
2009/2010	405	0	164025	0	0
2010/2011	445	66.89	198025	4474.2721	29766.05
2011/2012	680	0	462400	0	0
N=5	x = 3175	Y X 66.89	X^2 X 2236975	Y^2 X 4474.2721	xy X 29766.05

Coefficient of Correlation,

$$r = \frac{n \quad xy\,Z \quad x \quad y}{\sqrt{n \quad x^2\,Z\int \quad x\,A^2}\sqrt{n \quad y^2\,Z\int \quad y\,A^2}} = -0.452$$

Coefficient of Determination (r^2) =0.2043

Independent variable (predictor): EPS (Say y)
Dependent variable: MPS (Say x)

Regression equation of Y on X is, Y=a + bX
Where,

a=Regression Constant
b= Regression Coefficient (Slope of the Regression Line)

According to the principles of least squares, two normal equations for estimating two numerical constants a and b are given by,

$$Y\ \mathrm{X} na\ \Gamma b \quad X$$

$$XY\ \mathrm{X} a \quad X\ \Gamma b \quad X^2$$

Solving these two normal equations, we get

$$b = \frac{n \quad XY\,Z \quad X \quad Y}{n \quad X^2\,Z\int \quad X\,A^2} = -0.0575$$

$$a = \overline{Y} - b\,\overline{X} = 49.89$$

$$\text{t-test} = \frac{r\sqrt{n\,Z\,2}}{\sqrt{1\,Z\int r\,A^2}} = |0.8777|$$

Here, calculated value of t (|0.878|) < tabulated value of t (3.182). It is insignificant and here H_o is accepted.

5. National Finance Company Ltd.

Year	MPS(x)	DPR(y)	X^2	Y^2	XY
2007/2008	470	43.79	220900	1917.5641	20581.3
2008/2009	560	44.64	313600	1992.7296	24998.4
2009/2010	445	35.91	198025	1289.5281	15979.95
2010/2011	415	55.94	172225	3129.2836	23215.1
2011/2012	400	49.94	160000	2494.0036	19976
N=5	x = 2290	Y X 230.22	X^2 X 1064750	Y^2 X 10823.109	xy X 104750.75

Coefficient of Correlation,

$$r = \frac{n \quad xy\,Z \quad x \quad y}{\sqrt{n \quad x^2\,Zf \quad xA^2}\sqrt{n \quad y^2\,Zf \quad yA^2}} = -0.3662$$

Coefficient of Determination (r^2) =0.0489

Independent variable (predictor): EPS (Say y)
Dependent variable: MPS (Say x)

Regression equation of Y on X is, Y=a + bX
Where,

a=Regression Constant
b= Regression Coefficient (Slope of the Regression Line)

According to the principles of least squares, two normal equations for estimating two numerical constants a and b are given by,

$$Y\ \mathrm{X} na\ \Gamma b \quad X$$

$$XY\ \mathrm{X} a \quad X\ \Gamma b \quad X^2$$

Solving these two normal equations, we get

$$b = \frac{n \quad XY\ \mathrm{Z} \quad X \quad Y}{n \quad X^2\,Zf \quad XA^2} = -0.043$$

$a = \overline{Y} - b\,\overline{X} = 26.35$

$$\text{t-test} = \frac{r\sqrt{n\,\mathrm{Z}2}}{\sqrt{1\,\mathrm{Z}fr^2A}} = |0.6817|$$

Here, calculated value of t (|0.6817|) < tabulated value of t (3.182). It is insignificant and here H_o is accepted.

6. Annarpurna Finance Company Ltd.

Year	MPS(x)	DPR(y)	X^2	Y^2	XY
2007/2008	450	11.27	202500	127.0129	5071.5
2008/2009	535	16.98	286225	288.3204	9084.3
2009/2010	410	17.14	168100	293.7796	7027.4
2010/2011	425	17.87	180625	319.3369	7594.75
2011/2012	470	49.85	220900	2485.0225	23429.5
N=5	x = 2290	Y X 113.11	X^2 X 1058350	Y^2 X 3513.4723	xy X 52207.45

Coefficient of Correlation,

$$r = \frac{n \quad xy \,Z \quad x \quad y}{\sqrt{n \quad x^2 \,Z\int \quad x\AA^2}\sqrt{n \quad y^2 \,Z\int \quad y\AA^2}} = 0.1336$$

Coefficient of Determination (r^2) =0.0178

Independent variable (predictor): EPS (Say y)
Dependent variable: MPS (Say x)

Regression equation of Y on X is, Y=a + bX
Where,

a=Regression Constant
b= Regression Coefficient (Slope of the Regression Line)

According to the principles of least squares, two normal equations for estimating two numerical constants a and b are given by,

$$Y \,Xna\,\Gamma b \quad X$$

$$XY \,Xa \quad X\,\Gamma b \quad X^2$$

Solving these two normal equations, we get

$$b = \frac{n \quad XY \,Z \quad X \quad Y}{n \quad X^2 \,Z\int \quad X\AA^2} = 0.0422$$

$$a = \overline{Y} - b\,\overline{X} = 3.2944$$

$$\text{t-test} = \frac{r\sqrt{n\,Z2}}{\sqrt{1\,Z\int r\AA^2}} = |0.2335|$$

Here, calculated value of t (|0.2335|) < tabulated value of t (3.182). It is insignificant and here H_o is accepted.

7. Nepal Merchant Banking & Finance Company Ltd.

Year	MPS(x)	DPR(y)	X^2	Y^2	XY
2007/2008	641	67.98	410881	4621.2804	43575.18
2008/2009	690	80.18	476100	6428.8324	55324.2
2009/2010	1053	68.76	1108809	4727.9376	72404.28
2010/2011	1000	66.14	1000000	4374.4996	66140
2011/2012	1235	71.16	1525225	5063.7456	87882.6
N=5	$x =$ 4619	Y X 354.22	X^2 X 4521015	Y^2 X 25216.2956	xy X 325326.26

Coefficient of Correlation,

$$r = \frac{n \quad xy \,Z \quad x \quad y}{\sqrt{n \quad x^2 Z\int \quad x\AA^2}\sqrt{n \quad y^2 Z\int \quad y\AA^2}} = -0.3418$$

Coefficient of Determination (r^2) =0.1168.

Independent variable (predictor): EPS (Say y)
Dependent variable: MPS (Say x)

Regression equation of Y on X is, Y=a + bX
Where,

a=Regression Constant
b= Regression Coefficient (Slope of the Regression Line)

According to the principles of least squares, two normal equations for estimating two numerical constants a and b are given by,

$$Y \,Xna\,\Gamma b \quad X$$

$$XY \,Xa \quad X\,\Gamma b \quad X^2$$

Solving these two normal equations, we get

$$b = \frac{n \quad XY\,Z \quad X \quad Y}{n \quad X^2 Z\int \quad X\AA^2} = -0.007$$

$$a = \overline{Y} - b\,\overline{X} = 77.3106$$

$$\text{t-test} = \frac{r\sqrt{n\,Z2}}{\sqrt{1\,Z\int r\AA^2}} = |0.630|$$

Here, calculated value of t (|0.630|) < tabulated value of t (3.182). It is significant and here H_o is accepted.

Brief Introduction about Commercial Banks.

Nabil Bank Limited:

Nabil Bank Limited, the first foreign joint venture bank of Nepal, started operations in July 1984. Nabil was incorporated with the objective of extending international standard modern banking services to various sectors of the society. Pursuing its objective, Nabil provides a full range of commercial banking services through its 19 points of representation across the kingdom and over 170 reputed correspondent banks across the globe.

Nabil, as a pioneer in introducing many innovative products and marketing concepts in the domestic banking sector, represents a milestone in the banking history of Nepal as it started an era of modern banking with customer satisfaction measured as a focal objective while doing business.

Operations of the bank including day-to-day operations and risk management are managed by highly qualified and experienced management team. Bank is fully equipped with modern technology which includes ATMs, credit cards, state-of-art, world-renowned software from Infosys Technologies System, Bangalore, India, Internet banking system and Telebanking system.

Standard Chartered Bank Limited:

Standard Chartered is one of the world's most international banks, employing over 40,000 people, representing 80 nationalities, across its network. Standard Chartered operates in over 1,200 locations (including subsidiaries, associates and joint ventures) in more than 50 countries in the Asia Pacific Region, South Asia, the Middle East, Africa, the United Kingdom and the Americas.

Standard Chartered PLC is listed on both the London Stock Exchange and the Stock Exchange of Hong Kong and is in the top 25 FTSE-100 companies, by market capitalization.

It serves both Consumer and Wholesale Banking customers. Consumer Banking provides credit cards, personal loans, mortgages, deposit taking and wealth management services to individuals and small to medium sized enterprises. Wholesale Banking provides corporate and institutional clients with services in trade finance, cash management, lending, securities services, foreign exchange, debt capital markets and corporate finance.

Standard Chartered is well-established in growth markets and aims to be the right partner for its customers. The Bank combines deep local knowledge with global capability.

The Bank is trusted across its network for its standard of governance and corporate responsibility as well as its commitment to making a difference in the communities in which it operates.

Nepal Investment Bank Limited.

Nepal Investment Bank Ltd. (NIBL), previously Nepal Indosuez Bank Ltd., was established in 1986 as a joint venture between Nepalese and French partners. The French partner (holding 50% of the capital of NIBL) was Credit Agricole Indosuez, a subsidiary of one the largest banking group in the world.
With the decision of Credit Agricole Indosuez to divest, a group of companies comprising of bankers, professionals, industrialists and businessmen, has acquired on April 2002 the 50% shareholding of Credit Agricole Indosuez in Nepal Indosuez Bank Ltd.

The name of the bank has been changed to Nepal Investment Bank Ltd. upon approval of bank's Annual General Meeting, Nepal Rastra Bank and Company Registrar's office with the following shareholding structure.

- A group of companies holding 50% of the capital.
- Rastriya Banijya Bank holding 15% of the Capital.
- Rastriya Beema Sansthan holding the same percentage.
- The remaining 20% being held by the General Public (which means that NIBL is a Company listed on the Nepal Stock Exchange).

We believe that NIBL, which is managed by a team of experienced bankers and professionals having proven track record, can offer you what you're looking for. We are sure that your choice of a bank will be guided among other things by its reliability and professionalism.

Everest Bank Limited:

Everest Bank Limited (EBL) started its operations in 1994 with a view and objective of extending professionalized and efficient banking services to various segments of the society. EBL joined hands with Punjab National Bank (PNB), India as its joint venture partner in 1997.

PNB is the latest nationalized bank in India having 110 years of banking history with more than 4500 offices all over India. Of which 1400 branches are interconnected. PNB has over 1000 ATMs spread across India. As on 31/3/05, PNB had a total business of INK 163000 mores and posted a net profit of INR 1410 crores.

Drawing its strength from its joint venture partner, EBL has been steadily growing in its size and operations. And established itself as a leading Private Sector Bank. EBL is ranked as No. 2 bank by NRB as per CAELS.

Drawing its strength from its joint venture partner, EBL has been steadily growing in its size and operations. And established itself as a leading Private Sector Bank. EBL is ranked as No. 2 bank by NRB as per CAELS.

Despite fragile law and order situation especially during last 3-4 years, the Bank has recorded spectacular performance. As per audited accounts of FY 2004/2005, the Bank's operating profit was Rs. 375.20 million registering a growth of 18.9 % over the previous year. The Bank's credit recorded a growth of nearly 30 % over the last year reaching a figure of Rs 7900.09 million. Similarly, the total deposits of the Bank posted a growth of 25.22 % amounting to Rs 10097.69 million over the preceding year.
This sustained growth of the Bank is attributable to its strong systems and procedures, professional approach, quality lending and highly motivated staff members.

The bank is providing its services through a wide network of 18 branches across the nation and over 250 correspondents across the globe. All the major branches of the bank are connected through Anywhere Branch Banking System (ABBS), a facility which enables a customer to do banking transactions from any of the branches irrespective of their having accounts in other branch.

The Bank in association with Smart Choice Technology (SCT) is providing ATM services for its customers. EBL Debit Card can be accessed at more than 50 ATMs and over 250 Point of Sales across the nation. The bank is also managing the SCT ATM at Tribhuvan International Airport for the convenience of the customers and the travellers, the first and the only bank in Nepal to place ATM outlet at the Airport.

EBL is playing a pivotal role in facilitating remittance to and from across globe. Being the first Nepalese bank to open a representative office in Delhi, India, the Nepalese in India can open account in Nepal from the designated branches of Punjab National bank and remit their savings economically through banking channels to Nepal. The bank has a Drafts Drawing Arrangement with 175 branches of PNB all over India.
With an aim to help Nepalese citizens working abroad, the bank has entered into arrangements with banks and finance companies in different countries which enable quick remittance of funds by the Nepalese citizens in countries like UAE, Kuwait, Bahrain, Qatar, Saudi Arabia, Malaysia, Singapore and U K.

The Bank recognizes the value of offering a complete range of services. We have pioneered in extending various customer friendly products such as Home Loan, Education Loan, EBL Flexi Loan, EBL Property Plus (Future Lease Rentals), Home Equity Loan, Car Loan, Loan Against Shares, Loan Against Life Insurance Policies and Loan for Professionals. We at EBL have always endeavored in delivering innovative products suiting the consumer's requirements and needs thus enriching, enabling and beautifying their lives...

Nepal Merchant Banking & Finance Company Limited:

NMB is the brainchild of leading Nepali entrepreneurs with dream of framing the ultimate in merchant banking and financial services. This dream is being nurtured and realized through unwavering optimism and courage.

NMB strives to provide its professional financial services know-how to prosper in today's competitive environment. To achieve its goal, NMB has assembled a team of young and dynamic professionals to look after the day-to-day operations of the institution. The professionalism and the experience gained in various sectors of finance over the years will enable NMB to serve its customers in a more reliable and flexible manner.

NMB commenced business in December 1996. The company is striving to become a leader in the market for financial services and merchant banking activities. In the short span of its existence, NMB has been recognized as a premier Merchant Bank in Nepal.
The Company is the number one finance company in the country in terms of its Net Worth, Deposits, Loans and Advances.