

# **IMPACT OF DIVIDEND ON EQUITY SHARE PRICING IN NEPAL**

## **A THESIS**

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**RECOMMENDATION**

This is to certify that the Thesis

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**IMPACT OF DIVIDEND ON EQUITY SHARE PRICING IN  
NEPAL**

Has been prepared as approved by this Department in the prescribed format of  
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## **VIVA-VOCE SHEET**

We have conducted the Viva-Voce examination of the thesis presented

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And found the thesis to be original work of the student and written in accordance to the prescribed format. We recommend the thesis to be accepted as partial fulfillment of the requirements for **Master of Business Studies (MBS)**

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## **DECLARATION**

I hereby declare that the work done in thesis entitled “**Impact of Dividend on Equity Share Pricing in Nepal**” submitted to **Shanker Dev Campus**, Faculty of Management, Tribhuvan University, is my own created work reported in the form of partial fulfillment of the requirement of Master’s of Business Studies (M.B.S.) course under the guidance of respected teacher supervisor **Mr. Shashikanta Mainali and Mr. Rabindra Bhattarai of Shanker Dev Campus.**

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**MAHESH KUMAR SWAR**

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# TABLE OF CONTENTS

Recommendation	
Viva-voce sheet	
Declaration	
Acknowledgements	
Table of contents	
List of tables	
Abbreviation	

## **CHAPTER – I INTRODUCTION 1-7**

1.1 Background of the Study	1
1.2 Statement of the Problem	4
1.3 Objectives of the Study	5
1.4 Significance of the Study	5
1.5 Limitation of the Study	6
1.6 Organization of the Study	6

## **CHAPTER – II REVIEW OF LITERATURE 8-31**

2.1 Conceptual Framework	8
2.1.1 Dividend	8
2.1.2 Major forms of Dividend	9
2.1.3 Theories of Dividend	11
2.1.4 Dividend Policy	12
2.1.5 Factors Influencing Dividend Policy	13
2.1.6 Equity Share	14
2.1.7 Features of Equity Share	15
2.1.8 Review of international Studies	16
2.2 Review of Related Studies	23
2.2.1 Review of Journals and Articles	23
2.2.2 Review of Thesis	26
2.3 Research Gap	31

<b>CHAPTER – III RESEARCH METHODOLOGY</b>	<b>32-41</b>
3.1 Research Design	32
3.2 Population and Sample of the Study	32
3.3 Sources of Data	35
3.3.1 Secondary Data	35
3.4 Financial Analysis	35
3.4.1 Financial Tools	35
3.4.2 Statistical Tools	36
3.4.3 Test of Hypothesis	41
<b>CHAPTER – IV DATA PRESENTATION AND ANALYSIS</b>	<b>42-62</b>
4.1 Presentation and Analysis of Secondary Data	42
4.1.1 The Number of listed companies in Stock Exchange	42
4.1.2 The Number of listed companies under different sector in Stock Exchange	44
4.1.3 Analysis of Financial Indicator	45
4.1.4 Correlation Coefficient and Regressions Analysis	52
4.1.4.1 Correlation Coefficient and Regressions Analysis of the Everest Bank Limited	52
4.1.4.2 Correlation Coefficient and Regressions Analysis of the Himalayan Bank Limited.	53
4.1.4.3 Correlation Coefficient and Regressions Analysis of the Nepal Investment Bank Limited	54
4.2 Presentation and Analysis of Primary Data	54
4.2.1 Empirical Study: Response of Individuals	54
4.2.2 Inspiring to invest in the equity shares	55
4.2.3 Financial health of the institution	56
4.2.4 Influence factor for the share price	56
4.2.5 Influence factor in the Secondary Market	57
4.2.6 Factor that attract in the equity share	58
4.2.7 Financial indicator in the share market	59

4.2.8 Investor care for financial health of the company	60
4.2.9 Share investor rated the risk factor in the share market	61
4.3 Major Findings of the Study	61
<b>CHAPTER – V SUMMARY, CONCLUSION AND RECOMMENDATIONS</b>	<b>63-67</b>
5.1 Summary	63
5.2 Conclusion	65
5.3 Recommendations	65
<b>BIBLIOGRAPHY</b>	
<b>APPENDIX</b>	



## LIST OF TABLES

<b>TABLE NO.</b>	<b>TITLE</b>	<b>PAGE NO.</b>
Table No: 4.1	Number of Listed Companies	42
Table No: 4.2	Number of listed companies, Sector Wise	44
Table No: 4.3	Analysis of Earning Per Share of the Banks	45
Table No: 4.4	Analysis of Market Price per Share of the Banks	47
Table No: 4.5	Analysis of Dividend per Share of the Banks	49
Table No: 4.6	Analysis of Dividend Payout Ratio of Sampled of the Banks	50
Table No: 4.7	Correlation Coefficient and Regression of MPS with other Variables of the Everest Bank Limited	52
Table No: 4.8	Correlation Coefficient and Regression of MPS with other Variables of the Himalayan Bank Limited	53
Table No: 4.9	Correlation Coefficient and Regression of MPS with other Variables of the Nepal Investment Bank Limited	54
Table No: 4.10	No of Respondents and in percentage	55
Table No: 4.11	No of Respondents and in percentage	56
Table No: 4.12	No of Respondents and in percentage	56
Table No: 4.13	No of Respondents and in percentage	57
Table No: 4.14	No of Respondents and in percentage	58
Table No: 4.15	No of Respondents and in percentage	59
Table No: 4.16	No of Respondents and in percentage	60
Table No: 4.17	No of Respondents and in percentage	61

## **LIST OF FIGURES**

<b>FIGURE NO.</b>	<b>TITLE</b>	<b>PAGE NO.</b>
Figure No: 4.1	Number of Listed Companies	43
Figure No: 4.2	Number of listed Companies, Sector Wise	44
Figure No: 4.3	Analysis of Earning Per Share of the Banks	46
Figure No: 4.4	Analysis of Market Price per Share of the Banks	48
Figure No: 4.5	Analysis of Dividend per Share of the Banks	49
Figure No: 4.6	Analysis of Dividend Payout Ratio of Sampled of the Banks	51

## ABBREVIATION

A.D.	=	Anno Domini
AM	=	Arithmetic Mean
ATMs	=	Automatic Teller Machines
B.S.	=	Bikram Sambat
C.V	=	Coefficient of Variation
DPR	=	Dividend Payout Ratio
DPS	=	Dividend per Share
DY	=	Dividend Yield
EBL	=	Everest Bank Limited
EPS	=	Earning Per Share
FY	=	Fiscal Year
HBL	=	Himalayan Bank Limited.
KYC	=	Know Your Customer
Ltd.	=	Limited
MM	=	Modigliani & Miller
MPS	=	Market Price per Share
MVPS	=	Market Value per Share
NEPSE	=	Nepal Stock Exchange
NGO	=	Non-Government Organization
NIBL	=	Nepal Investment Bank limited
NPAT	=	Net Profit after Tax
NRB	=	Nepal Rastra Bank
PE	=	Probable Error
PE Ratio	=	Price Earnings Ratio
SD	=	Standard Deviation

# **CHAPTER - I**

## **INTRODUCTION**

### **1.1 Background of the Study**

Investors in developing countries like Nepal mostly look at the profitability of the firm while purchasing equity shares from the secondary market. Since dividend paid to the shareholders is one of the best indicators of profitability, it is generally believed that dividend plays a crucial role in determining market price of the corporate share. Dividend is defined as that portion of the net earnings of the firm, which is distributed to the stockholders either in the form of cash or stock as per its dividend policy. A firm generally pays stock dividend if it plans to increase the capital so as to expand the business. The objective of dividend policy should be to maximize the shareholders return so that value of their investment is maximized. Dividend decision is one of the major decisions taken by the firm. The amount of dividend declared by a firm shows the actual position of the earnings of the firm. The firm issues equity shares to raise ownership capital and the investors buy them, with the expectation to receive a share of profit. The value of the firm is said to be high when the market price of the company's common stock is higher.

The wealth maximization principle also implies that fundamental objective of the firm should be to maximize the market price of the company's share. Firms that perform better than others have higher stock prices and can raise additional funds (both debt and equity) in more favorable terms. Therefore, it is important to identify the factors that determine the market price of equity shares of any organization. Financial institutions including the commercial banks, in Nepal are the institutions that mobilize resources in the society. Their survival and growth is very important for the growth of the nation. Thus, the study of the historical growth of capital market and the equity price behavior of commercial banks in Nepal is much relevant in the present context. The history of capital market in Nepal is not very long. Biratnagar Jute Mills Ltd. was the first company to issue share to general public in 1937. Institutional development of securities market in Nepal started when Securities Exchange Centre (SEC) was

established under the Companies Act in 1976. It was established with the joint capital contribution of Nepal Rastra Bank and Nepal Industrial Development Corporation. The objective of the establishment of Securities exchange Centre was to facilitate and promote the growth of capital market in Nepal. It was converted into Nepal Stock Exchange (NEPSE) in 1993, with the establishment of Securities Board. It is a non-profit making organization operating under Securities Exchange Act 1983. During 90's along with the economic liberalization in Nepal many joint venture banks established in private sector, which subscribed shares widely to the general public. Commercial banking appeared as the most profitable business and therefore in the beginning the price of shares of commercial banks continuously went up. However, the stock market had been much volatile in Nepal during the last decade because of internal conflict, political instability, insider trading and various other reasons.

The clue to stock dividend distributions may lie in their perceived substitution for relatively low cash dividends (Lakonishok & Lev; 1987: 913). The controversy centers on whether or not the positive association between common stock return and dividend yields reported in a number of empirical studies can be attributed entirely to information effects. (Lichtenberger and Ramaswamy; 1982: 429). It is said that when the firms need to retain a high percentage of earning, they issue stock dividends so that the shareholders of the firms are content. Managers strongly agree that stock dividends have a positive psychological impact on investors receiving them (Baker and Phillips; 1992, .19). Stock split is another aspect of dividend policy practitioners has long contended that the purpose of stock split is to move a firm's share price into an "optimal trading range" (McNichols and Dravid; 1990: 857). Specially, investors of small means are presumably penalized by high stock prices that deny them the economics of buying stock in round lots. An alternative form of dividend is share repurchase. If a firm has some surplus cash (or if it can borrow), it may choose to buss back some of its own shares. In the developed capital market corporations are allowed to buy back share better utilization of unused cash.

The issue of how much a company should pay its stockholders as dividends is one that has concerned managers for a long time. It has been often been pointed out that a

company that raises its dividend often experiences an increase in its stock price and that a company that lowers its dividend has a falling stock price. This seems to suggest that dividends matter, in that they affect stock price. But this causal relationship has been refuted by several researchers on the grounds that dividends per share do not affect stock prices; rather, it is the informational content of dividends that affect stock prices (Rao; 1992: 448). They provide a rationale for value maximizing firms paying positive dividends when the risk premium per unit of dividend yield is positive in equilibrium. Ross proved that an increase in dividends paid out can represent an inimitable and unambiguous signal to the market place that a firm's prospects have improved (Weston, and Copeland; 1989: 661). If this is an accurate picture of the way in which firms operate, then I follow those changes in dividend payments supply the market with information regarding management's assessment of the level of the firm's long run cash flows.

By issuing dividends, management is forced to go to the capital market for additional financing. Higher dividends can directly benefit shareholders because they reduce the free resources which managers can use sub optimally. Some economists believe that management decides to pay dividends in order to reduce agency costs (Easterbrook; 1984: 650-659). Each time it attempts to raise fresh capital, its operations are intensely scrutinized by investment bankers, accountants, and other market professionals because these parties have a comparative advantage over the bondholders in monitoring the firm's activities, dividend payments accompanied by subsequent new financing may lower monitoring costs and thereby increase firm value. (Rao; 1992: 466)

There are reasons for the efficacy of dividends as signals. Dividend announcements are backed by hard, cold cash. The firm must generate this cash internally or convince the capital markets to supply it. Alternative communications may lack the credibility that comes from "saying it with cash." Investors may feel that financial statements have been skillfully massaged by the financial staff. In addition, dividend decisions tend to be future oriented as opposed to accounting statements which document past performance (Asquith and David; 1986: 35). Besides credibility, dividends also have

the advantages of simplicity and visibility. Many others announcements are, at the same time, complex and detailed in focus.

The empirical evidence confirms that alternatives are not perfect substitutes for dividends. Dividends serve as a simple, comprehensive signal of management's interpretation of the firm's recent performance and its future prospects. The relationship between dividend and share price is not yet clear and it is still a controversial issue in the literature of finance. Theoretically speaking, continuous cross section techniques are the most appealing. The separate effects on price of all omitted variables should be aggregated to take into account the firm effect. The firm effects cannot be measured directly, as they are both additive and constant over time. Such firm effects include those related to investor assessment of both profit prospects and risk, some of which could alternatively be measured directly.

The improved corporate dividend practice is thus an essential means to solve the problems of asymmetric information between management of newly established Nepalese companies and Nepalese investors who have poured their funds there in. Viewed in this perspective, the study devoted to effects of dividend of common stock price in Nepal may help to develop capital market in one way or another.

## **1.2 Statement of the Problem**

The stock market reveals the situation of country's economy. When stock market is in the boom, the financial market of the country is good and in the case of decline of stock market, financial market of the country goes bad. In Nepalese economy, share price is highly determined by the market conditions. Without any significant economic ups and downs in the economy equity market sometimes becomes much volatile. With the result investors in bank equity suffer higher economic loss. Therefore, it is much important to identify the causes responsible for the fluctuations of equity share prices in Nepal and suggest measures, which makes the share market stable. In this light, the relationship between dividend paid and the market price of equity shares needs to be analyzed with more focus. There are several studies that present the brief examination of the relationship between the dividend paid and the market price of the equity shares. The

earlier studies lack a comprehensive study of the behavior of market price as a result of changes in dividends. There is a need to conduct a survey of financial exclusives in order to find out more qualitative facts on dividends which cannot be determined through the use of secondary data. To sum up, this study deals with the following issue.

- What is the relationship between dividends and stock price?
- Is there any effect of company's announcement of earnings on market price of a share?
- Is there any consistency in EPS, DPS, MPS and DPR?
- What kind of dividend policy should be followed by Nepalese Enterprises?

### **1.3 Objectives of the Study**

The main objective of the study is to examine the effect of dividend on pricing system of the equity shares. Following are the major objectives of the study:

1. To analyze the impact of dividend per share (DPS) in equity share price behavior
2. To examine the relationship of Market price per share with other financial indicators such as Earnings Per Share, Dividend Payout Ratio and Net Worth per share
3. To conduct an empirical analysis in order to explore the impact of dividend on equity share pricing in Nepal.

### **1.4 Significance of the Study**

This study helps to know the impact of dividend on the market price of equity share of some financial institutions.

- ) This study will be useful to the concerned people like shareholders, management and policy makers.
- ) This study will be useful to all of the sampled financial institutions taken in this study. Equity share traders will take advantage of this thesis while trading shares in the secondary market.
- ) This study will be very helpful for students for further research to find more details on the related topic.



## **1.5 Limitation of the Study**

- ) The study covers only the effect of dividend on equity share behavior of selected financial institutions only.
- ) It does not deal with market prices of other securities like preference shares and Government securities, bonds and debentures.
- ) The result of this study will be limited to the relationship between the dividend and the equity stock pricing behavior of commercial banks.
- ) This study assumes that the individuals who respond to this survey are truthful.
- ) The data are mainly collected from the secondary source; the consistency of the findings is reliable upon the reliability of the secondary data and information. Only five commercial banks for this study.
- ) This study covers the data of only five years i.e. 2004/05 to 2008/09

## **1.6 Organization of the Study**

The Research will be divided into the following Chapters:

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

The first chapter would include the general introduction, statement of problem, objectives, significance of the study and limitation of the study.

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

The second chapter would deal with Review of Literatures, books, articles, Journals, reports and other relevant material.

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

The third chapter would include Research Methodology. This chapter would include the methodology adopted for carrying out this research and sources of data and methods of data collection.

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

The fourth chapter would contain presentation and analysis of Secondary as well as primary data. This chapter would be divided into two sections. The first section would attempt to analyze and evaluate data with the help of analytical tools and interpretation

the results obtained. The second part would present the response of the individual share investors on the pricing behavior, their understanding of the market and other relevant aspects contain the presentation of primary data.

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

The last chapter will show the Summary, Conclusion and Recommendations of the study. This chapter would present the results obtained through the analysis and recommends some suggestions and lastly Bibliography, Appendix.

## **CHAPTER - II**

### **REVIEW OF LITERATURE**

This chapter reviews the literature related with the research topic, with more focus on the impact of dividend on equity share pricing. In this regard, an insight would be put on the theories, then on the researches conducted outside and inside the country. Furthermore, the theoretical underpinning of the concepts used during the analysis and the theories behind the share pricing would also be explained. While preparing this thesis, the researcher reviewed various magazines, journals, books, reports, etc and collected materials from different sources. The review of literature has been divided into three categories namely conceptual framework, theories related to the topic and review of articles, books and masters' level thesis.

#### **2.1 Conceptual Framework**

In this section, some of the basic literatures on dividend, dividend policy and stock price behaviour are reviewed. This section would broadly discuss the concepts related to the research topic. It includes following.

Dividend

Dividend Policy

Equity Share

##### **2.1.1 Dividend**

After fulfilling the tax obligations, some part of the net earnings of the firm is divided into retained earnings for further investment and some part is distributed among its shareholders. Dividend is that portion of the firm's net earnings that is distributed to the shareholders. Dividend is distributed either in form of cash or in form of share. When the firm is heading towards expansion, it keeps the earning as retained earnings for expansion as cash is needed for the expansion of every business. When business has no more plan of expansion, it distributes its cash as a dividend to its shareholders.

Dividend is the periodic payment made to stockholders to compensate them for their wealth and investment funds. Dividends are pro-rata distributions to shareholders retained earnings. They can be in the form of cash, stock or property. Generally, corporation can only declare dividends out of earnings, although some states laws and corporate agreements permit to declaration of dividends from sources other than earnings. (*Hawkins; 1997: 650*)

In fact, dividend is the portion of the net earnings, which is distributed to shareholders by a company. After successfully completing the business activities of a company, if the financial statement of it shows the net profit, the Board of Directors (BOD) decides to declare dividend to stockholders. Therefore, the payment of corporate dividend is at the discretion of the BOD. Most companies pay dividend quarterly.

### **2.1.2 Major forms of Dividend**

#### **a) Cash Dividend**

When the company pays the dividend in form of cash, this is called cash dividend. This is the most common form of dividend and most preferred by the shareholders. When cash dividend is distributed, both total assets and net worth of the company decrease as cash and earnings decrease. The market price of the share drops in most cases as per the amount of the cash dividend distributed.

Generally, stockholders have strong preference for cash dividend. Both the total assets and net worth of the company are reduced by same amount, when the cash dividend is announced or distributed. Moreover, the share price will fall (or may not) after the cash dividend. Therefore, the need is that, the firm should have sufficient fund for the distribution of the cash dividend among shareholders or if the firm does not have sufficient fund for the distribution; it should borrow from any source. For the better cash dividend stability cash planning, budgeting and control mechanism are suggested or required. Cash dividend has the direct impact on the shareholders, it is one of the most interesting matters of the study, and the volume of the cash dividend depends upon earnings of the firm and on the management attitude or policy.

Cash dividend has the psychological value for stockholders. Each and everyone like to collect their return in cash rather than non-cash means. So cash dividend is not only a way to earnings distributions but also a way of perception improvement in the capital market. The objectives of the cash dividend are:

- J To distribute the earnings to shareholders, as they hold the proportion of the shares.
- J To build an image in the capital market so as to create favorable condition to raise the fund at the needs,
- J To make distribution easy and to account easily.

#### **b) Stock Dividend**

Sometimes, when there is good investment opportunity for the company and the whole portion of the profit is needed for reinvestment, the company prefers to retain the whole portion of profit. But, in order to satisfy the shareholders the company should also pay the dividend. In such case, the company decides to pay the dividend in the form of stock. Such dividend is called stock dividend. When a firm pays stock dividend, the net worth of the share and total assets remains unaffected.

Stock dividend is known as bonus shares too. An issue of bonus share represents a distribution of shares in addition to the cash dividend (known as stock dividend in U.S.A.) the existing shareholders (*Pandey; 1995: 705*)

The payment of stock dividend does not change earning neither position of the firm nor ownership of the stockholders is changed. A stock dividend is paid in additional shares of the stock instead of in cash and simply involves a book keeping transfer from retain earning to stock accounts (*Weston & Copeland; 1991: 680*)

A stock dividend pays additional stock to stockholders. Theoretically, it is not a thing of value to the stockholders unless cash dividends per share remain unchanged or are increased. Stock dividends may serve to keep the market price per share in a popular trading range. A more effective device for reducing market price per share is stock split.

Both stock dividends and stock splits appear to have informational of signaling effect. When other things are held constant, share price tends to rise around the time of announcement, consistent with positive signal (*Van Horne; 2000: 328*)

**c) Interim Dividend**

“Generally dividend is declared in the last of financial year. This is called regular dividend. Many times directors can declare the dividend before the end of the financial year. This is called interim dividend.” (*Gupta; 1973: 7*)

**d) Bond Dividend**

Companies can give dividends in the form of bonds. These bonds can be long term bonds. These are given when the company is unable to take the burden of interest of loans.

Bonds used to pay carry interest and it means that the company assumes the fixed obligation of interest payment annually and principal amount of bond at maturity date.

Bond dividend posses the following characteristics:

- ) Bond dividends are the means to dividend postponement for a while but more it is obligation.
- ) It couldn't bring back the psychological value as the cash dividend,
- ) Bond and scrip dividend are same, only the difference between these are maturity time i.e. scrip has relatively less maturity time than bond dividend.

**e) Special Dividend**

When directors of the company do not want to change the dividend separately and when the companies have good cash and reserves. This dividend is given with the regular dividend but separately.

**2.1.3 Theories of Dividend**

**i. Dividends as Residual**

As long as the firm has investment projects with returns exceeding those that are required, it will use retained earnings and the amount of senior securities that increase

in equity base will support, to finance these projects. When we treat dividend policy as strictly a financing decision, the payment of cash dividends is a passive residual. The amount of dividend payout will fluctuate from period to period in keeping with fluctuations in the amount of acceptable investment opportunities available to the firm. If these opportunities abound, the percentage of dividend payout is likely to be zero.

On the other hand, if the firm is unable to find profitable investment opportunities, dividend payout will be 100 percent. For situations between these two extremes, the payout will be a fraction between zero and one. The treatment of dividend policy as a passive residual determined solely by the availability of acceptable investment proposals implies that dividends are irrelevant; the investor is indifferent between dividends and retention by the firm. A residual theory of dividend policy does not necessarily mean that dividends need fluctuate from period to period in keeping with fluctuations in investment opportunities. A firm may smooth out actual payments by saving some funds in surplus years, in anticipation of deficit years. If forecasting is relatively accurate, the firm can establish its dividend payment at a level at which the cumulative distribution over time corresponds to cumulative residual funds over the same period.

## **ii. Wealth Maximization Theory**

Larger dividend is announced and distributed to shareholders under this theory in order to maximize their wealth. This theory is generally adopted by the newly established and declining companies to upkeep its image and retain the shareholder's positive attitude towards the company's stock.

### **2.1.4 Dividend Policy**

Dividend policy is one of the major decisions of the firm. The dividend payout ratio of the firm depends upon the way earnings are measured. Dividend policy determines the division of earnings between payments to stockholders and reinvestment in the firm. Retain earnings are one of the most significant sources of fund for financing corporate group, but dividends constitute the cash flow that accrue to stockholders.

The third major decision of the firm is its dividend policy, the percentage of earnings it pays in cash to its stockholders. Dividend payout, of course, reduces the amount of earnings retained in the firm and affect the total amount of internal financing. The dividend payout ratio obviously depends on the way earnings are measured for ease of expansion, we use accounting net earnings but assume that these earnings can form true economic earnings. In practice, net earnings may not conform and may not be an appropriate major of the ability of firm to pay dividends (*Van Horne; 2000: 305*)

Dividend policy refers to the issue of how much of the total profit a firm should pay to its stockholders and how much to retain for investment so that the combined present and future benefits maximize the wealth of stockholders. The dividend policy, however, not only specifies the amount of dividend, but also form of dividend, payment procedure etc.

In general, Dividend Policy is concerned with the following matters:

- ) Amount of dividend to be paid-the policy outlines the basis to determine the amount of dividend to be paid,
- ) Form of dividend- Cash dividend and / or stock dividend,
- ) Payment procedure
- ) Stock repurchase and stock splits

### **2.1.5 Factors Influencing Dividend Policy**

Company's firm's dividend policy is affected by various factors. Some of them are unique to that company, and some of the more general considerations are given below:

#### **i. Legal Rule**

Certain rules may limit the amount of dividends a firm may pay. These legal constraints fall into two categories. First, statutory restriction may prevent a company from paying dividend. While specific limitations vary by state, generally a corporation may not pay a dividend.

- a. If the firm's liabilities exceed its assets.



- b. If the amount of the dividend exceeds the accumulated profits or retained earnings.
- c. If the dividend is being paid from capital invested in the firm. The second type of legal restrictions is unique to each firm and results from restrictions in debt and preferred stock contracts.

## **ii. Liquidity Portion**

The cash or liquidity portion of the firm influences its ability to pay dividends. A firm may have sufficient retained earnings, but if they are invested in fixed assets, cash may not be available to make dividend payment. Thus, the company must have adequate cash available as well as retained earnings to pay dividend.

## **iii. Need to Repay Debt**

The need to repay debt also influences the availability of cash flow to pay dividend.

## **iv. Rate of Asset Expansion**

Rate of asset expansion creates a need to retain funds rather than to pay dividends.

## **v. Profit Rate**

A high rate of profit on net worth makes it desirable to retain earnings rather than to pay them out if the investor will earn less on them.

## **vi. Control**

It is very important for every firm to maintain the control rate. These owners would prefer the use of debt and retained profits to finance new investments rather than issue new stock. As a result dividend payout will be reduced.

## **2.1.6 Equity Share**

Equity shares are normally called common stocks. They are issued by the firm to raise ownership capital and the investors buy them with the expectation that they receive a share of profit periodically. The holders of common stocks, called shareholders or stockholders are the legal owners of a company. The equity shares are the permanent and vital source of capital residual claim, in the sense that creditors and preferred stock

holders must be paid as scheduled before common stockholders can receive any payments.

### **2.1.7 Features of Equity Share**

#### **a) Claim on Income:**

The common stockholders have claim to residual income, which is earnings available for ordinary shareholders. After paying expenses, interest charges, taxes and preference dividends and retained earnings, Dividends are immediate cash flow to shareholders, whereas retained earnings are reinvested in the business. A company is not under any obligation to distribute dividends out the available earnings.

#### **b) Claim to Assets:**

The equity shareholders have a residual claim on the companies' asset. Out of the realized value of assets, first the claims to debt-holder and then preference shareholders are satisfied, and the remaining balance, if any, is paid to the common stockholders.

#### **c) Right to Control:**

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

#### **d) Voting Right:**

Common stockholders have the right to vote on stockholder matter, such as selection of board of directors, sale of fixed assets, merger of the company, amendment of corporate charter etc.

#### **e) Pre-emptive Right:**

It does something before others. It is also a right of the stockholders. It gives holders of common stock the firstly option to purchase additional issues of common stock. The purpose of pre-emptive right is to protect the power of control of present stockholders.

### **F) Limited Liability:**

The common stock holders are the true owner of the company, but their liability is limited to the amount of their investment in shares. If a stockholder has already fully paid the issue price of shares purchased, he has nothing more to contribute in the event of financial distress or liquidation. The limited liability feature of share encourages unwillingly investors to invest their funds in the company which helps company to raise funds.

### **2.1.8 Review of international Studies**

Modigliani & Miller's (1961), in their article "*Dividend Policy, Growth & Valuation of Shares*" presented a new model of valuation and argued that dividend policy has no effect on the firm's share price. They developed the drastically new idea that dividend policy of a firm is irrelevant, as it does not affect the wealth of shareholders. This article is the most comprehensive argument for the irrelevant of dividend. In the history of finance, firstly, they declared that dividend policy does not affect the value of the firm, i.e., dividend policy has no effect on the share prices of the firm. They argued that the value of the firm depends on the firm's earnings which depend on its investment policy. Therefore, as per MM theory, a firm's value is independent of dividend policy. MM's Hypothesis of irrelevance is based on following critical assumptions.

- There are no taxes.
- Risk and uncertainty doesn't exist.
- The firm operates in perfect Capital market.
- The firm has a fixed investment policy which is not subject to change.

They provided the proof on support of their argument in the following manner.

#### **Step 1:**

The market price of a share in the beginning of the period is equal to the present value of dividend paid at the end of the period plus the market price of the share at the end of the period.

Symbolically,

$$P_0 = \frac{D_1 + P_1}{1 + K_e}$$

Where,

$P_0$  =Market price at the beginning or at the zero period.

$K_e$  =Cost of equity capital (assume constant).

$D_1$  =Dividend per share.

$P_1$  =Market price of the share at the end of the period.

### Step 2:

Assuming that the firm doesn't resort to any external financing the market value of the firm can be computed as follows:

$$nP_0 = n(D_1 + P_1)$$

$$nP_0 = \frac{n(D_1 + P_1)}{1 + K_e}$$

Where,

$n$  = Number of equity shares at zero period.

### Step 3:

If the firm's internal sources of financing its investment opportunities fall short of the funds required, and  $D_n$  is the number of new shares issued at the end of year 1 at price  $P_1$ , then,

$$nP_0 = \frac{nD_1 + P_1(n + D_n) - D_n P_1}{1 + k_e}$$

Where,

$n$  = No. of shares at the beginning

$D_n$  = No. of equity shares issued at the end of the period.

### Step 4:

If the firm were to finance all investment proposals, the total amount of new shares issued would be given by the following equation,

$$D_n P_1 = I - (E - nD_1)$$

Or

$$D_n P_1 = I - E + nD_1$$

Where,

$D_n P_1$  = the amount obtained from the sale of new shares to finance capital budget.

$I$  = the total amount requirement of capital budget,

$E$  = Earning of the firm during the period.

$E - nD_1$  = Retained earnings.

**Step 5:**

By substituting the value of  $D_n P_1$  from equation of step 4 to equation of

**Step 6:**

We find,

$$nP_0 = \frac{nD_1 + P_1(n + D_n) - I + E - nD_1}{1 + K_e}$$

$$nP_0 = \frac{P_1(n + D_n) - I + E}{1 + K_e}$$

**Conclusion:**

Modigliani and Miller concluded that dividend policy has no effect on the share price. So, there is no role of dividend in above equation.

In this way, according to Modigliani and Miller's study "It seems that under condition of perfect capital markets, rational investors, absence of tax discrimination between dividend income and capital appreciation, given the firm's investment policy, its dividend policy may have no influence on the market price of the share". However, the view that dividend is irrelevant is not justified, once the assumption is modified is consider the realities of the world. In practice, every firm follows one kind of dividend policy or another. The selection of a certain dividend policy depends on the age and nature of the firm.

Walter (1966), in his study he concluded that dividend policy almost always affects the value of enterprises. In his view, the investment policy of a firm is directly affected by dividend policy. Such concept is just opposite to Modigliani and Miler approach. He argues that the significant relationship between return of investment or internal rate of

return and its cost of capital is the main argument of this model. They are the most important considering factor to retain profits and distribute dividend. As long as the internal rate is greater than the cost of capital, the stock price will be unchanged by retention and will vary inversely with dividend payout.

This model is based on the following certain assumptions in the determinants or firm's value.

1. The firm has perpetual life
2. The value of EPS (initial earnings) and DPS (dividend a) are assumed to exist no change forever in determining a given value.
3. The firm's internal rate of return (r) cost of capital (k) is considered to remain constant.
4. The firm distribution its entire earning or retains it for reinvestment immediately.
5. The firm relies on internally generated funds to finance all investment opportunity that are debt or new equity is not issued for outside financing. Based on above assumption Walter's formula to determine the market price per share is as follows:

$$P = \frac{DPS}{K} + \frac{rk(EPS - DPS)}{K}$$

Where,

P= market price per share,

DPS = Dividend per share

EPS = Earning per share

r= Internal rate of return

k= cost of capital

Walter suggested different dividend policy for different nature of the firm. There are generally 3 natures.

**Growth firm ( $r > k$ )**

Growth firms are those firms which expand rapidly because of ample investment opportunity, cost of capital or expected rate of return of shareholders. Those firms will maximize the value per share if they follow a policy of retaining all earnings for investment. Thus correlation between dividend and stock price is negative. For such firm optimal dividend payout ratio is zero.

**Growth firm ( $r = k$ )**

The firm whose internal rate of return and cost of capital being equal is known to be normal firms. In such retention of earnings and distribution of dividend doesn't make change. The stock price does affect the share price.

**Declining firm ( $r < k$ )**

If a firm has not profitable investment opportunities, the shareholders will be better off if earnings are paid out to them so as to enable them to earn a higher return by using the funds elsewhere. In other words, if firm's rate of return ( $r$ ) is less than cost of capital ( $k$ ) the relation between dividends and stock price is positive i.e. increasing in DPS fields increasing in market price per share? Thus optimum pay out for declining firm is 100 %.

Gordon (1962) has conducted a study which shows that the value of shares, even in a situation in which the revenue on investment is equal to the capitalization rate that is ( $r = k$ ). It is generally assumed that the investors preferred present dividend rather than the future capital gains. It specially stresses that an increase in dividend pay out ratio leads to increase in stock price for the reason that investors consider the dividend yield ( $D_1/P_0$ ) is less risky than the expected capital gain. Hence, investors required rate of return increases as the amount of dividends decreases. It is clear that there is positive relationship between the amount of dividend and stock prices.

**Basic assumptions of this model are as follows:**

1. The internal rate of return ( $r$ ) and the cost of capital ( $k_e$ ) are considered to remain constant.
2. The firm as well as its stream of earnings is perpetual

3. The company operates in the world of no taxes.
4. The firm is assuming to be an all equity firm (i.e. not debt exists)
5. No external financing is available so retain earning should be used to meet funds required.
6. The retention ratio (b) once decided upon is constant thus growth rate g is the product of b and r is tend to remain unchanged
7. 'Ke' must be greater than 'g' to get meaningful value.

According to Gordon, the market value of share is equal to present values of future streams of dividend. A simplified version of Gordon's model can be symbolically expressed as follows:

Gordon has provided the following formula, which is the simplified version of original formulae to determine the market value of share.

$$P = \frac{EPS(1-b)}{k_e - br}$$

Where,

p= price of a share

EPS = Earning per share

B= Retention Ratio

(1-b) = Dividend pay out ratio

k e = capitalization rate or cost of capital

b x r = Growth rate

According to this model following facts are revealed.

### **Growth firm (r>ke)**

Share price had to decline in correspondence with increase in payout ratio or decrease in retention ratio i.e. high dividends corresponding to earning leads to decrease in share price. Therefore, dividends and stock prices are negatively correlated in growth firm.



Normal firm ( $r=ke$ ): Share value remains constant regardless of change in dividend policies, which means dividends and stock prices are free from each other.

Declining firm ( $r < ke$ ): Share price tends to rise in correspondence with rise in dividend payout ratio. It means dividends and stock price are positively correlated with each other in declining firm. Both Walter's and Gordon's model are based on the assumption given and 'k' being constant. Thus, both the model's conclusion about dividend policy is similar.

Horne & Donald (1971) conducted a more detailed study on “*Dividend Policy and New Equity Financing.*” The purpose of this study was to investigate the combined effect of dividend policy and new equity financing decision on the market value of the firm's common stocks. They explored same basic aspects of conceptual framework, and empirical tests were performed during year end 1968, for two industries, using a well known valuation model, i.e., a cross-section regression model. The required data were collected from 86 electric utility firms included on the COMPUSTAT utility data tape and 39 firms in the electronics and electronic component industries as listed on the COMPUSTAT industrial data type.

They tested two regression models for utilities industries.

First Model was,

$$P_0/E_0 = a_0 + a_1(g) + a_2(D_0/E_0) + a_3(lev) + u^{18}$$

Where,

$P_0/E_0$  = Closing market price in 1968, divided by average EPS for

The Second Model was,

$$P_0/E_0 = a_0 + a_1(g) + a_2(D_0/E_0) + a_3(lev) + a_4(Fa) + a_5(Fb) + a_6(Fc) + a_7(Fd) + u^{19}$$

Where,

Fa, Fb, Fc and Fd are dummy variables corresponding to “new issue ratio” (NIR) groups A through D.

It is noted that they had grouped the firms in five categories A, B, C, D and E by NIR.

For each firm the value of dummy variables representing its NIR group is one and the values of remaining dummy variables are zero. Again, they tested the following regression equation for electronic components industry.

Where,

$$P_0/E_0 = a_0 + a_1(g) + a_2(D_0/E_0) + a_3(lev) + a_4(OR) + u^{20}$$

Lev = Financial risk, measured by long-term debt plus preferred stock dividend by book worth as of the end of 1968.

OR = Operating risk, measured by the standard error for the regression of operating earnings per share on time for 1960 through 1968, and residuals are as in first model above.

By using these models, they compared the result obtained for the firms which both pay dividends and engage in new equity financing with other firms in an industry sample. They concluded that for electric utility firms in 1968, share value was not adversely affected by new equity financing in the presence of cash dividends; except for those in the lightest new issue group and it made new equity a more costly form of financing than the retention of earnings. They also indicated that the payment of dividends through excessive equity financing reduces share prices.

## **2.2 Review of Related Studies**

### **2.2.1 Review of Journals and Articles**

Pradhan (1990) studied on “*Stock Market Behavior in a Small Capital Market.*” A case of Nepal was based on the data collected for 17 enterprises from 1986 through 1990. In order to make this study more comprehensive some articles, researches and studies related to Impact of dividend on equity share pricing are reviewed hereunder.

The objectives of this study were to assess the stock market behavior in Nepal and to examine the relationship of market equity, to compare the Market value to book value, to analysis the price earnings, and dividends with liquidity, profitability, leverage, assets, turnover, and interest coverage.

The major findings of his study were higher the earnings on stocks, larger the ratio of dividends per share to market price per share. Dividend per share and market per share are positively correlated, Positive relationship between the ratio of dividend per share to market price per share and interest coverage, Positive relationship between dividend payout and liquidity, Negative relationship between dividend payout and leverage ratio, Positive relationship between dividend payout and profitability, Positive relationship between dividend payout and turnover ratios, Positive relationship between dividend payout and interest coverage. Liquidity and leverage ratios are more variable for the stock paying lower dividends. Earnings assets turnover and interest coverage are more variable for the stock paying higher dividends

Chawala and Srinivasan (1987) published on "*Impact of Dividend and Retention on Share Price.*" They took 18 Chemicals and 13 sugar companies and estimated cross section relationship from the year 1969 and 1973.

The objectives of this study were to set a model to explain share prices, dividend and retained earnings relationship to test the dividend and retained earnings hypothesis, to examine the structural changes in estimated relations over time and to achieve above mentioned objectives.

They used simultaneous equation model as developed by friends and Puckett in 1964,  $P_t = \{f(d_t, R_t, P/E(t-1))\}$ ,  $D_t = \{f(E_t, D(t-1), P/E(t-1))\}$  and Identity,  $E_t = \{D_t + R_t\}$ . Where, P=Market price Per Share, D= Dividend per Share, R= Retained Earnings Per Share, E=Earnings Per Share (D+R), (P/E) = Deviation from the sample, average of price earning ratio (Price earning multiple and t= Subscript for time.

They used two stages least square technique for estimation and from the result they found that the estimated coefficient had the correct sign and the coefficient of determination of all the equation were very high in case of chemical industry. Thus it implies that the stock price and dividend supply variation can be explained by their independent variables. But in case of sugar industry, they found that the sign for the retained earnings is negative.

Finally, they concluded that the dividend hypothesis holds well in the chemical industry and both dividend and retained earnings significantly explain the variations in share price in that chemical industry.

Ojha (2000) published an article "*Financial Performance and Common Stock Pricing.*" His objectives of this study were to study and examine the difference of financial performance and stock prices, to examine the relationship of dividends and stock price and to explore the signaling effects in stock price and his major findings of his study were Nepalese stock market is in infancy stage. In general it is very new and just started to develop. Dominance of banking sector is prevalent in the market due to other industries including finance companies, insurance and manufacturing is not encouraging. Corporate firm with long history have relatively stable profitability parameters that the firm established after the economic liberalization of 1990. Older firms have been issuing bonus share more times than the new one. Dividend per share is relatively more stable than the dividend payout ratio. That's why payout ratio and dividend yields have been highly fluctuating. Due to lack of proper investment opportunity most of the investors have directed their saving towards the secondary stock market. There is significant positive correlation between the dividends paid and stock prices of banking and manufacturing industries. All other have not a perfect correlation between the net worth per share and common stock price.

Timilsina (2001) conducted a research on "*Capital Market Development and Stock Price Behaviors in Nepal.*" He published an article with a heading Capital Market. Major Findings of the Study are the coefficient of correlation between earning per share (EPS) and observed market value of share and also between the dividend per share (DPS) and observed market value of share were computed. Also regressions were run to see the influence of the explanatory variables, EPS and DPS on equity prices. A positive correlation was found to exist between EPS and the market price of the share. The coefficient of correlation between dividend per share and the market price was also computed taking DPS as independent variable and market price as dependent variable. A high degree of positive relationship ( $r= 0.83$ ) was observed between the two variables.

Timilsina concluded that the market price of shares depends on EPS as well as on DPS, but DPS is more prices sensitive and it will have direct and immediate response in the market.

Narayan Prasad Poudel (2001) conducted a study on *"Investing in Shares of Commercial Banks in Nepal; An assessment of Return and Risks Elements"*. The following is the main part of the study.

The DDM Model This model states that the value of the share now is the sum of stream of future discounted dividends, plus the value of the share as and when sold in some future year. Therefore, the value of a share today is a function of the cash inflows expected by the investors and the risk associated with the cash inflows.

$$V_0 = V_0 \frac{D_1}{1+(K)} + \frac{D_2}{(1+j)^2} + \frac{D_3}{(1+K)^3} + \frac{D_i}{(1+K)^i}$$

$$V_0 \sum \frac{D_1}{(1+K)^i}$$

Where,

V0 = Intrinsic or the theoretical value of stock today

Dt = dividend expected in nth year

K = firm's cost of equity capital

The equation stated above assumes that dividend will grow at a given rate and the amount of dividend will be different in different years. A zero growth stock is a stock from which the investor expects a constant amount of dividend each year and where the dividend is not expected to grow. In such case the price of the stock now, V0 is calculated by dividing the amount of dividend by the cost of equity.

$$V_0 = D/K$$

### 2.2.2 Review of Thesis

Timilsina (1997) had conducted a study on *"Dividend and Stock Prices: An Empirical Study"* by sample testing the data of 16 Enterprises using data from 1990 to 1994. The study was conducted to test the relationship between dividends per share and stock prices, to determine the impact of dividend policy on stock prices and to identify where it is possible to increase the market value of the stock by changing dividend policy or

payout ratio. To explain price behavior, the study used simultaneously equation model as developed by Friend and Puckett (1964).

The Main objectives of the study are:

- To provide conceptual framework of dividend models.
- To analyze the financial variables affecting the stock value and interpret the dividend paying implication under dividend valuation model and
- To provide suggestions, this will give vision for determination and espousal of dividend policy.

The Major findings of his study are as follows:

- The relationship between dividend per share and stock prices is positive in the sample companies.
- Dividend per share affects the share prices variedly in different sectors
- Changing the dividend policy or dividend per share might help to increase the market price of share.
- The relationship between stock prices and retained earnings per share is not prominent.
- The relationship between stock prices and lagged earnings price ratio is negative.

Adhikari (1997) carried out a research on "*Corporate Dividend Practices in Nepal*" using primary as well as secondary data.

The Main objectives of the study are:

- To analyses the properties of portfolios formed on dividend.
- To examine the relationship between dividend and stock prices and to survey the opinions of financial executives on corporate dividend practices.

The Major findings of his study are as follows:

- Financial position of high dividend paying companies is comparatively better than that of low dividend paying companies.

- Market price of stock of both finance and non finance and non finance sectors are affected by dividends.
- There is a positive relationship between dividend and stock price
- There is a 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.
- These profitability ratios of stocks paying larger dividends are also more variable as compared to stocks paying smaller dividends.
- Companies paying higher are reluctant to employ higher degree of leverage in their capital structures
- The stocks with larger ratio of dividend per share to book value per share have also higher turnover ratio and higher interest coverage.

Gautam (1997) carried out a research on "*Dividend Policy in Commercial Banks*" which focuses on the objectives to identify the type of dividend policy that is being adopted and to find out whether the policy.

The Main objectives of the study are:

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

The Major findings of the study are as follows:

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

Sharma (2002) conducted a research on *"Dividend Policy with Respect to Insurance Companies in Nepal"* in July 2002.

The Main objectives of the study are:

- To identify the existing practice of dividend policy in insurance companies.
- To find out the impact of dividend per share of the market price of the stock.
- To examine whether there is significant different or not among DPS, EPS and DPR on the selected companies and to know if there is any relationship between market value per share (MVPS) on dividend policy and other financial indicator such as DPS, EPS, DPE, PE Ratio, Liquidity ratio

The Major findings of the study are as follows:

- Pointed out as the average DPS and EPS of NLGICO and NICO is satisfactory compared to ICO and UICO.
- Since, later insurance companies are new in dividend distribution.
- The analysis of coefficient of variation indicates largest fluctuation in PICO and UNICO, and the dividend yield analysis fluctuating in all sample insurance companies.

Budhathoki (2006) carried on a research on *"The Study of Dividend Policy of the Commercial Banks in Nepal"* on May 2006.

The Main objectives of the study are:

- To highlight the dividend practices of Commercial Banks,
- To compare the dividend policy followed by different commercial banks chosen,
- To provide the sample banks with some fruitful suggestion that can be implemented easily and possible guideline to overcome various issues and gaps based on the findings of the analysis.

The Major findings of the study are as follows:

- The average earning per share (EPS) of the banks under study shows a positive result. But the coefficient of variation indicates that there is no consistency of EPS.



- The average dividend per share (DPS) shows that there is no regularity in dividend payment.
- The analysis of DPR shows that the Dividend Payout Ratio (DPR) of the banks is not stable.
- The average market price shows that there is quite high level of fluctuation.

Pandey (2008), researched on "*Pricing and yield behaviour of equity shares in Nepal*" A case of Commercial Banks" on March 2008.

The main objectives of the study are:

- To establish relationship between market prices of commercial bank's equity shares and their yield behaviour in Nepal.
- To see how effective is yield in determining the market price of the securities?
- If yield is not the sole determining factor then what could be other factors, which could affect the market prices of securities in Nepal.
- To identify problems of securities market in Nepal and suggest measures to correct the existing problems.

The Major findings of the study are as follows:

- Market prices of the equity shares are overvalued when compared to the earnings per share, which is the primary indicator of the financial status of the concerned financial institution. This was mainly due to ignorance and improper access to financial health of the company.
- The result of simple regression analysis between the market price and yield indicators reflected that net worth per share explained the best of the market prices compared to other indicators. Dividend per share and earnings per share were equally explanatory, whereas dividend payout ratio was not a good indicator of stock pricing. The result showed that market price corresponds to the earning per share at a greater extent and then to dividend per share and then to earnings per share.

Shah (2009) carried out a research on “*Cash Dividend Practice and its Impact on Share Price in Nepal*”. It covered 5 years period (2004-2008) including commercial banks, manufacturing companies, development banks, insurance companies, and financial institutions and hotels sectors.

The Main objectives of the study are:

- Its basic objectives were to evaluate the trend of cash dividend forecasting and payment by the Nepalese financial institution and to see and examine the impact of cash dividend on market price per share.
- To achieve these objectives, the information are interpreted and analyzed by using regression model and hypothesis test.

The Major findings of the study are as follows:

- Commercial banks of Nepal are seen the regular dividend paying financial institution.
- In average 90% companies pay less than 50% cash dividend. The company having good earning only have been paying regular cash dividend.
- The lack of financial knowledge and the market inefficiency has affected the market price of the share in all the firms. But it is theoretically argued.

### **2.3 Research Gap**

This thesis work reflects the following research gap between the previous researches. None of the previous thesis analyses the impact of dividend on equity share pricing in Nepal. Most of the masters level thesis work was done by analyzing secondary data. They do not have direct responses of the market but this research work is mainly focused on analyzing the impact of dividend on equity share price. This thesis uses secondary data as well as primary data to analyse the impact of dividend on equity share pricing in Nepal. In the primary data presentation, Questionnaires were distributed among various secondary share traders working in various organizations and the response of the individuals who own shares on secondary market was considered.

## **CHAPTER - III**

### **RESEARCH METHODOLOGY**

Research methodology is the way to solve systematically about the research problem. Research methodology is a general plan of how the researcher is going about answering the research questions we has set. The research worked undertaken following a systematic way, which is called the research methodology. This chapter describes the research methodology or research strategy employed in this study. The major contents of research methodology are as follows.

#### **3.1 Research Design**

A research design is a plan of the proposed research work. This research attempts to analyze the impact of Dividend on the stock price behavior of financial institution and commercial banks. For this, several tools have been employed to accomplish such targets. The analysis has been divided into two sections – based on secondary data and on primary responses. In the first part, this research would explicitly examine the relationship between Market Price per Share (MPS) and Dividend per Share (DPS). For this, ten bank and other institutions would be selected on judgmental basis, considering the years' of operation and listing in NEPSE, institution type, number of shareholders, and paid up capital among others. For the comparative purpose, the relationship of MPS with Dividend Payout Ratio (DPR), Net Worth per Share (NWPS) and Earning per Share (EPS) will also be calculated and presented. In the second part, which is an empirical analysis, the responses of primary respondent would be analyzed.

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

All the companies listed in NEPSE are considered to be the total population of the study. Out of them Commercial Banks listed and doing share transaction in NEPSE were considered as the sample of the study. The no. of Listed Companies reached 196 by the end of fiscal year 2009/ 2010. The table below clearly describes total population and samples.

For the purpose of this study, a total 196 companies (31 commercial banks, 45 development banks, 68 finance companies and 20 insurance companies) are considered as sample population. Since standard sample size for any research is 10 percent of the population, the sample of this research would be 10 banks and other institutions. For the Basis of selecting companies under study, the market share in NEPSE has been considered. The data for 2006/07 shows that, commercial bank groups' trading constituted 67 percent of the total trading in NEPSE. Similarly, Finance companies' share was 9 percent, development banks' share was 7 percent and others were 17 percent. Going by this structure, the sample would include 7 commercial banks, 2 financial companies and one development bank. The Names of Commercial Banks are as follows:

<b>S.N</b>	<b>Name of the Banks</b>	<b>Operation Date(A.D.)</b>	<b>Head Office</b>
1	Nepal Bank Limited	1937/11/15	Dharmapath,Kathmandu
2	Rastriya Baniija Bank	1966/01/23	SinghDarbar,kathmandu
3	Nabil Bank Limited	1984/07/16	Kantipath, Kathmandu
4	Nepal Investment Bank Limited	1986/02/07	Durbarmarg , Kathmandu
5	Standard Chartered Bank Nepal Limited	1987/01/30	NayaBaneshwor, Kathmandu
6	Himalayan Bank Limited	1993/01/18	Thamel ,Kathmandu
7	Nepal SBI Bank Limited	1993/07/07	Hattishar,Kathmandu
8	Nepal Bangladesh Bank Limited	1993/06/05	NayaBaneshwor , Kathmandu
9	Everest Bank Limited	1994/10/18	Lazimpat, Kathmandu
10	Bank Of Kathmandu Limited	1995/03/12	Kamaladi, Kathmandu
11	Nepal Credit and Commerce Bank limited	1996/10/14	Siddhartha nagar, Rupandehi
12	Lumbini Bank Limited	1998/07/17	Narayangadh, Chitwan
13	Nepal Industrial &Commercial Bank limited	1998/07/21	Biratnagar, Morang
14	Machhapuchhre Bank Limited	2000/10/03	Prithivichowk , Pokhara
15	Kumari Bank limited	2001/04/03	Putalisadak ,Kathmandu
16	Laxmi Bank limited	2002/04/03	Adarshanagar,Birgung
17	Siddhartha Bank limited	2002/12/24	Kamaladi,Kathmandu
18	Agriculture Development Bank limited	2006/03/16	Ramshapath, Kathmandu
19	Global Bank limited	2007/01/02	Birgung,Parsa
20	Citizens Bank International Limited	2007/06/21	Kamaladi, Kathmandu
21	Prime Commercial Bank Limited	2007/09/24	New road, Kathmandu
22	Sunrise Bank Limited	2007/10/12	Gairidhara crossing, Kathmandu
23	Bank Of Asia Nepal Limited	2007/10/12	Tripureswor, Kathmandu
24	Development Credit Bank Limited	2001/01/23	Kamaladi,Kathmandu
25	NMB Bank Limited	1996/11/26	Babarmahal, Kathmandu
26	Kist Bank Limited	2003/02/21	Anamnagar, Kathmandu
27	Janata Bank Nepal limited	2010	New Baneshwor, Kathmandu
28	Mega Bank Limited	2010	Kantipath, Kathmandu
29	Commerz and Trust Bank Limited.	2010	Kamaladi, Kathmandu
30	Civil Bank Limited	2010	Kamaladi, Kathmandu
31	Century Commercial Bank Limited	2011	Putalisadak ,Kathmandu

### **3.3 Sources of Data**

#### **3.3.1 Secondary Data**

Data have been collected from primary as well as secondary sources. In secondary data, concerned banks, finance companies and Nepal Stock Exchange Ltd. and Security Board of Nepal are providers of the data. The researcher collected various data from SEBON and NEPSE in various dates in the month of September. The sample period covers 2002- 2006 for examining the relationship as well as for using different indicators. The data obtained are:

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

### **3.4 Financial Analysis**

#### **3.4.1 Financial Tools**

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

Dividend per share is the net distributed profit to the shareholders. It is the ratio of distributed profit to the number of ordinary shares. It is calculated as:

$$\text{DPS} = \frac{\text{Amount Distributed to Equity Shareholder}}{\text{Number of Equity Shareholder}}$$

Dividend per Share and the Dividend Payout Ratio depend upon the firms' dividend policy, which further depends on several internal factors such as fund needs of the firm, liquidity, ability to borrow, nature of shareholders, and market conditions.

### **Earnings per Share (EPS)**

Earnings per share measures the profit of equity shareholders in terms of per unit of shares .i.e. the amount that they have earned on every share held. It is calculated as the ratio of available profit to the number of outstanding shares.

$$\text{EPS} = \frac{\text{Net Profit}}{\text{Number of Existing Equity Shares}}$$

### **Dividend Payout Ratio (DPR)**

This ratio shows the percentage of profit distribution to the shareholders in the form of dividend. It is the ratio between DPS and EPS

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

### **Net Worth per Share**

Net Worth per Share is a measurement of the net worth of the company for each share of stock that has been issued. If this value is negative, this indicates that company's liabilities exceed its ability to pay them. An increasing net worth per share is a positive signal that the company has reduced its liabilities. The company may also have gone through a stock buy-back plan, reducing the number of shares, essentially making the net worth for each share more valuable

$$\text{NWPS} = \frac{\text{Net Assets Available to Common shareholder}}{\text{Outstanding Common share}}$$

### **3.4.2 Statistical Tools**

The following are the major statistical tools that were used while carrying out this study.

#### **Arithmetic Mean( $\bar{X}$ )**

The arithmetic mean or average is the sum of total values to the number of observations in the sample. It represents the entire data which lies almost between the two extremes (*Gupta; 1997: 75*). For this reason an average is frequently referred to as measure of

central tendency. In this study it is used in data related to dividend of sample companies over different years. It is calculated as:

$$\text{Mean} = \frac{\text{Sum of Total Values}}{\text{No. of Values (N)}}$$

$$\bar{X} = \frac{\sum x}{N}$$

### **Standard Deviation (SD)**

The standard deviation is commonly used to measure the risk. It shows the deviation of actual mean with average mean. The standard deviation measures the absolute dispersion or variability of a distribution. The greater the variability or dispersion the greater would be the magnitude of the deviation of the value from their mean. The smaller the dispersion or variability, smaller would be the standard deviation. There would be high degree of uniformity in the observation and homogeneity in the series. Hence, the standard deviation is extremely useful in judging the representativeness of the mean; we can find the Standard Deviation from the following formula.

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

Where,

n-1 = No of observation in Series X

$(X-x)^2 =$  Summation of square of deviation from mean value

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

### **Coefficient of Variance (CV)**

The corresponding relative measure of dispersion is known as the coefficient of variation. The series for which the coefficient of variation is greater is said to be more variable or conversely less consistent or less uniform. On the other hand the series for



which coefficient of variation is less is said to be less variable or more consistent or more uniform. It is denoted by CV and obtained as follows: Coefficient of Variance

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

Where SD is the Standard Deviation and

$\bar{X}$ = Mean of the series defined as

$$\bar{X} = \frac{\sum X}{N}$$

### **Karl Pearson's Coefficient of Correlation (r)**

It is statistical tool for measuring the magnitude of linear relationship between the two variables. Karl Pearson's measure, known as Personian correlation coefficient between two variables series x and y, denoted by r(x, y) or rxy. r can be obtained as:

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

Where, r = correlation coefficient

n = no. of years.

X = Sum of Series X

Y = Sum of Series Y

XY = Sum of the product of X and Y variables

2 X = Sum of squares of Series X

2 Y = Sum of squares of Series Y

The value of coefficient of correlation always lies between +1 & -1. when coefficient of correlation (r) = +1, it means there is perfect positive correlation between the variables, when (r) = -1, it means there is perfect negative correlation between the variables and (r) = 0 refers that there is no relationship between the given variables. The coefficient of correlation finds not only the magnitude of correlation but also its direction. The closer the value of 'r' to 1 or -1, the strong will be the relationship between variables and the closer the 'r' to 0, weak will be the relationship (*Shrestha & Manandhar; 1999: 234*).

## **Regression Analysis**

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

## **Line of Regression**

If there exists a relationship between two variables X and Y, the dots the scatter diagram will be concentrating around a certain curve and will be concentrating around a certain curve and if the curve is a straight line, it is said to be the line of regression and the relationship between two variables as the linear regression. A line of regression gives the best estimate (in the least square sense) of one variable for any given value of other variable. So, there are two lines of regression referring as the line of regression of Y on X and the line of regression of X on Y respectively (B.C. Bajracharya; 2060).

## **Regression of Equation X on Y**

The regression equation is expressed as:

$$Y = a + bx$$

We shall get normal equations for estimating 'a' and 'b' as:

$$Y = na + b \cdot x$$

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

Where Y = value of dependant variable

a = Y intercept

b = Slope of the trend line/coefficient of regression

X = Value of independent variable

### **Coefficient of Regression**

The coefficient 'b', which is the slope of line of regression of y on x is called the coefficient of regression of y on x. It represents the increment in the value of dependent y for a unit change in the value of independent variable x. In other words, it represents the rate of change. The convenient way to calculate the variable of 'b' is as:

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

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

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

### **Standard Error of Estimates**

A measure of precision of the estimate so obtained from the regression equations is provided by standard error (SE) of the estimate. Standard error is a word analogous to standard deviation (which is dispersion of observation about the mean of the distribution) and gives us a measure of the scatterness of the observation about the line of regression.

Thus,  $S_{YX}$  = Standard Error of Estimate of Y for given X.

$$s_{yx} = \sqrt{\frac{\sum (y - \hat{y})^2}{n}} = \sigma_y (1 - r^2)^{\frac{1}{2}}$$

$$s_{yx} = \sqrt{\frac{\sum y^2 - a\sum y - b\sum xy}{n - 2}}$$

(Shrestha & Manandhar; 1999: 246).

### **Test of Regression Coefficient by t-Test**

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

to the normal distribution. For applying t-test in context of small samples, the t-value is calculated first of all and then compared with table-value 't' at certain level of significance for given degree of freedom. If the calculated value of 't' exceeds the table value, it infers that the difference is significant at given level of significance. If computed value of 't' is less than the tabulated value of 't', the result is not treated as significant. The t-test is used when two conditions are fulfilled:

1. The sample size is less than 30.
2. The population standard deviation must be known. While using t-test we assume the following:
3. That population is approximately normal.
4. That the observations are independent and the samples are randomly drawn samples.
5. That there is no measure error.
6. That in case of two samples, population variance is regarded as equal if equality or the two population means is to be tested.

### **T-Test for Significance of an observed Sample Correlation Coefficient**

Let  $r$  be the observed sample correlation coefficient a sample of  $n$  pairs of observations from vicariate normal population. In order to test whether the sample correlation coefficient is significant of any correlation between the variables in the population, t-test for significance of an observed sample correlation coefficient is applied.

### **3.4.3 Test of Hypothesis**

Statement of relationship between two or more variable is called hypothesis. Hypothesis statement should be able to show the relationship between variables. This study puts insight into the relationship between Dividend per Share and Market Price per Share. As theories believe a direct relationship between DPS and MPS in the secondary market, the null hypothesis of this study, denoted as  $H_0$  can be written as:  $H_0$ : There exists a positive relationship between market price and Dividend per Share. The alternative hypothesis of this study, denoted as  $H_1$  could be written as  $H_1$ : There exists weak or no relation between market price and Dividend per Share.

## **CHAPTER - IV**

### **DATA PRESENTATION AND ANALYSIS**

In this chapter, the collected data are presented, analyzed and interpreted following the research methodology dealt in the third chapter. While analyzing, data gathered from various sources have been inserted in the tabular form in Annex. The basic objective of this chapter is to analyze and explain the collected data following the conversion of unprocessed data to an understandable presentation. Thus this chapter presents the analysis of Impact of dividend on Equity share price various financial institutions.

#### **4.1 Presentation and Analysis of Secondary Data**

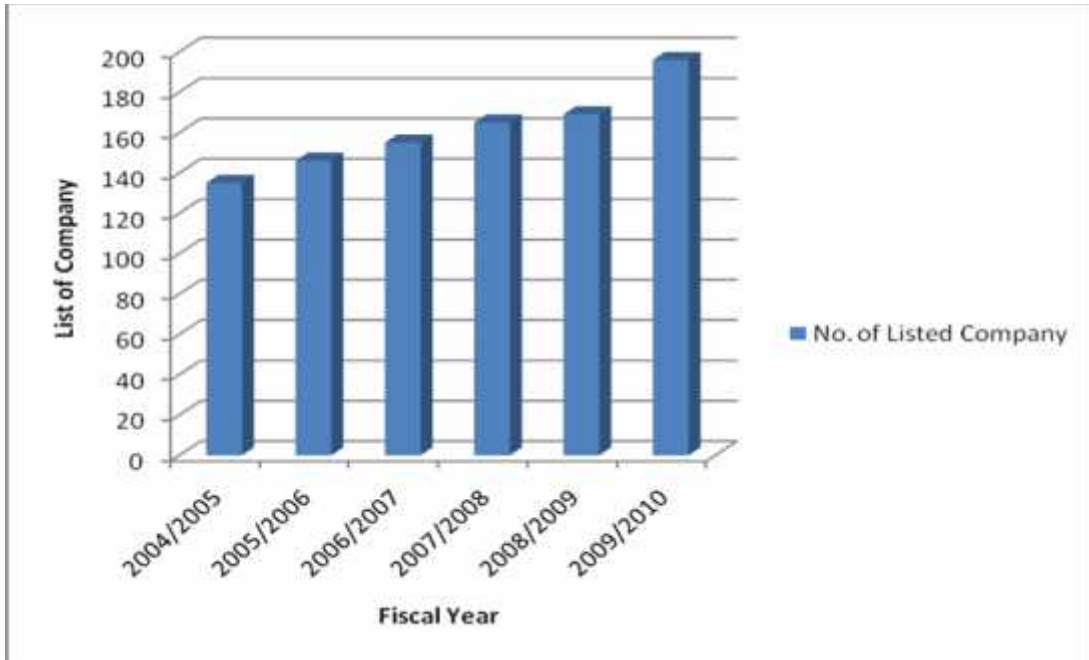
##### **4.1.1 The Number of listed companies in Stock Exchange**

**Table No: 4.1**  
**Number of Listed Companies**

<b>Fiscal Year</b>	<b>No. of Listed Company</b>	<b>Change in Percentage (%)</b>
2004/2005	135	-
2005/2006	146	8.15
2006/2007	155	6.16
2007/2008	165	8.97
2008/2009	169	2.42
2009/2010	196	13.78

(Source: Annual Report, SEBON, 2009/10)

**Figure No 4.1**  
**Number of Listed Companies**



From the table 4.1 it is clear that the ratio of listing of the companies is increasing. In the year 2002/2005 the total number of listed companies decreasing from 125 to 135. Afterwards, there was increment in the number of listed companies. In 2005/2006, there were 135 companies listed and its it increasing by 10 from the total of 146 in 2005/2005. Again, in the year 2008/2009 the number of listed companies increasing by 10 and the number of total listed companies was 165. In 2008/2009 there was an increment of only 4 companies as compared to the previous year and remain 169. In 2009/2010 there was an increment of only 27 companies as compared to the previous year and remain 196.

#### 4.1.2 The Number of listed companies under different sector in Stock Exchange

Table No 4.2

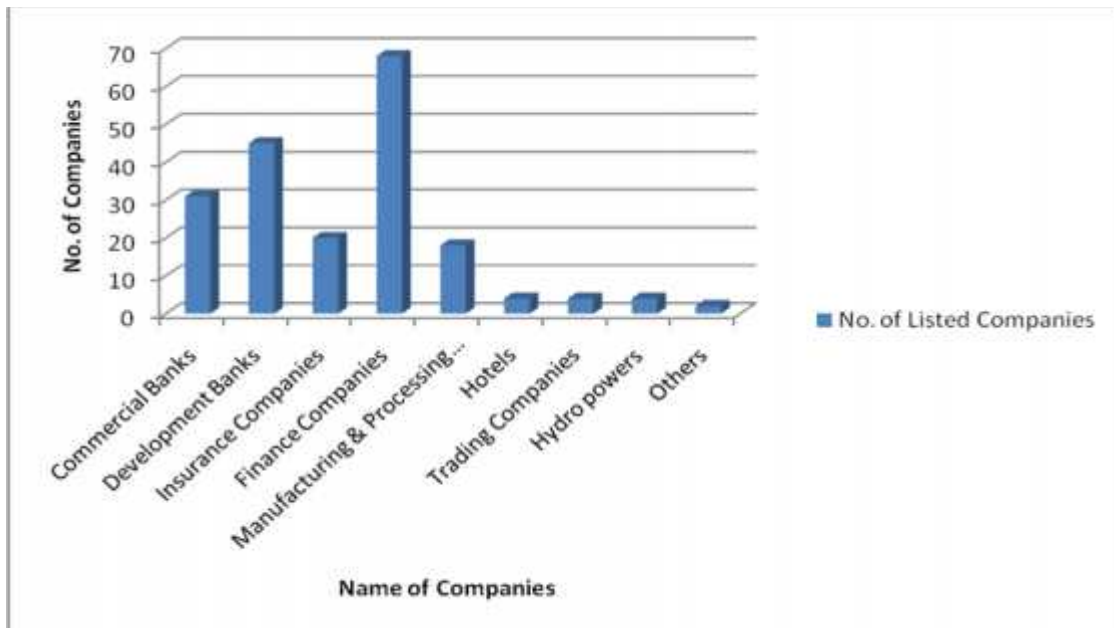
##### Number of listed companies, Sector Wise

Name of Companies	No. of Listed Companies	Percentage
Commercial Banks	31	15.38
Development Banks	45	23.07
Insurance Companies	20	10.25
Finance Companies	68	34.87
Manufacturing & Processing Companies	18	9.23
Hotels	4	2.05
Trading Companies	4	1.25
Hydro powers	4	2.05
Others	2	1.02
<b>Total</b>	<b>196</b>	<b>100</b>

Source: Nepal Stock Exchange

Figure No 4.2

##### Number of listed Companies, Sector Wise



The table 4.2 shows the data of total companies listed under different sector in the Nepal Stock Exchange Ltd. 196 number of companies were listed till 2009/10. There are altogether 31 commercial banks, 45 development banks, 20 insurance companies, 68 finance companies, 18 Manufacturing & Processing Companies, 4 hotels, 4 Trading companies, Hydropower and 2 other companies. The percentage share of each sector is 15.38, 23.07, 10.25, 34.87, 9.23, 2.05, 1.25, 2.05, and 1.02 respectively.

#### **4.1.3 Analysis of Financial Indicator**

##### **a. Earnings per Share (EPS)**

Earnings per share measures the profit of equity shareholders in terms of per unit of shares .i.e. the amount that they have earned on every share held. It is calculated as the ratio of available profit to the number of outstanding shares.

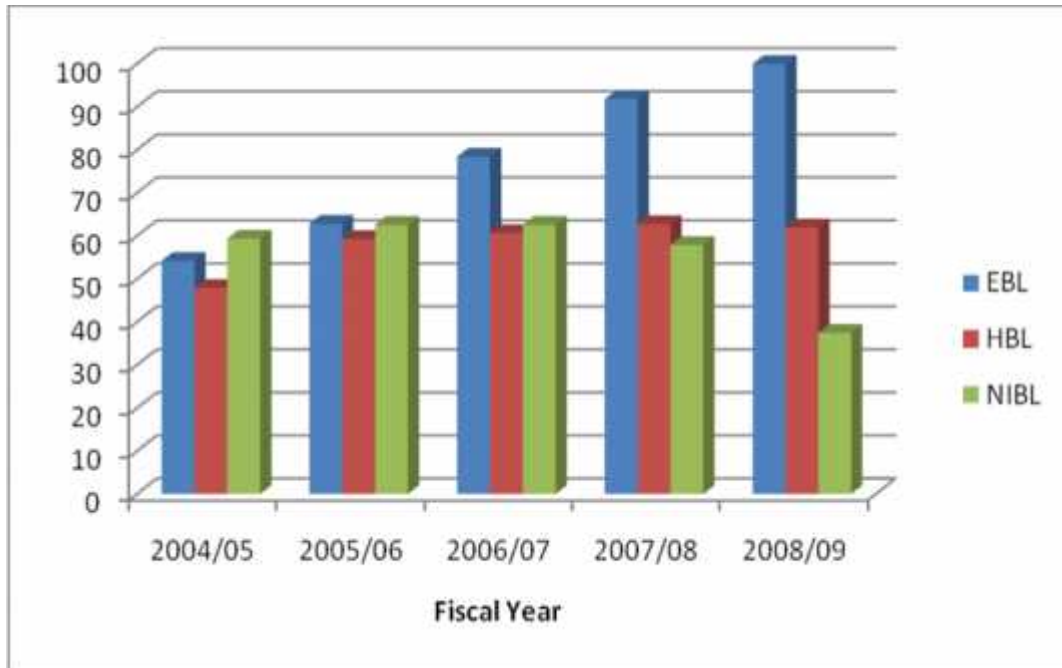
**Table No 4.3**  
**Analysis of Earning Per Share of the Banks**

<b>FY</b>	<b>EBL</b>	<b>HBL</b>	<b>NIBL</b>
2004/05	54.2	47.91	59.35
2005/06	62.8	59.24	62.57
2006/07	78.4	60.66	62.57
2007/08	91.82	62.74	57.87
2008/09	99.99	61.9	37.42
<b>Mean</b>	<b>77.44</b>	<b>58.49</b>	<b>55.95</b>
<b>S.D</b>	<b>17.14</b>	<b>5.41</b>	<b>9.46</b>
<b>CV%</b>	<b>22.13</b>	<b>9.24</b>	<b>16.90</b>

(Source: Annex-ii)



**Figure No: 4.3**  
**Analysis of Earning Per Share of the Banks**



The table 4.3 shows the Earning per share of all of the financial institutions taken in this study. The table also shows the standard deviation as well as the coefficient of variation of the EPS covering the period from FY 2004/05 to 2008/09. In this table, among the commercial banks, EBL has the highest EPS throughout the study period. The average EPS of NBL is 117.37, SD is 13.14 and CV is 11.19, which shows that there is a very low fluctuation in EPS of EBL. Himalayan Bank has increasing EPS each year. EPS of HBL goes on decreasing till 2008/09.

EPS of EBL of range 54.2 in fiscal year 2004/09 and highest Rs.99.99 in a fiscal year 2008/09. Average EPS of EBL is 77.4. This is the highest among the Selected bank. This helps to maximize the wealth for shareholders. The SD of the EPS under the wealth period of study 17.14. The CV of the bank is 22.13% which indicates that there is moderate level of fluctuations in the EPS of EBL during the study period.

EPS of the HBL range rs.47.91 in fiscal year 2004/05 and highest Rs.62.7 in fiscal year 2007/08 average EPS of HBL rs.58.49 which is the second highest mean of selected bank of the study. The SD of the EPS of HBL is 5.41. The CV of the bank

9.24% which indicate low level of fluctuations in the EPS during the study the study period.

EPS of the NIBL range rs.37.42 in final year 2008/09 and Rs. 62.57 in 2005/06 and 2006/07. Average EPS of the bank is; 55.95. This is lowest mean of the selected bank. The SD and CV 9.46 and 6.90 respectively. Which indicate moderate level of fluctuations in the EPS of NIBL during the study period?

**b. Market Price per Share (MPS)**

Market price per share (MPS) is a prevailing price of the equity share trading in the secondary market. The price listed in the stock exchange is the actual market price of equity shares. The analysis of the Market price of the equity shares of the financial institutions are presented below.

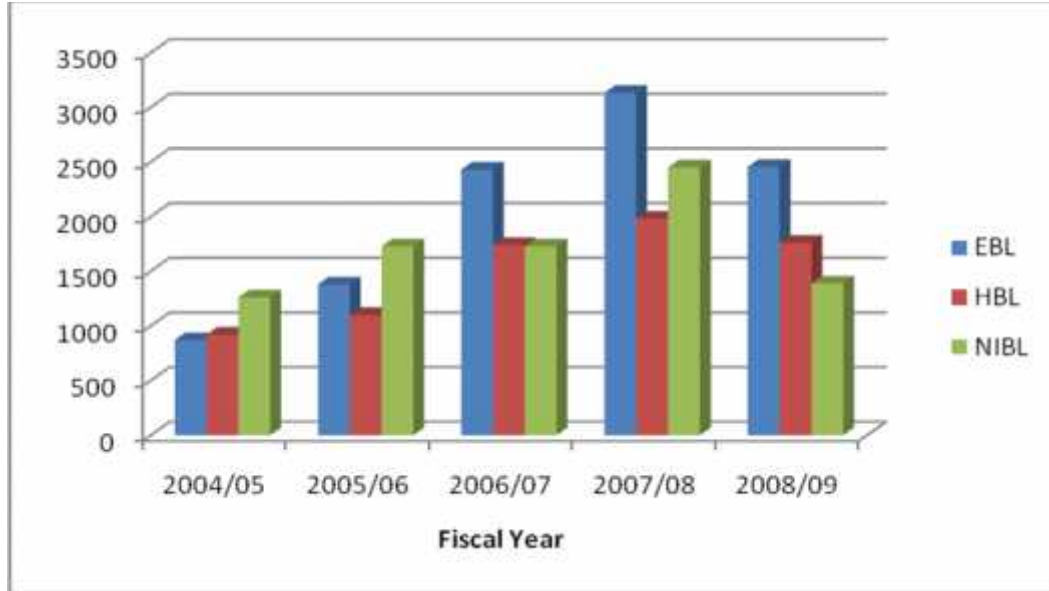
**Table No 4.4**  
**Analysis of Market Price per Share of the Banks**

<b>FY</b>	<b>EBL</b>	<b>HBL</b>	<b>NIBL</b>
2004/05	870	920	1260
2005/06	1379	1100	1729
2006/07	2430	1740	1729
2007/08	3132	1980	2450
2008/09	2455	1760	1388
<b>Mean</b>	<b>2053.2</b>	<b>1500</b>	<b>1711.2</b>
<b>SD</b>	<b>815.07</b>	<b>412.79</b>	<b>413.40</b>
<b>CV%</b>	<b>39.69</b>	<b>27.5</b>	<b>24.15</b>

(Source: Annex-iii)

**Figure No. 4.4**

**Analysis of Market Price per Share of the Banks**



The table 4.4 shows the market price of equity shares of each of the financial institutions taken for this study. EBL has a standard deviation of 815.07 and coefficient of variation is 39.69. The closing MPS of EBL ranges between Rs.870 to Rs. 3132 during the study period. The averages of during MPS at EBL Rs. 2053.20 with a SD 815.07 and c.v. of 39.69% which means its MPS has fluctuated quite a lot, but increasing way during the last year.

During the period of study, HBL has an average of closing MPS.1500 and SD 412.79. The CV shows that 27.50% in the closing MPS of HBL during the study period. This means its MPS has fluctuated.

The closing MPS of NIBL range between Rs. 1260 and highest Rs. 2450 in fiscal year 2004/05 and 2007/08 respectively. SD and CV of banks 413.40 and 24.15% respectively. This indicated fluctuated NIBL is low fluctuated than other bank in selected banks.

**C. Dividend per Share (DPS)**

Dividend per share indicates the proportion of earning distributed to the shareholders on per share basis. Generally higher DPS creates positive attitude among the shareholders

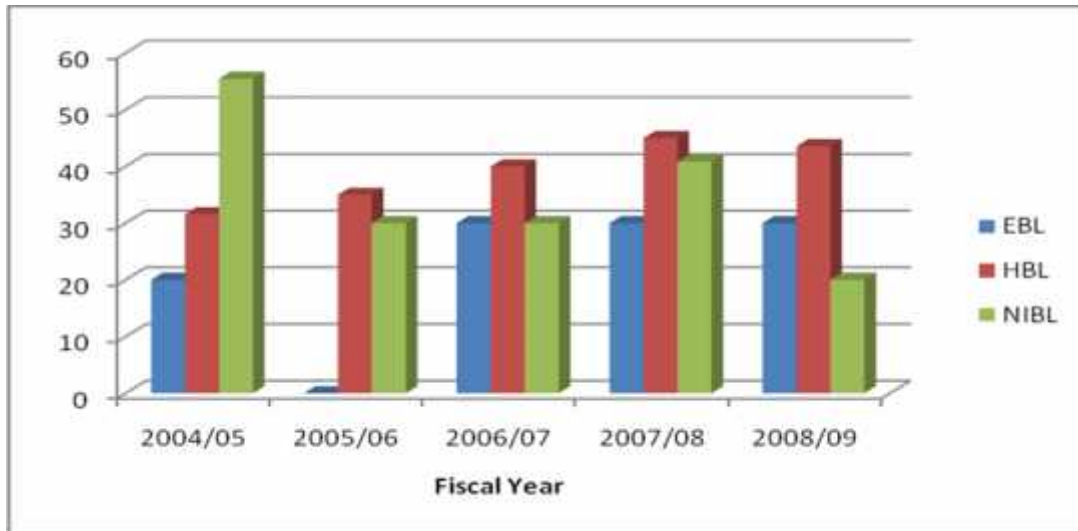
towards the bank, which accordingly helps to increase the market value of shares. The dividends per share of the Banks under study are stated in the following table.

**Table No 4.5**  
**Analysis of Dividend per Share of the Banks**

<b>FY</b>	<b>EBL</b>	<b>HBL</b>	<b>NIBL</b>
2004/05	20	31.58	55.46
2005/06	0	35	30
2006/07	30	40	30
2007/08	30	45	40.83
2008/09	30	43.56	20
<b>Mean</b>	<b>22</b>	<b>39.02</b>	<b>35.25</b>
<b>SD</b>	<b>11.66</b>	<b>5.01</b>	<b>12.06</b>
<b>CV%</b>	<b>53</b>	<b>77.25</b>	<b>34.21</b>

(Source: Annex-iv)

**Figure No: 4.5**  
**Analysis of Dividend per Share of the Banks**



Above the table and figure 4.5 shows Dividend paid by the financial institutions during the year 2004 to 2009. EBL has the second highest i.e. 60 The CV of EBL is the highest i.e. 282.84 which shows a highest fluctuation in DPS during the period of study. It has

not paid dividend for four years. i.e. 152.07. The dividend paid range Rs. 20 in fiscal year 2004/05 and 2005/06 has not paid dividend. Rs 30 paid in fiscal year 2006/07, 2007/08 and 2008/09. Mean value of the dividend Rs. 22 during the period. SD and CV are 11.66 and 53% which is indicating low level of fluctuated.

HBL found to be paying dividend in average Rs 39.02 it gave rs.31.58 in FY 2004/05, which is lowest value. Rs. 43.56 is highest dividend paid in FY 2008/09 S.D and CV is 5.01 and 77.25 respectively. Which indicate low level of fluctuated, in dividend paid of the bank.

NIBL found to be paying dividend in average RS. 35.25 DPS of NIBL range between RS.20 in FY 2008/09 and Rs 55.46 in fiscal year 2004/05 mean value of the DPS of NIBL Rs. 35.25 and SD, CV are 12.06 and 34.21 respectively which indicator normal fluctuation in the DPS during the period of study .

#### **d. Dividend Payout Ratio (DPR)**

Dividend Payout Ratio shows the percentage of profit distributed to the share holders. It depends upon earnings of organization. Greater the earnings, more ability to pay dividend. The DPR of the financial institutions' under study are stated in the table as follows.

**Table No: 4.6**

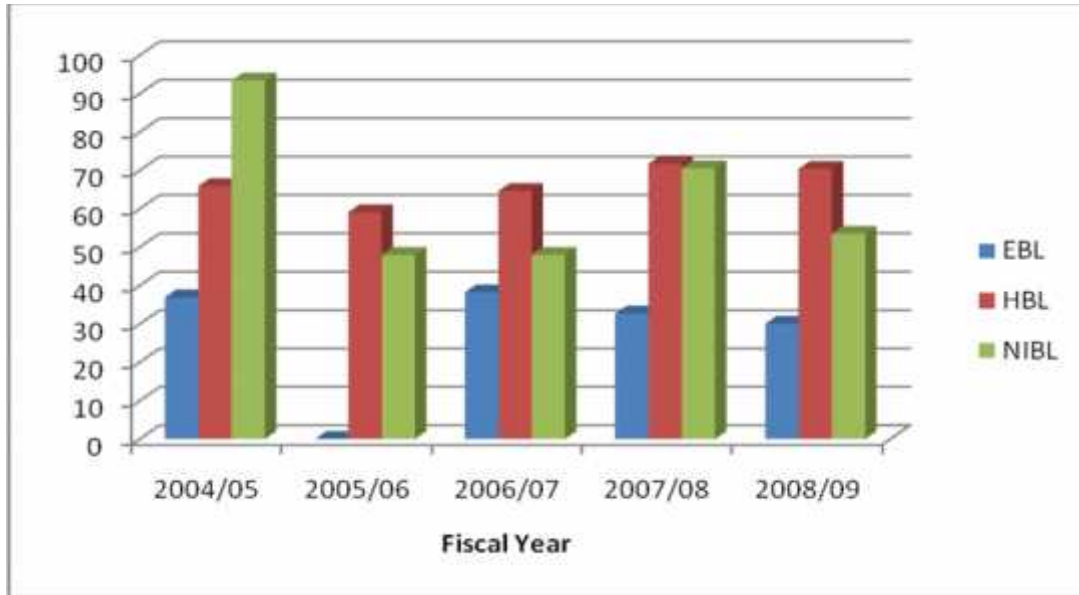
#### **Analysis of Dividend Payout Ratio of Sampled of the Banks**

<b>FY</b>	<b>EBL</b>	<b>HBL</b>	<b>NIBL</b>
2004/05	36.90	65.91	93.44
2005/06	0	59.08	47.95
2006/07	38.25	64.62	47.95
2007/08	32.67	71.72	70.55
2008/09	30.00	70.37	53.45
<b>Mean</b>	<b>27.56</b>	<b>66.34</b>	<b>62.67</b>
<b>SD</b>	<b>14.09</b>	<b>4.50</b>	<b>17.48</b>
<b>CV%</b>	<b>51.12</b>	<b>6.78</b>	<b>27.89</b>

(Source: Annex-v)

**Figure No: 4.6**

**Analysis of Dividend Payout Ratio of Sampled of the Banks**



Above the table and figure 4.6, DPR of HBL 66.34 which is the highest DPR. It means that HBL generally pays 66.34% of its total earning as dividend to its shareholders. EBL Bank has a lowest DPR. It has not paid dividend for five years. The coefficient of variation in the DPR of HBL bank is the lowest i.e.6.78 which shows a very low fluctuation. The average DPR of EBL range 30.00 in fiscal year 2008/09 and in fiscal year 2005/06 has no paid dividend 38.25. In fiscal year 2006/07 which is the SD and CV are 14.09 and 51.12 respectively. Which indicate maxims fluctuation in DPR other banks.

The average of DPR of HBL 66.34 which is higher than other selected bank. The maximum DPR is 17.72 in fiscal year 2007/08 and 59.08 in fiscal year 2005/06 which is largest. The SD and CV are 4.5 and 6.78 respectively. This indicated lower fluctuation in DPR.

DPR of NIBL in fiscal year 2004/05 is 93.44 which is highest and 47.95 in fiscal year 2005/06 which is lowest DPR. The SD and CV are 17.48 and 27.89 respectively. Which indicator lower fluctuation than other bank.

#### 4.1.5 Correlation Coefficient and Regressions Analysis

The following tables are presented to analyze the relationship between Market Price per share and other financial indicators DPS, DPR, EPS and NWPS by correlation coefficient. The correlation coefficient helps to determine whether there exists any relationship among different variables.

##### 4.1.5.1 Correlation Coefficient and Regressions Analysis of the Everest Bank Limited

**Table No 4.7**  
**Correlation Coefficient and Regression of MPS with other variables of the Everest Bank Limited**

	Correlation	Regressions coefficient		Equation (y=a+bx)
		Constant (a)	Constant (b)	
DPS	0.885	17.14	0.005	17.14+0.005DPS
EPS	0.744	27.86	0.014	27.86+0.014EPS
DPR	-0.387	62.39	-0.009	13.6+0.044DPR

(Source: Annex- vi, x and xiii)

In the table 4.7 clearly shows the degree of relationship between MPS with DPS, EPS and DPR. The degree of relationship between MPS with DPS, EPS and DPR seems to be significant in all of the above listed institutions except in the case of Everest Bank Limited. Where, correlation coefficient recorded as EBL = 0.885 0.744 and -0.387. DPR gives the Negative correlations coefficient and DPS and EPS gives the positive correlation coefficient in the above table. In the above table, we can see that regression coefficient (a) is positive in Everest Bank Limited i.e. 17.14, 27.86 and 62.39 respectively. They indicate that there exists positive relationship between market price share with DPS, EPS and DPR.

**4.1.5.2 Correlation Coefficient and Regressions Analysis of the Himalayan Bank Limited**

**Table No: 4.8**  
**Correlation Coefficient and Regression of MPS with other variables of the Himalayan Bank Limited**

	Correlation	Regressions coefficient		Equation (y=a+bx)
		Constant (a)	Constant (b)	
DPS	0.850	-16.10	0.049	-16.10+0.049DPS
EPS	0.848	10.51	0.045	10.51+0.045EPS
DPR	0.536	13.6	0.044	13.6+0.044DPR

(Source: Annex- vii, ix and xiv)

Above the table 4.8 clearly shows positive relationship between MPS with DPS, EPS and DPR of correlation coefficient. The degree of relationship between MPS with DPS, EPS and DPR seems to be significant in all of the above listed institutions except in the case of Himalayan Bank Limited. Where, correlation coefficient recorded as HBL = 0.850, 0.848 and 0.536. The slope (b) of Himalayan bank is positive i.e. 0.049, 0.045 and 0.044 which means that there exist positive relationship between MPS with DPS, EPS and DPR.



#### 4.1.5.2 Correlation Coefficient and Regressions Analysis of the Nepal Investment Bank Limited

**Table No.4.9**  
**Correlation Coefficient and Regression of MPS with other variables of the Nepal Investment Bank Limited**

	Correlation	Regressions coefficient		Equation (y=a+bx)
		Constant (a)	Constant (b)	
DPS	-0.721	22.24	-0.234	22.24-0.2345DPS
EPS	0.802	35.28	0.031	35.28+0.031EPS
DPR	-0.372	65.25	-0.008	65.25-0.008DPR

(Source: Annex- viii, xi and xii)

Above the table 4.9 clearly shows the degree of relationship between MPS with DPS, EPS and DPR. The degree of relationship between MPS with DPS, EPS and DPR seems to be significant in all of the above listed institutions except in the case of NIBL. Where, correlation coefficient recorded as NIBL = -0.721, 0.802 and -0.372. The major output of simple regression between Market Price with DPS, EPS DPR of the sampled Banks. The regression coefficient (b) of Nepal Everest Bank, -0.234, 0.031 and -0.008 respectively. They indicate there exists positive and negative relationship between market price with DPS, EPS and DPR.

## 4.2 Presentation and Analysis of Primary Data

### 4.2.1 Empirical Study: Response of Individuals

An empirical study was carried out to receive a response of the individuals who own equity shares. A questionnaire was used to collect the view of the shareholders. The questionnaire was distributed to 50 persons representing several sectors like NRB, SEBON, NEPSE, etc. which are shareholders and staff of the banks. The responses of only 40 responses were used for the purpose of analysis as these respondents had purchased equity shares from the secondary market. Others had purchased shares from

the primary market. The questionnaire focused on the behavior of the investors while purchasing the equity shares in the secondary market. The questionnaire examines if the investor analyses financial health of the institution or not, if the investor cares the overall market or not and several other aspects that a good investor is supposed to look at. The number of respondents is shown in the table below.

**Table No 4.10**  
**No of Respondents**

<b>S. No.</b>	<b>Descriptions</b>	<b>Number</b>	<b>Percentage</b>
<b>1.</b>	<b>Respondents by sex</b>	40	100
	Male Respondent	32	80
	Female Respondent	8	20
<b>2.</b>	<b>Respondents by Age</b>	<b>6</b>	<b>15</b>
	<b>13 to less than 25</b>		
	Male respondent	6	
	Female respondent	-	
	<b>Age 25 to 50</b>	<b>25</b>	<b>62.5</b>
	Male respondent	25	
	Female respond	-	
	<b>Age above 50</b>	<b>9</b>	<b>22.5</b>
	Male respondent	9	
	Female respond		
<b>3.</b>	<b>Respondents by owning shares</b>		
	In only one financial institution	8	20
	In multiple Financial institutions	32	80

(Source: Field Survey 2010)

The table 4.13 describes the respondents by their sex and age. We can see that the investors are mostly male investors. Investors of the age less than 25 and above 50 do not include female investors. Investors of age more than 50 were those who were very experienced in trading of the equity shares and those who want to invest their retirement

fund all the way through the equity share investment. Most of the investors turn out to be holding the shares of more than one financial institution. The investor, who is aware of investing in equity share, goes on searching the prospect to invest more in shares. The above table shows that there are more respondents who invest in multiple financial institutions rather than only one institution. The responses of the questionnaire given by equity share investors are analyzed below.

The first question was “What inspired you to invest in the equity shares in Secondary Market?” The response is shown in the following table.

#### 4.2.2 Inspiring to invest in the equity shares

**Table No 4.11**  
**No of Respondents and in percentage**

<b>Options</b>	<b>No. of Responses</b>	<b>Percentage</b>
a. Lack of alternative Investment	6	15
b. Prospects of higher share prices in future	19	47.5
c. Future benefits from the institutions	12	30
d. Prevailing share prices	3	7.5
	40	100

(Source: Field Survey, 2010)

Most of the responses were on behalf of prospects of higher share price in future. This shows that these people were looking for capital gains from equity shares. Such responded counted at 47.5 percent of the total respondent. Furthermore, 7.5 percent of the respondents quoted prevailing market price of the equity shares as major reason for purchasing equity shares. Out of total respondents, 15 percent of the respondent said they purchased shares due to lack of alternative investment in the country and the remaining 30 percent said that they purchased shares with a hope that they can gain benefits from the banks in the form of bonus shares, right shares and cash dividends. The second question dealt on the fact if the investors care for the financial health of the company or not. The question reads, “While investing, were you aware of the financial health of the institution?” The response is shown in the following table.

#### 4.2.3 Financial health of the institution

**Table No 4.12**

**No of Respondents and in percentage**

<b>Options</b>	<b>No. of Respondents</b>	<b>% of Total</b>
a. Yes	35	87.5
b. No	5	12.5
<b>Total</b>	<b>40</b>	<b>100</b>

(Source: Field Survey, 2010)

#### 4.2.4 Influence factor for the share price

**Table No 4.13**

**No of Respondents and in percentage**

<b>Options</b>	<b>No. of Respondents</b>	<b>% of Total</b>
a Profitability	15	37.5
b Earning per share	6	15
c Dividend per share	12	30
d Net worth per share	3	7.5
e Dividend payout Ratio	2	5
f Others (Specify).....	2	5
<b>Total</b>	<b>40</b>	<b>100</b>

(Source: Field Survey, 2010)

37.5 percent of the respondents said they would look at the profitability of the company as financial health. Amongst them 30 percent said, they would also care for dividend per share, 15 percent said they would care for earning per share 7.5 percent would care for net worth per share and 5 percent would see the dividend payout ratio 5 percent of the respondents point out other financial indicators that include the management of the company and etc. Another question was further asked with the same topic.

Question number 5 was, “What factor amongst the financial health inspired you to purchase the equity shares in the secondary market?” The response to this question was shown as following. Options No of Responses % of total

#### 4.2.5 Influence factor in the Secondary Market

**Table No 4.14**  
**No of Respondents and in percentage**

<b>Options</b>	<b>No. of Responses</b>	<b>% of Total</b>
a Profitability	16	40
b Earning per share	6	15
c Dividend per share	11	27.5
d Net worth per share	3	7.5
e Dividend payout Ratio	3	7.5
f Others (Specify).....	1	2.5
<b>Total</b>	<b>40</b>	<b>100</b>

(Source: Field Survey, 2010)

40 percent of the respondents quoted the profitability behind their motive to buy equity share in the secondary market and 27.5 percent of the respondents said they are interested in dividend per share. They expressed their hope verbally that the bank would offer bonus shares in the future. All those who said they look at net worth per share, dividend payout ratio and other factors such as management and future growth while seeing financial health of the bank said that each of these factors were also the motives for the purchase of the equity shares. Amongst those who said they do not care for financial health while purchasing equity shares in the secondary market, there was one supporting question in question number 8, which read as, “If you were not aware of the financial health of the institution, why did you invest in the equity shares in Secondary Markets? [Respond if your answer to Q2 is no]” The response of 5 respondents who say no to question no. 2 is shown in the following table.

#### 4.2.6 Factor that attract in the equity share

**Table No 4.15**  
**No of Respondents and in percentage**

<b>Options</b>	<b>No of Responses</b>	<b>% of Total</b>
a)Influence from the family	2	40
b)Demonstration Effect	1	20
c)Market Prices	2	40
d)Others	0	-
<b>Total</b>	<b>5</b>	<b>100</b>

(Source: Field Survey, 2010)

Among those respondents who did not care the financial health, 40 % said that the market price of the bank and influence from the family were equal factors that made them invest in the equity shares. 30 percent of the respondents bought equity shares from the secondary market due to the demonstration effect – their friends and close relatives were purchasing equity shares quite regularly.

Question number 3 asked “If the investor were aware of other financial indicators such as NEPSE index, share market growth and others”. Most of the response was yes. There was a total of 70 percent (28 responses) positive response. 30 percent (12 responses) of the response was no, indicating that these group of respondents are not bothered with the other financial indicators in the share market. Amongst those who cared for other financial indicators the following are the indicators that they look into.

#### 4.2.7 Financial indicator in the share market

**Table No 4.16**  
**No of Respondents and in percentage**

<b>Options</b>	<b>No. of Respondents</b>	<b>% of Total</b>
Yes		
a)Share Market Growth	15	37.5
b) NEPSE Index	13	32.5
c)Other	0	-
No	12	30
<b>Total</b>	<b>40</b>	<b>100</b>

(Source: Annual Report, SEBON, 2009/10)

32.5 percent of the respondents said they look at the NEPSE index and 37.5 percent said that they look for the share market growth. Question number 6 was on the share investors' perception regarding the prices of the equity shares. This question was intended to see if the investors think that the share price that they are paying is just right or not. The response showed that a total of 62.5 percent (25 respondents) thought that the share prices were not just right and thus does not correspond to the financial health of the institution. Among these respondents 60 percent said the market price is overvalued, 24 percent said it is undervalued and 16 percent said they cannot answer this. The questions and their responses are shown in the following table.

Question no.6 was, Do you think the price that you pay correspond the financial health of the institution? [Respond if your answer to Q2 is yes. No of Responses % of total

#### 4.2.8 Investor care for financial health of the company

**Table No 4.17**

**No of Respondents and in percentage**

<b>Options</b>	<b>No. of Responses</b>	<b>% of Total</b>
a)Yes	15	37.5
b)No	25	62.5
<b>Total</b>	<b>40</b>	<b>100</b>
Que. 7 You think that the market price is		
<b>Options</b>	<b>No. of Responses</b>	<b>% of Total</b>
a)Overvalued	15	60
b)Undervalued	6	24
c)Don't know	4	16
<b>Total</b>	<b>25</b>	<b>100</b>

(Source: Annual Report, SEBON, 2009/10)

For those respondents who chose Option 'No' to Question 6: Que.7 you think that the market price is No. of Responses % of total. This question was on the awareness of the share investors on all the directives issued by the Nepal Rastra Bank, securities board, Nepal Stock Exchange and relevant institutions. The question asked, “Are you aware of the notice, information and directives issued by the Securities Board, Nepal Stock Exchange and Nepal Rastra Bank?” the response showed that 70 percent were aware of these things and 30 percent were not aware of this information. The last question was on “How share investors rated the risk-factor in the share market”. The response is shown in the following table. Options: No of Responses and % of total.



#### 4.2.9 Share investor rated the risk factor in the share market

**Table No 4.18**  
**No of Respondents and in percentage**

<b>Options</b>	<b>No. of Responses</b>	<b>% of Total</b>
a)Very High	5	12
b)High	12	30
c)Normal	6	15
d)Low	2	5
e)Very Low	1	2
f) Don't Know	14	35
<b>Total</b>	<b>40</b>	<b>100</b>

(Source: Field Survey, 2010)

35% of the respondents were unaware of the risk-factor in the share investment. Their response simply turned out to be I don't know. There was a mixed answer to this question. Most of the respondents who said they had some idea on the associated risk responded that the risk factor is higher (12 percent + 30 percent=42 percent). 15 percent of the responses were in favor of normal risk. Only seven percent of the responded said the risk is lower.

#### 4.3 Major Findings of the Study

The main findings of the research work are summarized below:

1. Among the commercial banks, the average Market price of Himalayan Bank Limited is highest i.e. Rs. 3793.80. It has a standard deviation of 1590.36 and coefficient of variation is 41.91.
2. Average DPR of Himalayan bank is 66.34 which are the highest DPR. It means that HBL generally pays 144.89 % of its total earning as dividend to its shareholders. Everest Bank has a lowest DPR of 16.01.
3. The average EPS of EBL, HBL and NIBL normally not maximum fluctuated. EPS of EBL is Rs 77.44 is greater than others bank.

4. The market prices of share of selected bank are not highly fluctuated, only last year 2008/09 decrease previous year.
5. The dividend per share of selected bank EBL. HBL are NIBL are Rs. 21,rs . 35.25. Himalayan bank limited has better than other, selected bank, EBL has not paid dividend in F/Y 2005/06.
6. The degree of relationship between MPS and DPS seems to be significant in all of the above listed Banks except in the case of Nepal Investment Bank. Where, correlation coefficient recorded as Nepal Investment Bank = -0.721
7. The degree of relationship between MPS and EPS seems to be highly positive in Himalayan Bank, Everest Bank, and Nepal Investment Bank.
8. The regression coefficients (b) of Everest Bank, Himalayan Bank are positive of 0.065, 0.005, respectively. They indicate there exists positive relationship between market price and DPS. But the value of b is negative in Nepal Investment Bank i.e. -0.234
9. Regression coefficient (b) is positive in Himalayan Bank, Everest Bank, Nepal Investment Bank i.e. 0.014, 0.045 and 0.031 respectively. They indicate that there exists positive relationship between market price and EPS.
10. The regression coefficient (b) is positive in Himalayan Bank, i.e. 0.005. They indicate that there exists positive relationship between market price and DPR.
11. Among the total respondents, 87 percent of the share investors cared on the financial health of the company before purchasing equity shares from the secondary market. Amongst the financial health all investors cared for the profitability of the institution. It was found that 75 percent of the respondents care for dividend per share.

## **CHAPTER - V**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Summary**

Every firm is established to earn profit. Among the total net profit earned each firm divides its net earning into retained earnings and dividend. Dividend is defined as that portion of the net earnings of the firm, which is distributed to the stockholders either in the form of cash or stock as per its dividend policy. General public invest in equity share with an expectation of good returns in future in the form of capital gains, dividends or growth in terms of share holding. The financial performance of the institution and other economical and financial factors mostly affects the decision to invest in equity shares. Other factors like market imperfection, lack of awareness of the investor, lack of skills to analyze the financial health and unhealthy market competition may lead to fake decision while purchasing equity shares.

The Market price of equity shares is affected by various financial indicators like Dividend per share, earning per share, and net worth per share and dividend payout ratio. Therefore this study mainly examines relationship between market price of the equity share with Dividend per share, earning per share, net worth per share and dividend payout ratio. This study is mainly focused on whether dividend per share of the company affects market price of share or not? It has been noticed that there is a significant fluctuations in prices of corporate shares even without significant changes in profitability situation of the company. Amongst the listed companies in the Nepal Stock Exchange, commercial banks always hold a big position in overall trading. The trading - in terms of volume and amount - of the commercial banks make up to 80 percent of total transactions Finance companies and development banks hold second and third share in the trading in volume as well as in the amount. Therefore, study of 3 Banks was expected to reflect the overall stock market in Nepal.

This research encloses three commercial banks (Himalayan Bank, Everest Bank and Nepal Investment Bank), both empirical analysis and statistical observations had been

performed to carrying out this study. The secondary data was collected primarily from the annual reports of the Securities Board Nepal. The data was studied in order to obtain various financial performances, annual meetings, MPS, DPS, EPS, and DPR, of the sampled Banks.

The average dividend paid by Himalayan bank Ltd. is the highest (37.43). Among the Banks, Nepal Investment Bank second highest dividend paid per share. The average DPR of NIBL is 62.67 which are the highest DPR. For the purpose of statistical analysis of the entire sample banks, Simple correlation and regression analysis is used to interpret the results. The data obtained were analyzed to run the separate set of regression analysis taking market price as the dependant variable and earnings per share, dividend per share, net worth per share and dividend payout ratio has been taken as independent variable. Simple regression analysis between the market price and other financial indicators (DPS, EPS, and DPR) reflected that net worth per share explained the best of the market prices compared to other indicators. Dividend per share and earnings per share were equally explanatory, whereas dividend payout ratio was not a good indicator of stock pricing. The result showed that market price corresponds to the earning per share at a greater extent and then to dividend per share and then to earnings per share.

When carrying out individual analysis of the commercial banks, the result drawn was that market prices of different banks correspond to different financial indicators. While market price of equity shares of some of the commercial banks was high with dividend per share, some had high correlation coefficient between market price and net worth per share. Correlation coefficient was significant between dividend payout ratio and market price in some of the cases. The empirical analysis was carried out on the basis of the responses of 40 share investors. The result of which is shown as follows. Most of the respondents were male respondents investing in more than one financial institution. They invest with an expectation of gaining more in future. They were more concerned with the purchase and sale of shares rather than holding for a longer period of time expecting dividend and bonus share returns. Among the total respondents, 87 percent of the share investors cared on the financial health of the company before purchasing

equity shares from the secondary market. Amongst the financial health all investors cared for the profitability of the institution. It was found that 75 percent of the respondents care for dividend per share. 13 percent of the respondents who did not care for financial health of the company was mainly due to ignorance, rather than due to high knowledge. This group of people bought shares mainly because those in the close circles were purchasing shares. They had little knowledge but were investing in the shares mainly as a result of demonstration effect. There was little concern on other financial indicators, risk factors and the directives issued by the central bank, Nepal stock exchange, securities board and concerned commercial banks.

## **5.2 Conclusion**

From this study, it has been concluded that there is not a single financial indicator that has a dominated role to determine MPS. One financial indicator that has significant role fixation in MPS for one company is not significant for another company. Dividend practices of all sample financial institutions are neither stable nor constantly growing. Haphazard way of distribution in growing trend is seemed in practice.

## **5.3 Recommendations**

On the basis of the findings of the study, following recommendations can be drawn:-

- ) While making analysis the market prices of the equity shares are overvalued when compared to the earning per share (EPS) which is the primary indicator of the financial status of the concerned financial institution. This was mainly due to ignorance and improper access to financial health of the company. Therefore, it is recommended that the investors should be conscious while purchasing equity shares.
- ) The regulatory bodies should insist to disclose the financial status of the company on a regular basis which can be helpful for proper judgment of the situation and for the calculation of expected market prices for the investors. As the empirical study revealed that there are significant numbers of share investors who do not know about the functioning of the securities market and are unaware of the market price setting mechanism, hence, an intensive program to aware

this group of share investors must be carried out by Nepal Stock Exchange and Securities Board Nepal.

- J In the present Information Technology situation, the share investors are found unreachable to some information technology for (e.g. access of internet) to make right decision at right time. Therefore, access of Information System should be available for the investors. The legal rules and regulation must be in favor of investors to exercise the dividend practice and to protect the shareholders rights.
- J The inadequate knowledge on the investors has been found. Therefore, it is recommended that Nepal Stock Exchange and Securities Board should make on other measures such as printing leaflets and other information brochures to educate the share investors. The presence of rating agencies and disclosing the ratings of financial institutions on a regular basis can also help strengthen the equity market, as the market prices for high rated institutions would increased when compared to those having low level of ratings.
- J The investors are found in confusion while making decision for investments. Hence, banks should have target rate of earnings i.e. profit planning and target payout ratio because the fluctuation in EPS and DPR may cause confusion in the mind of shareholders.
- J The government should encourage for the establishment of organization to promote and to protect activities in favor of investors. There are not any other organizations fully devoted to protect investor's interest.

As this study has not considered the external factors such as investment climate, economic growth, growth of the financial system and others, it is recommended that a detailed study is carried out to observe the market price behavior in Nepal. This study can help to identify the real factors that affect market price of equity shares, other than the financial health of the company itself.

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## **ANNEX-I**

### **Questionnaire**

**1. What inspired you to invest in the equity shares in secondary market?**

- a) Lack of alternative investment
- b) Prospects of higher share prices in future
- c) Future benefits from the institution
- d) Prevailing Prices

**2. While investing, were you aware of the financial health of the institution?**

- a) Yes
- b) No

**3. While investing, were you aware of the other financial indicators?**

- a) Yes
- b) No

**4. [Respond if your answer to question 2 is Yes]**

**What did you see on the financial health?**

- a) Profitability
- b) Earnings per Share
- c) Dividend per Share
- d) Net Worth per Share
- e) Dividend Payout Ratio
- f) Others (Specify) .....

**5. [Respond if your answer to question 2 is yes] what factor amongst the financial Health inspired you to purchase the equity shares in the secondary market?**

- a) Profitability
- b) Earnings per Share
- c) Dividend per Share
- d) Net Worth per Share
- e) Dividend Payout Ratio
- f) Others (Specify) .....

**6. [Respond if your answer to question 2 is Yes] Do you think the price that you pay correspond the financial health of the institution?**

- a) Yes
- b) No

**7. [Respond if your answer to question 6 is No] You think that the market price is**

- a) Overvalued
- b) Undervalued
- c) Don't know

**8. [Respond if your answer to question 2 is No] If you were not aware of the Financial health of the institution, why did you invest in the equity shares in Secondary markets?**

- a) Influence from the family
- b) Demonstration effect (purchase of shares in the close circles)
- c) Market Prices
- d) Others

**9. [Respond if your answer to question 3 is Yes] What did you see on other financial indicators?**

- a) Share market Growth
- b) NEPSE Index

c) Others

**10. Are you aware of the notice, information and directives issued by the Securities Board, Nepal Stock Exchange and Nepal Rastra Bank?**

## ANNEX-II

### Analysis of Earning Per Share of the Banks

FY	EBL		HBL		NIBL	
	X	X <sup>2</sup>	X	X <sup>2</sup>	X	X <sup>2</sup>
2004/05	54.2	2937.6	47.91	2295.368	59.35	3522.423
2005/06	62.8	3943.8	59.24	3509.378	62.57	3915.005
2006/07	78.4	6146.6	60.66	3679.636	62.57	3915.005
2007/08	91.82	8430.9	62.74	3936.308	57.87	3348.937
2008/09	99.99	9998	61.9	3831.61	37.42	1400.256
<b>Total</b>	<b>x= 387.21</b>	<b>X<sup>2</sup>=31457</b>	<b>x= 292.45</b>	<b>X<sup>2</sup>=17252.3</b>	<b>x= 279.78</b>	<b>X<sup>2</sup>=16101.63</b>

$$\bar{X} = \frac{\sum X}{n}$$

Where,

$$\sum X = 387.21$$

$$n = 5$$

$$\bar{X} = \frac{387.21}{5} = 77.44$$

$$S.D (\sigma) = \sqrt{\frac{\sum X^2}{n} - \left(\frac{\sum X}{n}\right)^2}$$

$$(\sigma) = \sqrt{\frac{17252.3}{5} - \left(\frac{387.21}{5}\right)^2}$$

$$(\sigma) = \sqrt{6291.4 - 5997.26} = \sqrt{294.13} = 17.14$$

$$C.V. = \frac{\sigma}{\bar{X}} \times 100\%$$

$$C.V. = \frac{17.14}{77.44} \times 100\%$$

$$C.V. = 22.13\%$$

### Calculation for HBL

$$\bar{X} = \frac{\sum X}{n}$$

Where,

$$\sum X = 292.45$$

$$n = 5$$

$$\bar{X} = \frac{292.45}{5} = 58.49$$

$$\text{S.D } (\sigma) = \sqrt{\frac{\sum X^2}{n} - \left(\frac{\sum X}{n}\right)^2}$$

$$(\sigma) = \sqrt{\frac{17252.3}{5} - \left(\frac{292.45}{5}\right)^2}$$

$$(\sigma) = \sqrt{3450.46 - 3421.08} = \sqrt{29.37} = 5.41$$

$$\text{C.V.} = \frac{\sigma}{\bar{X}} \times 100\%$$

$$\text{C.V.} = \frac{5.41}{58.49} \times 100\%$$

$$\text{C.V.} = 9.24\%$$

### Calculation for NIBL

$$\bar{X} = \frac{\sum X}{n}$$

Where,

$$\sum X = 279.78$$

$$n = 5$$

$$\bar{X} = \frac{279.78}{5} = 55.95$$

$$\text{S.D } (\sigma) = \sqrt{\frac{\sum X^2}{n} - \left(\frac{\sum X}{n}\right)^2}$$

$$(\sigma) = \sqrt{\frac{16101.63}{5} - \left(\frac{279.78}{5}\right)^2}$$

$$(\sigma) = \sqrt{3220.32 - 3130.73}$$

$$= \sqrt{89.58}$$

$$= 9.46$$

$$\text{C.V.} = \frac{\sigma}{\bar{X}} \times 100\%$$

$$\text{C.V.} = \frac{9.46}{55.95} \times 100\%$$

$$\text{C.V.} = 16.90\%$$

**ANNEX- III**  
**Analysis of Market Price per Share of the Banks**

FY	EBL		HBL		NIBL	
	X	X <sup>2</sup>	X	X <sup>2</sup>	X	X <sup>2</sup>
2004/05	870	756900	920	846400	1260	1587600
2005/06	1379	1901641	1100	1210000	1729	2989441
2006/07	2430	5904900	1740	3027600	1729	2989441
2007/08	3132	9809424	1980	3920400	2450	6002500
2008/09	2455	6027025	1760	3097600	1388	1926544
<b>Total</b>	<b>X=10266</b>	<b>X<sup>2</sup>=24399890</b>	<b>X=7500</b>	<b>X<sup>2</sup>=12102000</b>	<b>X=8556</b>	<b>X<sup>2</sup>=15495526</b>

**Calculation for EBL**

$$\bar{X} = \frac{\sum X}{n}$$

Where,

$$\sum X = 10266$$

$$n = 5$$

$$\bar{X} = \frac{10266}{5} = 2053.2$$

$$S.D (\sigma) = \sqrt{\frac{\sum X^2}{n} - \left(\frac{\sum X}{n}\right)^2}$$

$$(\sigma) = \sqrt{\frac{24399890}{5} - \left(\frac{10266}{5}\right)^2}$$

$$(\sigma) = \sqrt{4879978 - 4215630.24} = \sqrt{664347} = 815.07$$

$$C.V. = \frac{\sigma}{\bar{X}} \times 100\%$$

$$C.V. = \frac{815.07}{2053.2} \times 100\%$$

$$C.V. = 39.69\%$$



### Calculation for HBL

$$\bar{X} = \frac{\sum X}{n}$$

Where,

$$\sum X = 7500$$

$$n = 5$$

$$\bar{X} = \frac{7500}{5} = 1500$$

$$\text{S.D } (\sigma) = \sqrt{\frac{\sum X^2}{n} - \left(\frac{\sum X}{n}\right)^2}$$

$$(\sigma) = \sqrt{\frac{12102000}{5} - \left(\frac{7500}{5}\right)^2}$$

$$(\sigma) = \sqrt{2420400 - 2250000}$$

$$= \sqrt{170400}$$

$$= 412.79$$

$$\text{C.V.} = \frac{\sigma}{\bar{X}} \times 100\%$$

$$\text{C.V.} = \frac{412.79}{1500} \times 100\%$$

$$\text{C.V.} = 27.5\%$$

### Calculation for NIBL

$$\bar{X} = \frac{\sum X}{n}$$

Where,

$$\sum X = 8556$$

$$n = 5$$

$$\bar{X} = \frac{8556}{5} = 1711.2$$

$$\text{S.D } (\sigma) = \sqrt{\frac{\sum X^2}{n} - \left(\frac{\sum X}{n}\right)^2}$$

$$(\sigma) = \sqrt{\frac{15495526}{5} - \left(\frac{8556}{5}\right)^2}$$

$$(\sigma) = \sqrt{3099105.2 - 2928205.44}$$

$$= \sqrt{170899.76} = 413.40$$

$$\text{C.V.} = \frac{\sigma}{\bar{X}} \times 100\%$$

$$\text{C.V.} = \frac{413.40}{1711.2} \times 100\%$$

$$\text{C.V.} = 24.158\%$$

## ANNEX -IV

### Analysis of Dividend per Share of the Banks

FY	EBL		HBL		NIBL	
	X	X <sup>2</sup>	X	X <sup>2</sup>	X	X <sup>2</sup>
2004/05	20	400	31.58	997.296	55.46	3075.812
2005/06	0	0	35	1225	30	900
2006/07	30	900	40	1600	30	900
2007/08	30	900	45	2025	40.83	1667.089
2008/09	30	900	43.56	1897.47	20	400
<b>Total</b>	<b>X=110</b>	<b>X<sup>2</sup>=3100</b>	<b>X=195.14</b>	<b>X<sup>2</sup>=7744.77</b>	<b>X=176.29</b>	<b>X<sup>2</sup>=6942.90</b>

#### Calculation for EBL

$$\bar{X} = \frac{\sum X}{n}$$

Where,

$$\sum X = 110$$

$$n = 5$$

$$\bar{X} = \frac{110}{5} = 22$$

$$S.D (\sigma) = \sqrt{\frac{\sum X^2}{n} - \left(\frac{\sum X}{n}\right)^2}$$

$$(\sigma) = \sqrt{\frac{3100}{5} - \left(\frac{110}{5}\right)^2}$$

$$(\sigma) = \sqrt{620 - 484} = \sqrt{136} = 11.66$$

$$C.V. = \frac{\sigma}{\bar{X}} \times 100\%$$

$$C.V. = \frac{11.66}{22} \times 100\%$$

$$C.V. = 53\%$$

### Calculation for HBL

$$\bar{X} = \frac{\sum X}{n}$$

Where,

$$\sum X = 195.14$$

$$n = 5$$

$$\bar{X} = \frac{195.14}{5} = 39.02$$

$$\text{S.D } (\sigma) = \sqrt{\frac{\sum X^2}{n} - \left(\frac{\sum X}{n}\right)^2}$$

$$(\sigma) = \sqrt{\frac{7744.77}{5} - \left(\frac{195.14}{5}\right)^2}$$

$$(\sigma) = \sqrt{1548 - 1522.87}$$

$$= \sqrt{25.13}$$

$$= 5.01$$

$$\text{C.V.} = \frac{\sigma}{\bar{X}} \times 100\%$$

$$\text{C.V.} = \frac{5.01}{39.02} \times 100\%$$

$$\text{C.V.} = 77.25\%$$

### Calculation for NIBL

$$\bar{X} = \frac{\sum X}{n}$$

Where,

$$\sum X = 176.29$$

$$n = 5$$

$$\bar{X} = \frac{176.29}{5} = 35.25$$

$$\text{S.D } (\sigma) = \sqrt{\frac{\sum X^2}{n} - \left(\frac{\sum X}{n}\right)^2}$$

$$(\sigma) = \sqrt{\frac{6942.90}{5} - \left(\frac{176.29}{5}\right)^2}$$

$$(\sigma) = \sqrt{1388.58 - 1242.56}$$

$$= \sqrt{146.01}$$

$$= 12.06$$

$$\text{C.V.} = \frac{\sigma}{\bar{X}} \times 100\%$$

$$\text{C.V.} = \frac{12.06}{35.25} \times 100\%$$

$$\text{C.V.} = 34.21\%$$

## ANNEX- V

### Analysis of Dividend Payout Ratio of Sampled of the Banks

FY	EBL		HBL		NIBL	
	X	X <sup>2</sup>	X	X <sup>2</sup>	X	X <sup>2</sup>
2004/05	36.9	1361.61	65.91	4344.128	93.44	8731.0336
2005/06	0	0	59.08	3490.446	47.95	2299.2025
2006/07	38.25	1463.06	64.62	4175.744	47.95	2299.2025
2007/08	32.67	1067.33	71.72	5143.758	70.55	4977.3025
2008/09	30	900	70.37	4951.937	53.45	2856.9025
<b>Total</b>	<b>X=137.82</b>	<b>X<sup>2</sup>=4792</b>	<b>X=331.7</b>	<b>X<sup>2</sup>=22106.01</b>	<b>X=313.34</b>	<b>X<sup>2</sup>=21163.64</b>

#### Calculation for EBL

$$\bar{X} = \frac{\sum X}{n}$$

Where,

$$\sum X = 137.82$$

$$n = 5$$

$$\bar{X} = \frac{137.82}{5} = 27.56$$

$$S.D (\sigma) = \sqrt{\frac{\sum X^2}{n} - \left(\frac{\sum X}{n}\right)^2}$$

$$(\sigma) = \sqrt{\frac{4792}{5} - \left(\frac{137.82}{5}\right)^2}$$

$$(\sigma) = \sqrt{958.4 - 759.55} = \sqrt{198.85} = 14.09$$

$$C.V. = \frac{\sigma}{\bar{X}} \times 100\%$$

$$C.V. = \frac{14.06}{27.56} \times 100\%$$

$$C.V. = 51.12\%$$

### Calculation for HBL

$$\bar{X} = \frac{\sum X}{n}$$

Where,

$$X = 331.7$$

$$n = 5$$

$$\bar{X} = \frac{331.7}{5} = 66.34$$

$$\text{S.D } (\sigma) = \sqrt{\frac{\sum X^2}{n} - \left(\frac{\sum X}{n}\right)^2}$$

$$(\sigma) = \sqrt{\frac{22106.01}{5} - \left(\frac{331.7}{5}\right)^2}$$

$$(\sigma) = \sqrt{4421.20 - 4400.99}$$

$$= \sqrt{20.21}$$

$$= 4.50$$

$$\text{C.V.} = \frac{\sigma}{\bar{X}} \times 100\%$$

$$\text{C.V.} = \frac{4.50}{66.34} \times 100\%$$

$$\text{C.V.} = 6.78\%$$

### Calculation for NIBL

$$\bar{X} = \frac{\sum X}{n}$$

Where,

$$\sum X = 313.34$$

$$n = 5$$

$$\bar{X} = \frac{313.34}{5} = 62.66$$

$$\text{S.D } (\sigma) = \sqrt{\frac{\sum X^2}{n} - \left(\frac{\sum X}{n}\right)^2}$$

$$\text{S.D } (\sigma) = \sqrt{\frac{21163.64}{5} - \left(\frac{313.34}{5}\right)^2}$$

$$\text{S.D } (\sigma) = \sqrt{4232.72 - 3926.27}$$

$$= \sqrt{306.45}$$

$$= 17.50$$

$$\text{C.V.} = \frac{\sigma}{\bar{X}} \times 100\%$$

$$\text{C.V.} = \frac{17.50}{62.66} \times 100\%$$

$$\text{C.V.} = 27.92\%$$



**ANNEX- VI**  
**Correlation Coefficient and Regression Analysis between MPS and DPS of Everest Bank Limited**

Year	MPS (X)	DPS (Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2004/05	870	20	17400	756900	400
2005/06	1379	0	0	1901641	0
2006/07	2430	30	41370	5904900	900
2007/08	3132	30	93960	9809424	900
2008/09	2455	30	79650	6027025	900
<b>N = 5</b>	<b>X=10266</b>	<b>Y=110</b>	<b>∑XY= 226380</b>	<b>X<sup>2</sup>=24399890</b>	<b>∑ Y<sup>2</sup> = 4000</b>

$$\text{Coefficient of Correlation } r = \frac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2} \sqrt{n\sum Y^2 - (\sum Y)^2}} = 0.885$$

Regression Equation of Y on X is

$$Y = a + bx$$

Where,

A = Regression Constant

B = Regression coefficient (slope of the regression line)

According to the principle of least squares two normal equation for estimating two numerical constant a & b are given by

$$Y = na + b X$$

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

Solving these two normal equations we get,

$$B = \frac{n\sum xy - \sum x \sum y}{n\sum x^2 - (\sum x)^2} = 0.005$$

$$A = \bar{y} - b\bar{x} = 17.14$$

**ANNEX -VII**  
**Correlation Coefficient and Regression Analysis between MPS and DPS of**  
**Himalayan Bank Limited**

Year	MPS (X)	DPS (Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2004/05	920	47.91	44077.2	846400	997.296
2005/06	1100	59.24	65164	1210000	1225
2006/07	1740	60.66	105548.40	3027600	1600
2007/08	1980	62.74	124225.20	3920400	2025
2008/09	1760	61.9	108944	3097600	1897.47
<b>N = 5</b>	<b>X=7500</b>	<b>Y=292.45</b>	<b>∑XY = 336158.8</b>	<b>X<sup>2</sup>=12102000</b>	<b>Y<sup>2</sup> =7744.77</b>

$$\text{Coefficient of Correlation } r = \frac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2} \sqrt{n\sum Y^2 - (\sum Y)^2}} = 0.850$$

Regression Equation of Y on X is

$$Y = a + bx$$

Where,

A = Regression Constant

B= Regression coefficient (slope of the regression line)

According to the principle of least squares two normal equation for estimating two numerical constant a & b are given by

$$Y = na + b X$$

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

Solving these two normal equations we get,

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

$$= 0.049$$

$$A = \bar{y} - b\bar{x}$$

$$= -16.10$$

## ANNEX -VIII

### Correlation Coefficient and Regression Analysis between MPS and DPS of Nepal Investment Bank Ltd

Year	MPS (X)	DPS (Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2004/05	1260	55.46	69879.60	1587600	3075.812
2005/06	1729	30	51870	2989441	900
2006/07	1729	30	51870	2989441	900
2007/08	2450	40.83	2033.50	6002500	1667.089
2008/09	1388	20	27760	1926544	400
<b>N = 5</b>	<b>X=8556</b>	<b>Y=176.29</b>	<b>∑XY = 203413.10</b>	<b>X<sup>2</sup>=15495526</b>	<b>Y<sup>2</sup> =6942.90</b>

$$\text{Coefficient of Correlation } r = \frac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2} \sqrt{n\sum Y^2 - (\sum Y)^2}} = -0.721$$

Regression Equation of Y on X is

$$Y = a + bx$$

Where,

A = Regression Constant

B = Regression coefficient (slope of the regression line)

According to the principle of least squares two normal equation for estimating two numerical constant a & b are given by

$$Y = na + b X$$

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

Solving these two normal equations we get,

$$B = \frac{n\sum xy - \sum x \sum y}{n\sum x^2 - (\sum x)^2} = -0.234$$

$$A = \bar{y} - b\bar{x} = 22.24$$

## ANNEX-IX

### Correlation Coefficient and Regression Analysis between MPS and EPS of Himalayan Bank Ltd

Year	MPS (X)	EPS (Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2004/05	920	47.91	44077.2	846400	2295.368
2005/06	1100	59.24	65164	1210000	3509.378
2006/07	1740	60.66	105548.4	3027600	3679.636
2007/08	1980	62.74	124225.2	3920400	3936.308
2008/09	1760	61.9	108944	3097600	3831.61
<b>N = 5</b>	<b>X=7500</b>	<b>Y=292.45</b>	<b>∑XY = 447958.8</b>	<b>X<sup>2</sup>=12102000</b>	<b>Y<sup>2</sup>=17252.3</b>

$$\text{Coefficient of Correlation } r = \frac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2} \sqrt{n\sum Y^2 - (\sum Y)^2}} = 0.848$$

Regression Equation of Y on X is

$$Y = a + bx$$

Where,

A = Regression Constant

B = Regression coefficient (slope of the regression line)

According to the principle of least squares two normal equation for estimating two numerical constant a & b are given by

$$Y = na + b X$$

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

Solving these two normal equations we get,

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

$$= 0.045$$

$$A = \bar{y} - b\bar{x}$$

$$= 10.51$$

## ANNEX-X

### Correlation Coefficient and Regression Analysis between MPS and EPS of Everest Bank Ltd

Year	MPS (X)	EPS (Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2004/05	870	54.2	47154	756900	2937.6
2005/06	1379	62.8	86601.20	1901641	3943.8
2006/07	2430	78.4	190512	5904900	6146.6
2007/08	3132	91.82	287580.24	9809424	8430.9
2008/09	2455	99.99	245475.45	6027025	9998
<b>N = 5</b>	<b>X=10266</b>	<b>Y=387.21</b>	<b>∑XY = 857322.89</b>	<b>X<sup>2</sup>=24399890</b>	<b>Y<sup>2</sup> =31457</b>

$$\text{Coefficient of Correlation } r = \frac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2} \sqrt{n\sum Y^2 - (\sum Y)^2}} = 0.744$$

Regression Equation of Y on X is

$$Y = a + bx$$

Where,

A = Regression Constant

B = Regression coefficient (slope of the regression line)

According to the principle of least squares two normal equation for estimating two numerical constant a & b are given by

$$Y = na + b X$$

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

Solving these two normal equations we get,

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

$$= 0.014$$

$$A = \bar{y} - b\bar{x}$$

$$= 27.86$$

## ANNEX-XI

### Correlation Coefficient and Regression Analysis between MPS and EPS of Nepal Investment Bank Ltd

Year	MPS (X)	EPS (Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2004/05	1260	59.35	74781	1587600	3522.423
2005/06	1729	62.57	108183.53	2989441	3915.005
2006/07	1729	62.57	108183.53	2989441	3915.005
2007/08	2450	57.87	141781.50	6002500	3348.937
2008/09	1388	37.42	51938.96	1926544	1400.256
<b>N = 5</b>	<b>X=8556</b>	<b>Y=279.78</b>	<b>∑XY = 376684.99</b>	<b>X<sup>2</sup>=15495526</b>	<b>Y<sup>2</sup> =16101.63</b>

#### Calculation for NIBL

$$\text{Coefficient of Correlation } r = \frac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2} \sqrt{n\sum Y^2 - (\sum Y)^2}} = 0.802$$

Regression Equation of Y on X is

$$Y = a + bx$$

Where,

A = Regression Constant

B = Regression coefficient (slope of the regression line)

According to the principle of least squares two normal equation for estimating two numerical constant a & b are given by

$$Y = na + b X$$

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

Solving these two normal equations we get,

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

$$= 0.031$$

$$A = \bar{y} - b\bar{x}$$

$$= 35.28$$

## ANNEX-XII

### Correlation Coefficient and Regression Analysis between MPS and DPR of Nepal Investment Bank Ltd

Year	MPS (X)	DPR (Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2004/05	1260	93.44	117734.4	1587600	8731.0336
2005/06	1729	47.95	82905.55	2989441	2299.2025
2006/07	1729	47.95	82905.55	2989441	2299.2025
2007/08	2450	70.55	172847.5	6002500	4977.3025
2008/09	1388	53.45	74188.6	1926544	2856.9025
<b>N = 5</b>	<b>X=8556</b>	<b>Y=313.34</b>	<b>∑XY = 9190.3</b>	<b>X<sup>2</sup>=15495526</b>	<b>Y<sup>2</sup>=21163.64</b>

$$\text{Coefficient of Correlation } r = \frac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2} \sqrt{n\sum Y^2 - (\sum Y)^2}} = -0.372$$

Regression Equation of Y on X is

$$Y = a + bx$$

Where,

A = Regression Constant

B = Regression coefficient (slope of the regression line)

According to the principle of least squares two normal equation for estimating two numerical constant a & b are given by

$$Y = na + b X$$

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

Solving these two normal equations we get,

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

$$= -0.008$$

$$A = \bar{y} - b\bar{x}$$

$$= 65.25$$

### ANNEX-XIII

#### Correlation Coefficient and Regression Analysis between MPS and DPR of Everest Bank Ltd

Year	MPS (X)	DPR (Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2004/05	870	36.9	5559.30	756900	1361.61
2005/06	1379	0	0	1901641	0
2006/07	2430	38.25	92947.5	5904900	1463.06
2007/08	3132	32.67	102322.44	9809424	1067.33
2008/09	2455	30	73650	6027025	900
<b>N = 5</b>	<b>X=10266</b>	<b>Y=137.82</b>	<b>∑XY = 274479.24</b>	<b>X<sup>2</sup>=24399890</b>	<b>Y<sup>2</sup>=4792</b>

**Calculation for EBL**

Coefficient of Correlation  $r = \frac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2} \sqrt{n\sum Y^2 - (\sum Y)^2}} = -0.387$

Regression Equation of Y on X is

$$Y = a + bx$$

Where,

A = Regression Constant

B= Regression coefficient (slope of the regression line)

According to the principle of least squares two normal equation for estimating two numerical constant a & b are given by

$$Y = na + b X$$

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

Solving these two normal equations we get,

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

$$= -0.009$$

$$A = \bar{y} - b\bar{x}$$

$$= 62.39$$



## ANNEX- XIV

### Correlation Coefficient and Regression Analysis between MPS and DPR of Himalayan Bank Ltd

Year	MPS (X)	DPR (Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2004/05	920	65.91	60637.20	846400	4344.128
2005/06	1100	59.08	64988	1210000	3490.446
2006/07	1740	64.62	112438.80	3027600	4175.744
2007/08	1980	71.72	142005.6	3920400	5143.758
2008/09	1760	70.37	123851.20	3097600	4951.937
<b>N = 5</b>	<b>X=7500</b>	<b>Y=331.7</b>	<b>∑XY = 503920.8</b>	<b>X<sup>2</sup>=12102000</b>	<b>Y<sup>2</sup>=22106.01</b>

$$\text{Coefficient of Correlation } r = \frac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2} \sqrt{n\sum Y^2 - (\sum Y)^2}} = 0.536$$

Regression Equation of Y on X is

$$Y = a + bx$$

Where,

A = Regression Constant

B = Regression coefficient (slope of the regression line)

According to the principle of least squares two normal equation for estimating two numerical constant a & b are given by

$$Y = na + b X$$

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

Solving these two normal equations we get,

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

$$= 0.044$$

$$A = \bar{y} - b\bar{x}$$

$$= 13.60$$