

CHAPTER I

INTRODUCTION

1.1 General background

The continuing trust to the private sector in the process of national development has helped in establishing many banks, financial institutions and industries under joint venture agreements. Capital formation is one of the most important factors for overall economic development. Until and unless the position of capital formation is strong in a country, the country can't be developed. Because of low income, low saving and low investment, our country is lagging behind. In this situation, the Banking and Financial system play an important role in order to mobilize the scattered saving and utilize it for the enlistment of national economy (Bhattarai, 2005).

Economic status is growing very slowly and Nepal is known as a very poor country over the world. Therefore, industrialization is considered essential for economic development of the country these days. In Nepal, the industrial revolution took place after the establishment of Biratnagar Jute Mills in 1936 A.D. In 1937 A.D., the first Industrial Act was formulated, which was a favorable step to promote Industries and Capital Market in Nepal.

Capital is the lifeblood of the business organizations. Every business enterprise requires short term, intermediate and long-term capital for the smooth operation and expansion of the organizational activities. Among these types of funds, the long-term funds play a highly significant role for future growth and prosperity of the organizations. Most business organizations gather long term funds from the financial market. The financial market is the place where the financial instruments are traded. Financial instruments include share, bond, debenture etc. It is a means to transfer funds from savers to those in need of funds. Financial experts have mentioned it as a brain of the entire economic system. The failure of the financial market obstructs the progress of the whole economy (Bhattarai, 2005).

Financial markets can be defined as the centers or arrangements, which provide facilities for buying and selling of financial claims and services. Specifically,

financial market chiefly refers to money market and capital market. It facilitates the transfer of funds from the savers to those who wish to invest in capital goods.

Money Market can be defined as short term financial market, which facilitates liquidity and marketability of securities. It is the market for short term marketable instruments having less than one-year maturity period. Money markets are sometimes defined as organized and unorganized money markets. The organized or formal money markets provide an institutional mechanism for the transactions of short-term securities and commercial banks, finance companies and other saving/credit unions are the players in the money market. Local merchants, indigenous bankers and relatives come under the informal or the unorganized sector. The development of efficient market requires the development of institutions, instruments and operating procedure that aids widening and deepening of the market and allocation of short-term resources with minimum transactions costs and delays. Capital Markets also play a vital role in the national economy. Capital market facilitates the allocation of funds between the savers and borrowers. This allocation will be optimum if the capital market has efficient pricing mechanism. If the capital market is efficient, the current share price of the company fully reflects the available information and there will be no question of the share price being over or under priced. Capital market is concerned with the long-term finance. The funds collected in the market are raised and traded by long term financial instruments such as equities and bonds (Pradhan, 2003).

Capital Markets are the markets meant for long-term securities issued by the Government or a Corporation. Capital means typically involve financial assets that have life spans of greater than one year. For example, the shares issued by Kumari Bank are traded in the capital market whereas the treasury bills issued by the Nepal Rastra Bank are traded in the money market. The history of capital market in Nepal dates back to the era of Rana Prime Minister Juddha Samsher Rana. The first public floatation of shares in the securities market was initiated by Biratnagar Jute Mills Ltd. in 1937. There were very few Companies in Nepal issuing shares to the general public until another company act came into operation 1951. There were only two financial Institution, Nepal Industrial Development Corporation and Agriculture Development Bank in existence to finance industrial and agricultural projects along with the two domestic commercial Banks.

Capital Market is the market, which provides the mechanism for channeling current savings into investment in productive facilities that is for allocating the country's capital resources among alternative uses. In effect, the capital market provides an economy's link with the future, since current decisions regarding the allocation of capital resources are a major determining factor of tomorrow's output. Till about two decades ago, a large part of household saving was either invested directly in physical assets or put in Bank deposits and Government small saving schemes. It is only since the restoration of Democracy in 1990, that the equity market has started to play a role in this intermediation process (Pradhan, 2003).

1.2 Statement of the problem

Basically, stock price is determined by demand and supply. Both the qualitative and quantitative factors determine the stock price. However, to specify exactly what factors do determine stock price is a controversial/unpredictable issue. Share price is the function of the several factors. The stock price fluctuates time to time and stock exchanges react to the environmental changes. However, for some environmental changes, the stock exchanges have no effect. This study will try to identify the determinants of stock price and find out the degree of affection of those determinants. More specifically, this study is expected to answer the following research questions.

- What is the trend of major financial indicators like EPS, DPS, Earning Yield, Dividend Yield and DPR of sample commercial banks?
- What is the relationship between EPS, DPS and MVPS of Sample Banks?
- What is the effect of EPS, DPS on MVPS of sample commercial banks?

1.3 Objectives of the study

This study aims to identify the factors responsible for determinants of stock price and their relationship with the stock price, so that it will give a better insight into the stock price. Furthermore, this study is proposed to meet the following objectives.

- To analyze the major financial indicators like EPS, DPS, DPR, Dividend Yield, Earning Yield and MVPS of sample commercial banks
- To analyze the differences on EPS, DPS and MVPS of two sample banks
- To analyze the relationship between EPS, DPS and MVPS
- To explore effect of EPS, DPS on MVPS

1.4 Focus of the study

NEPSE is an organized stock exchange for trading stocks (shares) in secondary market. Although small investors can invest their money by purchasing shares of companies in primary market (during initial public offering) or in the secondary market, they (general public or investors) lack effective knowledge of capital market and its mechanism. The price of the stock is the function of several factors.

Investing in stock is highly risky as being ownership capital. It represents only a final claim while in liquidation. Stock price is determined by a number of factors. Some factors are quantitative whose effect can be quantified whereas other factors are qualitative whose effect on share price can't be quantified. This study focuses to the sensitivity of stock price on NEPSE with special focus to Commercial Banks towards various factors. In other words, this study intends to determine the factors affecting the price (i.e. market value) of the stock.

1.5 Limitations of the study

This study tries to explore the factors determining the stock price in Nepal Stock Exchange. Both primary and secondary data are analyzed. However, this study may face the following limitations during the course of research.

- i. This study has been based on secondary sources of data i.e. annual reports of commercial banks, Nepal Rastra Bank, SEBON, NEPSE, government publications, other related journals and news papers.
- ii. The study is only concerns about stock price analysis of sample commercial banks.
- iii. Among the various commercial banks in Nepal the study is only concerned on two commercial banks .
- iv. The study covers only a period of five fiscal years (2014/15 to 2018/19).
- v. The study concentrates only on those factors which are related with common stock and available in the form required for analyzing the different issues.

1.6 Organization of the study

The research introduces background of study, statement of problem, objective of the study, significance of the study, limitations of the study and organization of the study. It includes to conceptual framework on investment, risk, return and portfolio along with the review of major books, journal, research work and thesis etc. It also includes research design, population and sample, sources and types of data, data processing

technique and method & tools of data analysis. The study deals with the presentation and analysis of data. It analyses the data and interprets the results using different financial and statistical tools, table, chart and graphs. It also includes major findings of the study. Besides these, bibliography and annexure are presented at the end of the thesis. Similarly acknowledgements, table of contents, list of tables, list of figures, abbreviations are included in the front part of the thesis report.

CHAPTER II

REVIEW OF LITERATURE

Review of literature means reviewing research studies and other relevant propositions in the related area of the study so that all the past studies, their conclusions and deficiencies may be known and further research can be conducted. The literature review may also serve as a kind of bibliographic index and guide for the readers. It also demonstrates where the current study fits into the scheme of things. The objective of reviewing the literature is to develop certain expertise and knowledge in one's area.

2.1 Conceptual Review

2.1.1 Capital Market

Capital Market is the market where the transaction of long term finance is made. The fund collected in this market are raised and traded by long term financial instrument such as equities and bonds.

2.1.1.1 Security Market

A security market can be defined as a mechanism for bringing together buyers and sellers of financial assets. In order to, facilitate trading. It means the market where the securities are treated. Security market can be distinguished into two markets i.e. primary & secondary market and money & capital market. Security offered for the first time to the general public through the primary securities market. The issuer may be a brand new company. It is also known as New Issue Market (NIM). The secondary market is not keeping pace with the growth of the primary market. This is mainly due to lack of the needed efforts on the concerned authority to devise suitable package of measure to encourage the growth of broker network in the country's growing stock exchange.

2.1.1.2 Money Market

Money market is also called short term financial market which is the set of supplying short term debtor working capital needed for industries, business or incorporated etc. The instruments of money market are inter-bank deposited, government securities,

banker's acceptance, certificate of deposited and commercial papers issued by non financial institutions.

2.1.2 Common Stock

It is an ownership share in a corporation. Common stock certificates are legal documents that evidence ownership in a company that is organized as a corporation they are also marketable financial instrument. Sole proprietorship and partnership are other forms of business organizations, but only corporations can issue common stocks. Common stock is the recipient of the residual income of the corporation. Through the right to vote, holders of common stock have a legal control over the corporation. An element of risk is also involved in equity ownership due to its low priority of claim at liquidation. Common stockholders have limited liability. Common equity provides a cushion for creditors if losses occur on dissolutions. The equity-to-total-assets ratio is an indicator of the degree by which the amounts realized on the liquidation may decline from the stated book values before creditors suffer losses. Common stock has one important investment characteristic and one important speculative market price tends increase irregularly but persistently over the decades as their net worth builds through the reinvestment of undistributed earnings. However, most of the time common stocks are subject to irrational and excessive price function in both directions, as the consequence of the ingrained tendency of most people to speculative or gamble, i.e. to give way to hope fear and greed of all the forms of securities common stock appears to be the most romantic while fixed income investment revenue may be more important to most of the investor. Common stock seems to the capture their interest the most. The potential reward and penalties associated with common stock make them on interesting even exciting proposition, no wonder, and common stock investment is a favorite's topic for conversation in parties and gets together (Fisher, & Jordan, 2000).

Common stockholders of a corporation are its residual owners, their claim to income and assets comes after creditors and preferred stock holders have been paid full. As a result, stockholders return on investment is less certain than the return to lender or to a preferred stockholder. On the other hand, the share of a common stock can be authorized either with or without par value. The par value of a stock is merely a stated

figure in the corporate charter and is of little economic significance (Van Horne, 1997).

Common stock holders of a corporation are its residual owners, their claim to income and assets comes after creditors and preferred stock holders have been paid in full. As a result, a stockholders return on investment is less certain than the return to lenders or to preferred stockholders. On the other hand, the shares of a common stock can be authorized either with or without par value. The par value of a stock is merely a stated figure in the corporate charter and is of little economic significance. A company should not issue stock at a price less than par value because stockholders who bought stock for less than par value would be liable to creditors for the difference between the below par price they paid and the par value. Common stock holders are entitled certain right, which includes control through voting right, preemptive right, limited liability, right to income and distribution of additional share and residual right (Van Horne,1997).

2.1.2.1 Common Stock Values

Common stock values are either denoted by par value, book value or market value. These three terms are different and their rupee amount differs. The face value of one stock established at the time the stock is initially issued known as par value. Generally common stock carry Rs100 par value. The sum of the cumulative R/E and other entries such as common stock and capital contribution in excess of par value under stock holders equity is the book value of the equity. The value of share in secondary market traded between investors and traders is the market value. Market value is the consequence of demand and supply.

2.1.3 Return on Common Stock

The meaning of return has different meaning to different investors. The rate of return from capital investment is a concept that has different meaning to different investors. Some competitive seek near term cash inflow and give less value to more distant returns. Return can be expressed by cash dividend or capital gain or loss. Some investors measure return using financial ratios. Single holding period return may be defined as all possible future cash flows that can be earned holding securities up to holding period. It can be also defined as the changes in the value plus any cash

distribution expressed as a percentage of the beginning of the period of investment value.

Return shows financial position of any organization. The company position of any Organization may be better if it has higher return. Return is rewards for an investor from his or her organization. Investors always want to maximize expected return subject to their tolerance for risk. Return is motivating forces and it is the key method available to investors in comparing investment alternatives. Realized rate of return and expected rate of return which are often used in language of investment. Realized rate of return is after the fact return that was earned or it is the historical return.

The return on investment can be measured as the total gain and losses expressed on the behalf of owner over the given period of time. It is commonly stated as the change in value plus any cash distribution expressed as percentage of the beginning period investment value. The expression for calculating the rate of return (Ks) earned any asset over the period (t) is commonly defined as (Bhattarai, 2008).

Total Return = Capital Gain + Regular Gain (Ordinary Gain)

Capital Gain = Ending Price - Beginning Price

Regular Gain = Dividend Or Interest

2.1.3.1 Single Period Rate of Return

The investment return is defined as the after tax increase in the value of the initial investment. The increase in value can come from two sources direct cash payment to the investor or an increase in the market value of the investment relative to the original purchase price. The rate of return over the holding period, or HPR is computed as.

$$\text{HPR} = \frac{\text{Endng Price} - \text{Beginning Price} + \text{Cash Receipt}}{\text{Beginning price}}$$

2.1.3.2 Required Rate of Return

When setting the required rate of return on an Investment, an investor must consider the real rate of return, expected inflation and risk. Because consumption is foregone today, the investor is entitled to a rate of return that compensated for this deferred consumption since the investor expects to receive an increase in the real goods purchase later, and assuming for the moment, zero inflation and risk, the required rate could equal to the real rate of return, in which case it would represent the pure time

value of money. The capital markets determine this real based upon the supply of money to be invested relative to the demand for borrowed money (Cheney and Mose,1995).

The required rate of Return is the minimum rate of return that an investor expects from his/her investment in risky assets. It is the function of real rate of return and risk. The required rate of return is the return on risk free assets.

2.1.3.3 Expected Rate of Return

If an investment is to be made, the expected rate of return or the expected holding period return, should be equal to or greater than the required rate of return for that investment. The expected rate of return is based upon the expected cash receipt (e.g. dividend and interest) over the holding period and the expected ending or selling price. The expected rate of return is unknown future return. The investor has forecast possible outcomes each based upon a possible state of the economic. Each economic state will result in a different expected rate of return. Subjective probabilities are assigned to each outcome. The overall expected rate of return, E (HPR) can be calculated as a weighted average of the three forecasts (Cheney and Moses,1995).

2.1.4 Risk on Common Stock

Risk, in simple word, is an uncertainty. Risk and uncertainties are the facts of life so to the common stock holder. Technically, their meanings are different. Risk, simply in Investment, means a chance of happening some unfavorable event or danger of losing some value. Risk suggests that a decision maker knows the possible consequences of a decision and their relative likelihoods at the times he makes decision.

The practice is to translate the uncertainty into a mathematical value which represents the uncertainty into a mathematical value which represent the best estimate of all uncertainty value. But risk is treated differently. Although risk arises from uncertainty, its magnitude depends upon the degree of variability in uncertain cash flows, it is measured in terms of standard deviation. In project analysis the project risk indicated of the probability of return being less than the expected value higher the probability of such loss or less return, higher the project risk (Pradhan,1993).

Risk is defined in Webster's dictionary as a „hazard: a peril: exposure to loss or journey”, thus for most, risk refers to the chance that some unfavorable event will

occur. If you invest in speculative stock (or, really, any stock), you are taking a risk in the hope of making an appreciable return (Weston & Brigham, 1982).

2.2 Review of related studies

Myron Gordon (1929) developed one very popular model explicitly, relating the market value of the firm to dividend policy. He modified the Walter's model for determining the market price of the stock. This model explains that investors are not in different between current dividend and retention of earnings with the prospects of future dividends, capital gain and both. The conclusion of his study is that investors give more emphasis to the present dividend more than future capital gain. His argument stresses that an increase in dividend payout ratio leads to increase in the stock price for the reason that investors consider the dividend yield is less risky than expected capital gain. Hence, investor's required rate of return increases as the amount of dividend decreases. This means there exist positive relationship between the-amount of dividend and stock prices.

Friend and Puckett (1964) conducted a study on the relationship between dividends and stock prices, by running regression analysis on the data of 110 firms from five industries in the year 1956 to 1958. These five industries were chemicals, electric utilities, electronics, food and steels. These industries were selected to permit a distinction made between the results for growth and non-growth industries and to provide a basis for comparison with result by other authors for earlier years. They also considered cyclical and no cyclical industries which they covered. The study periods covered a boom year for the economy when stock prices leveled off after rise (1956) and a somewhat depressed year for the economy when stock prices, however rose strongly (1958). They used dividends, retained earnings and price earnings ratio as independent variables in their regression model of price function. They used supply function, i.e., dividend function also. In their dividend function, earnings, last year's dividend and price earnings ratio are independent variables.

Modigliani and Miller (1966) have provided the most comprehensive argument for the irrelevance of dividends. According to MM, "Dividend policy of a firm is irrelevant, as it does not affect the wealth of the shareholders. They hold that the value of the Firm depends on the earning power of the firm's assets, or its investment policy. When investment decision of the firm is given, dividend decision split of earnings

between dividends and retained earnings is of no significance in determining value of the firm-According to them, the effect of dividend payments on shareholders' wealth is exactly offset by other means of financing.

Jennergren and Korsvold (1975) found that the daily price series³⁴ of 15 stocks from Oslo stock exchange (Norway) and 30 stocks from Stockholm Stock Exchange (Sweden) by using serial correlations and run analysis, during 1957, and found considerable dependence in both Norwegian and Swedish stock market prices. Based on their findings, they concluded, “price changes are not dependent random variable in case of the majority of the 45 investigated Norwegian and Swedish Stocks”. This implies that the random walk hypothesis is probably not a very accurate description of share price behavior on the Norwegian and Swedish stock markets.

Shrestha (1980) highlighted the following issues: HMG expects two things from public enterprise: (i) The should be in a positive way to pay minimum dividend and (ii) Public enterprise should be self-supporting in financial matters in future years to come but none of these two objectives are achieved by public enterprises. The article points the irony about government biasness that government has not allowed banks to follow independent dividend policy and HMG is found to pressurize dividend payment in case of Nepal Bank Ltd regardless of profit. But it has allowed Rastriya Banijya Bank to be relieved obligation in spite of considerable profit.

Pradhan (1993) conducted that higher earning on stock leads (lie larger of DPS). Stock with larger ratio of dividend per share to market price have lower leverage ratio, positive relationship between the ratios of DPS to market price and interest coverage, positive relationship between dividend payout and turnover ratios, positive relationship between dividend payout and liquidity and positive relationship between dividend payout and profitability.

Bhattacharai (1996) concluded that there are positive relationship between cash flow and current profit and divided percentage of shares. The degree of relationship is almost perfect. There is no criterion to adopt payout ratio and it is observed that there is a negative relationship between payout ratio and valuation of shares. In aggregate, there is no stable dividend paid by the companies over the years. Some companies have 39 steadily increased dividends. Such increase in dividend has a considerable impact on

valuation of shares if there are rational investors; however this is yet to be realized by Nepalese company management. Inflation rate in recent year are decreasing and the market price of share are increasing. Nevertheless, the companies are not able .to give required rate of return to the investors. There was negative relationship between price of share and stockholders required rate of return. Shareholders have foregone opportunity income in hope of getting higher return, but companies have not been able to return even equal to risk free rate of return.

International Monetary Fund (IMF) (1997) found that Policy Development and Review Development Division published a working paper entitled “Determinants of Stock Prices: The Case of Zimbabwe”. Despite the large fluctuation in stock prices since 1991, the analysis indicated that the Zimbabwe Stock Exchange functioned quite consistently during that period. Whereas sharp increases in stock prices during 1993-94 were mainly due to the shift of the risk premium that was caused by partial capital account liberalization, the movements of monetary aggregates and market interest rates explained the rapid increase of 1990’s in stock prices.

Timilsina (1997) carried out that the relationship between dividend per share and stock price to determine the impact of dividend policy on stock price, to identify whether it is possible to increase the market value of stock by changing dividend policy or payout ratio and to explain the price behavior, the study used simultaneous equation models developed by Friend and Puckett (1964). The findings of his study were as follows; the relationship between dividend per share and stock price is positive in the sample companies. Dividend per share affects the share price differently in different sectors. Changing dividend policy or dividend per share might help to increase the market price of the share. The relationship between stock price and retained earnings per share is not prominent. The relationship between stock prices and lagged earning price ratio is negative.

Adhikari (2000) highlighted the differences in financial position of high dividend paying and low dividend paying companies. The stocks with larger ratio of dividend per share to book value per share have higher liquidity. It is also more variable as compared to stock paying lower dividends. Other thing remaining the same, financial position of high dividend paying companies is comparatively better than that of low dividend paying companies. Another interesting conclusion is that market price of

stock is affected by dividend for finance and non-finance sectors differently. There is positive relationship between dividend and stock price. There is negative relationship between dividend payout and earnings before tax to net worth. Stocks with larger ratio of DPS to book value per share have higher profitability. Nepalese shareholders are not really indifferent towards payout or nonpayment of dividend. One of the major finding is that earning announcement helps to increase the market price of the share.

Gautam (2000) concluded that average EPS and DPS of all commercial banks are satisfactory. Analysis indicates that there is large fluctuation in EPS and DPS; on the other hand, there is relatively more consistency dividend per share in all the sample banks. No commercial bank seems to be guided by cleanly defined dividend strategy in spite of the good earnings and potentials. Shares of the financial institution are actively traded and market prices are increasing. Commercial banks represent a robust body of profit earning organization in comparison to the other sectors such as manufacturing, trading etc. One of the most striking findings of the study is that no commercial bank sample for this study has clearly defined dividend strategy. On the other hand, there is significant relationship perceives between earnings and dividend of expansion program.

Manandhar (2000) found significance relationship between change in dividend policy in terms of dividend per share and change in lagged earnings. There is relationship between distributed lagged profit and dividend. The difference is found significant between overall proportion of change dividend and due to increase and decrease in EPS during the study period. In overall increase in EPS has resulted to increase in the dividend payment in 66.6% of the cases while decrease in EPS is resulted decrease in dividend payments come to 33.3% of the cases. It is found that Nepalese Corporate firms have followed the practice of maintaining constant dividend payment per share or increase it irrespective of change in EPS as reflected by total percentage of constant and increase dividend payout of 78.33% of the cases. In other words forms are reluctant to decrease dividend payment. In overall Nepalese corporate firms are found reluctant to decrease dividend either keeping dividend payment constant or higher to take the advantages of information contents and signaling effects of dividend relating to the firm's continued progress and performance, sound financial strength, favorable

40 investment environment, lower risk, ability to maintain sustained dividend rate and finally to increase the market price of the stocks in the stock market.

Khatriwada (2001) concluded that announcement of dividend and earnings did not affect the shareholders return in average. Other banks except Nepal SBI Bank Ltd. having different dividend rates did not provide abnormal return to the shareholders. Shareholder realized positive abnormal return from NB, SBI and Grind lays.

Basnet (2004) justified that the dividend payment is not a regular and attractive phenomenon in Nepalese listed companies. The companies do not have any stable and consistent dividend practice. The market price of share of banking and total 41 companies is influenced by many factors other than DPS. Change in dividend per share affects the share price differently in different companies. The DPS and EPS are positively correlated in all sectors. Which means higher the EPS, higher will be the DPS. Market Value per Share (MVPS) of the listed companies is higher than net worth per share (NWPS). There exists vast difference between MP and NWPS. This situation clearly indicates that the investors are not matching book value and market value of the share. They don't see the reported value of share from its books of account.

Gurung (2004) conclusions Securities market plays a pivotal role in mobilizing savings and channeling them in productive purposes and many more like providing liquidity on securities so that one can minimize the risk and maximize the returns. The study on the securities market performance reveals that there is no synchronization among different securities market performance indicators, but it is true that they almost have depicted an erratic trend during the observed period. This indicates the unstable and poor performance of securities market. Relative to the overall economy, the size of securities market is very small and the liquidity of securities also is poor. These facts suggest that the Nepalese capital market now is passing through a bearish situation.

The existence of causality relationship between stock market and economic growth in Nepal based on the time series data for the year 2001 to 2005, employing Granger causality test and using an equally weighted single indicator of three stock market development indicators; the average of ratios of market capitalization to GDP, annual

turnover to GDP and the annual turnover to market capitalization. The study finds the long-run integration and causality of macroeconomic variables and stock market indicators even in a small capital market of Nepal, implying that the stock market plays significant role in determining economic growth and vice versa.

Rijal (2004) concluded that the primary objectives of investors investing in stocks are to earn dividend. But the earning of shareholders can be dividend as dividend gain and capital gain. High payout satisfies the dividend need whereas increase in market price of stock increases capital gain. Therefore, the firms make a proper balance between dividend distribution and retention of EPS. In Nepal, only a few listed companies have been paying regular dividends to their shareholders. Further companies have not been following stable dividend payout policy. On the other hand, the dividend payout ratio of listed Companies in Nepal has not been able to distribute fair dividends. In this regards, however commercial banks are also no exception. This study rests to conclude that the cash dividend can't be said as a sole factor to affect price of share. But there are some other factors like earning power, bonus share, information value of dividend decision etc. that also cause the share price fluctuation. In an imperfect market mechanism like Nepalese Share Market, the security brokers, other market makers and the rumors they spread in the market have also significant role in share price fluctuation. Though there were above mentioned studies are related to dividend behavior in Nepalese context. It has now become necessary to find out whether their findings are still valid or not. In Nepalese context, many more changes have taken place in last few years. So, it is necessary to carry out a fresh study related to dividend pattern of Nepalese companies. In this study, it is tried to carry out by using the latest data for different companies for analyzing the dividend policies of Nepalese companies.

Bista (2006) focuses that the banks and manufacturing companies do not follow any specific dividend policy. DPR are fluctuating over the periods of those selected companies. MPS do not follow any specific trend, it fluctuates the future price. There is not any specific trend of EPS in the companies. There is great difference between market price per share and book value per share.

Adhikari (2007) concluded that there are differences in financial position of high dividend paying and low dividend paying companies. The stocks with longer ratio of

dividend per share to book value per share have higher liquidity. It has more variable as compared to stock paying lower dividends. Other thing remaining the same, other thing remaining the same, financial position of high dividend paying companies are comparatively better than that of low dividend paying companies. Another interesting conclusion is that market price of stock is affected by dividend for finance and non finance sectors differently. There is positive relationship between dividend and stock price. There is negative relationship between dividend payout and earnings before tax to net worth. Stocks with larger ratio of DPS to book value per share have higher profit ability. With respect to major motives for paying cash dividend, the majority of the respondent feels that it is to convey information to shareholders that the company is doing good. Nepalese shareholders are not really indifferent towards payout or nonpayment of dividend. One of the major findings is that earning announcement helps to increase the market price of share.

Jha (2007) highlighted dividend practice of the bank, insurance and financial companies to analyze the relationship of dividend with various important variables. Major findings to the study are: Nepalese government NRB, SEBON, NEPSE should be conscious to discourage market imperfection. Companies should have long term policy regarding the adoption of suitable dividend policy. Even if not earning has been increasing, the dividend per share has widely fluctuated. Distribution of bonus share should be pre-evaluated. There need a proper information discloser to the investor.

Bhattarai (2008) justified that the banks and manufacturing companies do not follow any specific dividend policy. DPR are fluctuating over the periods of those selected companies. MPS do not follow any specific trend, it fluctuates the future price. There is not any specific trend of EPS in the companies. There is great difference between market price per share and book value per share.

Bhatta (2009) has studied dividend decision and its impact on stock valuation. He revealed that: Though the stockholders have not good enough return, market price of shares are increasing due to the high expectation in future. If there are rational investors and stable dividend influences considerable impact on valuation of shares. There is positive relationship between cash dividend and valuation of shares. There are five companies out of ten, having positive coefficient of correlation between cash

dividend and valuation of shares. The market price is considerably higher than the actual net worth. In some cases, market price of share is two or three times higher than the net worth. This certainly includes that investors do not have adequate knowledge on how to evaluate the value of shares before investing in them.

Stock market in Nepal is undeveloped and has failed to show significant impact on the overall national economy of the country. Small market size has made it vulnerable to manipulation and price rigging. Low turnover ratio and value-traded ratio to volatility, and high concentration ratio indicate that stock market in Nepal is highly illiquid and risky. Investors tend to avoid stock market because they cannot invest in securities according to their risk-return preference.

This paper has employed annual time series data for the period 2001 to 2009. The data related to market capitalization ratio, number of listed companies, total value traded, and turnover ratio are collected from various annual reports of securities board of Nepal and the data related to per capita GDP and GDP deflator is collected from the economic survey, Ministry of Finance, Government of Nepal.

The relationship between stock market development and economic growth in Nepal for the period of mid-July 2000 to mid-July 2008; - using Karl Pearson correlation, the study finds that stock market development is not significantly associated with economic growth during mid July 1994 to mid-July 2000 while there is a positive relation between stock market development and economic growth during mid-July 2000 to mid-July 2008. The findings indicate that stock market has positive contribution to economic growth in Nepal.

Gautam (2009) concluded that the average earning per share of both two banks is satisfactory and dividend per share is too much unsatisfactory. There is no consistency in dividend payment and its growth rate is not static as well. There is no prominent difference in DPS and D/P rate of both two banks however; there is no uniformity in EPS. R.R Gautam recommends as follows: To follow clearly defined dividend strategy as lack of it causes serious inconvenience to many other sectors of finance. Banks should consider the interest and expectation of the investors while making dividend decisions.

Gautam (2011) has studied of stock market behavior in Nepal that political instability and other laws related issues are the prominent factors for the underdevelopment of security market in Nepal. She further concluded that the stockbrokers and stock market are not being much active to create investment environment in stock market. Most of the investors are influenced through media only. Information deficiency in the capital market may be one of the reasons for determination of share price by excessive speculation. The available information is of low quality and people have very little knowledge of the trading procedure and price formation mechanism in NEPSE. Lack of effective laws and effective implication of the existing laws are the contributing factors for the less development of the capitol market. She also argued that some of the major problems experienced by stock market are the poor regulatory controls and supervision by SEBO/N and NEPSE.

Bajracharya and Koirala (2012) analyzed the establishment of the Nepal Stock Exchange (NEPSE) market opened an avenue to investors, both large and small, to invest in the enterprise sector and participate in the secondary market. Despite apprehensions of many, the secondary market proved to be successful, with both the entrepreneurs and the investors showing earnest acceptance and participation in the process. However, the performance of stock exchange during the latter years gives only a mixed result. This scenario, despite increasing number of listed securities and scraps, is not a favorable situation. Generally, the problem is attributed to the prevailing politico- economic situation. No doubt, it is true to a large extent but the problem is not confined to the present situation alone. The management of the companies and the attitude of the board of directors and intermediaries are to blame a lot. The actors of financial markets are loosely tied together from legal provisions, which are not effectively implemented. As the financial institutions dominate the market, it has not been able to diversify. Increasing problems noted with the corporate governance, transparency and disclosure have seriously dented the Nepalese capital market.

The Board mainly acts as a superfluous body trying to fulfill formalities rather than seriously attending to corporate governance. The result has been poor security to investors, particularly minority shareholders, who are not fully aware of the risk and return considerations. Hence, to make the stock exchange a vehicle of growth,

initiatives must be taken to protect investors, improve corporate governance and make the companies operate in a conducive and transparent manner. Corporate sector is generally not transparent. The culture of keeping books of account secret is still alive. Minority shareholders have no access to the books of accounts kept as secret documents.

Capital market in Nepal is confined to equity market only. Debt transaction is negligible in Nepal Stock Exchange. Turnover as well as market capitalization are very small relative to its GNP. Besides, NEPSE is not integrated into the world markets. Capital market, at the present position, is beneficial to the investors who can overlook the rules of game. It is yet to be rational to a discerning investor. Unless, it is changed, capital market will not contribute in a desirable way to contribute to growth. In order to improve it, accounting and auditing standards, disclosure and corporate governance need to be upgraded significantly and on the other the monitoring and policy response capacity of SEBON should be enhanced.

Kadariya (2012) found that primary data analysis shows that Nepalese stock market starts to attract younger investors in recent period as the majority of the stock investors are younger. The proportion of educated investors is high in the market, most of them are self-employed and small investors have strong voice in the Nepalese stock market. The limited investors use their own skills and analytical power in investment decision. The most influencing factors for decision making are media and friends. Majority of the stock investors prefer capital gain rather than the usual cash dividends and seasonal issues. Banking and finance sector remains the most popular investment sector among the Nepalese investors. The most used methods of investment are fundamental analysis, and the market noise, media and informal talks. Investors believe on their ability when they earn and blame for market when they incur losses. The tangible components such as dividends, earnings, number of equity, and book-to-market ratio and the intangible component like political party led government are considered the top five most important factors for investment decisions as per the opinion of individual stock investors. The capital structure and average pricing method is finally, the conception of research work being the ongoing process, it is expected that there would be substantial attraction for stock market studies in Nepal in recent future.

Poudyal (2012) has analyzed a study on share price behavior of joint venture banks in Nepal is undertaken by using financial and statistical tools and revealed that, the growth rate analysis as a stand-alone may not be adequate for the analysis of share prices behavior and may not represent the bank's performance in the secondary market. The ordinary least square equation of the book value per share on market value per share reveals that the independent variable does not fully explain the dependent variables on the basis of above mentioned two points; Nepal Stock Exchange operated in a weak form of efficient market hypothesis, including that the market prices 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 banks emerge as a blue-chip in the Nepalese Stock Market. The beta coefficient, which measures the risky ness 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 the other average stocks traded in the stock exchange.

Regmi (2012) asserted that the key policy implication is that the country requires a well-built and enabling stock market in order to accelerate and maintain strong growth of the economy. Hence, meaningful efforts are required on the part of the government to ensure well-organized and competent operation of stock market because the more efficient the market, the more possibility it will attract investors.

The government should remove impediments to stock market development in the form of tax, legal and regulatory barriers because they are sometimes disincentives to investment, should invest more and develop the nation's infrastructure in order to create an enabling environment for businesses to grow, increase the productivity and efficiency, and the rate of returns of firms, should employ appropriate trade policies that promote the inflow of international capital and foreign investment so as to enhance the production capacity of the nation, and should strengthen the capacity of the Nepal Stock Exchange so as to check and prevent sharp practices by market operators in order to safeguard the interest of shareholders. Moreover, the Nepal Stock Exchange should improve the trading system in order to increase the ease with

which investors can purchase and sell shares, thus guaranteeing liquidity on the stock market. Besides, stock market reformation policies may give a further support to the economy and may act as a key enabler and catalyst of economic growth.

Sharma (2012) had conducted problem & prospects of primary and secondary market in Nepal which specify the state of primary and secondary market, to identify the problems and prospects of primary and secondary market and to access the past and present behaviors of business operation in the NEPSE performances of many listed companies especially in the manufacturing sector are poor. There is no tax benefit in investing in secondary market. The price and liquidity in the secondary market affect the growth of primary market. People are showing great trust and faith in the stock market and large numbers of people investing in share in a very positive sign though the price of share are increasing.

Shrestha (2012) had published that revenue structure in Nepalese Securities Markets SEBO has a dual role of regulating and developing the securities market in the country. Nepal's accession to the World Trade Organization has added greater challenges in the securities markets, as it should be opened to foreign investors and foreign securities businesspersons. Fulfilling more roles and responsibilities with limited resources can seriously compromise the potential of a thriving capital market.

Due to low level of income from the securities market, SEBO has no alternative than to depend on government funding to carry out its regulating and market development roles. However, in the long term, SEBO cannot rely only on government grant and would have to look for other alternatives to provide SEBO with greater operational and financial autonomy. Additional roles and responsibilities of SEBO would justify such increment in resources.

If we see the practice of Indian securities markets, the stock exchanges contribute, on average, 5 percent of the total listing fees to Securities Exchange Board of India (SEBI) every year. Additionally, stock brokers provide service fee at the rate of 0.01 percent of the turnover if the turnover is more than Rs. 10million in case of corporate securities and 0.001 percent of the turnover in case of government securities. Similarly, mutual fund managers pay service fee to SEBI based on net assets value of the fund managed. We find similar practices in the other securities markets too. In this

context, SEBO's share on market revenue should be increased, which can be done by increasing licensing and renewal fees of market intermediaries, allocating some portion of listing fees and trading commissions to SEBO and bringing securities services like underwriting and registrar to the securities within the ambit of SEBO's regulation and making provisions for charging some fees for such services.

Manandhar (2013) had conducted a study on security price and risk & return analysis of listed Commercial Banks in Nepal to evaluate common stock of listed commercial bank in terms of risk and return and to perform sector wise comparison on the basis of market capitalization, to identify whether the share of commercial banks are overpriced, underpriced or at equilibrium price, to identify the correlation between returns of commercial banks, to construct optimum portfolio from listed common stock, to make relevant suggestion and practical idea and materialize recommendations based on findings. Among all the securities common stock is known to be most risky security. Higher the risk higher will be the return. Most of investors attached to common stock securities because of its higher expected returns.

As for the investors it is important to analyze each investment, company to pentagonal returns with the risk and average the potential returns from an investment should compensate for the level of risk undertaken.

Gyawali (2014) had conducted a work on risk and return on common stock to determine the risk, return and other relevant factors that directly affect the investment in common stock. To evaluate the common stock of the listed commercial banks in terms of risk and return to perform sector wise comparison on the basis of market capitalization. Among five commercial banks standard chartered bank and Himalayan bank is the continuous dividend payer. Among sample banks Nepal Bangladesh bank Ltd, it has lowest expected return. Bangladesh bank is high risky and standard bank is low risky.

Shrestha (2014) helps to understand the portfolio management and investment management services. The relationship between stock returns and trading volume form the basis of profitable trading strategies, and this affects the efficiency of market. Stock returns and trading volume are two major pillars, around which entire stock market revolves.

The Jarque-Bera statistic of stock returns and trading volume data series are significant. Thus, the stock returns, trading volume and return volatility data series are not normally distributed. Augmented Dickey-Fuller statistics and Philips-Perron test reported that the stock returns, trading volume and volatility series are considered as stationary. This series need not be subjected to be co integration analysis. There is a positive contemporaneous relationship between stock returns and trading volume. There is an asymmetric V-shaped relationship between positive and negative stock returns and trading volume.

Mainali (2015) had issued that the stock market development is unable to show significant positive impact on the national economy. Small number of listed companies, low market capitalization ratio, characterizes Nepalese stock market, low value traded ratio, low turnover ratio, high volatility, high concentration, illiquid and risky market. The correlation results indicate that there is positive relationship of GDP with stock market. Regression results show the positive but insignificant relationship of stock market variables with GDP. The finding based on regression analysis is not consistent with the findings of Demurguc-Kunt and Levine (1995), and Levine and Zervos (1998). The inconsistent findings may be due to the factor like small size of market relative to GDP. The increasing number of listed companies, market capitalization ratio, turnover ratio, and value-traded ratio indicate that the stock market is developing steadily. The results of primary data analysis indicate that the poor co-ordination among SEBON, NEPSE, NRB and Insurance Board; insufficient information of stock market; unavailability of CSD service; poor institutional strengthening of SEBON; low instrument diversification; mal-practices on stock transaction; frequent changes on policies; poor attention of government for its development are the major problems of Nepalese stock market. Furthermore, the survey results underscore the importance of political stability in the development of stock market in Nepal.

Maharjan (2015) had analyzed the trend of the stock market to study the procedure & practice of the primary and secondary market to analyze the problem of the stock market. Capital market in Nepal is confined to equity market only; Debt transaction is negligible in Nepal Stock Exchange. Turnover as well as market capitalization are very small relative to its GDP. Besides, NEPSE is not integrated into world markets.

The actors of financial market are loosely tied together from legal provisions, which are not effectively implemented. As the financial institutions pre-dominate the market, it has not been able to diversify. The result has been poor, security to investors, particularly minority shareholders, who are not fully aware of the risk and return consideration.

Dhamala (2016) had conducted to examine and evaluate the relationship of MPS with various financial indicators like EPS, NWPS, DPS, ROE, etc. To identify whether stocks are equilibrium priced or not. The same financial indicator that has significant role in determining MPS for one company is not significant for another company. There is no uniformity in the relationship of MPS with various financial indicators of the sampled companies. MPS of financial institutions has higher positive correlation with major financial indicators such as EPS, NWPS and DPS and such relationship is significant. The market price of share in Nepal is not indicative of a company's financial performance in stock market.

Gautam (2018) had concluded to analyze whether Nepalese investors are well known about right issue. To test whether shares prices fully reflect all the information accompanying right issue announcement to find out whether Nepalese investors use available information regarding the right issue announcement to maximize their wealth. Most of the investors buy share from both primary and secondary market. Most of the Nepalese investors invest in common stock mainly for dividend and capital gain. Most of Nepalese investors collect information regarding the right share issue through the magazines and newspaper. Few of the Nepalese investors perform company analysis to make investment in common stock. Majority of the Nepalese investors are trading shares on daily basis.

2.3 Research gap

Research gap refers to the gap between previous research and this research. Many research studies have been conducted by the different students, experts and researcher about Nepalese stock market. There have been found numerous research studies on Nepalese securities market & SEBON some studies are related to NEPSE Index some others are related to IPO, problems and prospects of stock market, determinants of stock price but the study on 'Security Price Analysis in Secondary Market of Nepal'

has not been found yet. The financial and statistical tools used by most of the researchers were ratio analysis, correlation and regression analysis.

Furthermore, it shows that there is very few research works conducted on various aspects of securities price formation of commercial banks in the field of stock market. The studies conducted in developed security markets may not be entirely relevant in the security markets of underdeveloped country like Nepal. The applicability to test in the context of smaller and underdeveloped capital market likes ours. The changes taken place after the completion of these studies might have reduce their relevance. Therefore, it is necessary to test the validity of these studies and their applicability in our context. Most of the above stated studies use technical method and statistical methods like regression analysis, correlation coefficient, NEPSE trend etc. for analysis purpose.

Only few of studies use fundamental analysis tools for the research work. More than that, some few studies are concerned about financial indicators like EPS, DPS and BVPS, which are the most influencing factors for the MVPS. So, this study tries to analyze the relationship of these factors along with influencing factor on market price of the stock. Various quantitative and qualitative factors affect the share price formation. Many studies documented that dividend is one of the most influencing factors in share price formation. The fundamental analysts say that the price of stock is the present value of the future cash flows and the price of stock must be equal to this value.

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

CHAPTER III

RESEARCH METHODOLOGY

Research methodology refers to the various sequential steps to adopt by a researcher in studying a problem with certain objectives in view (Kothari, 1990) Research methodology describes the methods and process, which has been applied in the entire aspect of the study. So in this study Research Methodology has been paid due attention to achieve the objectives of the study. A focus is given to the research design, sources of data, population and sample, method of analysis, tools defined about certain financial indicators, test of hypothesis and statistical tools used.

3.1 Research design

The research design of this study will be more descriptive as well as analytical using the various phenomena related and influencing the dividend decision and market price of stock. For this purpose secondary data and information are obtained from different reliable sources and primary data are obtained through questionnaire survey. This study is carried out by using quantitative analysis method. Mostly, secondary data has been used for analysis; hence, research design of this study is based on descriptive and analytical method.

3.2 Sources of data

Mainly the study is conducted on the basis of secondary data. The data relating to the dividend and share price are obtained from Nepal Stock Exchange. The supplementary data and information are obtained from annual reports of BOK and EBL and Banking and financial statistics of Nepal Rastra Bank.

3.3 Method of data collection & analysis

Primary source includes the response of questionnaire, shares traders and investors. Secondary source of data includes annual report of security board of Nepal, various publication of Nepal stock exchange, statistical year book of NRB, balance sheet, income statements, profit and loss a/c of concerned corporate firms, previous studies and thesis, articles and daily newspaper. The announcement day is the day of the first public announcement in the NEPSE.

Researcher used to achieve objectives, data is analyzed financial as well as statistical tools. Various financial and statistical tools have been used in this study. Mainly the analysis is be done by using financial tools, regression and correlation analysis.

3.4 Population and sample

The population of this study is operating 27 commercial banks. The sample consists of two selected bank. The sample consists 6.45% of the total population. Judgmental sampling method is to be used while selecting sample organizations for this study. The selected sample bank for the analysis are as follows.

1. Everest Bank Limited.
2. Bank of Kathmandu Limited.

3.5 Data analysis tools

Various financial and statistical tools to be used in this study. The analysis of data will be done according to pattern of data available. Mainly the analysis will be done by using financial tools and simple statistical analysis.

3.5.1 Financial tools

Financial analysis is the process of identifying the financial strengths and weaknesses of the organization by properly establishing relationships between the items of the balance sheet and the profit and loss account.

3.5.1.1 Earnings per share (EPS)

EPS is calculated to know the earning capacity and to make comparison between concerned banks. EPS is defined as the result received by dividend net profit after taxes by no of common stock outstanding.

$$\text{EPS} = \frac{\text{Net Profit After Tax}}{\text{No. of Common Stock Outstanding}}$$

3.5.1.2 Dividend per share (DPS)

DPS indicates the part of earning distributed to the shareholders on per share basis and calculated by dividing the total dividend to equity shareholders by the total no. of equity shares.

$$\text{DPS} = \frac{\text{Total Dividend}}{\text{No. of Common Stock Outstanding}}$$

3.5.1.3 Dividend pay-out ratio (DPR)

DPR is calculated to indicate percentage of the profit on share that is distributed as dividend. Using following DPR can calculate:

$$\text{DPR} = \frac{\text{Dividend Per Share}}{\text{Earning Per Share}}$$

And, Retention Ratio = 1 - DPR

3.5.1.4 Price earnings ratio (P/E Ratio)

PE Ratio reflects the price currently paid by the market for each rupee of currently reported earnings per share. It is calculated dividing the market value per share by earning per share.

$$\text{PE Ratio} = \frac{\text{Market Value Per Share}}{\text{Earning Per Share}}$$

3.5.1.5 Earning yield

Earning Yield and Dividend Yield both are expressed in terms of the market value per share. Earning Yield and Dividend yield are two important profitability ratios from the point of view of the ordinary shareholders. The earning yield may define as the ratio of earning per share to the market value per ordinary share and earning yield is calculated as;

$$\text{Earning Yield} = \frac{\text{Earning Per Share}}{\text{Market Value Per Share}}$$

3.5.1.6 Dividend yield

The dividend yield reflects percentage relationship between dividends per share and market value per share. It is calculated through dividing the dividend per share by the market value per share.

$$\text{Dividend Yield} = \frac{\text{DividendPerShare}}{\text{MarketValuePerShare}}$$

3.5.1.7 Market value per share to book value per share ratio

This ratio indicates the price the market is paying for the price that is reported from the net worth of the banks or other words it is the price of the outsiders are paying for each rupee reported by the balance sheet of the banks. It is calculated by the dividing the market value per share.

$$\text{MVPS to BVPS} = \frac{\text{MarketValuePerShare}}{\text{BookValuePerShare}}$$

3.5.2 Statistical tools

Statistical tools are used to analyze the relationship between two variables and to find how these variables are related. In this study, following statistical tools are used.

3.5.2.1 Arithmetic mean or average

The mean or average value is a single value within the range of the data that is used to represent all the values in the series. Since an average is somewhere within the range of the data, it is also called a measure of central value. It is calculated by;

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N}$$

Where,

$$\begin{aligned} \bar{X} &= \text{Arithmetic Mean} \\ \sum X &= \text{Sum of values of all items, and,} \\ N &= \text{Number of items} \end{aligned}$$

3.5.2.2 Standard deviation

The standard deviation is the measure that is most often used to describe variability in data distributions. It can be thought of as a rough measure of the average amount by

which observations deviate on either side of the mean. Denoted by Greek letter's (read as sigma), standard deviation is extremely useful for judging the representatives of the mean. Standard deviation is calculated as;

$$\text{Standard deviation}(\sigma) = \sqrt{\frac{\sum(X - \bar{x})^2}{n-1}}$$

Where,

σ	=	Standard deviation
$\sum(X - \bar{x})^2$	=	Sum of squares of the deviations measured from arithmetic average.
n	=	Number of items

3.5.2.3 Coefficient of variation

The coefficient of variation is the ratio of standard deviation to the mean for a given sample multiplied by 100 and used to measure spread. It can also be thought of as the measure of relative risk. The larger the coefficient of variation, the greater the risk relative to the average. Mathematically,

$$CV = \frac{\sigma}{\bar{X}} \times 100$$

Where,

Cv	=	Coefficient of Variation
σ	=	Standard Deviation
\bar{X}	=	Arithmetic Mean

3.5.2.4 Coefficient of correlation

Correlation is a statistical tool design to measure the degree of association between two or more variables. In other words if the changes in one variable affects the changes in other variable, then the variables are said to be co-related when it is used to measure the relationship between two variables, then it is called simple correlation. The coefficient of correlation measures the degree of relationship between two sets of figures. Among the various methods of finding out coefficient of correlation, Karl Pearson's method is applied in the study because of the simplicity and suitability for the nature of data. The result of coefficient of correlation is always lie between +1 and -1. The formula for the calculation of coefficient of correlation between X and Y is given below.

$$r = \frac{\sum x_1 x_2}{\sqrt{\sum x_1^2 \sum x_2^2}}$$

Where,

r = Correlation coefficient

$\sum x_1$ = $X_1 - \bar{X}_1$

$\sum x_2$ = $X_2 - \bar{X}_2$

Now, Correlation coefficient between dependent variable (X_1) and joint effect of the independent variable (X_2) & (X_3) on (X_1);

$$X_{1.23} = \sqrt{\frac{r_{12}^2 + r_{13}^2 - 2r_{12} r_{23} r_{13}}{1 - r_{23}^2}}$$

3.5.2.5 Independent t-test

In order to answer whether the average value of DPS, EPS, MVPS, BVPS etc. are significantly different or not between these two sample banks, independent t- test has been applied.

Null hypothesis (H_0); $\mu_1 = \mu_2$ i.e. there is no significance difference between the average value of two sample banks.

Alternative Hypothesis (H_1); $\mu_1 \neq \mu_2$ i.e. there is significance difference between the average value of two sample banks.

Test statistic under H_0 ;

$$t = \frac{(\bar{X}_1 - \bar{X}_2)}{\sqrt{S^2 \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

Where,

\bar{X}_1 = Sample mean value of X_1 series

\bar{X}_2 = Sample mean value of X_2 series

n_1 = No of X_1 series

n_2 = No. of X_2 series

S^2 = $\frac{n_1 s_1^2 + n_2 s_2^2}{n_1 + n_2 - 2}$

s_1^2 = Variance of X_1 series (σ_1)²

s_2^2 = Variance of X_2 series (σ_2)²

Level of significance: Level of significance $\alpha = 5\%$

Critical Value: Tabulated or critical value of t at α % level of significance for $(n_1 + n_2 - 2)$ degree of freedom obtain from t tables.

Decision: If calculated 't' is less than or equal to tabulated value of 't' it falls in the accept region and the null hypothesis is accepted and if calculated 't' is greater than tabulated 't' null hypothesis is rejected.

3.5.2.6 Regression analysis

Regression analysis is a mathematical measure of the average relationship between two or more variables in terms of original units of data. There are two types of variables in regression analysis – dependent variable and independent variable, the variable whose value is influenced or is to be predicted is called dependent variable whereas the variable which influences the value or is used for predication is called independent variable. The dependent variable is also known as regressed or explained variable while the independent variable is called as regress or predictor or explanatory variable.

A line of regression is the line, which gives the best estimate to the value of one variable for any specified value of the other variable. Thus the line of regression is the line of best fit. The term best fit is interpreted in accordance with principle of Least Squares which consists in minimizing the sum of squares of the residuals or the errors of estimate, i.e. deviation between the given observed values of the variables and their corresponding estimate values as given by the line of best fit. If we have two variables X and Y, we shall have two regression lines, minimizing the sum of squares of error parallel to y-axis gives the equation of the line of regression equation of Y to X and minimizing the sum of squares of the errors parallel to x-axis, gives the equation of the line of regression of X on Y.

Regression equation of Y on X is given by

$$\text{In } Y = a + b X \dots\dots\dots (i)$$

Where,

Y = Dependent variable

X = Independent variable

a = Intercept of the line

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

To find the answer of research problem, the collected data are necessary to present and analyze by processing. This chapter will present the data on table & figure. The main objective of the study is to present data and analyze them with the help of various financial and statistical tools.

4.1 Stock price analysis

Table: 4.1

Analysis of DPS & EPS of MVPS of EBL

FY	MVPS	DPS	EPS (Rs.)	MVPS to EPS (Times)	MVPS to DPS (Times)
2013/14	2631	519	86	30.59	5.06
2014/15	2120	358	78	27.17	5.92
2015/16	3385	153	40	84.62	0.14
2016/17	1353	477	32	41.70	2.83
2017/18	663	255	32	20.70	2.6
Mean				40.956	3.31
SD				25.568	2.273
CV%				0.62	0.68

Source: Annual Report of EBL from 2014/15 to 2018/19 & Appendix II & III

The table shows that the relation of MVPS with DPS & EPS, MVPS is decreasing each year during the study p except the fiscal year 2018/19 but MVPS to DPS ratio is fluctuating each year during the study period this ratio is 4.73 times in the fiscal year 2014/15 it means the MVPS is 40.956 times greater than the DPS. The highest MVPS to DPS ratio is 519 times in the fiscal year 2016/17 and that of lowest is 153 times in the fiscal year 2016/17.

Table: 4.2

Analysis of DPS & EPS of MVPS of BOK

FY	MVPS	DPS	EPS (Rs.)	MVPS to EPS (Times)	MVPS to DPS (Times)
2014/15	564	10.96	13.25	42.56	5.36
2015/16	571	27.37	15.78	36.18	20.86
2016/17	464	23	14.86	31.22	20.17
2017/18	462	13.25	20.69	22.32	34.86
2018/19	265	25	19.46	13.61	10.6
Mean				29.178	27.37
SD				11.4201	15.4926
CV				0.36	0.56

Source: Annual Report of BOK from 2014/15 to 2018/19 & Appendix IV

The table that the relation of MVPS with DPS & EPS, MVPS is decreasing up to the fiscal year 2016/17 and is increasing in the fiscal 2017/18 again decreases in the fiscal year 2018/19 but MVPS to DPS ratio is fluctuating each year during the study period. This ratio is 5.32 times in the fiscal year 2014/15. It means the MVPS is 5.32 times greater than the DPS. The highest MVPS to DPS ratio is 12.82 times in the fiscal year 2017/18 and that of lowest is 4.38 times in the fiscal year 2016/17.

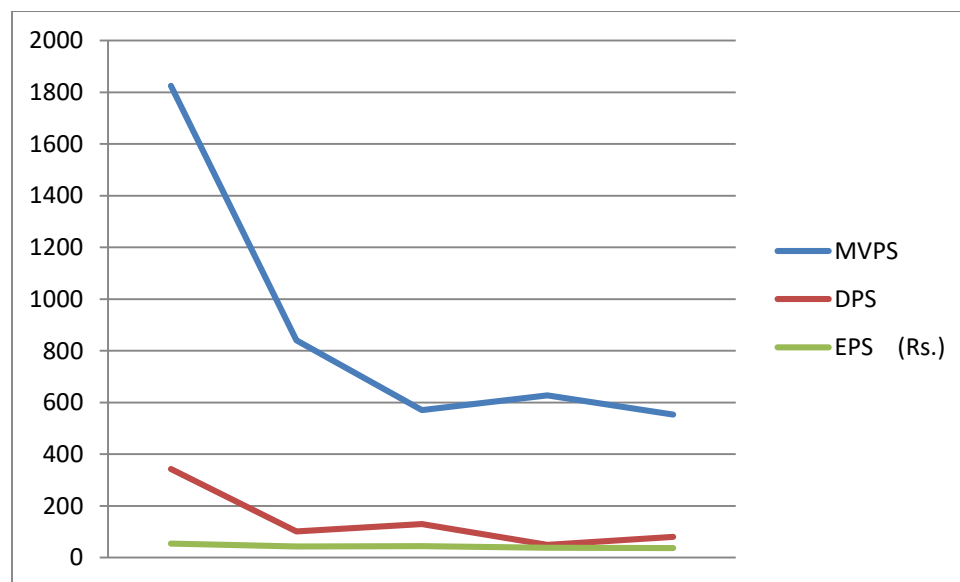


Figure: 4.1 Trend of MVPS of BOK

Figure 4.1 shows the trend line of Closing market price of BOK, the closing MVPS of BOK is highest in the year 2014/15 i.e. Rs. 1825 and minimum in the fiscal year

2018/19 i.e Rs. 553 and the market price of BOK is decreases from the fiscal year 2014/15 to 2016/17 but in the fiscal year 2017/18 the MVPS of BOK is increase to Rs. 628.

4.2 Analysis of major financial indicators related to stock price

4.2.1 Earnings per share (EPS)

Earnings per share refer the rupee amount earned per share of common stock outstanding. It measures the profitability of the shareholders' investment. The earnings per share show the profitability of the banks on a per share basis. In other words, the EPS indicates the strength and weakness of the bank. Earnings per share are computed to know the earning capacity and to make comparison between concerned banks. This ratio can be computed by dividing the earning available to common shareholders by the total number of common stocks outstanding.

4.2.2 Dividend per share analysis

Dividend per share indicates the portion of earning distributed in the shareholders on per share basis. It gives financial soundness of the company. Only financially strong companies can distribute dividend. It attracts investors to invest in shares of stock and maintains goodwill. It is an investment in shares of stock and maintains goodwill. It is calculated by dividing the total dividend to equity shareholders by the number of ordinary share outstanding.

Table: 4.3

Dividend per Share of Sample Banks(In % of Par Value Rs. 100)

Year	BOK			EBL		
	Cash	Stock	Total	Cash	Stock	Total
2014/15	0.55	10.96	11.51	50.63	12	11.51
2015/16	1.37	27.37	28.74	6.58	30	28.74
2016/17	0.0	23.00	23	3.68	70	23
2017/18	0.0	13.25	13.25	1.74	33	13.25
2018/19	11	25.00	36	20	0	36
Mean	2.584	19.916	22.5	16.526	29	45.526
SD	4.738	7.341	10.341	20.358	26.590	21.984
CV	1.83	0.36	0.45	1.23	0.91	0.48

Source: Annual Reports of Sample Banks from 2014/15 to 2018/19

The table shows that the dividend per share of the concerned banks from the year 2014/15 to 2018/19. BOK has paid cash dividend 7.37% and stock dividend 40% in the fiscal year 2014/15 and the cash dividend rate is increase up to fiscal year 2017/18

but decrease to 0.74% in the fiscal year 2018/19. Similarly, the EBL paid 30% cash & 30% stock dividend in the fiscal year 2014/15 after that the cash dividend is increase but stock dividend is fluctuating each year. In the fiscal year 2018/19 EBL has not paid any cash dividend. The total dividend of BOK is fluctuating each year and BOK has not any stable dividend but EBL has stable dividend policy.

4.2.3 Dividend payout ratio (DPR)

DPR is the proportion of earnings paid in the form of dividend. This ratio reflects what percentage of profit is distributed as dividend and what percentage of profit is retained as reserve and surplus for the growth of the company. It is calculated by dividing by EPS.

4.2.4 Price earnings ratio (P\E Ratio)

P\E ratio indicates the price currently paid by the market for each rupee/dollar of currently reported earnings per share (EPS). It is also called the earning multiplier. It is the ratio between market price per share and earnings per share. The higher the P\E ratio implies the market share price of a stock given the earning per share and the greater confidence of investors in the firm's future. It is calculated by the dividing market price per share (MVPS) by earning per share (EPS). The P\E ratio measures investment's expectation and market appraisal of the performance of the firm.

Table: 4.4

Price Earnings Ratio(In Times)

Year	BOK	EBL
2014/15	42.56	30.58
2015/16	36.19	27.17
2016/17	31.22	83.94
2017/18	22.33	41.66
2018/19	13.62	20.23
Mean	29.184	40.716
SD	11.417	25.373
C.V	0.39	0.62

Source: Annual Reports of sample banks from 2014/15 to 2018/19

The table shows that the price earnings ratio of the sample banks. This helps to classifying the relationship between earning per share and market price per share. BOK has the highest PE Ratio of 33.37 times and EBL has 24.55 times in the fiscal year 2014/15. In all fiscal year except the fiscal year 2018/19, price earnings ratio of

BOK is higher than EBL. A high P/E suggests that investors are expecting higher earnings growth in the future compared to companies with a lower P/E. However, the P/E ratio doesn't tell us the whole story by itself. It's usually more useful to compare the P/E ratios of one company to other companies in the same industry, to the market in general or against the company's own historical P/E..

4.2.5 Dividend yield (DY)

The dividend yield reflects the percentage relationship between dividend per share and market value per share. It measures the dividend in relation to market value of the investors as a percentage of market prices per share in the stock market. It is calculated by dividing the cash dividend per share (DPS) by the market price per share (MVPS). This ratio highly influences the MVPS because a small change in DPS can bring effective changes in the market value per share.

Table: 4.5

Dividend Yield Ratio(in percentage)

Year	BOK	EBL
2014/15	0.0204	0.004
2015/16	0.0503	0.013
2016/17	0.0496	0.007
2017/18	0.028	0.010
2018/19	0.136	0.054
Mean	0.057	0.018
SD	0.066	0.021
C.V	1.32	1.24

Source: Annual Reports from 2014/15 to 2018/19 and Appendix-II

The table shows that the dividend yield analysis for the year 2014/15 to 2018/19. Dividend yield highly influences the market value per share because a change in dividend per share can bring effective change in the market value of the share. Therefore, before allocation of dividend to share holders the impact on market scenario and price fluctuation is to be studied and evaluated for the long run survival of the bank. In the year 2014/15, the data related to dividend yield of BOK is 0.40% and EBL is 1.22% acquire the shareholders. The highest dividend yield ratio of BOK is 3.39% and EBL is 4.57% in the fiscal year 2017/18 & 2016/17 respectively. The dividend yield ratio of EBL is greater than BOK in each fiscal year except the fiscal years 2017/18.

4.2.6 Earning yield (EY)

Earning Yield and Dividend Yield both are expressed in terms of the market value per share. Earning Yield and Dividend yield are two important profitability ratios from the point of view of the ordinary shareholders. The earning yield may define as the ratio of earning per share to the market value per ordinary share.

Table: 4.6

Earning Yield Ratio (In Percentage)

Year	BOK	EBL
2014/15	0.0327	0.0235
2015/16	0.0368	0.0276
2016/17	0.0118	0.03202
2017/18	0.0237	0.0448
2018/19	0.0483	0.0734
Mean	0.0306	0.0403
SD	0.0137	0.0201
C.V	0.44	0.5

Source: Annual Reports from 2014/15 to 2018/19 and Appendix-III

The table shows that the earning yield ratio of BOK and EBL from 2014/15 to 2018/19. Both the banks have fluctuating rate of earning yield ratio. The highest earning yield ratio of BOK is 7.81% and EBL is 8.57% in the fiscal year 2015/16 & 2016/17. The earning yield ratio of EBL is greater than BOK in each fiscal year except in the fiscal year 2016/17 & 2018/19. Comparing to BOK with the average value of 5.72% the EBL is better with the average value of 6.43%. The Standard Deviations of BOK and EBL are 1.81% and 1.73% respectively, it means BOK has more variability in compare to EBL. The CV of EY ratio of BOK and EBL are 31.59% and 26.96% respectively which indicate that BOK is less variable than EBL. EBL is more consistent or less variable than BOK.

4.2.7 Market value per share to book value per share ratio

This ratio measures the market situation in the competitive open market with respect to book value per share (BVPS) of the firm. This ratio indicates the price, the market is paying for the share that reported from the banks, or in other words, it is the price of the outsiders, are paying for each rupee reported by the balance sheet of the banks.

Table: 4.7

Market Value per Share to Book Value per Share Ratio (In Times)

Year	BOK	EBL
2014/15	3.052	0.049
2015/16	3.155	0.031
2016/17	3.135	0.035
2017/18	2.625	0.010
2018/19	1.506	0.004
Mean	2.694	0.026
SD	0.699	0.019
C.V	0.259	0.72

Source: Annual Reports from 2014/15 to 2018/19 and Appendix-IV

The table shows that both the banks have decreasing trend of market value per share to book value per share ratio from the fiscal year 2014/15 to 2016/17 after that the ratio is increases up to the fiscal year 2018/19. The highest ratio of BOK is 18.25 times and EBL is 24.55 times in the fiscal year 2014/15. The market value per share to book value per share ratio of EBL is greater than BOK in each fiscal year. Comparing to BOK with the average value of 8.83 times the EBL is better with the average value of 15.61 times. The Standard Deviations of BOK and EBL are 5.39 times and 5.70 times respectively, it means EBL has more variability in compare to BOK. The CV of market value per share to book value per share ratio of BOK and EBL are 61% and 36.55% respectively which indicates that EBL is less variable than BOK. EBL is more consistent or less variable than BOK.

4.2.8 Independent t-test

In order to test whether the average value of DPS, EPS and MVPS, of two sample banks are significantly different or not, independent t- test has been applied. For this study some set of null and alternative hypothesis have been formulated and tested.

Table: 4.8

Independent t-test (T-Distribution)

Tested Variable	Mean \pm SD		Degree Of Freedom	Level Of Significance	Calculated t -Value	Tabulated t - Value	Decision	
	BOK	EBL						
DPS of Sample Banks	12.24 \pm 8.16	32.00 \pm 20.49	(5+5-2)=8	$\alpha=5\%$	1.791	2.306	Ho	Accepted
EPS of Sample Banks	43.36 \pm 7.15	92.75 \pm 7.37	(5+5-2)=8	$\alpha=5\%$	9.620	2.306	Ho	Accepted
MVPS of Sample Banks	883.2 \pm 538.8	1560.6 \pm 570.48	(5+5-2)=8	$\alpha=5\%$	0.010	2.306	Ho	Accepted

Source: Appendix XII, XIII and XIV

From table 4.8, it is found that the tabulated value of t-distribution is greater than calculated value in terms of DPS & MVPS by considering the test statistic. So, null hypothesis H_0 is accepted and alternative hypothesis H_1 is rejected, it means there is no significant difference between the mean value of DPS and MVPS of sample banks. In other words, both the banks are in the same position with respect to DPS and MVPS but in case of EPS it is found that the tabulated value of t-distribution is less than calculated value So, null hypothesis H_1 is accepted and alternative hypothesis H_0 is rejected, it means there is significant difference between the mean value of EPS of sample banks.

4.2.9 Correlation analysis

The coefficient of correlation measures the degree of relationship between two sets of figures. Among the various methods of finding out coefficient of correlation, Karl Pearson's method is applied in the study because of the simplicity and suitability for the nature of data. The result of coefficient of correlation is always lie between +1 and -1.

Table: 4.9

Correlations between DPS & MVPS of Banks

Variables	R	Relationship	r ²	t-cal	t-tab	Remarks
EBL	0.152	Positive	0.023	0.266	2.201	Insignificant
BOK	0.264	Positive	0.070	0.442	2.201	Insignificant

Source: Appendix VII, VIII

The purpose of computing is to find out the relationship between DPS and MVPS is going to same direction or opposite direction. The values of coefficient of correlation(r) of EBL is 0.152 which shows that there is a negative correlation between DPS and MVPS, therefore the value of coefficient of determination(r²) is 0.023 which shows that 2.30% of the total variation independent variable (MVPS) is explained by independent variable (DPS). The calculated value of EBL is less than the tabulated value i.e. and $0.266 < 2.201$ therefore it reveals that the relationship between DPS and MVPS is insignificant. The insignificant in the correlation coefficient might be because of the small sample size.

The values of coefficient of correlation(r) between DPS & MVPS of BOK is 0.264 which shows that there is a negative correlation between DPS and MVPS, the value of coefficient of determination(r²) is 0.070 which shows that 6.95% of the total variation independent variable (MVPS) is explained by independent variable (DPS). The calculated' value of BOK is less than the tabulated value i.e. and $0.442 < 2.201$ therefore it reveals that the relationship between DPS and MVPS is insignificant.

Table: 4.10

Correlations between EPS & MVPS of Banks

Variables	R	Relationship	r ²	t-cal	t-tab	Remarks
EBL	0.811	Positive	0.658	4.111	2.201	Significant
BOK	0.904	Positive	0.816	8.519	2.201	Significant

Source: Appendix IX & X

The above table shows that the value of coefficient of correlation(r) between EPS & MVPS of EBL is 0.811 which shows that there is a positive correlation between EPS and MVPS, therefore the value of coefficient of determination (r²) is 0.658 which shows that 65.83% of the total variation independent variable (MVPS) is explained by independent variable (EPS). The calculated value of EBL is more than the tabulated

value i.e. and $4.111 > 2.201$ therefore it reveals that the relationship between EPS and MVPS is significant.

The above table shows that the values of coefficient of correlation(r) between EPS & MVPS of BOK is 0.904 which shows that there is a positive correlation between EPS and MVPS, the value of coefficient of determination(r^2) is 0.816 which shows that 81.64% of the total variation independent variable (MVPS) is explained by independent variable (EPS). The calculated' value of BOK is more than the tabulated value i.e. and $8.519 > 2.201$ therefore it reveals that the relationship between EPS and MVPS is significant.

Table: 4.11

Correlations between DPS & EPS of Banks

Variables	R	Relationship	r^2	t-cal	t-tab	Remarks
EBL	-0.137	Negative	0.018	0.223	2.201	Insignificant
BOK	0.099	Positive	0.009	0.172	2.201	Insignificant

Source: Appendix V & VI

The purpose of computing is to find out the relationship between DPS and EPS is going to same direction or opposite direction. Table 4.5 describes the relationship between DPS and EPS during the period of study. The coefficient of correlation (r) between DPS and EPS of EBL is -0.137. This figure shows the negative association between DPS and EPS. It means DPS and EPS both move towards opposite direction. The coefficient of determination (r^2) is 0.018 it shows that 1.88% of the variation in the dependent variable (i.e. DPS) has been explained by the independent variable (i.e. EPS). The calculated' value of EBL is less than the tabulated value i.e. $-0.137 < 2.201$, therefore it reveals that the relationship between DPS and EPS is insignificant.

The coefficient of correlation (r) between DPS and EPS of BOK is 0.099. This figure shows the positive association between DPS and EPS. It means DPS and EPS both move towards same direction. The coefficient of determination (r^2) is 0.009 it shows that 0.098% of the variation in the dependent variable (i.e. DPS) has been explained by the independent variable (i.e. EPS). The calculated' value of BOK is less than the tabulated value i.e. $0.172 < 2.201$, therefore it reveals that the relationship between DPS and EPS is insignificant.

4.2.10 Regression analysis

The regression line have been developed to show the degree of relationship between DPS on MVPS & EPS on MVPS and to estimate further figure of concern variables.

Regression equation of Y on X is given by

$$\text{In } Y = a + b X \dots\dots\dots (i)$$

Where,

Y= Dependent variable (MVPS)

X= Independent variable (EPS & DPS)

a = Intercept of the line

4.2.10.1 Simple regression of MVPS on EPS

This analysis tests dependency of market price per share on earning per share.

Dependency of MVPS on EPS is shown as follows.

Table: 4.12

Simple Regression Analyses of MVPS on EPS

Variables	Constant (a)	Coefficient (b)	t-cal	t-tab
EBL	4276.95	62.80	4.1113	2.201
BOK	2018.79	68.08	8.5194	2.201

Source: Appendix IX & X

The above table shows that the regression constant of EBL 4276.95 implies that when EPS is zero, MVPS is 4276.95. The coefficient for EPS 62.80 implies that when EPS increases by RS.1, MVPS decreases by RS. 62.80 and vice versa. From this analysis it is clear that there is direct and negative impact of EPS on MVPS if EPS is increases MVPS will be decrease and vice versa.

The regression constant of BOK 2018.79 implies that when EPS is zero, MVPS is 2018.79. The coefficient of EPS 68.08 implies that when EPS increases by RS.1, MVPS decrease by RS. 68.08 or vice versa. From this analysis it is clear that there is direct and negative impact of EPS on MVPS if EPS is increases MVPS will be decrease and vice versa.

4.2.10.2 Simple regression of MVPS on DPS

This analysis tests dependency of market price per share on dividend per share.

Dependency of MVPS on DPS is shown as follows.

Table: 4.13

Simple Regression Analyses of MVPS on DPS

Variables	Constant (a)	Coefficient (b)	t-cal	t-tab
EBL	1424.67	4.23	0.2662	2.201
BOK	886.43	17.41	0.4416	2.201

Source: Appendix VI & VIII

The regression constant of BOK 886.43 implies that when DPS is zero, MVPS is 886.43. The coefficient for DPS is 17.41 implies that when DPS increases by RS.1, MVPS decrease by RS. 17.41 and vice versa. From this analysis it is clear that there is direct and negative impact of DPS on MVPS if DPS is increases MVPS will be decrease and vice versa.

The regression constant of EBL 1424.67 implies that when DPS is zero, MVPS is 1424.67. The coefficient for DPS is 4.23 implies that when DPS increases by RS.1, MVPS increase by RS. 4.32 and vice versa. From this analysis it is clear that there is direct and positive impact of DPS on MVPS if DPS is increases MVPS will be increase and vice versa..

4.3 Major findings

The major findings of the study derived from the analysis of financial as well as statistical tools of BOK and EBL are as follows.

- i. The MVPS to EPS ratio is decreases and increases with the MVPS so it is clear that there is direct impact of both bank's EPS on MVPS.
- ii. There is direct and negative impact of EPS on MVPS of both banks, if EPS is increases MVPS will be decrease and vice versa.
- iii. There is direct and positive impact of DPS on MVPS of EBL, if DPS is increases MVPS will be increase and vice versa.
- iv. There is direct and negative impact of DPS on MVPS of BOK, if DPS is increases MVPS will be decrease and vice versa.

- v. The coefficient of correlation (r) between DPS and EPS are -0.0993 and -0.1371 and the relationship between DPS & EPS are negative and insignificant of both banks.
- vi. The coefficient of correlation (r) between EPS and MVPS are 0.8113 and 0.9035 and the relationship between EPS & EPS is positive and significant of both banks.
- vii. The values of coefficient of correlation(r) of BOK and EBL are -0.2637 and -0.1519 respectively which shows that there is a negative correlation between DPS and MVPS and it is found that the relationship between DPS and MVPS is insignificant of both banks.
- viii. The coefficient of correlation (r) between DPS, EPS& MVPS of EBL & BOK are 0.8291 & 0.9203 respectively and the relationship between DPS, EPS& MVPS of EBL & BOK is significant.
- ix. From the hypothesis test it is found that the null hypothesis H_0 is accepted and alternative hypothesis H_1 is rejected in case of DPS & MVPS but in case of EPS null hypothesis H_1 is accepted and alternative hypothesis H_0 is rejected.
- x. Fiscal year 2018/19, comparing to BOK with the average value of 1.73% the EBL is better with the average value of 2.16%.
- xi. The earning yield ratio of EBL is greater than BOK in each fiscal year except in the fiscal Dividend Yield Ratio of BOK is increases each year than previous year except the year 2016/17&2018/19. Comparing to BOK with the average value of 5.72% the EBL is better with the average value of 6.43%.
- xii. Comparing to BOK with the average value of MVPS 8.83 times the EBL is better with the average value of 15.61 times. The CV of market value per share to book value per share ratio of BOK and EBL are 61% and 36.55% respectively which indicate that EBL is less variable than BOK.
- xiii. It is finding that 9.68% of the respondents are agreed with higher the risk, higher the share price.
- xiv. It is finding that 77.42 % of the respondents are agreeing that the increased cash dividend increases the share price in the market.
- xv. 51.61% of the respondents are agreeing that the increase in retention ratio increases the share price in the market.
- xvi. It is finding that that 16.13% of the respondents were agreed with share price increases with change in management and 9.68% of the respondents were agreed with higher the risk, higher the share price.

CHAPTER V

SUMMARY, CONCLUSIONS & RECOMMENDATIONS

5.1 Summary

A stock market or equity market is the aggregation of buyers and sellers (a loose network of economic transactions, not a physical facility or discrete entity) of stocks (shares) these are securities listed on a stock exchange as well as those only traded privately. The stock market is one of the most important sources for companies to raise money. This allows businesses to be publicly traded, or raise additional financial capital for expansion by selling shares of ownership of the company in a public market. The liquidity that an exchange affords the investors gives them the ability to quickly and easily sell securities. This is an attractive feature of investing in stocks, compared to other less liquid investments. Some companies actively increase liquidity by trading in their own shares. The financial system in most western countries has undergone a remarkable transformation.

One feature of this development is disintermediation. A portion of the funds involved in saving and financing, flows directly to the financial markets instead of being routed via the traditional bank lending and deposit operations. The general public interest in investing in the stock market, either directly or through mutual funds, has been an important component of this process.

A share price is the price of a single share of a number of saleable stocks of a company, derivative or other financial asset. In layman's terms, the stock price or the value of a company is the present value of its future cash flows. The higher the cash flows (revenues, collection of accounts receivables, etc) the higher is the stock price. This is because investors care about the cash flows and what those flows mean to them in the present. Cash flows are crucial in determining the value of a stock since the ability to pay dividends depends on it as much as it does on the bottom line of the company.

Any change in dividend policy has both favorable and unfavorable effects on the firm's stock price. Higher the dividend means the immediate cash flows to investors,

which is good but lower future growth is bad. Thus, the dividend policy should be optimal which balances the opposing forces and maximizes the stock price. The dividend policy affects financial structure, the flow of funds, corporate liquidity and investor's attitude; it is related to overall financing decision as dividend payout reduces the amount of retained earnings that are paid to shareholders in return to their investment. So the purpose of this study is to make comparative analysis of dividend policy of selected banks. The major findings are:

- i. It describes the major issues to be investigated along with the general background, brief profiles of the sample banks statement of problem, objectives, significance of the study, limitation of the study and organization of the study.
- ii. It is devoted to theoretical analysis and brief review of related and pertinent literature available. It includes a discussion on the conceptual framework and review of the major studies in general.
- iii. It describes the research methodology employed in the study. This chapter deals with the research design, source of data, methods of analysis, analysis of financial indicators and variables, test of hypothesis, definition of statistical tools etc.
- iv. It deals with the presentation and analysis of data to indicated quantitative factors on dividend policy using statistical tools and techniques. This chapter also includes the major findings.
- v. It states summary, conclusion and recommendations, compares them with other empirical evidence to the extent possible and provides some suggestions.

5.2 Conclusions

The above mentioned major findings led this study concludes that the sample banks have got sufficient earnings but EBL is paying high dividend and BOK is paying low dividend. Other things remaining the same, dividend per share is not more stable than the dividend payout ratio. That's why dividend per share and other variable have been highly fluctuated. Another interesting conclusion is that market price of share is attracted by dividend. Lastly, the sample banks have not clearly defined dividend policy. There is a greater variation in the data set of Market Price per Share, Earnings per Share, and Dividend per Share because of the size difference of banks.

Some of the banks are well established since a long period, and thus they have strong financial base and employ higher capital and equity which increases bank's Market Price per Share, Earnings per Share, and Dividend per Share. All the other variables have low standard deviation values which show consistency of data set and values close to the mean.

Whereas analysis of primary data (from view point of respondents) summarizes, company performance (EPS, BPS, DPS, risk), information disclosed, timely AGM, other political and economic factors such as political stability, national economy, peace, strikes demand and supply situation of the share, cease-fire etc. are the some important factors having significance influence on the share price. Similarly, other relevant factors, interest rate, tax rate, seasonal factors, day of the week effect, gold price, global economy, value of US\$, cost of equity, market liquidity, size of the firm and change in management do not have significant effect. The study concludes that the Nepalese stock market is in infancy stage. There is a gap between the theory and practice of investment in Nepalese stock market due to lack of proper study/analysis of stock market professionalism is lacking. In spite of the several constraints, the NEPSE has been growing gradually. The commercial banking sector is the best performer among the listed companies. We can't undermine the truth that with the presence of peace and political stability, the capital market gets far better soon.

5.3 Recommendations

To full fill the objectives of this study, related data and ideas are collected from different sources. The data are presented; analyzed and interpreted then conclusions are made. Based on the analysis, interpretation and conclusions of this study certain recommendation can be made here. So that the concerned authorities, further researcher, academicians and bankers can get insights on the present conditions of above topics. It is considered that this research will fruitful for them to improve the present condition as well as for further research. The major recommendations after this study are as follows:

1. The performance of commercial banks, financial components & manufacturing and processing companies are better than the other sectors. So it is recommended to the investors to invest their investment in those sectors.

2. Even though DPS, EPS & MVPS jointly have significant effect on the share price, individually they do not have consistent relationship with MVPS. It means that there may be other major factors influencing and determining the share price significantly. So, it is recommend considering these other factors to stable the share price.

3. The sample banks have great fluctuation in DPS, EPS, DPR, Dividend Yield, and Share Price and PE Ratio. The fluctuations should be controlled and the consistency in the variables has become most necessary.

4. The DPS analysis shows that there is not any consistency of dividend policy in all the sample banks. Therefore, these banks need to create somehow paying reasonable DPS every year, it is because higher DPS creates positive attitude of shareholders & investors as the psychological value of shareholders is also valued as the assets of banks.

5. Further studies can be conducted by using others organization as sample, by using other sophisticated tools and techniques, by using other aspects as well.

TABLE OF CONTENTS

Recommendation

Viva-Voce Sheet

Declaration

Acknowledgements

Table of Contents

List of Tables

List of Figures

Abbreviations

CHAPTER I

INTRODUCTION..... 1

1.1 General background 1

1.2 Statement of the problem 3

1.3 Objectives of the study 3

1.5 Limitations of the study 4

1.6 Organization of the study 4

CHAPTER II

REVIEW OF LITERATURE..... 6

2.1 Conceptual Review 6

2.1.1 Capital Market 6

2.1.1.1 Security Market..... 6

2.1.2 Common Stock..... 7

2.1.2.1 Common Stock Values 8

2.1.3 Return on Common Stock 8

2.1.3.1 Single Period Rate of Return 9

2.1.3.2 Required Rate of Return 9

2.1.3.3 Expected Rate of Return..... 10

2.1.4 Risk on Common Stock..... 10

2.3 Research gap..... 25

CHAPTER III

RESEARCH METHODOLOGY

3.1 Research design 27

3.2 Sources of data..... 27

3.4 Population and sample	28
3.5 Data analysis tools	28
3.5.1 Financial tools.....	28
3.5.2 Statistical tools	30
CHAPTER IV	
PRESENTATION AND ANALYSIS OF DATA	34
4.1 Stock price analysis.....	34
4.2 Analysis of major financial indicators related to stock price.....	36
4.2.1 Earnings per share (EPS).....	36
4.2.2 Dividend per share analysis	36
4.2.3 Dividend payout ratio (DPR).....	37
4.2.4 Price earnings ratio (P/E Ratio)	37
4.2.5 Dividend yield (DY)	38
4.2.6 Earning yield (EY)	39
4.2.7 Market value per share to book value per share ratio	39
4.2.8 Independent t-test.....	40
4.2.9 Correlation analysis.....	41
4.2.10 Regression analysis	44
4.2.10.1 Simple regression of MVPS on EPS	44
4.2.10.2 Simple regression of MVPS on DPS.....	45
4.3 Major findings	45
CHAPTER V	
SUMMARY, CONCLUSIONS & RECOMMENDATIONS.....	47
5.1 Summary	47
5.2 Conclusions	48
5.3 Recommendations.....	49
BIBLIOGRAPHY	
APPENDIX	

LIST OF TABLES

Table: 4.1 Analysis of DPS & EPS of MVPS of EBL	34
Table: 4.2 Analysis of DPS & EPS of MVPS of BOK	35
Table: 4.3 Dividend per Share of Sample Banks	36
Table: 4.4 Price Earnings Ratio.....	37

Table: 4.5 Dividend Yield Ratio	38
Table: 4.6 Earning Yield Ratio	39
Table: 4.7 Market Value per Share to Book Value per Share Ratio	40
Table: 4.8 Independent t-test (T-Distribution).....	41
Table: 4.9Correlations between DPS & MVPS of Banks	42
Table: 4.10Correlations between EPS & MVPS of Banks	43
Table: 4.11Correlations between DPS & EPS of banks.....	44
Table: 4.12 Simple Regression Analyses of MVPS on EPS.....	45
Table: 4.13 Simple Regression Analyses of MVPS on Dps.....	46

BIBLIOGRAPHY

- Adhikari, N.R. (2000). *Corporate Dividend Practices in Nepal Unpublished Master's Degree Thesis*, Central Department of Management T.U., Kirtipur
- Adhikari. (2007). Effects of dividends on stock prices in Nepal. *NRB Economic Review*, 24(2), 61-75
- Adhikari, P. R. (2011). *Investment Management*. Kathmandu: Asmita Books Publishers & Distributors.
- Basset, P. (2004). *Dividend Adhikari, N.R. (2000). Corporate Dividend Practices in Nepal, Unpublished Master's Degree Dissertation*, T.U. Central Department of Management, Kirtipur. .
- Bhattarai, B.H. (1996). *Dividend Decision and Its Impact on Stock Valuation, Unpublished Master's Degree Dissertation*, T.U. Central Department of Management, Kirtipur.
- Bhattarai, R. (2005). *Investment Theories & Practices*, Kathmandu: Buddha Academic Publishers & Distributors.
- Bista, S. (2006). *Dividend Policy and Practices in Nepal: A Comparative Study of Listed Joint Venture Commercial Banks and Manufacturing Companies*, Shanker Dev Campus, March, 2006
- Bhattarai, B.H. (2008). *Dividend Decision and its impact on stock Valuation. Unpublished Master's Degree Dissertation*, Central Department of Management, and T.U. Kirtipur.
- Bhatta, G. P. (2009). Dividend Decision and Its Impact on Stock Valuation? *SEBON, Journal*, 4: 18-58.
- Bajracharya and Koirala (2012). *Dividend Policy: Comparative Study Between Nepal Arab Bank Ltd. and Nepal Grindlays Bank Ltd.*, Unpublished Master's Degree Dissertation, T.U. Central Department of Management, Kirtipur.
- Cheney. J. M. & Mosses, E. A. (1995). *Fundamental of Investment. St. Paul: West Publication Company.*
- Dhamala, R. (2016). *Determinants of share price in Nepalese Financial Market*, Kathmandu: An unpublished Master's Degree Thesis, Submitted to Faculty of Management, Shanker Dev Campus, T.U.
- Fisher, D. E. & Jordan, R. J. (2000). *Security analysis and portfolio management. (6th Edition). New Delhi: Hall of India Pvt. Ltd.*

- Friend and Puckett, (1964). *Dividends and Stock Prices. The American Economic Review* V(4).
- Gautam, R.R. (2000). *Dividend Policy in Commerical Banks a Comparative Study of NGBL, NIBL, NABIL*. Unpublished Master's Degree Thesis, Shanker Dev Campus, and T.U.
- Gurung, J. B. (2004). Growth and Performance of Securities Market in Nepal, *The Journal of Nepalese Business Studies*, 1(1), 85-92.
- Gautam, R.R. (2009). *Dividend Policy in Commerical Banks a Comparative Study of NGBL, NIBL, NABIL*. Unpublished Master's Degree Thesis, Shanker Dev Campus, and T.U.
- Gautam, G. (2011). *A Study of Stock market Behavior in Nepal: An unpublished Master's Degree Thesis, Submitted to Faculty of Management, Shanker Dev Campus, T.U.*
- Gyawali, D. (2014). *Risk and Return on Common Stock, Kathmandu: An unpublished Master's Degree Thesis, Submitted to Faculty of Management, Shanker Dev Campus, T.U.*
- Gautam (2018). *Equity Right Issue and the Efficiency of the Nepalese Stock Market*, Faculty of Management, T.U
- IMF Working Paper (1997). *Determinants of Stock Prices: The Case of Zimbabwe*.
- Jennergren, R. & Korsvold, P. (1975). *The Non-Random Character of Norwegian and Swedish Stock Market Prices*, In International capital market. Amsterdam, North-Holland.
- Jha, P.K. (2007). *"Dividend Policy of Listed Companies in Nepal: Comparative Study on Banking, Finance and Insurance Companies"* Unpublished Master's Degree Thesis Peoples College.
- Kothari, C. R. (1990). *Research Methodology Methods & Techniques*. New Delhi: Vishwa Prakashan.
- .Khatiwada, N.P. (2001). *Impact of dividend and earning announcement on Shareholders Return and Stock Prices in Nepal*. Unpublished Master's Degree Thesis, Shanker Dev Campus, and T.U.
- Kadariya, S. (2012). *Stock Market behavior in a small capital market: A Case of Nepal*. The Nepalese Management Review, Kathmandu: Tribhuvan University, 9(1), 20-32

- Modigliani, F. and Miller, M.H. (1961). *Dividend Policy, Growth and Valuation of Shares*. Journal of Business. (October)
- Myron J G. (1929), *The Investment Financing and valuation of Corporation*
- Maharjan, T. (2015). *A study on stock market in Nepal with concentrate to problems and prospects*. Kathmandu: An unpublished Master's Degree Thesis, Submitted to Faculty of Management, Shanker Dev Campus, T.U.
- Mainali, R. (2015). Problems & Prospects of Stock Market in Nepal., *SEBON Journal*. Kathmandu: SEBON, V-11, V- 17.
- Manandhar, K.D. (2000). *Preliminary Test of Lagged Structure of Dividend. Empirical Test, case of corporate firms in Nepal*, Management Dynamics Vol-10, Shanker Dev Campus.
- Manandhar, K. (2013). *A Study on Security Price and Risk & Return Analysis of Listed Commercial Bank in Nepal*, Kathmandu: An unpublished Master's Degree Thesis, Submitted to Faculty of Management, Shanker Dev Campus, T.U.
- NEPSE (2010/11-2014/15). *Annual Report*, Kathmandu: Nepal Stock Exchange.
- Pradhan, S. (1993). *Basic of Financial Management*. Kathmandu: Educational Enterprises.
- Pradhan, K. (2003). *Fundamental of Investment*, Kathmandu: Pinacal Books Publications.
- Poudyal, D. (2012) "A Study on Share Price Behavior of Joint Venture Banks in Nepal". An Unpublished Master Degree thesis. Faculty of Management. Shankar Dev Campus. T.U.
- Rijal, S. (2004). *Impact of Dividend Policy on Market Price of Shares*, Unpublished Master's Degree Dissertation, T.U. Central Department of Management, Kirtipur.
- Regmi, S. (2012). *Impact of Dividend Policy on Market Price of Shares*, Unpublished Master's Degree Dissertation, T.U. Central Department of Management, Kirtipur.
- Shrestha M. K. & Bhandari D. B. (2006). *Financial Market & Institutions*, Kathmandu: Asmita Books Publisher & Distributers.
- Shrestha, S. (2014). *Stock return and Trading Volume in Nepal*. SEBON Journal. Kathmandu: SEBON, V-9(8), 17.
- Sharma, S. (2012). *Problem & Prospects of Primary and Secondary Market in Nepal*.

Kathmandu: An unpublished Master's Degree Thesis, Submitted to Faculty of Management, Shankar Dev Campus, T.U.

Timilsina, S. (1997). *Dividend and Stock Price: An Empirical Study*,

Unpublished 1997, Master's Degree Dissertation, T.U. Central Department of Management, Kirtipur.

Van Horn, J. C. (1997). *Financial Management & Policy*. New Delhi: Prentice Hall of India.

Weston, J.F. & Brigham, E.F (1982). *Essentials of Managerial Finance*. Forth Worth: The Dryden Press.

Website References:

www.sebonnp.com

www.nepalstock.com

www.nrb.org.np

www.bok.com.np

www.everestbankltd.com

Appendix I

Calculations of Dividend Payout Ratio of Sample Banks

Year	DPS		EPS		DPR	
	BOK	EBL	BOK	EBL	BOK	EBL
2014/15	7.37	30	54.68	99.99	13.48	30.00
2015/16	15	30	43.08	100.16	34.82	29.95
2016/17	16.75	50	44.51	83.18	37.63	60.11
2017/18	21.32	0	37.88	88.55	56.28	0.00
2018/19	0.74	50	36.64	91.88	2.02	54.42
Mean					28.85	34.90
S.D					21.34	23.89
C.V					73.98	68.46

Appendix II

Calculations of Dividend Yield Ratio of Sample Banks

Year	DPS		MVPS		DY	
	BOK	EBL	BOK	EBL	BOK	EBL
2014/15	7.37	30	1825	2455	0.40	1.22
2015/16	15	30	840	1630	1.79	1.84
2016/17	16.75	50	570	1094	2.94	4.57
2017/18	21.32	0	628	1033	3.39	0.00
2018/19	0.74	50	553	1591	0.13	3.14
Mean					1.73	2.16
SD					1.46	1.76
CV					84.40	81.77

Appendix III

Calculations of Earning Yield Ratio of Sample Banks

Year	EPS		MVPS		EY	
	BOK	EBL	BOK	EBL	BOK	EBL
2014/15	54.68	99.99	1825	2455	3.00	4.07
2015/16	43.08	100.16	840	1630	5.13	6.14
2016/17	44.51	83.18	570	1094	7.81	7.60
2017/18	37.88	88.55	628	1033	6.03	8.57
2018/19	36.64	91.88	553	1591	6.63	5.77
Mean					5.72	6.43
S.D					1.81	1.73
C.V					31.59	26.96

Appendix IV

Calculations of Market Value per Share to Book Value per Share Ratio Of Sample Banks

Year	BVPS		MVPS		DY	
	BOK	EBL	BOK	EBL	BOK	EBL
2014/15	100	100	1825	2455	18.25	24.55
2015/16	100	100	840	1630	8.4	16.3
2016/17	100	100	570	1094	5.7	10.94
2017/18	100	100	628	1033	6.28	10.33
2018/19	100	100	553	1591	5.53	15.91
Mean					8.83	15.61
S.D					5.39	5.70
C.V					61.00	36.55

Appendix V

Calculation for Mean Value, Standard Deviation, Coefficient of Variation & Correlation between DPS & EPS of BOK

Year	DPS (X)	EPS (Y)	X ²	Y ²	XY
2014/15	7.37	54.68	54.32	2989.90	402.99
2015/16	15.00	43.08	225.00	1855.89	646.20
2016/17	16.75	44.51	280.56	1981.14	745.54
2017/18	21.32	37.88	454.54	1434.89	807.60
2018/19	0.74	36.64	0.55	1342.49	27.11
N = 5	Σ X = 61.18	Σ Y = 216.79	Σ X² =1014.97	Σ Y² =9604.31	Σ XY =2629.45

Dividend per Share,

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = 12.24$$

$$\text{Standard Deviation } (\delta_X) = \sqrt{\frac{1}{n} \left[\sum X^2 - \frac{(\sum X)^2}{n} \right]} = 8.16$$

$$\text{Coefficient of Variation (CV)} = \frac{\delta}{\bar{X}} = 66.69$$

Earnings per Share,

$$\text{Mean } (\bar{Y}) = \frac{\sum Y}{N} = 43.36$$

$$\text{Standard Deviation } (\delta_Y) = \sqrt{\frac{1}{n} \left[\sum Y^2 - \frac{(\sum Y)^2}{n} \right]} = 7.15$$

$$\text{Coefficient of Variation (CV)} = \frac{\delta}{\bar{Y}} = 16.50$$

$$\text{Correlation } (r_{xy}) = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2 \times n \sum Y^2 - (\sum Y)^2}} = -0.0993$$

T-value,

$$t = \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2} = 0.1712$$

Regression Line,

$$Y - \bar{Y} = r_{xy} \times \frac{\delta_Y}{\delta_X} (X - \bar{X})$$

$$Y - 43.36 = -0.0993 \times \frac{7.15}{8.16} (X - 12.24)$$

$$Y = 44.43 - 0.09X$$

Appendix VI

Calculation for Mean Value, Standard Deviation, Coefficient of Variation & Correlation between DPS & EPS of EBL

Year	DPS (X)	EPS (Y)	X ²	Y ²	XY
2014/15	30.00	99.99	900.00	9998.00	2999.70
2015/16	30.00	100.16	900.00	10032.03	3004.80
2016/17	50.00	83.18	2500.00	6918.91	4159.00
2017/18	0.00	88.55	0.00	7841.10	0.00
2018/19	50.00	91.88	2500.00	8441.93	4594.00
N = 5	Σ X = 160	Σ Y = 463.76	Σ X² = 6800	Σ Y² = 43231.98	Σ XY = 14757.50

Dividend per Share,

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = 32$$

$$\text{Standard Deviation } (\delta_X) = \sqrt{\frac{1}{n} \left[\sum X^2 - \frac{(\sum X)^2}{n} \right]} = 20.49$$

$$\text{Coefficient of Variation (CV)} = \frac{\delta}{\bar{X}} = 64.04$$

Earnings per Share,

$$\text{Mean } (\bar{Y}) = \frac{\sum Y}{N} = 92.75$$

$$\text{Standard Deviation } (\delta_Y) = \sqrt{\frac{1}{n} \left[\sum Y^2 - \frac{(\sum Y)^2}{n} \right]} = 7.37$$

$$\text{Coefficient of Variation (CV)} = \frac{\delta}{\bar{Y}} = 7.95$$

$$\text{Correlation } (r_{xy}) = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2 \times n \sum Y^2 - (\sum Y)^2}} = -0.1371$$

T-value,

$$t = \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2} = 0.2227$$

Regression Line,

$$Y - \bar{Y} = r_{xy} \times \frac{\delta_Y}{\delta_X} (X - \bar{X})$$

$$Y - 92.75 = -0.1371 \times \frac{7.37}{20.49} (X - 32)$$

$$Y = 94.33 - 0.05X$$

Appendix VII

Calculation for Mean Value, Standard Deviation, Coefficient of Variation & Correlation between DPS & MVPS of BOK

Year	DPS (X)	MVPS (Y)	X ²	Y ²	XY
2014/15	7.37	1825.00	54.32	3330625.00	13450.25
2015/16	15.00	840	225.00	705600.00	12600.00
2016/17	16.75	570.00	280.56	324900.00	9547.50
2017/18	21.32	628.00	454.54	394384.00	13388.96
2018/19	0.74	553.00	0.55	305809.00	409.22
N = 5	Σ X = 61.18	Σ Y = 4416	Σ X² =1014.97	Σ Y² = 5061318.00	Σ XY = 49395.93

Dividend per share,

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = 12.24$$

$$\text{Standard Deviation } (\delta_X) = \sqrt{\frac{1}{n} \left[\sum X^2 - \frac{(\sum X)^2}{n} \right]} = 8.16$$

$$\text{Coefficient of Variation (CV)} = \frac{\delta}{\bar{X}} = 66.69$$

Market Value per Share,

$$\text{Mean } (\bar{Y}) = \frac{\sum Y}{N} = 883.20$$

$$\text{Standard Deviation } (\delta_Y) = \sqrt{\frac{1}{n} \left[\sum Y^2 - \frac{(\sum Y)^2}{n} \right]} = 538.77$$

$$\text{Coefficient of Variation (CV)} = \frac{\delta}{\bar{Y}} = 61.00$$

$$\text{Correlation } (r_{xy}) = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2 \times n \sum Y^2 - (\sum Y)^2}} = -0.2637$$

T-value,

$$t = \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2} = 0.4416$$

Regression Line,

$$Y - \bar{Y} = r_{xy} \times \frac{\delta_Y}{\delta_X} (X - \bar{X})$$

$$Y - 883.20 = -0.2637 \times \frac{538.77}{8.16} (X - 12.24)$$

$$Y = 886.43 - 17.41X$$

Appendix VIII

Calculation for Mean Value, Standard Deviation, Coefficient of Variation & Correlation between DPS & MVPS of EBL

Year	DPS (X)	MVPS (Y)	X ²	Y ²	XY
2014/15	30.00	2455.00	900.00	6027025.00	73650.00
2015/16	30.00	1630	900.00	2656900.00	48900.00
2016/17	50.00	1094.00	2500.00	1196836.00	54700.00
2017/18	0.00	1033.00	0.00	1067089.00	0.00
2018/19	50.00	1591.00	2500.00	2531281.00	79550.00
N = 5	Σ X = 160	Σ Y = 7803	Σ X² = 6800	Σ Y² = 13479131	Σ XY = 256800

Dividend per share,

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = 32$$

$$\text{Standard Deviation } (\delta_X) = \sqrt{\frac{1}{n} \left[\sum X^2 - \frac{(\sum X)^2}{n} \right]} = 20.49$$

$$\text{Coefficient of Variation (CV)} = \frac{\delta}{\bar{X}} = 64.04$$

Market Value per Share,

$$\text{Mean } (\bar{Y}) = \frac{\sum Y}{N} = 1560.60$$

$$\text{Standard Deviation } (\delta_Y) = \sqrt{\frac{1}{n} \left[\sum Y^2 - \frac{(\sum Y)^2}{n} \right]} = 570.48$$

$$\text{Coefficient of Variation (CV)} = \frac{\delta}{\bar{Y}} = 36.55$$

$$\text{Correlation } (r_{xy}) = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2 \times n \sum Y^2 - (\sum Y)^2}} = 0.1519$$

T-value,

$$t = \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2} = 0.2662$$

Regression Line,

$$Y - \bar{Y} = r_{xy} \times \frac{\delta_Y}{\delta_X} (X - \bar{X})$$

$$Y - 1560 = 0.1519 \times \frac{570.48}{20.49} (X - 32)$$

$$Y = 1424.67 + 4.23X$$

Appendix IX

Calculation for Mean Value, Standard Deviation, Coefficient of Variation & Correlation between EPS & MVPS of EBL

Year	EPS (X)	MVPS (Y)	X ²	Y ²	XY
2014/15	99.99	2455	9998	6027025	245475.5
2015/16	100.16	1630	10032.03	2656900	163260.8
2016/17	83.19	1094	6920.576	1196836	91009.86
2017/18	88.55	1033	7841.103	1067089	91472.15
2018/19	91.88	1591	8441.934	2531281	146181.1
N = 5	Σ X = 463.77	Σ Y = 7803	Σ X² =43233.64	Σ Y² =13479131	Σ XY =737399.3

Dividend per share,

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = 92.95$$

$$\text{Standard Deviation } (\delta_X) = \sqrt{\frac{1}{n} \left[\sum X^2 - \frac{(\sum X)^2}{n} \right]} = 7.37$$

$$\text{Coefficient of Variation (CV)} = \frac{\delta}{\bar{X}} = 7.94$$

Market Value per Share,

$$\text{Mean } (\bar{Y}) = \frac{\sum Y}{N} = 1560.60$$

$$\text{Standard Deviation } (\delta_Y) = \sqrt{\frac{1}{n} \left[\sum Y^2 - \frac{(\sum Y)^2}{n} \right]} = 570.48$$

$$\text{Coefficient of Variation (CV)} = \frac{\delta}{\bar{Y}} = 36.55$$

$$\text{Correlation } (r_{xy}) = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2 \times n \sum Y^2 - (\sum Y)^2}} = 0.8113$$

T-value,

$$t = \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2} = 4.1113$$

Regression Line,

$$Y - \bar{Y} = r_{xy} \times \frac{\delta_Y}{\delta_X} (X - \bar{X})$$

$$Y - 1560.60 = 0.8113 \times \frac{570.48}{7.37} (X - 92.95)$$

$$Y = 4276.95 - 62.80X$$

Appendix X

Calculation for Mean Value, Standard Deviation, Coefficient of Variation & Correlation between EPS & MVPS of BOK

Year	EPS (X)	MVPS (Y)	X ²	Y ²	XY
2014/15	54.68	1825	2989.902	3330625	99791
2015/16	43.08	840	1855.886	705600	36187.2
2016/17	44.51	570	1981.14	324900	25370.7
2017/18	37.88	628	1434.894	394384	23788.64
2018/19	36.64	553	1342.49	305809	20261.92
N = 5	Σ X = 216.79	Σ Y = 4416	Σ X² =9604.31	Σ Y² =5061318	Σ XY =205399.5

Dividend per share,

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = 43.36$$

$$\text{Standard Deviation } (\delta_X) = \sqrt{\frac{1}{n} \left[\sum X^2 - \frac{(\sum X)^2}{n} \right]} = 7.15$$

$$\text{Coefficient of Variation (CV)} = \frac{\delta}{\bar{X}} = 16.50$$

Market Value per Share,

$$\text{Mean } (\bar{Y}) = \frac{\sum Y}{N} = 883.2$$

$$\text{Standard Deviation } (\delta_Y) = \sqrt{\frac{1}{n} \left[\sum Y^2 - \frac{(\sum Y)^2}{n} \right]} = 538.77$$

$$\text{Coefficient of Variation (CV)} = \frac{\delta}{\bar{Y}} = 61$$

$$\text{Correlation } (r_{xy}) = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2 \times n \sum Y^2 - (\sum Y)^2}} = 0.9035$$

T-value,

$$t = \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2} = 8.5194$$

Regression Line,

$$Y - \bar{Y} = r_{xy} \times \frac{\delta_Y}{\delta_X} (X - \bar{X})$$

$$Y - 883.2 = 0.9035 \times \frac{538.77}{7.15} (X - 43.36)$$

$$Y = 2068.79 - 68.08X$$

Appendix XI

Multiple Correlations

Let,

Independent Variable (X_a) = DPS

Independent Variable (X_b) = EPS

Dependent Variable (X_c) = MVPS

Now, Correlation coefficient between dependent variable (X_c) and joint effect of the independent variable (X_a) & (X_b) on (X_c);

For EBL,

$$r_{c.ab} = \sqrt{\frac{r_{ac}^2 + r_{bc}^2 - 2r_{ac} r_{ab} r_{bc}}{1 - r_{ab}^2}} = 0.8291$$

T-value,

$$t = \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2} = 4.5940$$

For BOK,

$$r_{c.ab} = \sqrt{\frac{r_{ac}^2 + r_{bc}^2 - 2r_{ac} r_{ab} r_{bc}}{1 - r_{ab}^2}} = 0.9203$$

T-value,

$$t = \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2} = 10.4151$$

Appendix XII

Calculation for Independent t-test of DPS

Year	DPS of BOK (X_1)	DPS of EBL (X_2)	$X_1 - \bar{X}_1$	$(X_1 - \bar{X}_1)^2$	$(X_2 - \bar{X}_2)$	$(X_2 - \bar{X}_2)^2$
2014/15	7.37	30.00	-4.87	23.72	-2.00	4
2015/16	15.00	30.00	2.76	7.62	-2.00	4
2016/17	16.75	50.00	4.51	20.34	18.00	324
2017/18	21.32	0.00	9.08	82.45	-32.00	1024
2018/19	0.74	50.00	-11.50	132.25	18.00	324
Total	61.18	160.00		266.37		1680.00

For DPS of BOK,

$$\text{Mean } (\bar{X}_1) = \frac{\sum X_1}{N_1} = 12.24$$

$$\text{S.D } (\sigma \text{ or } s_1) = \sqrt{\frac{\sum (X_1 - \bar{X}_1)^2}{n-1}} = 8.16$$

For DPS of EBL,

$$\text{Mean } (\bar{X}_2) = \frac{\sum X_2}{N_2} = 32$$

$$\text{S.D } (\sigma \text{ or } s_2) = \sqrt{\frac{\sum (X_2 - \bar{X}_2)^2}{n-1}} = 20.49$$

For Independent t-test,

Test statistic under H_0 ,

$$t = \frac{(\bar{X}_1 - \bar{X}_2)}{\sqrt{S^2 \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}} = \frac{(12.24 - 32)}{\sqrt{304.02 \left(\frac{1}{5} + \frac{1}{5} \right)}} = 1.7919$$

$$S^2 = \frac{n_1 s_1^2 + n_2 s_2^2}{n_1 + n_2 - 2}$$

$$= \frac{5 \times 8.16^2 + 5 \times 20.49^2}{5 + 5 - 2}$$

$$= 304.02$$

Appendix XIII

Calculation for Independent t-test of EPS

Year	EPS of BOK (X_1)	EPS of EBL (X_2)	$X_1 - \bar{X}_1$	$(X_1 - \bar{X}_1)^2$	$(X_2 - \bar{X}_2)$	$(X_2 - \bar{X}_2)^2$
2014/15	54.68	99.99	11.32	128.14	7.24	52.4176
2015/16	43.08	100.16	-0.28	0.08	7.41	54.9081
2016/17	44.51	83.18	1.15	1.32	-9.57	91.5849
2017/18	37.88	88.55	-5.48	30.03	-4.20	17.64
2018/19	36.64	91.88	-6.72	45.16	-0.87	0.7569
Total	216.79	463.76	-	204.73	-	217.31

For DPS of BOK,

$$\text{Mean } (\bar{X}_1) = \frac{\sum X_1}{N_1} = 43.36$$

$$\text{S.D } (\sigma \text{ or } s_1) = \sqrt{\frac{\sum (X_1 - \bar{X}_1)^2}{n-1}} = 7.15$$

For DPS of EBL,

$$\text{Mean } (\bar{X}_2) = \frac{\sum X_2}{N_2} = 92.75$$

$$\text{S.D } (\sigma \text{ or } s_2) = \sqrt{\frac{\sum (X_2 - \bar{X}_2)^2}{n-1}} = 7.37$$

For Independent t-test,

Test statistic under H_0 ,

$$t = \frac{(\bar{X}_1 - \bar{X}_2)}{\sqrt{S^2 \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}} = \frac{(43.36 - 92.75)}{\sqrt{65.98 \left(\frac{1}{5} + \frac{1}{5} \right)}} = 9.6198$$

$$S^2 = \frac{n_1 s_1^2 + n_2 s_2^2}{n_1 + n_2 - 2}$$

$$= \frac{5 \times 7.15^2 + 5 \times 7.37^2}{5 + 5 - 2}$$

$$= 65.89$$

Appendix XIV

Calculation for Independent t-test of MVPS

Year	EPS of BOK (X_1)	EPS of EBL (X_2)	$X_1 - \bar{X}_1$	$(X_1 - \bar{X}_1)^2$	$(X_2 - \bar{X}_2)$	$(X_2 - \bar{X}_2)^2$
2014/15	1825.00	2455.00	941.80	886987.24	894.40	799951.36
2015/16	840.00	1630.00	-43.20	1866.24	69.40	4816.36
2016/17	570.00	1094.00	-313.20	98094.24	-466.60	217715.56
2017/18	628.00	1033.00	-255.20	65127.04	-527.60	278361.76
2018/19	553.00	1591.00	-330.20	109032.04	30.40	924.16
Total	4416.00	7803.00		1161106.80		1301769.20

For DPS of BOK,

$$\text{Mean } (\bar{X}_1) = \frac{\sum X_1}{N_1} = 883.20$$

$$\text{S.D } (\sigma \text{ or } s_1) = \sqrt{\frac{\sum (X_1 - \bar{X}_1)^2}{n-1}} = 538.77$$

For DPS of EBL,

$$\text{Mean } (\bar{X}_2) = \frac{\sum X_2}{N_2} = 1560.60$$

$$\text{S.D } (\sigma \text{ or } s_2) = \sqrt{\frac{\sum (X_2 - \bar{X}_2)^2}{n-1}} = 570.48$$

For Independent t-test,

Test statistic under H_0 ,

$$t = \frac{(\bar{X}_1 - \bar{X}_2)}{\sqrt{S^2 \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}} = \frac{(883.20 - 1560.60)}{\sqrt{384825.34 \left(\frac{1}{5} + \frac{1}{5} \right)}} = 1.7266$$

$$S^2 = \frac{n_1 s_1^2 + n_2 s_2^2}{n_1 + n_2 - 2}$$

$$= \frac{5 \times 538.77^2 + 5 \times 570.48^2}{5 + 5 - 2}$$

$$= 384825.34$$