

# CHAPTER – ONE

## INTRODUCTION

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

Commercial Banks and Financial Institutions are playing vital role in the economic development of the country. The main objective of a Commercial Banks and Financial Institutions is to earn maximum profit by proper mobilization of resources in a particular productive sector after collecting them from scattered sources. Banks and Financial Institutions are not outcome of the economic development but they are the causes for it. They are the means to uplift the society because they provide different facilities to the people engaged in trade, commerce and industry. Commercial Banks and Financial Institutions function in many different ways such as accepting deposits & providing interest, granting loan that help to remove the deficiency of capital, performing agency functions, which make life easier, and they also play role in credit creation.

Dividend policy is a key to success of Commercial Banks and Financial Institutions. It is a major financial decision. “Dividend policy determines the division of earnings between payment to shareholders and reinvestment in the firm.”<sup>1</sup> Retained earning is one of the most significant internal sources of fund for financing corporate growth, but dividend is the portion of earning which is paid to the stockholders as a return to their investment. So it may be called distribution versus retention decision. Dividend payment reduces the total amount of internal financing. Therefore, it is a matter of analysis and interpretation that what and how much it is desirable to pay dividend because shareholders expect higher

---

<sup>1</sup> J. Fred Weston and Thomas E. Copeland “Managerial Finance” The Dryden Press PP 657.

dividend but firms want setting aside funds for maximizing the shareholders wealth.

The concept of bank evolved from the concept of commerce and bank actually denotes commercial bank. All Commercial Banks and Financial Institutions are established to generate earnings. People invest their money in equity share for two types of economical gain: Capital gain and Revenue gain. When a company pays out a portion of its earning to shareholders in the form of dividend is called revenue gain and shareholders are benefited directly. On the other hand, instead of paying higher dividend, the firm retains some portion of earnings as internal sources of fund to grab the other opportunity of financing profitable investment which either constraints growth or requires the firm to fund other sources of financing. In this situation, price of stock increases and shareholders are benefited indirectly i.e. capital gain. In this way, shareholders wealth can be maximized through either dividend or capital gain. There are many reasons for paying dividend and there are many reasons for not paying higher dividend. As a result, dividend policy is controversial. If investors couldn't get dividend, they would think their investment are worthless. The long run objectives can be achieved by maintaining adequate funds for reinvestment.

The history of Commercial Banks in Nepal is not so old. The first commercial bank and the first bank of Nepal started since 1994 B.S. in the name of Nepal Bank Ltd. In 1955, Nepal Rastra Bank i.e. Central Bank of Nepal has established under Nepal Rastra Bank Act 1955. As per the need of the changing economic circumstances in Nepal, Commercial Bank Act has been introduced in 1974 A.D. This act has helped to emerge numbers of commercial banks with a view "to maintain the economic interest and comfort of the public in general, facilitate to

provide loan for agriculture, industry & trade and make available banking services to the country and people”<sup>2</sup> It is even more essential in regard to the development of banking system and the regulation of financial activities in the kingdom. Again in 2022 B.S., Rastriya Banijya Bank Ltd. was established under Rastriya Banijya Bank Act 2021. Agriculture Development Bank has also been allowed to serve commercial functions since 2041 B.S.

Nepal Rastra Bank eased entry restriction with an amendment to the Commercial Bank Act 1974 A.D. In the early of 1980’s, when the government permitted to establish the foreign Joint Venture Banks (JVBs), three JVBs namely Nepal Arab Bank Ltd. (NABIL Bank Ltd.), Nepal Grindlays Bank Ltd. (Standard Chartered Bank Ltd.) & Nepal Indo Suez Bank Ltd. (Nepal Investment Bank Ltd.) were established in 1984, 1985 & 1986 respectively. At present there are 29 commercial banks are in operation.

This statement shows that Commercial Banks are established for mobilizing public, private and external financial resources and channelizing them into productive sector as short-term loan and long-term loan in different commercial activities. This policy has given more emphasis to the private sector and institutional investors to invest in Nepal, as encouraging factor of sustainable growth. The new policy has already resulted that the establishment of Commercial Banks and Financial Institutions is in encouraging trend.

This research work looks into all the relevant factors of dividend policy and this is more specific in assessing the dividend policy of Commercial Banks in Nepal.

---

<sup>2</sup> Commercial Bank Act 2031 (1974)

## **1.2 Focus of the Study**

The main focus of the study is to highlight the dividend policy as a major financial decision of Commercial Banks and Financial Institutions. The study is to examine the dividend practice of Commercial Banks from different angles. Commercial Banks have no satisfactory results about dividend decision. So, this study is undertaken for comparative study of dividend policy adopted by them and to suggest the directions for growth of Commercial Banks to concerned parties.

## **1.3 Statement of the Problem**

Dividend is the most inspiring factor for the investment in share of financial institutions. Dividend policy of Commercial Banks is not matching with the earnings. There is no proper relationship between dividend and quoted market prices of share exist. Earning of firm is taken as financing sources. When the firm retains its earning, it will result in decreasing leverage ratio, expanding activities and increasing profit in succeeding years. When as, if the firm pays dividends it may need to raise capital through capital market, which reduces ownership control of the existing shareholders. In the later case, another way to raise capital is through debenture, or new issue, which ultimately affects the risk of the firm. However, dividend is a most important factor for the attraction of investors and reflects firm's healthy position in the market.

As mentioned above, following are the major problems that have been identified for the purpose of this study:

- a. What is the attitude of Commercial Banks towards paying dividend?

- b. Is it possible to increase the value of stock by changing dividend policy or payout ratio?
- c. What is the relationship of dividend with earning per share, market price of share and book value of share, net profit & net worth of Commercial Banks?
- d. What are some Legal provisions and its practices of dividend policy?

#### **1.4 Objective of the Study**

The specific goal of this study is to evaluate and compare the dividend policy of selected Commercial Banks. The main objective of the dividend policy is to maximize return on shareholders equity so the value of investment is maximized. Stock market provides funds for economic activities, expecting returns as dividend or appreciation of stock price. The suitable and decisive advice will be recommended on the basis of findings from the study to the concerned authorities for their further enhancement. The specific goals of this study are mentioned as below:-

- a. To analyze, interpret & compare the dividend policies followed by the Commercial Banks in Nepal
- b. To analyze the relationship of dividend with various important variables such as EPS, NP, NW & MVPS.
- c. To highlight the legal provisions of dividend policies.
- d. To recommend the appropriate suggestions and possible guidelines to take corrective actions based on the findings of the study.

#### **1.5 Significance/Importance of the Study**

The Nepalese economy is not at such state that where any one can feel proud by heart. As a matter of fact, the recent economic situation of

Nepal has been influenced by the economic recession due to security problem and unstable political situation. Commercial Banks & Capital Market also is not able to get ride of such influences. Shrinking investment opportunities due to economic recession has put the Nepalese entrepreneurs in a great trouble. This may be the only reason that foreign and Nepalese investors are drawing back their hands from the investment sectors.

The study of “**Dividend Policy: A Special Reference to Commercial Banks**” becomes an indispensable subject matter in today’s context because objective behind investment in stock is to grant greater dividend and attract new investors, to retain present investors and maintain goodwill of the company.

While investing in shares, the investor forgoes opportunity income that he could have earned. The income of capital market is secured from two types of gain (a) revenue gain i.e. dividend and (b) capital gain i.e. appreciation in stock price. The study is a matter of great concern to identify the difficulty relating to dividend decision and factors affecting dividend policy. Thus, the study of dividend policy of Commercial Banks is undertaken as a research purpose is important. Importance of the study is as follows:

- a. This study is helpful in further research in this context.
- b. This study is useful to make clear conception towards dividend to related investors and company’s management.
- c. This study must be useful to the government for policymaking, controlling, and supervisions & monitoring.
- d. This study covers a partial requirement of M.B.S.

## **1.6 Limitations of the Study**

Dividend is a major decision of financial management. There are several aspects of decision that are undertaken in financial management to achieve the organizational goal such as investment decision, capital structure management, liquidity management, leverage, dividend policy etc. Only dividend policy is selected in this study to make more specific. This study interprets, analyzes and compares the dividend behaviors & practices of selected Commercial Banks.

This study is conducted simply for partial requirement of MBS program. So, this study is limited by following factors:

- a. Only some samples are taken for the study may not match with the whole population.
- b. Dividend is very much related with historical data, the whole data have been extracted from annual reports and website of the concerned companies and <http://www.nepalstock.com>, <http://www.studyfinance.com>, <http://www.nrb.org.np>, etc.
- c. The study period covers only five years beginning from 2061/062 to 2065/066.
- d. There are so many factors that affect dividend decision and valuation of the firm. However, only those factors, which are related with dividend, will be considered in this study.
- e. The effect of economic recession due to security problem and unstable political situation which are the most important factors for the analysis of economic activities, have not been taken into consideration for the purpose of the study.

## **1.7 Organization of the Study**

The study has been organized into five chapters as prescribed in the format to cover partial fulfillment of MBS program. The title of chapters is as follows:

Chapter One	:	Introduction
Chapter Two	:	Review of Literature
Chapter Three	:	Research Methodology
Chapter Four	:	Presentation and Analysis of Data
Chapter Five	:	Summary, Conclusion & Recommendations

The rationale behind this kind of organization is to follow a simple research methodology approach. The contents of each of the chapters of this study are briefly mentioned here:

The beginning introduction chapter deals with the subject matter of the study consisting of statement of problems, objective, significance, limitation & chapter plan of the study.

The second chapter explains conceptual review, forms of dividend, types of dividend, factors affecting dividend policy, legal provisions regarding dividend policy and past findings of related studies.

The third chapter covers the research methodology containing research design, sources of data, population and sample, statistical and financial tools & techniques of data analysis.

The fourth chapter deals with presentation and analysis of relevant data in different forms by using financial and statistical tools.

Ultimately, the fifth chapter throws light with the summary, conclusion and recommendations of the study. It states the main findings, issues & gaps and suggestive framework of the study.



## **CHAPTER – TWO**

### **REVIEW OF LITERATURE**

Review of literature is related with the conceptual framework. It is necessary to know about the related facts and major issues. Every study is very much related with the past findings and it should not be ignored. It provides basic to the present study.

#### **2.1 Conceptual/Theoretical Framework**

Once companies make profit, they must decide on what to do with the profit. They could continue to retain the profit within the company or they could payout the profit to the owners of the firm in the form of dividend. “Once the company decides on whether to pay dividend, they may establish a somewhat permanent dividend policy, which may in turn impact on investors and perceptions of the company in the financial market. What they decide depends on the situation of the company now and in the future. It also depends on the preferences of investors and potential investors.”<sup>3</sup>

All aspects and questions, which are related to the payment of dividend, are contained in dividend policy. There is an inverse relationship between retained earnings and cash dividends. When retain earning increases then dividend will decrease and vice versa. Dividend decision is a major financial decision because it determines the amount of earnings to be distributed to shareholders and the amount to be reinvested within the organization.

---

<sup>3</sup> <http://www.studyfinance.com>

What and how much it is desirable to pay dividend is always a controversial topic because there are so many reasons to pay higher dividend and not paying higher dividends. Shareholders can be benefited from two types of return by investing in the stock i.e. dividend and capital gain. Shareholders expect higher dividend from the firm but firm ensures towards setting asides funds for maximizing the overall shareholders' wealth. It is therefore, a wise policy to maintain a balance between shareholders interest with that of corporate growth from internally generated funds. It is better to pay dividend when a firm couldn't profitably reinvest earnings.

## **2.2 Forms of Dividend**

According to the changing needs of corporations, dividend is being distributed in several forms such as cash dividend, stock dividend, bond dividend, scrip dividend etc. Although, cash dividend is most popular form of dividend, firms need to follow different types of dividend in view of the objective and policies, which they implement. In Nepal and India, only cash dividend, stock dividend are declared and paid. "The type of dividend that corporation follows is partly of a matter of attitude of directors and partly a matter of the various circumstances and financial constraints that bound corporate plan and policies"<sup>4</sup>

### **2.2.1 Cash Dividend**

Cash dividend is the main form of dividend, which is distributed to the shareholders in cash from the earnings. A company may have earnings but might be shortage of cash in its bank account. A company should

---

<sup>4</sup> Manohar Krishna Shrestha, "Financial management (Theory & Practice)" Curriculum Development Center, T.U., P.670.

have enough cash before declaring cash dividend. Needed cash to pay dividend can be forecasted by preparing cash budget. The cash account, reserve account as well as total assets and the net worth of company decreases when cash dividend is distributed and the market price of stock also drop.

### **2.2.2 Stock Dividend (Bonus Share) & Stock Split**

A stock dividend is the payment of existing shareholders of a dividend in the form of stock. When the stock dividend is paid the number of outstanding share increases. Stock dividend is beneficial for both to shareholders and the company. In such dividend, shareholders do not have to pay income tax and it will increase future gain in both i.e. dividend and capital gain. The bonus share is also beneficial to the company because it conserves the cash. It does not affect the proportion of ownership.

“A stock dividend simply is the payment of additional stock to shareholders nothing more than a recapitalization of the company; stockholders proportional ownership remains unchanged.”<sup>5</sup>

Stock split is same as stock dividend. Shareholders retain the same percentages of all outstanding stock that s/he had before the stock dividend or split.

### **2.2.3 Bond Dividend**

Bond dividend is distributed to its shareholders in the form of bond. The bond dividend is issued to reserve the cash or the cash position of company is not good.

---

<sup>5</sup> James C. van Horn, “Financial management and Policy” Prentice Hall of India, P. 334

### **2.2.4 Scrip Dividend**

When a company's cash position is weak and doesn't permit to pay cash as dividend but justifiable to pay dividend then it may declare dividend in the form of scrip. In this dividend, company issue and distribute promissory notes equivalent to dividend which may be interest bearing or not. Scrip dividend is declared only to wait for the conversion of other current assets into cash in the course of operation.

### **2.3 Corporate Share Repurchase**

Corporate share repurchase is also viewed as an alternative to pay dividends. "A corporation's repurchase of its own stock can serve as a tax advantage substitute for dividend payment. Repurchases have the effect of raising share price so that shareholders can be taxed at the capital gain rate instead of the ordinary dividend rate on cash dividend"<sup>6</sup> Corporations can repurchase their own share in two ways: in the open market or via tender offer. Open market repurchases usually involve gradual programs to buy back over a period of time. In a tender offer, the company usually specifies the number of shares it is offering to repurchase, a tender price and a period of time during which the offer is in effect. If a number of shares actually tendered by shareholders exceed the maximum number specified by the company, then purchase is usually made on pro rata basis. Alternatively, if the tender offer is under subscribed the firm may decide to cancel the offer or extend the expiration date. Shares tendered during the extension may be purchased on either pro rata or first-come, first-served basis.

---

<sup>6</sup> J. Fred Weston & Thomas E. Copeland: dividend Policy: "Managerial Finance" The Dryden Press International Edition, P. 682.

James C. Van Horn quoted that the equilibrium share repurchase price of a company should be:

$$P^* = \frac{S \times P_c}{S - N}$$

Where,

- P\* = Repurchase Price of Share
- S = Total number of share outstanding
- P<sub>c</sub> = Current market price of share
- N = Number of share to be repurchased

In Nepal Company Act 1997, section 47 has prohibited the company from repurchasing its own shares. This section states that no company shall repurchase its own shares or supply loans against the security of its own shares. This provision is against the norm of finance.

## **2.4 Types of Dividend Policy**

The dividend policy can be mainly studied into two categories:

- a. Residual Dividend Policy
- b. Stable Dividend Policy

### **2.4.1 Residual Dividend Policy:**

This policy states that profit should be distributed to shareholders in the form of cash dividend only when the firm has earning left over after financing all acceptable investment opportunities. The shareholders get dividend only when there exist balance of earning after paying fixed obligation and financing all acceptable investment opportunities, if doesn't exist balance earning, dividend is not distributed to shareholders.

If the expected rate of return on the reinvestment is higher than what individual investor can realize on their own, it is to the shareholders advantage to first invest profits in those projects that promise higher rate of return and then distribute only the leftover earning as dividend. This policy assures that the internally generated funds i.e. retained earnings are comparatively cheaper than the funds are obtained from external source due to flotation cost.

The residual policy justifies that the dividend decision should follow those acceptable project which:

- a. Profits are in those acceptable projects which rate of return is higher than expected rate of return.
- b. Reinvestment of profit helps to maintain optimal capital structure
- c. And dividend should be paid only when there exist balance of earning after paying fixed obligation and financing all investment opportunities.

This residual dividend policy examines the objective of value maximization than present dividend to shareholders.

#### **2.4.2 Stable Dividend Policy**

Stability of dividend is reliable policy for the company and shareholders also because stable dividend has a positive impact on the market price of share. Stability of dividend means the consistency or lack of variability in the stream of dividends i.e. a certain minimum amount of dividend is paid out regularly. Stable dividend policy can be in three forms:

**2.4.2.1 Constant Dividend Per Share:** - This dividend policy is based on the payment of a fixed amount per share as dividend each year. Most companies follow the policy of paying fixed amount per share as dividend every year and try to maintain to satisfy investors. Investors who have dividend as the only source of their income prefer the constant amount of dividend per share.

**2.4.2.2 Constant Payout Ratio:** - The term constant payout ratio refers to the ratio of dividend to earning. When fixed percentage of earning is distributed as dividend every year that is called constant payout ratio. The amount of dividend increases or decreases proportionately with earning.

**2.4.2.3 Low Regular Plus Extra Dividend:** - The low regular plus extra dividend policy is a compromise between the first two policies. Those companies whose shareholders prefer at least certain amount of regular dividend follow this policy. A company fixed a minimum regular dividend to be paid in any case unless loss is occurred. A total dividend each shareholder receives a fixed regular amount plus a certain percentage of profit.

## **2.5 Factors Affecting Dividend Policy**

The factors affecting dividend policy is one of the main focus of this study. Most of the Commercial Banks are operating in profit. In such organizations, dividend policy plays a vital role although all of them are not protecting shareholders rights. Therefore, it is very important to describe the factors affecting dividend policy which are given below:

### **2.5.1 Legal Rules**

Legal rules are significant to provide the framework within which dividend policies can be formulated. The legal rules provide that dividends must be paid from earnings either from the current year's earnings or from past years' accumulated earnings. There is no any legal rules are in Nepal that makes compulsion a company to pay dividend but there are some rules, which restrict and limit the amount of dividend. Generally there are three rules (a) the net profit rule, (b) the capital impairment rule, and (c) the insolvency rule. The net profit rule provides that dividends can be paid from post and present earnings. The capital impairment rule protects creditors by forbidding the payment of dividend from capital. The rational of this rule lies in protecting the claims of preference shareholders and creditors on the firm's assets by providing a sufficient equity base since the creditors have originally related upon an equity base while extending credit. Any dividends that impair capital are an illegal and directors are personally held liable for the amount of illegal dividend.

### **2.5.2 Liquidity Position**

The liquidity position of firm affects its ability to pay dividend. A firm has a record of earnings, it may not be able to pay cash dividend because of its liquidity position. Profit held as retained earnings are generally invested on assets required for the context of the business. Thus, the company must have adequate cash available to pay dividend.

### **2.5.3 Payment of Debt and its Restrictions**

Debt contracts, particularly when long-term debt is borrowed, frequently restrict a firm's ability to pay cash dividend. Such restrictions, which are



designed to protect the position of the lender, usually state that (a) the dividend can be paid only out of earnings generated after the signing of the loan agreement, and (b) the dividend cannot be paid when net working capital (current assets – current liabilities) is below a specified amount. Similarly, preferred stock agreements generally state that no cash dividends can be paid on the common stock until all accrued preferred dividends have been paid.

There are two alternatives of paying the debt. It can be refunded the debt at maturity by replacing it with another form of security or it can be made provisions for paying off the debt. If the decision is to retire the debt, this will generally require the retention of earnings.

#### **2.5.4 Rate and Stability of Earning**

The rate of earning determines the relative attractiveness of paying out earnings in the form of dividends to shareholders or using them in present enterprise.

A firm that has relatively stable earnings is often able to predict approximately what its future earnings will be. Such a firm is therefore more likely to pay out higher percentage of its earnings than a firm with fluctuating earnings. The unstable firm is not certain that in subsequent years they hoped for earnings would be realized. So it is likely to retain a high proportion of current earnings. A lower dividend will be easier to maintain if earnings fall off in the future.

#### **2.5.5 Access to the Capital Market**

Another factor that can strongly affect dividend policy is the extent to which the firm has access to the capital market. A large, well-established

firm has easy access to capital market and other forms of financing; it can follow a higher dividend payout ratio. A small, new or a company with limited resources is riskier for the potential investors. Its ability to raise equity or debt funds from capital market is restricted, and it must retain more earnings to finance its operations.

### **2.5.6 Growth Prospects**

Another factor that can affect dividend policy is related to the firm's growth prospect. The firm is required to make plans for financing its associated cost together with the need of internal funds would have a significant affects on dividend policy.

### **2.5.7 Investors Preferences**

The tax position of a firm's shareholders greatly affects the desire of dividends. If a firm has a large percentage of owners who are in tax brackets, its dividend policy should seek to have higher retention. Such policy will provide its owners with income in the form of capital gains as against dividend since capital gains are taxed at a lower rate than dividends; they are worth more, after taxes, to the individual in a high tax bracket. Thus, at least up to some extent a firm's payout policy determines the preference of investors.

### **2.5.8 Inflation**

Inflation is another factor, which affects firm's dividend decision. During inflation period, price will rise and funds generated from depreciation may be inadequate to replace the equipments. If the assets are to be replaced near future, consequently greater profit retention may be required. As a result, dividend payout ratio will be low.

### **2.5.9 Ownership Control**

Dividend policy may also be strongly influenced by shareholders or management control objectives. Management employs dividend policy as an effective instrument to maintain its position of command and control. The owners would prefer the use of debt and retained earnings to finance new investment opportunity rather than issue new stock. As a result, dividend payout ratio will be reduced.

### **2.6 Legal Provisions Regarding Dividend Practice**

Nepal Company Act 1997 makes some legal provisions for dividend payment in Nepal. These provisions may be seen as under:

Section 2 (m) states that bonus share (stock dividend) means shares are issued in the form of additional shares to shareholders by capitalizing the surplus from the profits or the reserve fund of a company. The term clarifies an increase in the paid up value of the shares after capitalizing surplus or reserve fund of a company.

Section 47 prohibits company from purchasing its own share. This section states that no company shall purchase its own shares or supply loan against the security of its own share.

Section 137 bonus share, and sub-section (1) states that the company must inform the office before issuing bonus shares under sub-section (1), this may be done only according to a special resolution passed by the general meeting.

Section 140: Dividend and sub-section of this section are as follows:

Sub-section (1): Dividend shall be distributed among shareholders within 45 days from the date of decision except in the following circumstances:

- a. In case any law forbids the distribution of dividend,
- b. In case the right for dividend is disputed
- c. In case dividend can't be distributed within the time limit mentioned above owing to circumstances beyond anyone control and without fault on the part of company.

Sub-section (2): In case dividends are not distributed within time limit mentioned in sub-section (1), this shall be done by adding interest at the prescribed rate.

Sub-section (3): Only the person whose name stands registered in the register of existing shareholders at the time of declaring the dividend shall be entitled to it.

The above explanation of Nepal Company Act 1997 is not enough regarding dividend policy. The present company act can't regulate the dividend and reserve policies of globalize financial institutions. Therefore, certain rules regarding declaration of dividend and reserve should be formulated and it is demand of time.

It is reasonable to review the Indian company act. There are so many rules have been formulated by Indian government regarding declaration of dividend and transfer of profit to reserve under company act. Indian company Act, Reserve & Provision Act have touched each and every aspect to regulate dividend and fund transfer to reserve.

### **2.6.1 Review of Major Studies in the Relevant Field**

There are various studies have been conducted concerning dividend theory, its affect on market price of share and value of enterprise. Reviews of some major studies are as follows: -

#### **Modigliani & Miller's Study<sup>7</sup> (Dividend Irrelevance Theory)**

Under the assumption of homogenous expectations and perfect market, the Miller and Modigliani dividend irrelevancy proposition asserts: While dividend is relevant, the dividend policy is irrelevant. Modilgliani and Miller in 1961, for the first time purported a new concept that dividend policy does not affect the value of the firm i.e. dividend policy has no effect on the share price of the firm. They gave a logic that the value of the firm depends on the firm's earning which depend on its investment policy. Their logic was based on following assumptions:

- a. The firm operates in perfect capital market in which all investors are rational. Information is available to all free of cost. There is no transaction cost, securities are infinitely divisible, no investor is large enough to influence the market price of securities, and there is no flotation cost.
- b. The world without taxes.
- c. The firm has fixed investment policy, which is not subject to change.
- d. Risk of uncertainty doesn't exist.

---

<sup>7</sup> Franco Modigliani and Metron H. Miller, "Dividend Policy Growth and the valuation of the shares" Journal of Business, October 1961.

Modigliani & Miller proved their theory by following step:

Step - 1

The market price of 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 i.e.

$$P_0 = \frac{D_i + P_i}{1 + K_e}$$

Where,

- $P_0$  = Beginning market price of the share
- $D_i$  = Dividend per share to be earned at the end of year.
- $P_i$  = Market price of share after the end of period
- $K_e$  = Cost of equity capital

Step - 2

Assuming no external financing, the total capitalized value of the firm would be simply the number of shares multiplied by current market price of share.

$$nP_0 = \frac{n(D_i + P_i)}{1 + K_e}$$

Where,

- $n$  = Total number of shares outstanding

Step - 3

If the firm's internal source of financing invested in new shares i.e.  $\Delta n$  is the number of new shares issued at the end of year at price  $P_i$ , then above equation can be expressed as:

$$nP_0 = \frac{n D_i + (n + \Delta n) P_i - \Delta n P_i}{1 + K_e}$$

Where,

$n$  = Number of shares at the beginning

$\Delta n$  = Number of shares issued at the end of the period

#### Step - 4

If the firm finances all investment proposals, the total amount of new share issue will be given by the following equation:

$$\Delta n P_i = I - (E - n D_i)$$

$$\Delta n P_i = I - E + n D_i$$

Where,

$\Delta n P_i$  = the amount obtained from the sales of new shares to finance in new investment.

$I$  = Total amount required for investment

$E$  = Earning of the firm during the period

$n D_i$  = Total dividend paid

$(E - n D_i)$  = Retained earnings

#### Step - 5

By substituting the value of  $\Delta n P_i$  from equation step - 4 to equation step - 3, we find,

$$nP_0 = \frac{n D_i + (n + \Delta n) P_i - I + E - n D_i}{1 + K_e}$$

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

By solving the above equation the value of firm do not change after declaring the dividend i.e. there is no effect of dividend policy on the share price.

The Modigliani & Miller approach is based on some critical assumptions that can't be followed in the present situation. The assumption of free information of perfect capital market and rational investors are faulty assumptions. Flotation costs, tax effect on capital gain are neglected in this theory. The assumptions of this theory are not applicable in Nepal.

### **Gordon's Study<sup>8</sup>-1962 (Bird in the Hand)**

Another concept developed by Myron J. Gordon in 1962. This theory assumes that investor gives more emphasis to the present dividend more than future capital gain. So this theory is called Bird in the hand theory. This model insists that an increase in dividend payout ratio leads to increase in the stock price for the reason that investors consider the dividend yield is less risky than the expected capital gain. This model explains that investors are indifferent between current dividend and retention of earning.

This model is based on following assumptions:

- The firm is an all equity firm
- No external financing is available
- Internal rate of return ( $r$ ) and cost of capital ( $k$ ) are constant
- The corporate tax rate doesn't exist
- The retention rate ( $b$ ), once decided upon, is constant
- Cost of capital must be greater than growth rate

---

<sup>8</sup> Myron J. Gordon, "The Investment, Financing and Valuation of corporation", Home wood III, Richard D. Irwin Inc, 1962 pp.57.



Based on above assumptions, market value of shares can be determined by using following formulae:

$$P = \frac{K(1-b)}{K - b \cdot r}$$

Where,

- P = Market price of Shares
- K = Cost of capital
- b = Retention ratio
- r = Growth rate / Rate of return

By solving above equation, we can find three stages of a firm:

If the firm is in growth stage, the share price will decline in corresponding with increased in payout ratio or decrease in retention ratio i.e. high dividend payout ratio results to decrease in market price of share. Hence, there is positive relationship between retention ratio and share price in growth firm.

If the firm is in normal stage, there will be no any change in share price regarding change in payout ratio. It means dividend and stock price are free from each other in normal firm.

If the firm is in declining stage, the share price will rise in correspondence with increase in dividend payout ratio. Hence there is negative relationship between retention ratio and stock price in declining firm.

## Walter's Study<sup>9</sup>

Walter studied on dividend policy and common stock price in 1966. According to his research, the dividend policy of a firm cannot be looked aside from investment policy. He argued that dividend is relevant with stock prices against the theory of Modigliani and Miller's irrelevant theory. The relationship between firm's internal rate of return and cost of capital is determining factor to retain profits or distribute dividends. He concludes that as long as the internal rate of return is greater than the cost of capital, the stock price increases by retention and vary with dividend payout ratio.

The assumptions of this theory are:

- The firm finances all investment through retained earnings other than debt and new share issue.
- Consistency of internal rate of return and cost of capital
- The value of earning per share and dividend per share are assumed to be constant.

Walter developed the following formulae to calculate market price per share

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

Where,

- P = Theoretical market price of share  
DPS = Dividend per share  
EPS = Earning per share  
r = Internal rate of return  
K = Cost of capital

---

<sup>9</sup> James E. Walter, "Dividend Policy and Common Stock Prices", Journal of Finance, 1966 pp. 29-41

The firm may have three stages:

If the firm's internal rate of return is greater than cost of capital, the firm is growth firm and its stock price is negatively correlated with its dividend payout ratio. It means if the firm has  $r > K$  then stock price increases when dividend decreases and vice versa.

If the firm's internal rate of return is equal to its cost of capital, the firm is normal firm and its stock price is not affected with its dividend payout ratio. In other words, dividend payout does not affect the value of share whether the firm retains the profit or distributes dividend. It means if the firm has  $r = K$  then there is no relationship between stock price and dividend payout ratio.

If the firm's internal rate of return is less than cost of capital, the firm is declining firm and its stock price is positively correlated with its dividend payout ratio. It means if the firm has  $r < K$  then stock price increases when dividend payout ratio increases and vice versa.

Walter's assumptions of consistency of internal rate of return and cost of capital are not applicable in present situation. Rate of return changes with the policy of investment and cost of capital changes with risk bears by the firm.

### **Van Horn and Mc Donald's Study<sup>10</sup>**

Van Horn and Mc Donald conducted a quite new study on dividend policy and new equity financing to investigate the combined effects of dividend policy and new equity financing decisions on the market value of the firm's common stock. They took sample of two industries and used

---

<sup>10</sup> James C. Van Horne and G. Mc Donald, "Dividend Policy and New Equity Financing", Journal of Finance, May-1971, pp. 507-519.

cross section regression model for empirical test in 1968. They collected data from 86 electrical utility company and 39 electronic & electronic component company listed on the COMPUSTAT industrial data tape. They used different models and methodology and obtained the result of both the sampled industries, which were engaged in paying dividend and new equity financing with other firms. They concluded that for electric utility firm in 1968. Share value was not adversely affected by new equity financing in the presence of cash dividend, except for those in the highest new issue group and it made new equity a more costly forms of financing then the retention of earning. They also emphasized that the payout dividends through excessive equity financing reduced share price for electronic, electronic components industry a significant relationship between new equity financing and value was not demonstrated.

### **Deepak Chawla and G. Srinivasan's Study<sup>11</sup>**

Chawla and Srinivasan conducted a study on impact of dividend and retention on share price. They collected the data from Bombay Stock Exchange of 18 Chemicals and 13 Sugar companies for the period 1969 to 1973. The main objectives of the study were:

- To estimate a model to explain share price, dividend and retained earning relationship.
- To test the dividend, retained earning hypothesis.
- To examine the structural change in the estimated ratio over time.
- To explain the price behavior of stock

They use following simultaneous equation model as declared by Friend & Puckett in 1964.

$$\text{Price Function} \quad : P_t = F [ D_t, R_t, (P/E)_{t-r}^1 ]$$

---

<sup>11</sup> Deepak Chawla and G. Srinivasan, " Impact of Dividend and retention on Share Price – An Economic Study", Decision Vol. 14, July- Sept. 1987

$$\begin{array}{l} \text{Demand Supply Function} \quad : D_t = g [ E_t, D_{(t-1)}, (P/E)_{t-r}^1 ] \\ \text{Identity} \quad : E_t = D_t + R_t \end{array}$$

Where,

P = Market price per share

D = Dividend per share

R = Retained earning per share

E = Earning per share

$(P/E)^1$  = Deviation from the sample average of price earning ratio

t = Subscript for time

They solve the above equation by using Least Square Estimation of both dividend and retained earnings in the case of Chemical industries is positive and coefficient of all the equations were very high.

### **Shlomo Benartzi, Roni Michaely and Richard Thalm's Study<sup>12</sup>**

Shlomo Benartzi, Roni Michaely and Richard Thalm conducted a research on "Do Change in Dividends Signals the Future or the Past" in 1997. They collected the data from two years during the period 1989-1991 from listed companies in American Stock Exchange. They analyzed the data by using different statistical tools and arrive at conclusion that: Why do firms pay dividend even after knowing to pay dividend is costly in various ways? The reactions of market towards changing dividends are good, more is better. Dividend provides information to the market changes in dividends as signals something about the present: The current increase in earning is permanent.

---

<sup>12</sup> Shlomo Benartzi, Roni Michaely and Richard Thalm, "Do Change in Dividends Signals the future or the past", The Journal of Finance, July-1997.

It implies that the stock price and dividend are independent variables. They found negative sign in Sugar Factory for both the years. They left the Sugar Factory for further analysis. By analyzing the data of Chemical Industries they found coefficient of dividend was very high as compare to retained earnings. They arrived at conclusion that dividend hypothesis holds well in Chemical Industry. They emphasized that impact of dividend is more pronounced than that of retained earnings but the market was started shifting towards more weigh for retained earnings.

## **2.7 Review of Journals in Nepalese Prospective**

### **Manohar Krishna Shrestha's Study<sup>13</sup>**

Dr. Manohar Krishna Shrestha published an article in 1981 entitled "Public Enterprises have Dividend Paying Ability?" In his article he emphasized that public enterprises are neither positive to pay dividend nor self-supporting in financial matters due to interference in day-to-day affairs by government. HMG/N appoints high-ranking officials. They do nothing but showing their bureaucratic behavior and they are the enemy of efficiency and lead the corporation to face losses. He points out that HMG wants to tap resources through dividend, following criteria should be followed:

- a. Proper evaluation of public enterprises on capability of paying dividend through corporate co-ordination committee.
- b. Imposition of fixed rate dividend policy by government to financially sound public enterprises.
- c. Circulating the information to all public enterprises about the minimum rate of dividend.

---

<sup>13</sup> Manohar Krishna Shrestha, "Public Enterprises have they Dividend Paying Ability?" The Journal of Prakashan Public Administration, 1981.

- d. Identification of objectives in Corporation Act, Company Act so as to clarify public enterprises regarding their financial obligation to pay dividend to HMG.

In another study “Dividend Policy in selected public enterprises”, he has discussed about streamline dividend policy. He collected data of 18 public limited companies for the year 1982-83. He analyzed the data by using different models and concluded that dividend policy constitutes one of the most critical issues of the public limited companies. Many of public limited companies are found to pay negligible dividend to the shareholders in whom HMG/N proved to be potential investors. Many factors affect the payment depending upon investors’ need and preferences on the one hand and the financing need of the public limited companies to the potential investment opportunities on the other hand. Dividend policy involves many aspects such as selecting the types of dividend to be paid either cash or stock and other forms as well as determining stable or fluctuating or minimum plus extra dividend payment. The application of Walter’s and Gordon’s dividend models in calculating the stock value of selected public limited companies reveal both acceptance and fantastic results.

### **Radhe Shyam Pradhan’s Study<sup>14</sup>**

Radhe Shyam Pradhan conducted a study on “Stock Market behavior in small capital market: A case study in Nepal” by collecting data for 17 enterprises for the year 1986 to 1990. The objectives of the study are as follows: -

- To study the stock market behavior of Nepal

---

<sup>14</sup> Radhe Shyam Pradhan, “ Stock Market Behavior in Small Capital Market: A case study of Nepal”, The Nepalese Management Review, Vol. IX, No.1, 1993.

- To examine the relationship of market equity, market value to book value, price earnings and dividends with liquidity, profitability, leverage, assets turnover and interest coverage.

Some findings of the study are as follows:

- If the EPS is high, the ratio of dividend per share to MPS will high.
- Dividend per share & Market price per share are correlated
- There is positive relationship between liquidity and dividend payout ratio.
- There is positive relationship between dividend payout ratio and interest coverage ratio.

## **2.8 Review of Unpublished Master's Degree Thesis**

Prior to this thesis the students of master degree have written some thesis. Those thesis which are relevant for this study are presented below:

### **Anjani Raj Bhattarai's Study<sup>15</sup>**

- a. Most of the companies are under rating the expectation of investors and they're by resulting the low market ability of shares on trading floor of Stock Exchange.
- b. There is wide gab between actual percentage dividend paid by the companies and expected dividend. Most of them declaring the dividend less than risk free rate of return plus market risk premium.
- c. Relationship among earnings, dividend, and growth rate and expansion program do not exist. So the retention policies do not

---

<sup>15</sup> Anjani Raj Bhattarai: "Share Market in Nepal" Unpublished Master's Degree Thesis, T.U. Krtipur, Kathmandu, 1990.



match with the actual financing need of the companies have been realized.

- d. There is mismatch between the calculated price of share and market price of share. It clearly shows the over pricing of the shares and market price is guided by technical factors.

The suggestions of the thesis are as follows:

- a. The practices of non-paying and minimal paying of dividend should be abolished. For this, proper balanced policy must be adopted. It is necessary to lay down target of dividend.
- b. Listed companies should be bounded to pay minimum rupees of dividend in each year.
- c. Listed companies should be bounded to pay a regular fixed rate of dividend.
- d. If the earnings of the companies are good, extra dividends in the form of interim dividend with regular dividend should be paid by the companies.

### **Bishnu Hari Bhattari's Study<sup>16</sup>**

A thesis entitled "Dividend decision and its impact on stock valuation" in 1996 was submitted by Bishnu Hari Bhattari. He concludes:

- a. There is positive relationship between net profit, liquidity and dividend per share, which means higher the net profit then higher the dividend and vice-versa.
- b. The relationship between market price of shares and stockholders' required rate of return is negative and the companies are able to return even equal to risk free rate of return.

---

<sup>16</sup> Bishnu Hari Bhattari: "Dividend Decision and Its Impact on Stock valuation" Unpublished Master's Degree Thesis, T.U Kritipur, Kathmandu, 1996.

- c. Most of the companies do not adopt stable dividend policy and their dividend payout ratio is not constant.
- d. There is negative relationship between payout ratio and valuation of shares.
- e. There is positive relationship between liquidity position and dividend payment.
- f. Joint Venture Banks are showing their interest to pay regular dividend than Nepalese owned companies.

### **Sudhaker Timilsena's Study<sup>17</sup>**

The main focus of his study is to test relationship between dividend and stock price, determine the effect of dividend policy on stock price.

The findings of his study are as follows:

- Positive relationship between stock price and dividend per share.
- Changing the dividend policy affects the stock price.
- The relationship between stock price and retained earning ratio in negative.

### **Hari Ram Aryal's Study<sup>18</sup>**

Hari Ram Aryal conducted a study on “Dividend Policy: Comparative study between NABIL and NGBL”. His main findings are as follows:

- There is positive relationship between EPS, DPS and MVPS.
- A change in dividend per share affects the share price differently in different banks.
- There is no uniformity of dividend policy between two banks.

---

<sup>17</sup> Sudhaker Timilsena: “Dividends and stock Prices: An empirical Study” An unpublished Master’s degree thesis. T.U. Kritipur, Kathmandu, Aug, 1997.

<sup>18</sup> Hari Ram Aryal: “Dividend Policy: Comparative study between NABIL and NGBL” An unpublished Master’s degree thesis, T.U., Kathmndu, 1997

### **Mr. Rabindra Paudel's Study<sup>19</sup>**

A study conducted by Rabindra Paudel on “Dividend Policy: A case study of different listed finance companies” concludes:

- Financial Institutions are adopting dividend policy haphazardly. They have adopted neither stable dividend policy nor constant dividend policy.
- Dividend payout ratio affects the market price of share differently in different financial institutions.
- There is positive relationship between earning per share and dividend per share and net worth.
- The capital market in Nepal is in improving condition but it is not so efficient as required.

A study conducted by Mr. V.C. Gurung entitled “**A financial study of joint venture banks in Nepal: a comparative study of NGBL & NABIL**” has pointed out that dividend payout is controversial issue. He has suggested that dividend should be declared by considering the shareholders’ expectation and the investment opportunities of the banks to solve the controversial issue as better as possible.

The research on “**Dividend Policy & Practice: A Comparative study of Nepal Bank Ltd. and Nepal Arab Bank Ltd.**” Performed by Mr. K.P. Upadhyaya pointed out that both the banks have maintained highly fluctuating ratio of dividend payout. So, he has advised these banks management to follow either static or constantly growing dividend policy. In this regard, he has further suggested to review the pre-determined policies adopted by the banks even in the changed context on the basis of shareholders’ interest and reaction. He has stressed in the need to choose

---

<sup>19</sup> Rabindra Paudel: “Dividend Policy: A case study of different listed finance companies”, an unpublished master’s degree thesis, T.U. Kritipur, Kathmandu, 1999.

an option by the shareholders between stock dividend and cash dividend arbitrarily. For this he has suggested to purpose this matter (i.e. dividend declaration in the annual general meeting of shareholders for necessary approval. This study also reveals that existing commercial banks in Nepal have followed inconsistent and irregular dividend payment practices. Mr. Upahyaya has put the pressure to avoid such practices and hence suggested to declare dividend on the basis of facts and related variables.

Dividend decision is very important topic in financial management. Commercial Banks and financial institutions both are mushrooming in initial stage. They are providing almost same service to the people successfully. This study is basically conducted to show the dividend policy plays dominant role in developing capital market. This study is different from previous study.

## **CHAPTER – THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

The basic objective of this study is to analyze and compare the dividend policy of Commercial Banks to find out the factors that protect the interest of investors. It also tries to find out the relationship between dividend with MVPS, EAT, EPS, and NW of Commercial Banks. To accomplish these objectives the study follows the research methodology described in this chapter. “Research Methodology is a way to systematically solve the research problems.”<sup>20</sup> In other words, research methodology describes the methods and process to be followed during the research period. This chapter is mainly associated with research design, sample design, period of the study, sources of data, data collection procedures, data processing & terms, methods, tools & techniques, theories that are employed in the analysis & interpretation.

#### **3.2 Research Design**

Research design helps in the analysis of data related to study topic. It is controlling media for the collection of data and it helps to collect the accurate information is related with dividend policy of Commercial Banks by using various parameters and an effective techniques. On the ground of observed infirmities and inefficiencies, an attempt will be made to suggest the reasonable and useful recommendation to the concerned authorities. For this purpose, secondary data of respective firms collected for the period 2059/60 to 2063/64.

---

<sup>20</sup> C.R. Kothari: Research methodology, methods and techniques, “.....Eastern Limited, 1<sup>st</sup> edition, New Delhi, 1990 p.p.-10.

### **3.3 Sources of Data and Collection Procedure**

Dividend is very much related with historical data & the study is conducted on the basis of secondary data. Mostly the data have been collected from respective sampled banks and Nepal stock exchange. Besides these, other essential data and information were collected from some published statements.

### **3.4 Populations and Sample**

Many commercial banks have been established in a very shorter period after economic liberalization policy adopted in Nepal in the mid of 1980s. As a result, many commercial banks and financial institutions are running successfully. Their shares are traded in the market and they distribute dividend in many forms to the shareholders. It is not possible to study all of them regarding the study topic. Therefore, sampling technique has been used from population.

There are altogether 29 listed Commercial Banks are operation in Nepal.  
i.e.:

1. Nepal Bank Ltd.
2. Rstriya Banijya Bank Ltd.
3. Nabil Bank Ltd.
4. Standard Chartered Bank Ltd.
5. Nepal Investment Bank Ltd.
6. Himalyan Bank Ltd.
7. Nepal SBI Bank Ltd.
8. Nepal Bangladesh Bank Ltd.
9. Everest Bank Ltd.
10. Bank of Kathmandu Ltd.

11. Nepal Credit and Commercial Bank Ltd.
12. Nepal Industrial and Commercial Bank Ltd.
13. Lumbini Bank Ltd.
14. Machhapuchhre Bank Ltd.
15. Kumari Bank Ltd.
16. Laxmi Bank Ltd.
17. Sidhartha Bank Ltd.
18. Citizens Bank Ltd.
19. Prime Bank Ltd.
20. Sunrise Bank Ltd.
21. Bank of Asia (Nepal) Bank Ltd.
22. Global Bank Ltd.
23. Agriculture Development Bank Ltd.
24. DCBL Bank Ltd.
25. NMB Bank Ltd.
26. Kist Bank Ltd.
27. Janta Bank Nepal Ltd.
28. Mega Bank Ltd.
29. Civil Bank Ltd.

*Source: Mirmire - 2010, NRB*

Most of the commercial banks have been providing dividend as well as bonus share to its shareholder. For analysis purpose, three Commercial Banks have been taken as sample.

### **Sample of Commercial Banks**

1. Nabil Bank Ltd. (NABIL)
2. Himalayan Bank Ltd. (HBL)
3. Everest Bank Ltd. (EBL)

A brief profile of these sampled Commercial Banks portray below:

## 1. NABIL Bank Ltd.

Nabil Bank Ltd. is the first JVB in Nepal established in 1984 AD joint venture with Dubai Bank Ltd., Dubai (later acquired by Emirates Bank International Ltd., Dubai). Currently, NB (International) Ltd., Ireland is the foreign partner. Nabil Bank Ltd. had the official name Nepal Arab Bank Ltd. till December, 2001. Nabil Bank Ltd. is the pioneer in introducing many innovative products and marketing concept in banking sector in Nepal. Success of Nabil Bank Ltd. is a milestone in the banking history of Nepal as it paved the way for the establishment of many commercial banks and financial institutions.

### Share Capital of the bank is as follows:

Authorized Capital (1,60,00,000 Shares @Rs.100)	Rs. 1,60,00,00,000
Issued Capital (1,44,91,240 Shares @Rs.100)	Rs. 1,44,91,24,000
Paid up Capital (1,44,91,240 Shares @Rs.100)	Rs. 1,44,91,24,000

### Shareholding of the bank is as below:

NB (International) Ltd., Ireland	-	50%
Nepalese Public	-	30%
Rastriya Bima Sasthan and other Institutions (9.67+0.33)-		10%
Nepal Industrial Development Corporation	-	6.15%
Personal (others)	-	3.85%
Total		<u>100%</u>

The bank is providing services such as deposit, Lending, Document Credit, Guarantee, Credit Card, Tele-banking, Deposit Locker, Fund Transfer, ATM, and ABBS Charges. It has 32 branches in Nepal.



## 2. Himalayan Bank Ltd.

It was incorporated in 1992 by the distinguished personalities of Nepal by joint hands with Habib Bank Ltd., Pakistan. This is the first JVB with maximum share holding by Nepalese private sector, which is also managed by Nepalese chief executive. Its policy is to extend quality & personalized service to its customers as promptly as possible. It has been adopting innovative and latest banking technology such as credit card, Tele-banking, Any branch banking, ATM etc. with slogan “**Banking with different**”.

### Share Capital of the bank is as follows:

Authorized Capital (2,00,00,000 Shares @Rs.100)	Rs.2,00,00,00,000
Issued Capital (1,21,62,150 Shares @Rs.100)	Rs.1,21,62,15,000
Paid up Capital (1, 21, 62,150 Shares @Rs.100)	Rs.1, 21, 62, 15,000

### Shareholding of the bank is as below:-

Promoter Shareholders	-	51%
Habib Bank Ltd., Pakistan	-	20%
Employee Provident Fund	-	14%
Nepalese Public	-	15%
Total		<u>100%</u>

It has 11 branches in Kathmandu Valley and 21 branches outside valley. It has one counter in the premises of the Thamel.

## 3. Everest Bank Ltd.

Everest Bank Ltd. was established in 1993 as a joint venture bank with Punjab National Bank Ltd. (India) with the objective of extending

professionalized banking services to various section of society in the kingdom of Nepal and there by contribute in the economic development of the country. It has 37 branches across the country. Its earning per share is very high.

**Share Capital of the bank is as follows:**

Authorized Capital (1, 25, 00,000Shares @Rs.100) Rs.1, 25, 00, 00,000

a. (1, 05, 00,000 ordinary Shares @ Rs.100) Rs.1, 05, 00, 00,000

b. (20, 00,000 7% convertible Pref. Shares @ Rs.100) Rs.20, 00, 00,000

Issued Capital (1, 05, 00,000Shares @ Rs.100) Rs.1, 05, 00, 00,000

a. (85, 00,000 ordinary Shares of @ Rs.100) Rs.85, 00, 00,000

b. (20, 00,000 7% convertible Pref. Shares @ Rs.100) Rs.20, 00, 00,000

Paid up Capital (1, 03, 04,673Shares @ Rs.100) Rs.1, 03, 04, 67,300

a. (83, 04,673 ordinary Shares of @ Rs.100) Rs.83, 04, 67,300

b. (20, 00,000 7% convertible Pref. Shares @ Rs.100) Rs.20, 00, 00,000

**Shareholding of the bank is as below:**

Promoter Shareholders	-	50%
Nepalese Public	-	30%
Punjab National Bank Ltd.	-	20%
	Total	<u>100%</u>

The bank is also providing latest services of banking.

**3.5 Method of Analysis**

In this study, various financial, accounting and statistical tools have been applied to achieve the objective of the study. The various calculated

results have been obtained through financial and statistical tools and tabulated under different headings. They are compared with one another to interpret the results.

### **3.6 Financial Indicator Tools**

#### **3.6.1 Earning Per Share (EPS)**

Calculation of EPS is a main tool of financial indicator. It is helpful to know the earning power of the bank on the basis of per share and changes in it over the study period. EPS is calculated by dividing net profit after tax by the total number of common share outstanding. It is total earning per share during a specified period.

$$\text{Earning Per Share (EPS)} = \text{Net Profit After Tax (NPAT)} / \text{No. of common share outstanding}$$

#### **3.6.2 Dividend Per Share (DPS)**

It is the part of earning distributed to common shareholders after deducting interest and dividend to preference shareholders. DPS is calculated by dividing the total amount declared as dividend for equity shareholders by the total number of common share outstanding.

$$\text{Dividend Per Share (DPS)} = \text{Total dividend declared to equity shareholders} / \text{No. of common share outstanding}$$

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

This is the percentage of net profit distributed as dividend to equity shareholders. The remaining percentage of net profit is retained as earnings and it is kept as reserve & surplus for investment opportunity for

the growth of the banks. It is calculated by dividing dividend per share by earning per share.

$$\text{Dividend Payout Ratio (DPR)} = \text{Dividend Per Share (DPS)} / \text{Earning Per Share (EPS)}$$

### 3.6.4 Price Earning Ratio (P/E Ratio)

This is the ratio of market value per share to earning per share. It is calculated in times. It shows the relationship between market value per share to earning per share. It is calculated by dividing market value per share to earning per share.

$$\text{P/E - Ratio} = \text{Market Value Per Share (MVPS)} / \text{Earning Per Share (EPS)}$$

### 3.6.5 Market Value Per Share to Book Value Per Share

This ratio shows the relationship between market value to book value per share. It is also calculated in times. It evaluates net worth in the market. It is calculated by dividing market value per share by its book value per share.

$$\text{MVPS / BVPS} = \text{Market Value Per Share (MVPS)} / \text{Book Value Per Share (BVPS)}$$

### 3.6.6 Dividend Yield Ratio (DYR)

This ratio indicates the relationship between dividend per share and market value per share. Market value per share is highly affected by dividend yield ratio. A small changes in dividend per share can bring effective change in the market value per share. It is calculated by dividing the dividend per share by market value per share.

$$\text{Dividend Yield Ratio (DYR)} = \text{Dividend Per Share (DPS)} / \text{Market Value Per Share (MVPS)}$$

### 3.6.7 Return on Net worth (RONW)

Net worth is owners claim on assets of the bank. This ratio shows how well the bank has used the net worth of owners. It is calculated by dividing net profit after tax by net worth.

$$\text{RONW} = \text{Net Profit After Tax (NPAT)} / \text{Net Worth (NW)}$$

## 3.7 Statistical Tools

### 3.7.1 Simple Regression Analysis

Simple regression analysis has been used to study the influences of independent variables on dependent variables. “Regression is stepping back or returning to the average value”<sup>21</sup> In regression analysis, we develop a estimating equation that is mathematical formula relates the known variables to unknown variables. Regression analysis is based on the relationship or association between two or more variables, is called the independent variables. The variable we are trying to predict is the dependent variable. In other words, regression analysis is a statistical device with the help of which we are in a position to determine the value of unknown variables from two or more known variables. In this study, simple regression analysis has been used to determine whether the variables of EPS are related to dividend decision of the bank or not. For this question following regression equation model has been implemented.

---

<sup>21</sup> S.C. Gupta : Fundamental of Statistics, Himalayan Publishing house, Bombay 5<sup>th</sup> edition, 1995.

The regression equation of Y on X be

$$y = a + bx_1$$

Where,

Y = Dividend Per Share (DPS)

$x_1$  = Earning Per Share (EPS)

To examine the relationship between the EPS and DPS of the financial institution, this model has been applied for the fifth fiscal year from 2055/056 to 2059/060. Similarly the following regression model has been utilized to find out whether the variable of net profit after tax, average market price of share and net worth of the bank is related with dividend per share of the financial institution or not.

$$y = a + bx_2$$

Where,

Y = Dividend Per Share (DPS)

$x_2$  = Earning After Tax (EAT)

$$y = a + bx_3$$

Where,

Y = Market Value Per Share

$x_3$  = Dividend Per Share

$$y = a + bx_4$$

Where,

Y = Net Worth

$x_4$  = Dividend Per Share

The above mentioned 'a' and 'b' variable will be calculated with the help of following two normal equations:

$$y = Na + b x \dots\dots\dots (i)$$

$$xy = a \sum x + b \sum x^2 \dots\dots\dots (ii)$$

Where,

a and b are unknown

N = number of observation in the sample

### **3.7.2 Regression Constant (a)**

The value of constant, which is the intercept of the model, indicates the average level of dependent variable when independent variable is zero (0). In other words, it is better to understand that 'a' (constant) indicates the mean or average effect on dependent variable of all the variables omitted from the model. In this study, regression constant is calculated for selected dependent and independent variable specified in the model, which is presented above.

### **3.7.3 Regression co-efficient (b)**

The regression co-efficient of each independent variable indicates the marginal relationship between that variable and value of dependent variable, holding constant the effect of all other independent variables in regression model. In other words, the co-efficient describes changes in independent variables affect the value of dependent variables estimate. In this study, regression co-efficient is calculated for selected dependent and independent variables specified in the model, which is presented above.

### 3.7.4 Standard Deviation (†)

The measurement of the scatterness of the data from mass of figures in a series an average is known as dispersion. The standard deviation measures the absolute dispersion. The greater the amount of dispersion greater the standard deviation. A small standard deviation means a high degree of uniformity of the observation as well as homogeneity of a series and vice-versa. In this study, standard deviation has been calculated for DPS, EPS, NPAT, MVPS, & NW.

$$\text{Standard Deviation } (\sigma_x) = \sqrt{\frac{\sum X^2}{n} - \left(\frac{\sum X}{n}\right)^2}$$

### 3.7.5 Co-efficient of Correlation ( $r_{xy}$ )

“The coefficient of correlation measures the degree of relationship between two sets of figures. Correlation analysis is the statistical tools that we can use to describe the degree to which one variable is linearly related to another.”<sup>22</sup> In this study simple correlation has been used to determine the relationship of different factors with dividend and other variables. Thus, the co-efficient of correlation has been calculated to know the relationship of dividend per share with EPS, NPAT, MVPS, and NW.

Karl Pearson’s co-efficient of Correlation

$$r_{xy} = \frac{dxdy}{\sqrt{\frac{dx^2}{dy^2}}}$$

<sup>22</sup> Richard I Levin and David S. Rubin.: “Statistics for Management”, New Delhi 1997.



### 3.7.6 Co-efficient of Multiple Determination ( $R^2$ )

“The co-efficient of multiple determinations is the primary way we can measure the extent or strength of the association that exist between two variables.”<sup>23</sup> In other words, it is measure of the degree of linear association or correlation between two variables, one of which happen to be independent and other being dependent variables. It measures the percentage total variation in dependent variable explained by independent variables. The co-efficient of determination value can have ranging from 0 (zero) to 1 (one). If the regression line is a perfect estimator,  $R^2$  will be equal to +1. Thus, the value  $R^2$  is zero, when there is no correlation. In this study, the co-efficient of determination is calculated to know the degree of correlation of dividend per share with EPS, NPAT, MVPS, and NW.

Coefficient of Determination ( $R^2$ ) = $r^2$
--

### 3.7.7 Graphic Presentation

Graphic presentation is a powerful and effective way for highlighting variables. A very common way of presenting the data for two variables which have a relationship is in a figure or chart. Not all data can be presented in figures. It works best when the data is continuous. This is a characteristic of parametric data.

### 3.7.8 Standard Error of Estimate (SEE)

In regression equation perfect prediction is not practically possible. The standard estimate of error measures the accuracy of estimated figures and

---

<sup>23</sup> Richard I Levin and David S. Rubin.: “Statistics for Management”, New Delhi 1997.

dispersion about an average line. If SEE is 0 (Zero) then there is no variation about the line and the correlation line will be perfect. SEE helps to ascertain how good and respective the regression line is as a description of the average relationship between two series. In this study, SEE has been calculated for selected dependent variables and independent variables.

$$\text{Standard Error of Estimate (SEE)} = \frac{\sigma_x}{\sigma_y} \sqrt{\frac{1-r^2}{n}} \text{ (for regression co-efficient)}$$

## **CHAPTER – FOUR**

### **DATA PRESENTATION AND ANALYSIS**

There are many reasons for paying higher dividend and not paying any dividend. As a result, dividend policy is controversial. Shareholders expect higher dividend but firms want setting aside funds from profit to maximize wealth of the firm. The study contains different objectives, which have already been mentioned in “Introduction Chapter”. In order to achieve the objectives, secondary data have been used to analyze and compare the dividend decision of commercial banks. Now in this chapter financial and statistical tools and techniques have been used for elaboration and explanation of data. Some graphs and diagrams have also been presented to highlight the financial indicators during the study period of sampled CBs.

#### **4.1 Financial Indicator Tools**

##### **4.1.1 Earning Per Share (EPS)**

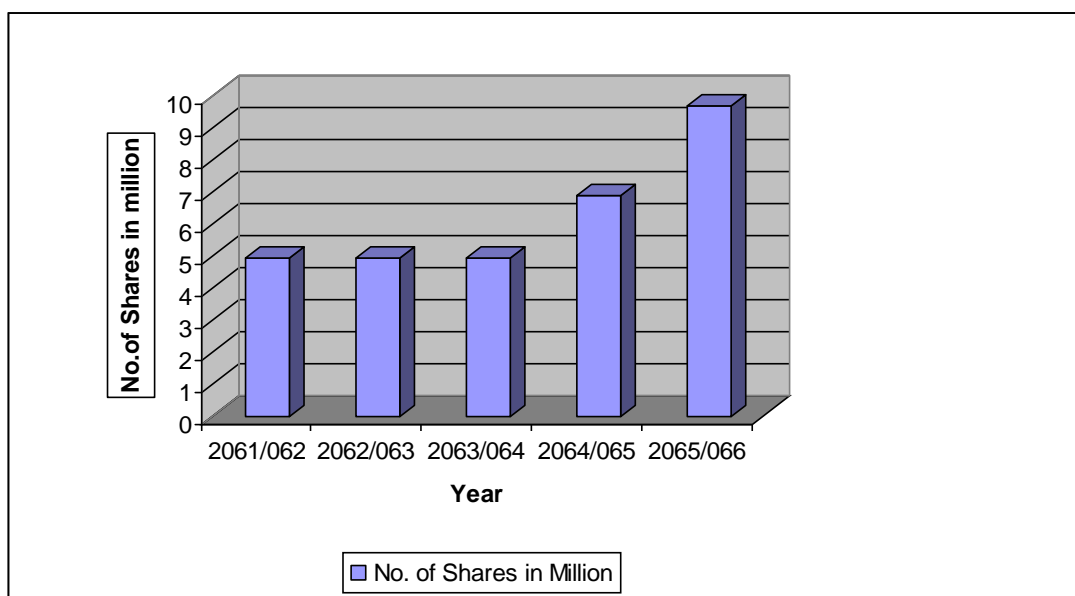
Earning per share is the main indicator of earning power of the bank. Financial performance and achievement of banks can be measured by their capacity to generate earning. Higher EPS shows the good performance where as lower EPS shows the weak performance because it satisfies the shareholders and helps for growth and expansion of the bank. So, higher EPS is a main indicator of a commercial bank to achieve its goal. EPS is calculated by dividing EAT by the total number of common share outstanding.

The following table shows all the details relating to total earning after tax, total number of common share outstanding, issue of bonus share & right share and its effect on EPS of sampled banks.

**Table 4.1: Total no. of shares, Earning After Tax and Earning Per Share of NABIL**

Year	Bonus Share	No. of Shares in million	EAT Rs. in million	EPS in Rs. (with add. Shares)
2061/062	-	4.9165	520	105.49
2062/063	-	4.9165	635	129.21
2063/064	-	4.9165	674	137.08
2064/065	-	6.8922	750	108.81
2065/066	-	9.6575	1031	106.76
Average			722	117.47

**Figure No. 4.1: Total no. of shares, Earning After Tax and Earning Per Share of NABIL.**



In the fiscal year 2061/62 total earning of NABIL was Rs.520.00 million and EPS was Rs. 105.49. The EAT increased to Rs. 635 million in the FY 2062/063. There was increase in 22.12% of earning in this year compare to previous year. The EAT is in increasing trend which shows the positive response EPS and it has increased from Rs. 105.49 to Rs. 106.76 in the five fiscal year. That is 1.20% increase from FY 2061/062 to 2065/66. In

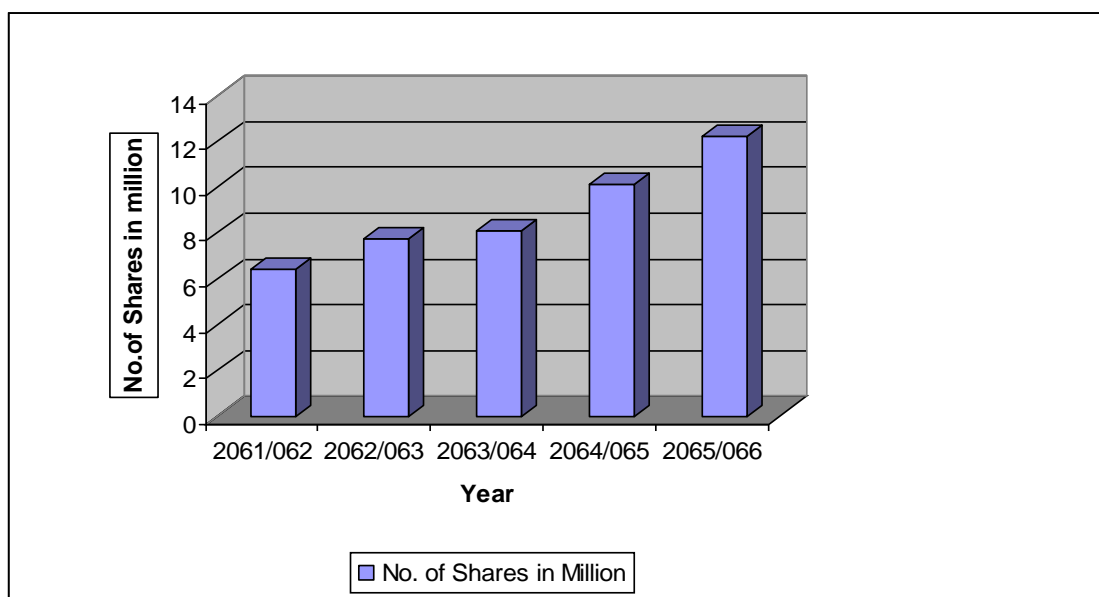
the FY 2065/66 the bank earned highest earning of Rs. 1031 during study period and its EPS reached up to Rs. 106.76.

In conclusion, EAT of NABIL was in increasing trend from the beginning of study period and no bonus share is issued during study period therefore the EPS is also in increasing trend which shows 1.20% increase in EPS at the end of five fiscal year study period.

**Table 4.2: Total no. of shares, Earning After Tax and Earning Per Share of HBL**

Year	Bonus Share	No. of Shares In million	EAT Rs. in million	EPS in Rs. (with add. Shares)
2061/062	20%	6.4350	308.28	47.91
2062/063	5%	7.722	457.46	59.24
2063/064	25%	8.1081	491.82	60.66
2064/065	20%	10.1351	635.88	62.74
2065/066	-	12.1822	754.08	61.90
Average			529.50	58.49

**Figure No. 4.2: Total no. of shares, Earning After Tax and Earning Per Share of HBL**



In F.Y. 2061/62 total earning of HBL was Rs. 308.28 million and EPS was Rs. 47.91. HBL issued 20% bonus share in this year to increase the share outstanding. The bank

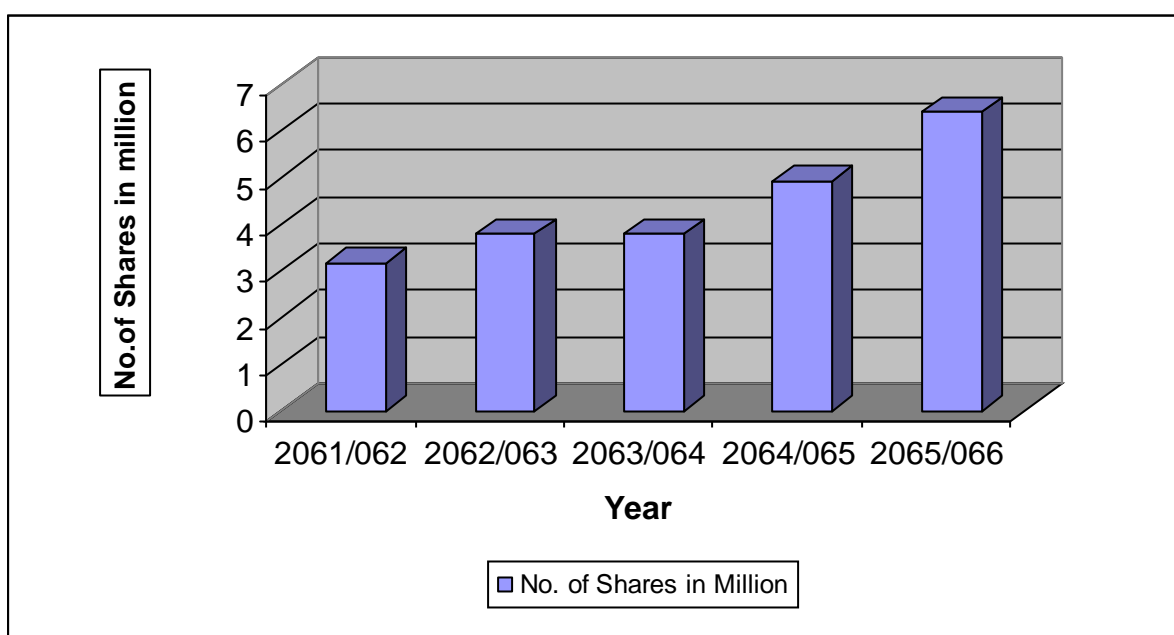
was able to maintain its growth in EAT during the preceding year and also issued bonus of 5% in next year and 25% and 20% in the FY 2063/064 and 2064/065. The EPS was in increasing trend in the year 2062/063, 2063/064 and 2064/065 due to bonus share but in the year 2065/066 the EPS is in decreasing trend although the bank issued bonus share.

In conclusion the EAT of bank is in increasing trend and EPS is also in increasing trend at the beginning but after decreasing one year it is in increasing trend. The bank issued bonus share regularly during the study period.

**Table 4.3: Total no. of shares, Earning After Tax and Earning Per Share of EBL**

Year	Bonus Share	No. of Shares In million	EAT Rs. in million	EPS in Rs. (With add. Shares)
2061/062	20%	3.15	170.81	54.2
2062/063	-	3.78	237.38	62.8
2063/064	30%	3.78	296.41	78.41
2064/065	30%	4.9140	451.20	91.82
2065/066	30%	6.3882	638.76	99.99
Average			358.91	77.44

**Figure 4.3: Total no. of shares, Earning After Tax and Earning Per Share of EBL**



The above table shows that EBL has been able to generate EAT in increasing trend during the study period. In F.Y. 2061/062, company issued 20% bonus share, 30% in FY 2063/64, in FY 2064/65 and 2065/066 which shows that in every year the bank issued bonus share during the study period. The EPS of EBL is also increasing trend. It has increase from Rs.54.2 to Rs. 99.99 in 5 year period, which as 84.48%.In conclusion, EPS and EAT both of these bank in increasing trend although the bank issued bonus share in every year after.

When we see comperatively, the EAT of NABIL is the highest among all the sampled commercial banks. The EAT & the EPS of NABIL and EBL is in increasing trend, EAT of HBL is also in decreasing trend EAT of HBL is also increasing trend but EPS is in fluctuating trend during the study period. HBL issued bonus share in every year. EBL also issued in every year but NABIL had not issued bonus share during the study period.

#### **4.1.2 Dividend Per Share (DPS)**

Dividend per share is the portion of the EPS distributed to common shareholders. It is important to analyze the DPS of the sampled banks because there is inverse relationship between bonus share and the DPS. The following table shows the bonus share and the DPS of sampled banks. DPS is calculated by dividing the total amount declared as dividend for equity shareholders by the total number of common share outstanding.

The following table shows Bonus share and dividend per share of sampled CBs.

**Table 4.4: Bonus Share and Actual DPS of sampled Commercial Banks**

DPS in Rs.

Year	NABIL		HBL		EBL	
	Bonus Share	DPS	Bonus Share	DPS	Bonus Share	DPS
2061/062	-	70	20%	11.58	20%	-
2062/063	-	85	5%	30	-	25
2063/064	-	140	25%	15	30%	10
2064/065	-	100	20%	25	30%	20
2065/066	-	85	-	12	30%	30
Average		96		18.72		17

The above table shows that DPS of NABIL is higher and regular among sampled banks. It is also in increasing trend. HBL also pay cash dividend regularly but low over the period and the company issued bonus shares to satisfy the shareholders. DPS of HBL is minimum than other sampled banks. Even EBL did not pay cash dividend in year 2061/62 but issued a 20 percent bonus shares to shareholders. The DPS of both EBL and HBL is in fluctuating trend but NABIL has regular DPS in increasing trend.

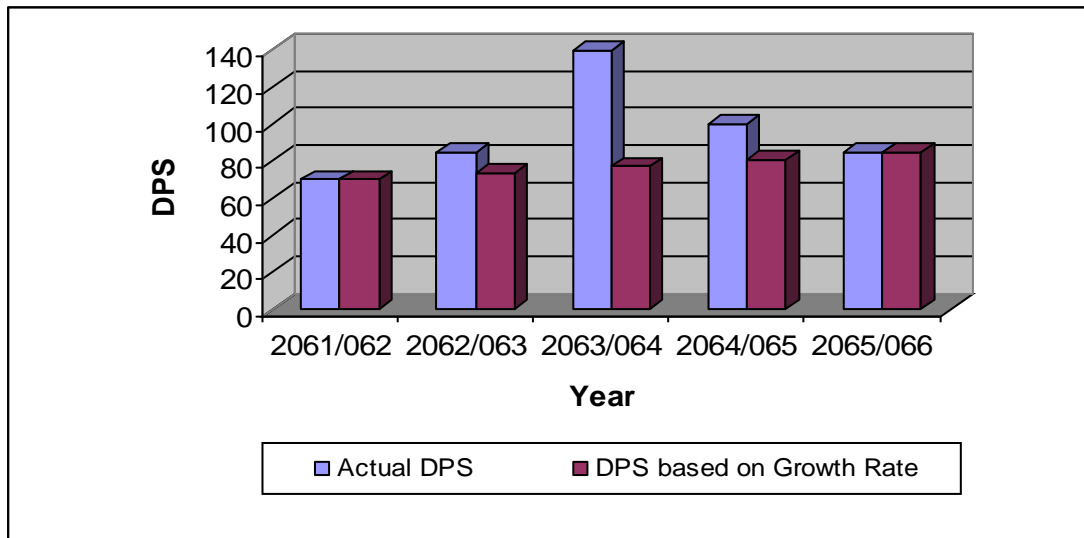
**Table 4.5: DPS based on growth rate and Actual DPS of NABIL**

In Rs.

Year	Actual DPS (a)	DPS based on growth rate (b)	Difference (a-b)
2061/062	70	70	0
2062/063	85	73.48	11.52
2063/064	140	77.13	62.87
2064/065	100	80.96	19.04
2065/066	85	84.99	0.01
Average	96	77.31	18.69



**Figure 4.4: DPS based on growth rate and Actual DPS of NABIL**



The above table shows that NABIL paid dividend Rs.70 in the F.Y.2061/062, which is in increasing trend during the following year. There was small increasing in subsequent year but large increase of Rs. 55 in FY 2063/64 from FY 2062/63. In the year 2063/64 NABIL paid Rs. 140 DPS, which was highest during the study period. The average payment of DPS was Rs.96 during the study period.

If we analyze the growth rate of DPS then first growth rate should be found out and interpret the data.

Thus,

Dividend in the base year 2061/062 ( $D_0$ ) = Rs.70.00

Dividend in the final year 2065/066 ( $D_4$ ) = Rs.85.00

No. of years (n) = 4 Years

Growth Rate (g) = ?

We know that,

$$\begin{aligned}
 D_4 &= D_0 (1+g)^4 \\
 \text{or } 85 &= 70 (1+g)^4 \\
 \text{or } (1+g)^4 &= 85/70 \\
 \text{or } (1+g) &= (1.21)^{1/4} \\
 \text{or } 1+g &= 1.0497 \\
 \text{or } g &= 1.0497-1
 \end{aligned}$$

$$\therefore g = 0.0497$$

Hence, growth rate is 4.97%

If NABIL had followed the stable dividend policy then the growth rate of each year should have 4.97%. The bank paid DPS Rs.70 in the first year and Rs.85 also in the last year. So, the growth rate is 4.97%.

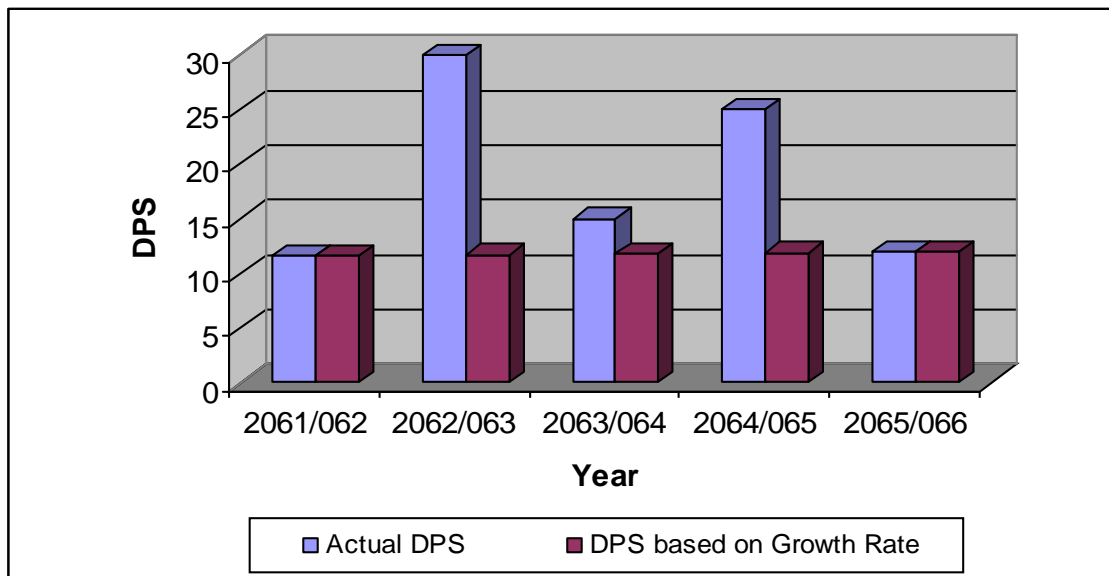
Since, the growth rate of DPS is 4.97%, DPS based on growth rate and actual DPS are not same.

The following table shows that actual DPS and DPS based on growth rate and differences between them of HBL

**Table 4.6: DPS based on growth rate and Actual DPS of HBL**

In Rs.			
<b>Year</b>	<b>Actual DPS (a)</b>	<b>DPS based on growth rate (b)</b>	<b>Difference (a-b)</b>
2061/062	11.58	11.58	-
2062/063	30	11.68	18.32
2063/064	15	11.79	3.21
2064/065	25	11.89	13.11
2065/066	12	12	-
Average	18.72	11.79	6.93

**Figure 4.5: DPS based on growth rate and Actual DPS of HBL**



HBL declared DPS Rs.11.58 in F.Y. 2061/62. In the year 2062/63 the bank paid dividend Rs. 30. In year 2063/64 HPL paid 15 DPS decreasing to Rs. 30 in year 2062/63, which was highest DPS during the study period. But again HBL decreased DPS from Rs. 30 to Rs. 12 in the last year. The average DPS is Rs. 18.72 during the study period.

The difference between the actual DPS and DPS based on the growth rate can be found out by calculating the growth rate of DPS.

Thus,

Dividend in the base year 2061/062 ( $D_0$ ) = Rs.11.58

Dividend in the final year 2065/066 ( $D_4$ ) = Rs.12.00

No. of years (n) = 4 Years

Growth Rate (g) = ?

We know that,

$$D_4 = D_0 (1+g)^4$$

$$\text{or } 12 = 11.58 (1+g)^4$$

$$\text{or } (1+g)^4 = 12 / 11.58$$

$$\text{or } (1+g) = (1.036)^{1/4}$$

$$\text{or } 1+g = 1.0089$$

$$\text{or } g = 1.0089 - 1$$

$$\therefore g = 0.0089$$

Hence, growth rate is 0.89%.

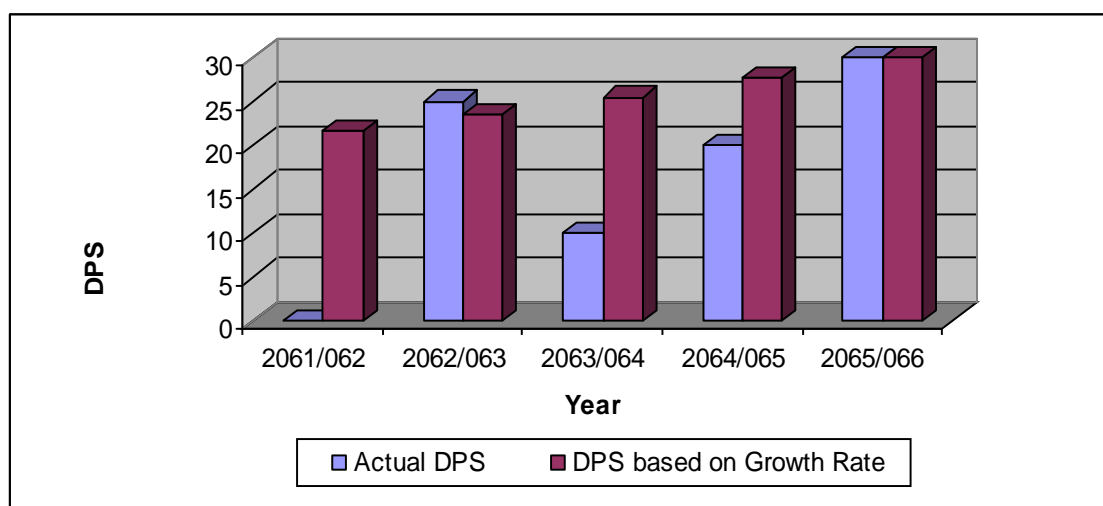
The growth rate of DPS of HBL is 0.89%, which is highest among CB's because the bank paid DPS Rs. 11.58 in the base year and Rs. 12 in the final year. DPS of the bank is in very fluctuating trend. The bank paid regular dividend and it has not paid dividend according to growth rate of 0.89%.

The following table shows the actual DPS and DPS based on growth rate and differences between them of EBL. Base Year DPS ( $D_0$ ) from 2060/61 which has Actual DPS is Rs.20.

**Table 4.7: DPS based on growth rate and Actual DPS of EBL In Rs.**

Year	Actual DPS (a)	DPS based on growth rate (b)	Difference (a-b)
2061/062	-	21.69	-21.69
2062/063	25	23.52	1.48
2063/064	10	25.51	-15.51
2064/065	20	27.67	-7.67
2065/066	30	30	-
Average	17	25.678	-8.678

**Figure 4.6: DPS based on growth rate and Actual DPS of EBL**



From the above table, it comes to know that EBL paid DPS Rs. 20 in the year 2060/061 and not only same DPS in FY 2061/062 but also zero DPS, i.e. the bank did not pay cash dividend in FY 2061/062. The bank increases DPS in 2062/63 of Rs. 25, which was second last highest DPS during the study period, but EBL decreased DPS to Rs. 10 in the F.Y.2063/064 and the bank increases DPS in F.Y.2064/065 of Rs. 20, and the bank increased the DPS in F.Y. 2065/066 of Rs. 30, which was last highest DPS during the study period. The average DPS during the study period is Rs. 17.

It is necessary to compare the actual DPS and DPS based on growth rate.

So firstly, growth rate should be computed.

Thus,

Dividend in the base year 2060/061 ( $D_0$ ) = Rs. 20.00

Dividend in the final year 2065/066 ( $D_5$ ) = Rs. 30.00

No. of years ( $n$ ) = 5 Years

Growth Rate ( $g$ ) = ?

We know that,

$$D_5 = D_0 (1+g)^5$$

$$\text{or } 30 = 20 (1+g)^5$$

$$\text{or } (1+g)^5 = 30/20$$

$$\text{or } (1+g) = (1.5)^{1/5}$$

$$\text{or } 1+g = 1.0845$$

$$\text{or } g = 1.0845 - 1$$

$$\therefore g = 0.0845$$

Hence, the growth rate is 8.45%.

From the above calculation, it comes to know that growth rate is 8.45%.

The computed growth rate has not followed by the bank during the study

period. The bank should have paid Rs. 23.52, Rs. 25.51, Rs.27.67 & Rs.30 in F.Y. 2062/63, 2063/64, 2064/065 & 2065/66 to maintain the growth rate. The bank has not been able to establish constant or stable dividend policy.

In conclusion, the sampled CBs have not a sustainable strategic dividend policy. As a result, actual DPS of the sampled banks are in fluctuating trend. In some years, the sampled banks have tried to issue bonus share by decreasing DPS. The average DPS paid by NABIL i.e. Rs. 96 is highest among all the sampled banks. The difference between the average of actual DPS and DPS based on growth rate is the highest of NABIL i.e. Rs. 18.69. Higher DPS creates positive attitude of the shareholders towards the bank, which helps to increase the market value of share. It is the indicator of better performance of the management. NABIL and HBL have tried to pay DPS in constant and stable manner up to the some extent. Only NABIL paid regular dividend to shareholders.

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

Dividend payout is the ratio of percentage of dividend paid out to the common shareholders from EPS. DPR depends on the EPS of the banks. The greater the EPS the more ability to pay dividend. There is no any rule in Nepal to restrict the banks that how much amount should be paid or retained as reserve and surplus. It depends on the investment opportunity of the banks. If the bank has an opportunity to reinvest its retained earnings and its expected rate of return is higher than interest rate, it should be reinvested otherwise it is better to pay as dividend to common shareholders.

It is calculated by dividing DPS by EPS.

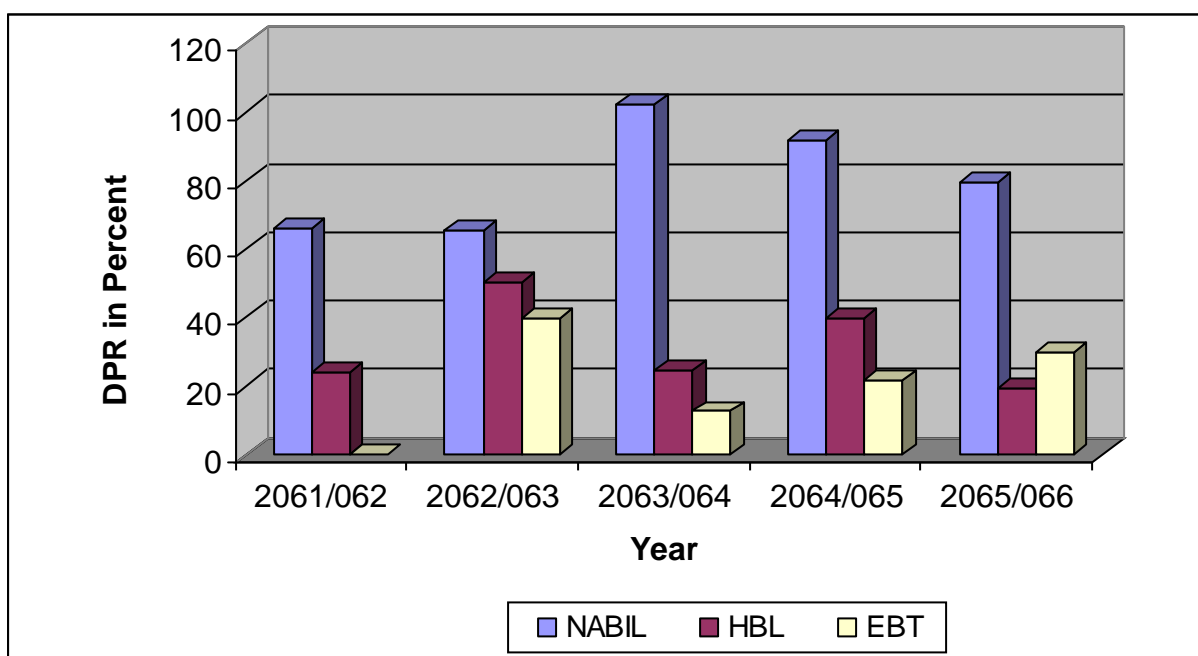
The following table shows the DPR of sampled banks from year 2059/60 to 2063/64 and the average of five years.

**Table 4.8: Dividend Payout Ratio of sampled Commercial Banks**

DPS & EPS in Rs.

Year	NABIL			HBL			EBL		
	DPS	EPS	DPR%	DPS	EPS	DPR%	DPS	EPS	DPR%
2061/062	70	105.49	66.36	11.58	47.91	24.17	-	54.2	-
2062/063	85	129.21	65.78	30	59.24	50.64	25	62.8	39.81
2063/064	140	137.08	102.13	15	60.66	24.73	10	78.41	12.75
2064/065	100	108.81	91.90	25	62.74	39.85	20	91.82	21.78
2065/066	85	106.76	79.62	12	61.90	19.39	30	99.99	30
Average	96	117.47	81.16	18.72	58.49	31.76	17	77.44	20.87

**Figure 4.7: Dividend Payout Ratio of sampled Commercial Banks**



The above table shows that the average of yearly dividend payout ratio of NABIL is 81.16%, which is the highest than other sampled banks. In the year 2063/64, the highest percentage of the DPR of NABIL is 102.13%,

which shows that the bank paid more DPS than EPS. In FY 2063/64 the EPS is Rs. 137.08, which is the highest during the study period. The lowest DPR in FY 2062/63 was 65.78%. The DPR bank was in increasing trend during the study period. Only NABIL paid regular dividend during study period.

HBL paid regular dividend and it paid small dividend in FY 2061/062 of Rs. 11.58. Therefore DPR is lowest during the study period. In FY 2062/63 the highest DPR of the HBL is 50.64%. The dividend regularly during the study period. The highest DPR of the HBL is 50.64% in the year 2062/63 but EPS was Rs. 59.24 in this year. The average EPS of the bank is Rs. 58.49 is the lowest amount all the samples banks and also average DPR of 31.76% is the lowest among CBs.

EBL did not pay regular dividend but it paid constant DPS of Rs. 20 in FY 2064/65. In FY 2061/62 EBL did not pay any cash dividend. The average DPR is 20.87%, which is lower than HBL but very less than NABIL. In FY 2061/062 DPR of EBL is zero (0) %, which was lowest during the study period. The DPR of EBL is in increasing trend.

Analyzing the DPR of all the sampled banks, it is clear that except NABIL, other two banks are not able to pay regular dividend or to follow strategic dividend policy. The DPR of NABIL is in increasing trend whereas DPR of HBL is fluctuating trend and EBL is in increasing trend. In FY 2063/64 NABIL paid higher DPS then EPS therefore the DPR is more than 100% which is the highest among other CBs during the study period.

There is no any policy has been adopted by the banks to declare the dividend. It is necessary to have a clear-cut policy for dividend



distribution to shareholders. There must be a clear cut vision the banks have about how much portion of earning is to be retained for internal financing and how much amount to be distributed as dividend to shareholders so that it may balance between company's growth and shareholders interest to maximize net worth of the banks.

#### 4.1.4 Price Earning Ratio (P/E Ratio)

Price earning ratio establishes relationship between EPS and MVPS. It reflects how many times MVPS is greater than each rupee of currently reported earning per share. It helps to know the expectation of investors about the performance of the bank. It is calculated by dividing market value per share to earning per share. The following table shows the P/E ratio of sampled banks.

**Table 4.9: Price Earning Ratio of sampled Commercial Banks**

MVPS, EPS in Rs. & P/E Ratio in times

Year	NABIL			HBL			EBL		
	MVPS	EPS	P/E Ratio	MVPS	EPS	P/E Ratio	MVPS	EPS	P/E Ratio
2061/062	1505	105.49	14.27	920	47.91	19.20	870	54.2	16
2062/063	2240	129.21	17.34	1100	59.24	18.57	1379	62.8	22
2063/064	5050	137.08	36.84	1740	60.66	28.69	2430	78.41	31
2064/065	5275	108.81	48.70	1980	62.74	31.56	3132	91.82	34.11
2065/066	4899	106.76	45.89	1780	61.90	28.43	2455	99.99	24.55
Average	3793.8	117.47	32.61	1504	58.49	25.29	2053.2	77.44	25.53

P/E ratio of all the sampled CBs was in increasing trend during the study period, which shows that all sampled CBs use policy to increase the PE

ratio. EPS and MVPS of all bank was in increasing trend. Which result increasing P/E ratio. In aggregate the average PE ratio of NABIL 32.61 time, which is highest among the sampled CBs.

By analyzing the dada, we found that when EPS increases MVPS also increases and vice versa. The sampled banks have tried to issue bonus share and right share when EPS decreases. At that time MVPS also decreases and P/E ratio declines.

Investors are paying higher amount to purchase the share of NABIL because the earning is high. Although the P/E ratio is lowest among sampled CBs.

In conclusion, P/E ratio of NABIL is the highest among the entire sampled banks and EBL is in second position. It shows that the investors have higher expectation about the bank performance and its market appraisal. So, we can conclude that higher the P/E ratio the better it is for shareholders.

#### **4.1.5 Market Value Per Share to Book Value Per Share**

Market value per share to book value per share ratio evaluates the net present value of share in the market. It evaluates net worth in the market. It is calculated by dividing market value per share by its book value per share.

Following table shows MVPS to BVPS of sampled commercial banks for five years.

**Table 4.10: Market Value Per Share to Book Value Per Share of sampled Commercial Banks**

MVPS, BVPS in Rs. & MVPS/BVPS in times

Year	NABIL			HBL			EBL		
	MVPS	BVPS	MV/B V	MVPS	BVPS	MV/B V	MVPS	BVPS	MV/B V
2061/062	1505	337	4.47	920	239.59	3.84	870	219.87	3.97
2062/063	2240	381	5.88	1100	228.72	4.81	1379	217.67	6.34
2063/064	5050	418	12.08	1740	264.74	6.57	2430	292.75	8.3
2064/065	5275	354	14.90	1980	247.95	7.99	3132	321.77	9.73
2065/066	4899	324	15.12	1780	256.52	6.94	2455	345.23	7.11
Average	3793.8	362.8	10.49	1504	247.50	6.03	2053.2	279.46	7.09

MVPS to BVPS of all the sampled banks are in fluctuating trend. The average MVPS to BVPS of NABIL is the highest (10.49 times) among all the sampled banks. EBL stands on second position (7.09 times). MVPS to BVPS of HBL is the lowest among all the sampled banks. Shareholders of NABIL get higher capital gain and shareholders of HBL get lower capital gain in comparison with entire sampled banks.

In conclusion, we can say that NABIL is able to get higher capital gain even after declaring regular dividend to shareholders.

#### **4.1.6 Dividend Yield Ratio (DYR)**

Dividend yield ratio is the percentage of DPS on MVPS. Market value per share of any firm is highly affected by its dividend distributed to shareholders. A small change in dividend per share can bring effective change in the market value per share. Therefore, before declaring dividend to shareholders, the impact on MVPS is to be analyzed and evaluated for the long run survival of the bank.

The following table shows DYR of sampled CBs for five years.

**Table 4.11: Dividend Yield Ratio of Sampled Commercial Banks**

DPS & MVPS in Rs. and DYR in %

Year	NABIL			HBL			EBL		
	DPS	MVPS	DYR%	DPS	MVPS	DYR%	DPS	MVPS	DYR%
2061/062	70	1505	4.65	11.58	920	1.26	-	870	-
2062/063	85	2240	3.8	30	1100	2.73	25	1379	1.81
2063/064	140	5050	2.77	15	1740	0.86	10	2430	0.41
2064/065	100	5275	1.90	25	1980	1.26	20	3132	0.64
2065/066	85	4899	1.74	12	1780	0.67	30	2455	1.22
Average	96	3793.8	2.97	18.72	1504	1.36	17	2053.2	0.82

Above data shows that the average DYR of NABIL is 2.97% which is the highest among all the sampled banks. NABIL could not able to maintain its average DYR in the year 2061/62, 2062/63 & 2063/64. This bank is more efficient than other sampled banks for distribution of dividend on the basis of MVPS. DYR of HBL is in second position.

By analyzing the data, we can conclude that when the banks have declared higher dividend it has caused lower MVPS and vice versa. So, DYR is a great measure to maintain balance between MVPS & DPS.

#### **4.1.7 Return on Net Worth (RONW)**

Net worth is owners claim on assets of the bank. This ratio shows how efficiently the bank has used the net worth of shareholders. It is calculated by dividing net profit after tax by net worth.

The following table shows RONW of the sampled banks for five years.

**Table 4.12: Return on Net worth of sampled Commercial Banks**

EAT, NW Rs. in million

Year	NABIL			HBL			EBL		
	EAT	NW	RONW %	EAT	NW	RONW %	EAT	NW	RONW %
2061/062	520	1656.88	31.38	308.28	1541.76	20	170.81	692.6	24.66
2062/063	635	1873.20	33.4	457.46	1766.18	25.9	237.38	822.8	28.86
2063/064	674	2055.12	32.8	491.82	2146.54	22.91	296.41	1106.6	26.79
2064/065	750	2439.32	30.75	635.88	2513.00	25.30	451.20	321.77	140.22
2065/066	1031	3129.02	32.95	754.08	3119.83	24.17	638.76	345.23	185.02
Average	722	2230.71	32.26	529.50	2217.46	23.66	358.91	657.8	81.11

The above table shows that the RONW of all sampled banks are in fluctuating trend. The average RONW of EBL (81.11%) is the highest among all the sampled banks. The average RONW of HBL (23.66%) is lowest among sampled banks.

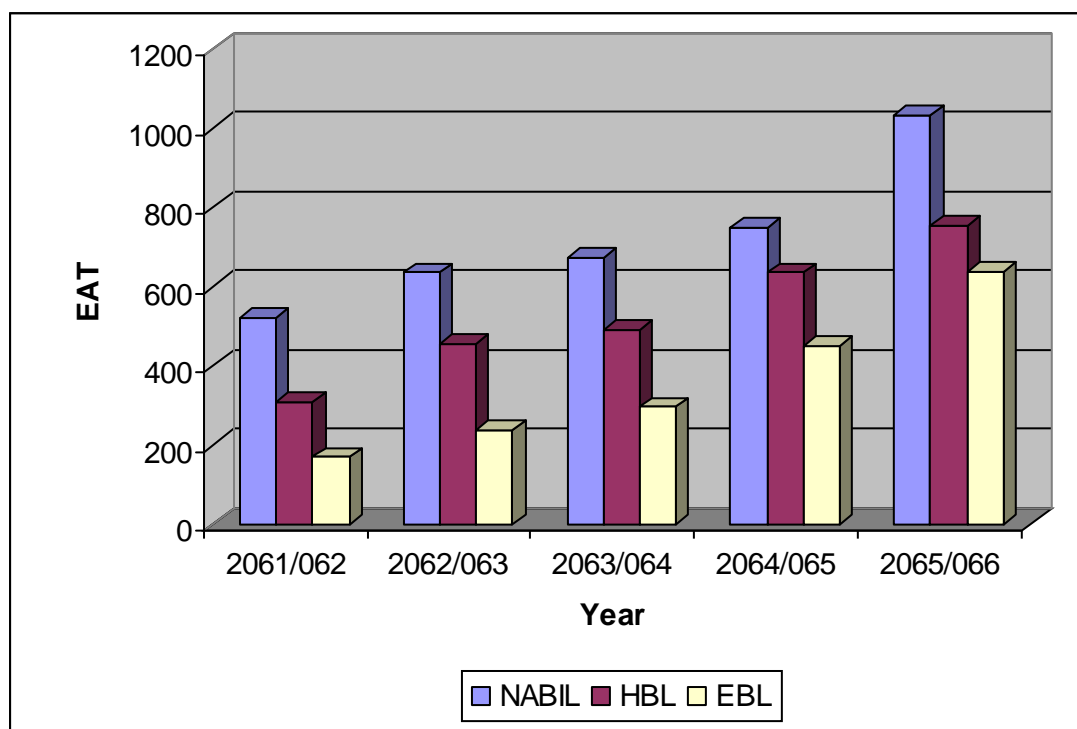
In conclusion, we can say that all the sampled banks have tried to utilize internal sources by keeping aside some part of profit for reinvestment. RONW is the ratio of total capital employed. If higher amount is kept aside from profit for reinvestment and the banks has no opportunity for reinvestment then RONW declines. So, it is a matter of decision-making that how much amount should be distributed as dividend and how much amount should be kept aside for reinvestment so that RONW is maximized.

## 4.2 Statistical Analysis

### 4.2.1 Graphic Presentation

Multiple bar diagram showing EAT for five years of sampled commercial banks.

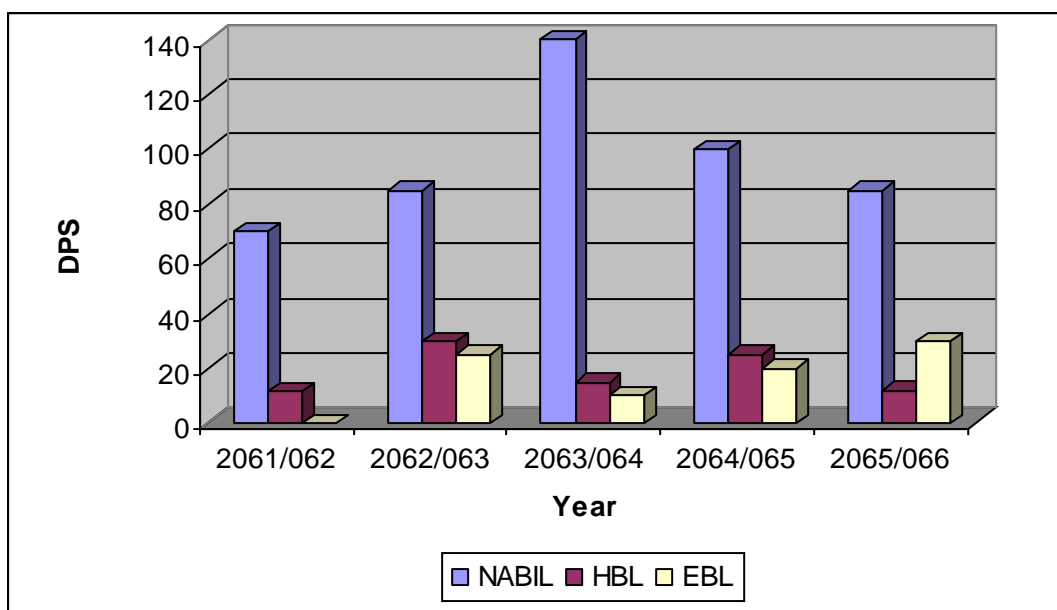
**Figure 4.8: EAT for five years of Sampled Commercial Banks**



The above multiple bar diagram of sampled CBs shows that EAT of NABIL is very high among entire sampled banks. The EAT of HBL is in second position where as EAT of EBL is lowest among this sampled banks. The graph shows that there is huge gap between EAT of NABIL with other two banks. The EAT of all three banks is in very consistent and in constant increasing trend. If this trend is continued, the bank will be able to earn the faith of public.

**Multiple bar diagram showing DPS for five years of sampled commercial banks.**

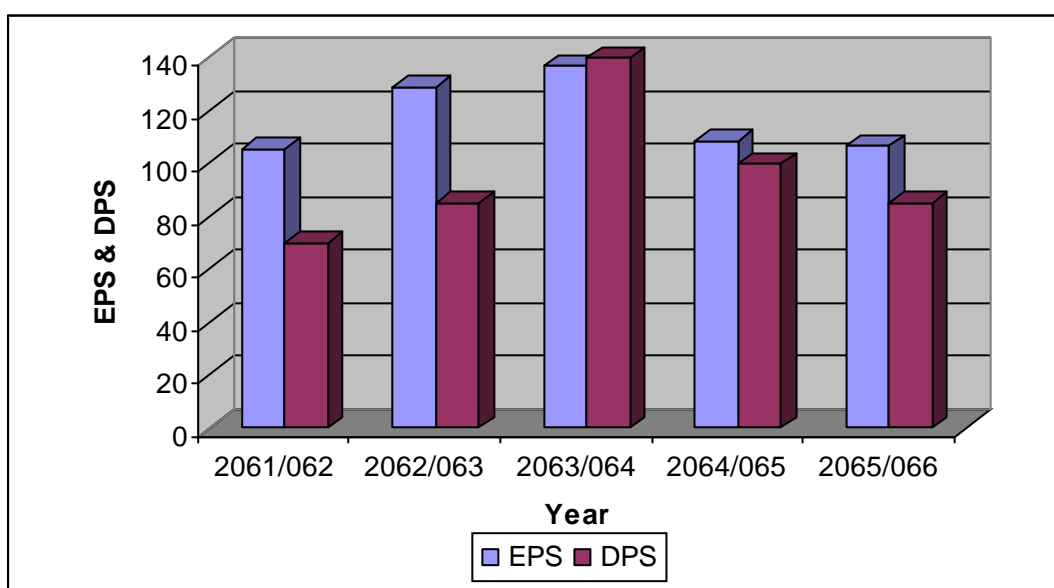
**Figure 4.9: DPS for five years of Sampled Commercial Banks**



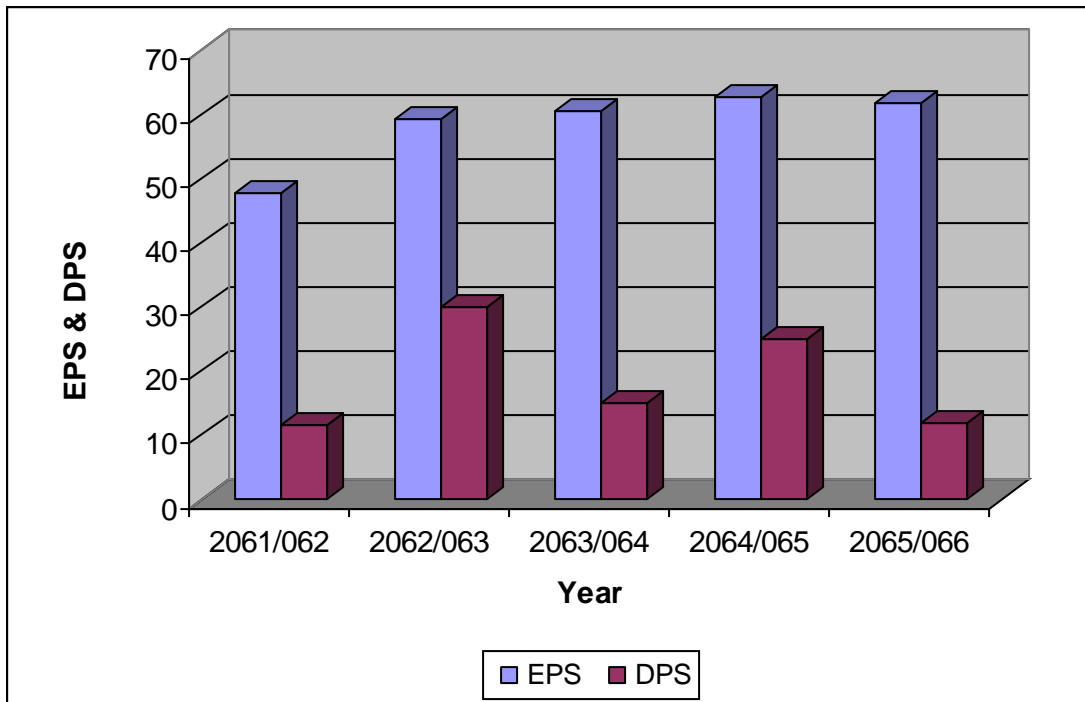
Cash dividend paid by NABIL is far highest among three banks. Only NABIL paid regular dividend during study period where as other banks were not regular in dividend paid. There is no comparison of NABIL in paying dividend with other two banks.

**Multiple bar diagram showing EPS and DPS of NABIL**

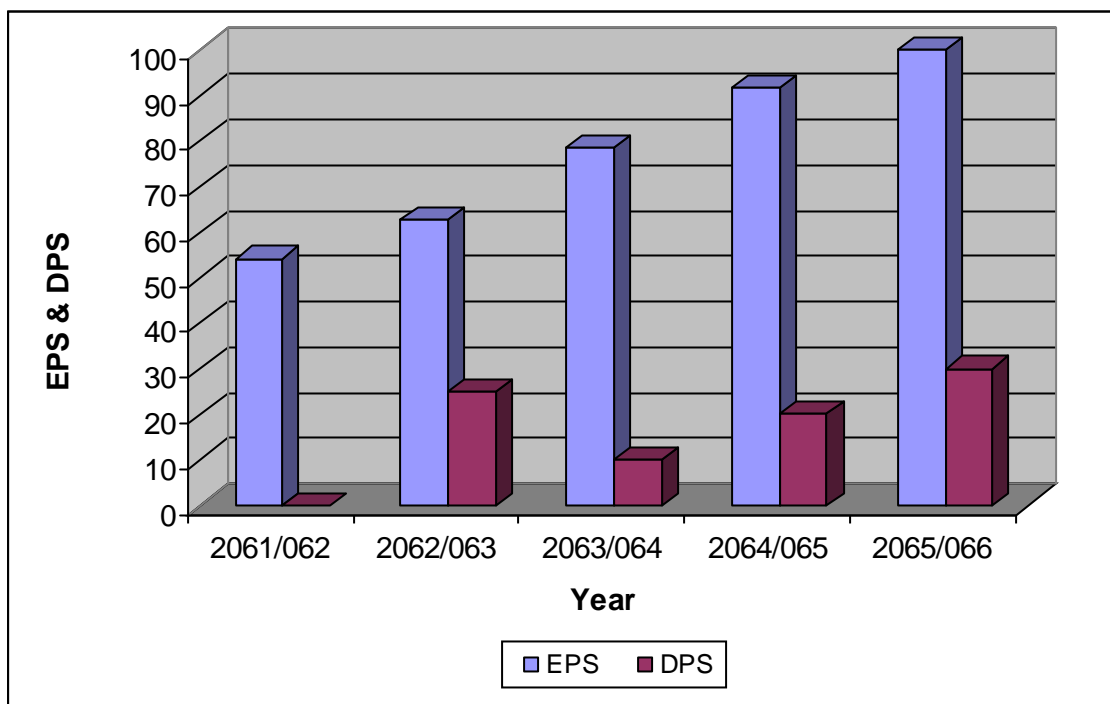
**Figure 4.10: EPS and DPS of NABIL**



**Figure 4.11: Multiple bar Diagram Showing EPS and DPS of HBL**



**Figure 4.12: Multiple Bar Diagram Showing EPS and DPS of EBL**





Going through the multiple bar diagram of EPS & DPS of sampled commercial banks, NABIL is distributing higher amount of its earning as dividend. The average dividend payout ratio of NABIL is 81.16%. The EPS growth of all the sampled banks except NABIL is very good and in fluctuating trend. HBL have paid dividend in regularly and EBL have not paid dividend in F.Y. 2061/062. These banks have not paid dividend in these years for reinvestment of profit. Balance between EPS and DPS of NABIL is very good. In F.Y. 2063/064 NABIL paid DPS more than EPS which was highest DPS during study period.

#### **4.2.2 Analysis of Statistical Tools**

Financial tools have been already used in this thesis to show the accurate picture of dividend policy of sampled commercial banks, but they are not sufficient to make the analysis more research oriented. So, statistical tools have been used to provide meaningful relationship among the various interrelated variables. In statistical analysis, degrees of correlation between dividends with other variables have been established. Simple regression analysis has been used to know how one variable is related with other variables and the impact of dividend policy followed by the sampled banks. Similarly, mean, standard deviation, covariance, coefficient of determinants and SEE have determined for the purpose of analysis.

The following table shows the relationship between DPS with EPS of sampled commercial banks.

**Table 4.13: Mean, Standard Deviation, Coefficient of variance, Simple Correlation, Simple Regression, coefficient of determinants, and Standard errors of Estimate results of DPS with EPS of sampled Commercial Banks**

<b>Results</b>	<b>NABIL</b>	<b>HBL</b>	<b>EBL</b>
Mean ( $\bar{X}$ )	117.47	58.49	77.44
$\sigma_x$	13.08	5.42	17.15
CV <sub>x</sub>	11.13%	9.27%	22.15%
Mean ( $\bar{Y}$ )	96	18.72	21.25
$\sigma_y$	23.96	7.44	10.77
CV <sub>y</sub>	24.96%	39.74%	50.68%
a	-58.92	-12.87	-14.75
b	1.3188	0.54	0.41
R <sub>xy</sub>	0.72	0.40	0.004
R <sup>2</sup>	0.5184	0.16	0.00002
SEE	0.1694	0.2986	0.7121
n	5	5	5

Where,

X represents EPS

Y represents DPS

Bivariate regression of DPS = a + b EPS.

The above table shows that the average value of EPS and DPS both of NABIL is the highest among sampled CBs. S.D. regarding EPS of HBL is the lowest shows higher degree of uniformity where as S.D. of DPS of NABIL is the highest shows higher degree of variability among sampled CBs.

The coefficient of correlation between DPS and EPS of all sampled banks except EBL have the positive relationship indicates that payment of dividend depends upon the EPS of respective banks. NABIL has the highest degree of correlation but EBL has lowest correlated.

With respect to the regression result of DPS on EPS, beta coefficient (b) is positive in all the sampled banks. It indicates that one rupee increase in EPS leads to the average increase Rs. 1.3188 in DPS of NABIL holding other variable constant. Above analysis proves that HBL can pay more dividends if one rupee of EPS is increased among all sampled CBs. Value of  $R^2$  of NABIL indicates that 51.84% of dividend variation explained by earning variables.

The analysis of CV regarding EPS indicates that HBL is more consistent because CV is the lowest (9.27%) and EBL is less consistent because CV is the highest (22.15%). CV regarding DPS indicates that NABIL is more consistent and EBL is less consistent.

**Table 4.14: Mean, Standard Deviation, Coefficient of variance, Simple Correlation, Simple Regression, coefficient of determinants, and Standard Errors of Estimate results of DPS with EAT of sampled Commercial Banks**

Results	NABIL	HBL	EBL
Mean ( $\bar{X}$ )	722	529.504	358.91
$\sigma_x$	171.43	153.17	167.86
CV <sub>x</sub>	23.74%	28.93%	46.77%
Mean ( $\bar{Y}$ )	96	18.72	17
$\sigma_y$	23.96	7.44	10.77
CV <sub>y</sub>	24.96%	39.74%	63.35%
a	92.029	18.398	0.2388
b	0.0055	0.0006	0.0467
$r_{xy}$	0.0394	0.0116	0.7277
$R^2$	0.0016	0.0001	0.5295
SEE	3.1972	9.2065	4.7811
n	5	5	5

Where,

X represents EAT

Y represents DPS

Bivariate regression of  $DPS = a + b \text{ EAT}$ .

The average EAT of NABIL is the highest among all the sampled CBs. S.D. of EAT of NABIL is the highest shows higher degree of variability where S.D. of HBL is the lowest shows higher degree of uniformity.

The coefficient of correlation between DPS and EAT of the entire sampled CBs except of EBL have the positive relationship indicates that payment of dividend depends upon EAT. Among sampled banks, NABIL has the highest level of positive correlation.

According to the regression result of DPS on EAT, beta coefficient (b) is positive in all the sampled banks. Value of  $R^2$  (0.0016%) of NABIL shows dividend variable is explained by EAT variable.

The analysis of CV regarding EAT indicates that NABIL is more consistent because CV is the lowest and EBL is less consistent because CV is the highest.

**Table 4.15: Mean, Standard Deviation, Coefficient of variance, Simple Correlation, Simple Regression, coefficient of determinants and Standard Errors of Estimate results of DPS with MVPS of sampled Commercial Banks Results**

	NABIL	HBL	EBL
Mean ( $\bar{X}$ )	96	18.72	17
$\sigma_x$	23.96	7.44	10.77
CV <sub>x</sub>	24.96%	39.74%	63.35%
Mean ( $\bar{Y}$ )	3793.8	1504	2053.2
$\sigma_y$	1590.37	415.38	815.08
CV <sub>y</sub>	41.92%	27.62%	39.70%
a	-408.792	1504.52	1451.06
b	43.777	0.279	35.42
$r_{xy}$	0.6595	0.0005	0.4680
R <sup>2</sup>	0.4349	0.0000	0.2190
SEE	0.0009	0.008	0.0052
n	5	5	5

Where,

X represents DPS

Y represents MVPS

Bivariate regression of MVPS = a + b DPS.

The above table shows that the average MVPS of NABIL is the highest and the average DPS is also of NABIL is the highest among sampled CBs. S.D. of MVPS of NABIL is the highest which shows the higher degree of variability where as S.D. of HBL is the lowest which shows the high degree of uniformity.

The coefficient of correlation between DPS and MVPS of three banks are positive. NABIL & HBL have the positive relationship where as EBL have also the positive relationship. It indicates that MVPS of EBL depend only upon DPS where as MVPS of NABIL & HBL depends upon DPS. NABIL has the highest degree of correlation.

As far the regression analysis of MVPS on DPS is concerned, the beta coefficient (b) is positive in all CBs NABIL, HBL & EBL. It indicates that if one rupee increase in DPS leads to increase in MVPS Rs.43.777, Rs.0.279 and Rs.35.42 in NABIL, HBL & EBL respectively. The value of  $R^2$  of NABIL indicates that 43.49% of dividend variation explained by MVPS.

The analysis of CV regarding MVPS indicates that HBL is more consistent because CV is lowest (27.62%) and NABIL is less consistent because CV is the highest (41.92%).

**Table 4.16: Mean, Standard Deviation, Coefficient of variance, Simple Correlation, Simple Regression, Coefficient of determinants and Standard Errors of Estimate results of DPS with NW of sampled Commercial Banks**

<b>Results</b>	<b>NABIL</b>	<b>HBL</b>	<b>EBL</b>
Mean ( $\bar{X}$ )	96	18.72	17
$\sigma_x$	23.96	7.44	10.77
CV <sub>x</sub>	24.96%	39.74%	63.35%
Mean ( $\bar{Y}$ )	2230.708	2217.46	657.8
$\sigma_y$	517.38	559.798	296.81
CV <sub>y</sub>	23.19%	25.24%	45.12%
a	2161.156	2502.28	1072.6
b	0.7245	-15.22	-24.40
$r_{xy}$	0.0335	-0.2022	-0.8856
R <sup>2</sup>	0.0011	0.0409	0.7842
SEE	0.0207	0.0058	0.0075
n	5	5	5

Where,

X represents DPS

Y represents NW

Bivariate regression of NW = a + b DPS

The above table shows that the average NW of NABIL is the highest. S.D. of NW of HBL is the highest which shows the higher degree of variability; where as S.D. of EBL is the lowest which shows the higher degree of uniformity.

The coefficient correlation between DPS and NW of only NABIL sampled CB has positive and HBL & EBL have the negative. It indicates that higher DPS might be able to increase the value of NW of the entire sampled CBs. But in the case of HBL & EBL there is negative relationship, which shows that increase in DPS leads to decrease in NW.

According to the regression result of NW on DPS, beta coefficient (b) is positive in the entire sampled CBs except HBL & EBL. It indicates that one rupee decreases in DPS results increases in NW of all sampled banks except HBL & EBL. The value of  $R^2$  of EBL indicates that 78.42% of NW variation is explained by DPS.

The analysis of CV regarding NW indicates that NABIL is more consistent because CV is the lowest (23.19%) and EBL is less consistent because CV is the highest (45.12%).



## **CHAPTER – FIVE**

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

A brief description regarding dividend policy of commercial banks has been already presented in the first chapter. In the second chapter, conceptual review with theories, ideas, legal rules and research findings have been presented. Research methodology has been described in the third chapter and all the data have been presented and analyzed in the fourth chapter.

In this concluding chapter, an attempt has been made to present the major findings, issues and gaps, summary & conclusions and recommendations for the future guidelines. These findings, conclusions & recommendations will certainly show the path for improvement.

#### **5.1 Major Findings of the Study**

The major findings of the study are highlighted as follows:

- a. Although the average EATS of NABIL is the highest among the entire sampled CBs during the study period. It has not issued the bonus share but paid regular cash dividend.
- b. The average EPS of NABIL is the highest among sampled CBs. This bank has much earning power and utilizing its capacity to generate EPS. EPS of EBL is also in increasing trend that shows the bank has efficiency to go in well managed. Only EPS of HBL is in fluctuating trend.
- c. The average DPS of NABIL is the highest. So, NABIL is paying the highest percentage of its earning as dividend to shareholders. In

some years, HBL and EBL have tried to issue bonus share by decreasing DPS.

- d. The average price-earning ratio of NABIL is the highest among sampled CBs. It indicates that MVPS of NABIL is greater when we compare with its earning. So, shareholders of NABIL are benefiting capital gain more than revenue gain. It shows that the investors have higher expectation about the banks performance and its market appraisal.
- e. The average MVPS and BVPS of NABIL is the highest and Shareholders of NABIL get higher capital gain but shareholders of HBL get lower capital gain. Due to the highest BVPS and MVPS of NABIL, MVPS to BVPS ratio is the highest. NABIL is able to get higher capital gain even after declaring regular cash dividend.
- f. On the basis of the average DYR, NABIL is more efficient than other sampled CBs for distribution of dividend on the basis of MVPS.
- g. The average RONW of NABIL is the highest. RONW is the ratio of return on total capital employed. If higher amount is kept aside from profit for reinvestment and the bank has no opportunity for reinvestment then RONW declines. NABIL has reinvested its retained earning at the most.
- h. S.D regarding EPS of HBL is the lowest that shows the higher degree of uniformity. But S.D. of DPS of NABIL is the highest that shows higher degree of variability. There is positive correlation between EPS and DPS of the entire sampled CBs except EBL. On the basis of regression analysis of DPS with EPS, the beta coefficient (b) is positive of all the sampled banks except EBL. It indicates that one rupee increase in EPS leads to the average increase Rs. 1.3188 in DPS of NABIL.

- i. On the basis of coefficient of correlation between DPS and EAT of entire sampled CBs have positive relationship that indicates the payment of dividend depends upon EAT.
- j. S.D. of MVPS of NABIL is the highest which shows the higher degree of variability; where as S.D. of HBL is the lowest which shows the higher degree of uniformity. The coefficient of correlation between DPS & MVPS of NABIL & HBL have the positive relationship where as NSBI and EBL have the negative relationship. It indicates that MVPS of EBL do not depend only upon DPS where as MVPS of NABIL & HBL depend upon DPS.
- k. According to the regression analysis of DPS on MVPS, beta coefficient (b) is positive of NABIL & HBL and negative of EBL. It indicates that one rupee increase in DPS of NABIL leads to increase in MVPS Rs.43.777 but one rupee increase in DPS of EBL leads to decrease Rs.35.42 in MVPS.
- l. The coefficient of correlation between DPS and NW of all CBs except HBL & EBL has positive relationship. It indicates that the higher DPS might be able to increase the value of NW. But in the case of HBL & EBL, there is negative relationship that shows increase in DPS leads to decrease in NW.
- m. According to the regression analysis of NW on DPS, beta coefficient (b) is positive of the entire sampled CBs except HBL & EBL. It indicates that increase in DPS leads to increase in NW of all the sampled banks except HBL & EBL.
- n. By analyzing coefficient of variation of sampled CBs,
  - CV regarding EPS, HBL is more consistent and EBL is less consistent.
  - CV regarding DPS, NABIL is more consistent and EBL is less consistent.

- CV regarding EAT, NABIL is more consistent and EBL is less consistent.
  - CV regarding MVPS, HBL is more consistent and NABIL less consistent.
  - CV regarding NW, NABIL is more consistent and EBL less consistent.
- o. There is no stable and regular dividend paid by sampled CBs except NABIL during the study period. HBL and EBL has also paid dividend in fluctuating trend. There is no any criterion adopted by the banks to declare the dividend.

## **5.2 Issues and Gaps**

On the basis of findings of the study, some issues and gaps have been extracted. The issues and gaps related to dividend and other relevant factors found while analyzing the variables are as follows:

- a. There is no legal rule binding the banks to pay dividend when they are running in profit. In Nepal Company Act 1997, there is a provision to restrict the payment of dividend. There is no clear provision regarding dividend policy in Nepal.
- b. There is no long-term vision regarding earning and dividend payout ratio the banks have. They don't have their clearly defined policy in these regards. Some banks have not paid dividend at all or paid very small amount without considering the risk free rate of return ( $R_f$ ). Management of the banks has whole right to

decide about the dividend instead of collective opinion of shareholders.

- c. The banks have no target EPS and payout ratio. There is huge fluctuation in EPS and DPR due to issuance of bonus share despite increase in EAT.
- d. There is no specific dividend payment strategy is seemed to be followed by the banks. Declaration of cash dividend and stock dividend are made without analyzing its impact.
- e. There is no any organization that carries out the activities to promote and protect shareholders interest. Government is also not paying the attention on this matter. The activities of capital market are also very limited.

### **5.3 Summary and Conclusion**

There are many reasons for paying higher dividend and there are many reasons for not paying higher dividend. As a result, dividend policies have been controversial. Dividend policy decides about the division of earnings between dividend payout and retained earnings. When the bank retains its earning, it will result decreasing leverage ratio and increasing profit. But when the bank does not have reinvestment opportunity or expected rate of return of that opportunity is less than risk free rate, it decreases EPS and market price of share. In such situation, dividend payment to shareholders is taken as the best because shareholders might have investment opportunities to invest elsewhere. When the bank pays dividend the cash balance, reserve amount as well as total assets and net worth of the bank decreases and the market price also drop. If the bank pays higher dividend, it may need to raise capital through capital market that reduces ownership control of existing shareholders. In another way to

raise capital through debenture or new issue, which ultimately affects the risk of the firm. Therefore, a wise policy should be maintained between shareholders interest and corporate growth from internally generated funds.

At the first stage, different theoretical concept of dividend policy analyzed. M & M hypothesis asserts that dividend policy does not affect the share price of the firm. The value of the firm depends on the earning of the firm, which depends on its investment policy. Gordon's Bird in the hand theory insists that dividend payout ratio leads to increase in the stock price because dividend yield is less risky.

At the second stage, different financial indicator tools have been used to analyze the variables. On the basis of financial analysis of sampled CBs during study period, NABIL is pioneer in the average EAT. NABIL is able to earn the highest EPS and also the average DPS, DPR & DYR of NABIL is the highest. The average P/E ratio of NABIL is also the highest. NABIL is pioneer in the average MVPS, MV / BV ratio and the average RONW. The pace of the growth and utilization of capacity of NABIL is very good.

At the third stage, different statistical tools have been used and summarized the data to interpret the results. From the major findings of the study following conclusions are drawn:

- DPS is directly related with EAT and EPS but what should be percentage of DPR, it depends upon the attitude of the management of concerned banks.

- The entire sampled CBs have issued bonus shares to increase the paid up capital. NABIL and HBL have issued right share and EBL has issued non-redeemable preference share also.
- MVPS is not affected only by DPS. A change in DPS affects the MVPS differently in different banks. MVPS is directly affected by EPS. Higher the EPS higher the MVPS and vice versa.
- DPR of NABIL is good but other sampled CBs have neither followed stable dividend policy nor residual dividend policy.
- RONW is also directly related with DPS. It is seen that higher the DPR, higher the RONW and vice versa except of EBL. But in the case of EBL lower the DPR higher the RONW.
- There is mismatch between BVPS and MVPS. It clearly shows the overpricing of shares and MVPS is guided by technical factors.

## **5.4 Recommendations**

Although, this study is concerned with Dividend Policy: A special reference to commercial banks, it may be appropriate to provide suggestions for the future guidelines to improve the existing condition of financial institutions as well as other organization in Nepal. The suggestions are as follows:

### **5.4.1 Enactment of Legal Rules:**

The legal rules should be clear about dividend policy and reserve & provision for smooth growth of financial institutions as well as national economy. There is a lack of rules binding firms to pay dividend or create reserve & provision. Some regulating acts are silent on these matters. Some firms are in position to pay dividend but they do not pay dividend.

Some firms pay dividend less than risk free rate of return or interest rate paid by the commercial banks.

#### **5.4.2 Clearly Defined Dividend Policy:**

Companies should have their clearly defined dividend policy. Clearly defined policy helps to determine the specific policy i.e. stable dividend or residual dividend or low regular plus extra dividend policy. This is important not only for shareholders point of view for adequate return but also to generate stable and increasing market value per share, long term survival of banks, efficient management and socially acceptable distribution of income. Companies can clearly define their dividend policy discussing in AGM among shareholders on democratic manner.

#### **5.4.3 Banks should have target rate of return i.e. Profit Planning and Target Payout Ratio:**

The fluctuation in EAT, EPS and DPR of the banks seems very high. The higher fluctuation shows that they are not going in targeted way. In this situation, banks are advised to fix their target rate of earning, payout ratio. That will help to build a good image in customers and shareholders and stock market.

#### **5.4.4 Banks should have long-term vision:**

Banks should have long-term vision regarding earning, dividend and investment that help to cope with challenging competitive situation of present world. Banks should define their long-term vision clearly



considering their future plans, expansion in business, future economy of the country.

#### **5.4.5 Collective opinion from Investors:**

Collective opinion should be taken from shareholders whether they prefer stock dividend or cash dividend. Issue of cash dividend increases MVPS and EPS. But issue of stock dividend decreases MVPS and EPS. Therefore, all the financial are suggested to decide about it after collective opinion from shareholders.

#### **5.4.6 Shareholders' expectation and growth requirement of the banks:**

Dividend should be declared by considering the shareholders' expectations and the investment opportunities and growth requirement of the banks to solve the controversial issue as better as possible.

#### **5.4.7 Dividend Equalization Fund should be created by the banks:**

Dividend equalization fund should be created from keeping aside some amount from profit to stabilize the payment of dividend to shareholders. At the time of lower earning dividend payout ratio should be maintained from this fund.

## Dividend Payment Model

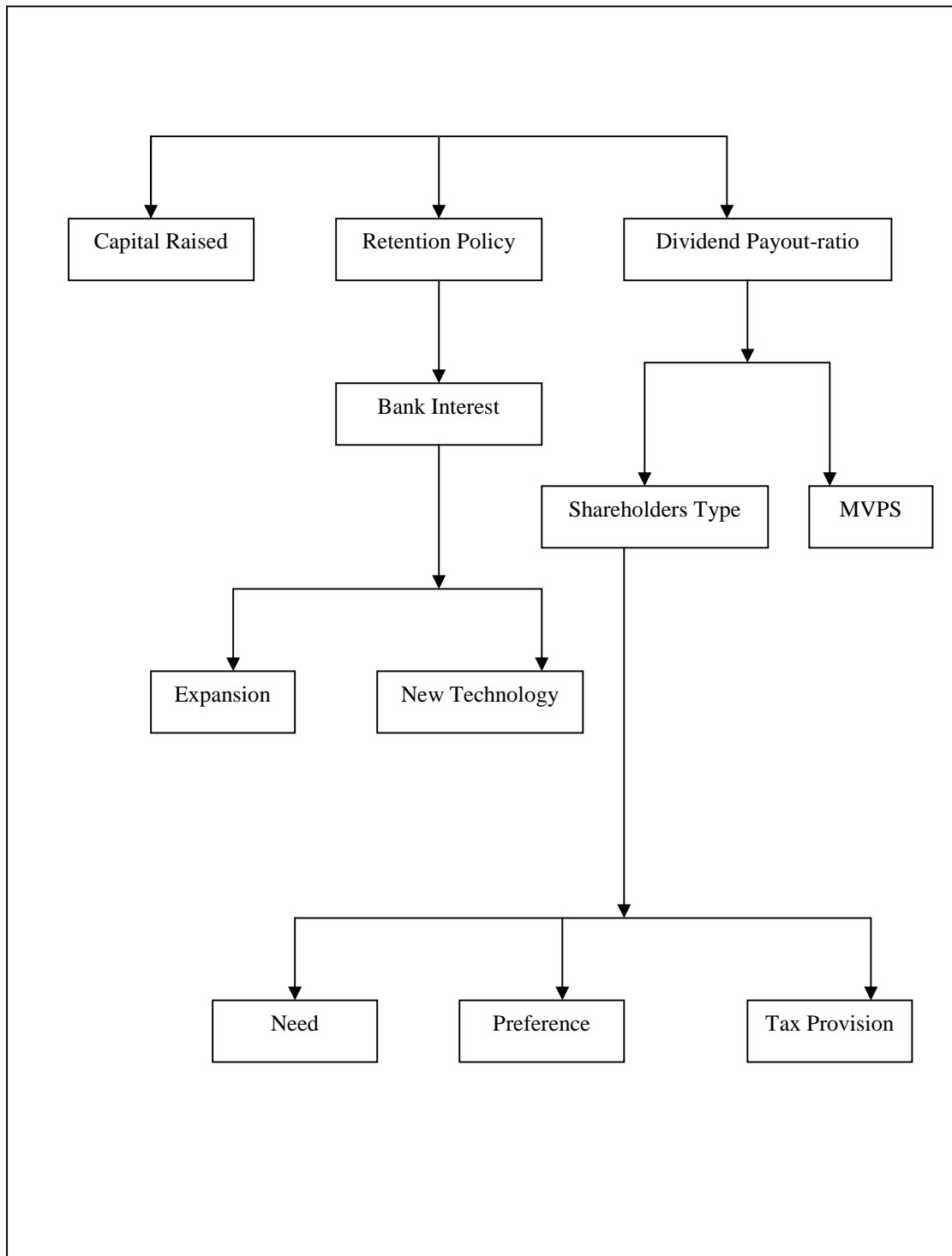
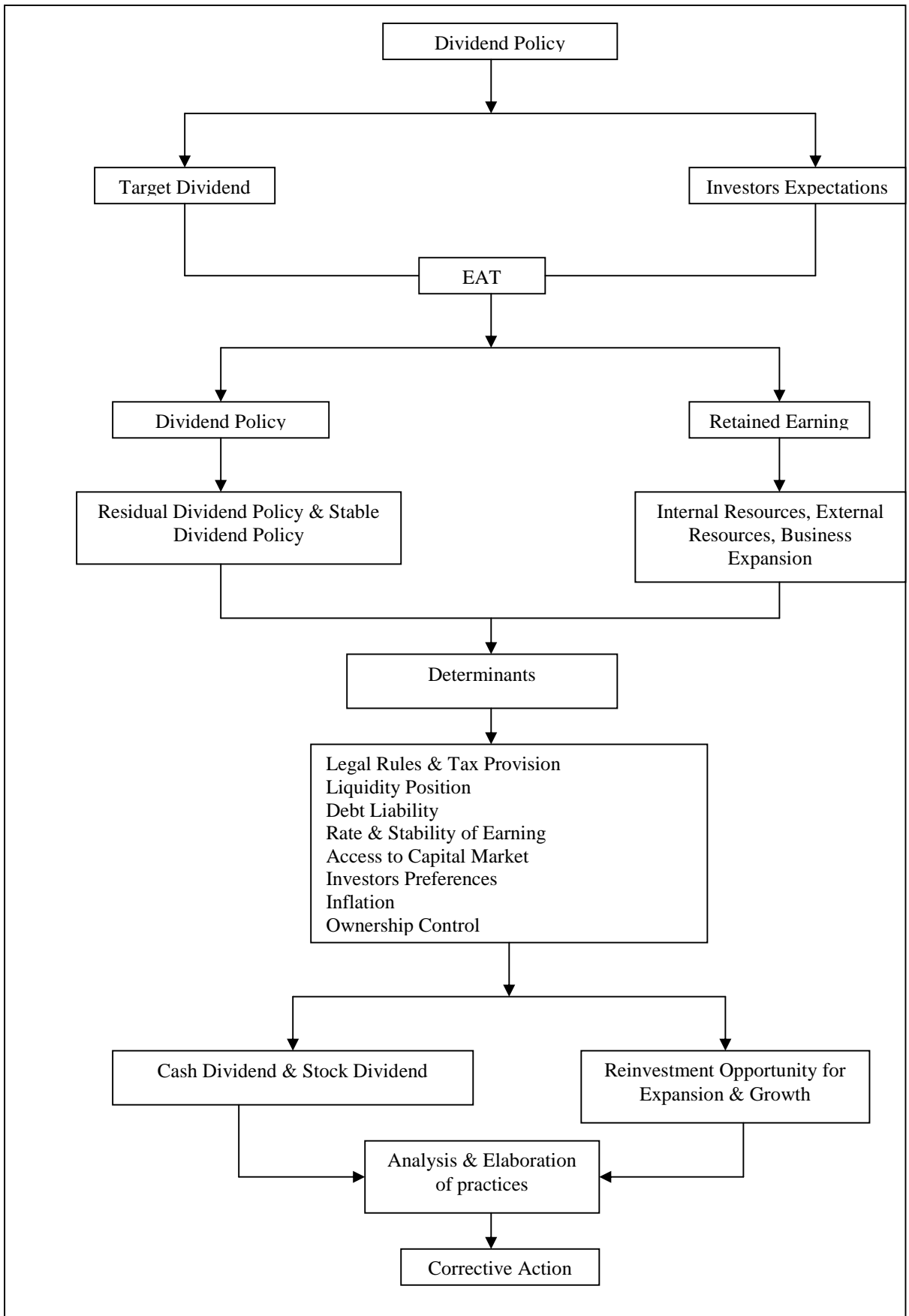


Diagram No. 5.1

## Future Guidelines



## **BIBLIOGRAPHY**

### **Books**

- E. Copeland, Thomas & Weston J. Fred; "Managerial Finance". New York, The Dryden Press.
- Gitman, Lawrence J.; Principle of Managerial Finance" New York, Hamper Collins Publishers, 1998.
- Gupta, S. C " Fundamental of Statistic" Bombay; Himalayan Publishing House, 1995.
- James C. van Horn, "Financial management and Policy" Prentice Hall of India
- Khan, M.Y. and Jain, P.K.; "Financial Management" New Delhi, Tata Mc Grow Hill Publication co. Ltd., 1992.
- Pandey, I.M.: "Financial Management, Vikash Publishing, New Delhi, 1999.
- Pradhan, R.S.: "Financial Management" 1st Edition, Budha Academic Enterprises Kathmandu, Nepal, 2003
- Pradhan, Surendra: "Financial Management, Educational Enterprises, 2<sup>nd</sup> Edition, Kathmandu, Nepal, 2000
- Van Horne, Jomes C: "Financial Management Policy" 11<sup>th</sup> Edition, New Delhi: Prentice Hall of India Pvt. Ltd., 2000.
- Wolf, Howard K. Pant, P.R.: "Social Science Research and Thesis" 2<sup>nd</sup> Edition Kathmandu: Budha Academic Enterprises Pvt. Ltd., 1999.

### **Journals, Articles and Unpublished Master's Thesis**

- Aryal, Hari Ram: "Dividend Policy: Comparative study between NABIL and NGBL" T.U., Kathmndu, 1997, an unpublished Master's degree thesis.
- Bhattarai, Anjani Raj: "Share Market in Nepal" T.U. Krtipur, Kathmandu, 1990, An Unpublished Master's Degree Thesis.
- Bhattari, Bishnu Hari: "Dividend Decision and Its Impact on Stock Valuation" T.U. Kritipur, Kathmandu, 1996, An Unpublished Master's Degree Thesis.
- Chawla, Deepak and Srinivasan, G. "Impact of Dividend and retention on Share Price – An Economic Study", Decision Vol. 14, July- Sept. 1987.

- H. Miller, Metron and Modigliani, Franco: “Dividend Policy Growth and the Valuation of the shares” Journal of Business, 1961.
- J. Gordon, Myron, “The Investment, Financing and Valuation of corporation”, Home wood III, Richard D. Irwin Inc, 1962.
- Neupane, Bishnu Hari: “Dividend Policy of Financial Institutions” T.U. Kathmandu, 2002, An Unpublished Master’s Degree Thesis
- Paudel, Rabindra: “Dividend Policy: A case study of different listed finance Companies” T.U. Kritipur, Kathmandu, 1999, An Unpublished Master’s Degree Thesis.
- Pradhan, R.S.: “Stock Market behaviour in Small Capital Market: A case study of Nepal”, The Nepalese management review, Vol. X, No. 1. 1993.
- Shrestha, Manohar Krishna: “ Public Enterprises have they dividend paying Ability?” The Journal of Prakashan Public Administration, 1981.
- Timilsena, Buddhi Sagar: “Dividend Policy: Comparative Study between Nepal Grind lays Bank Ltd. and Nepal Indosuez Bank Ltd.”, T.U. Kritipur, Kathmandu, 2001, An Unpublished Master’s Degree Thesis.
- Timilsena, Sudhaker: “Dividends and stock Prices: An empirical Study” T.U. Kritipur, Kathmandu, 997, An unpublished Master’s degree thesis.
- Van Horne, James C. and Donald, G. Mc: “Dividend Policy and New equity Financing”, Journal of Finance, 1971.
- Walter E James, “Dividend Policy and Common Stock Prices”, Journal of Finance, 1966.

### **Official Publications**

Annual Reports of NABIL Bank Ltd (2065/066)

“ „ Himalayan Bank Ltd. (2065/066)

“ „ Everest Bank ltd. (2065/066)

Commercial Bank Act 2031, Ministry of Law & Justice, HMG of Nepal.

Nepal Company Act 1997, Ministry of Law & Justice, HMG of Nepal

Some Web Site <http://www.nepalstock.com.np>, [www.nrb.org.com.np](http://www.nrb.org.com.np)

[www.studyfinance.com](http://www.studyfinance.com)

## APPENDIX

### Appendix (A) : Financial Variables of NABIL Bank Ltd.

Year	EAT Rs. in million	DPS	EPS	MVPS	BVPS	NW Rs. in million
2061/062	520	70	105.49	1505	337	1656.88
2062/063	635	85	129.21	2240	381	1873.20
2063/064	674	140	137.08	5050	418	2055.12
2064/065	750	100	108.81	5275	354	2439.32
2065/066	1031	85	106.76	4899	324	3129.02
Average	722	96	117.47	3793.8	362.8	2230.7

### Appendix (A.1): Variable EPS and DPS used in analysis

Year	X	Y	XY	X <sup>2</sup>	Y <sup>2</sup>
2061/062	105.49	70	7384.3	11128.14	4900
2062/063	129.21	85	10982.85	16695.22	7225
2063/064	137.08	140	19191.2	18790.92	19600
2064/065	108.81	100	10881	11839.62	10000
2065/066	106.76	85	9074.6	11397.7	7225
	$\Sigma X=587.35$	$\Sigma Y=480$	$\Sigma XY=57513.95$	$\Sigma X^2=69851.6$	$\Sigma Y^2=48950$

X represents EPS in Rs

Y represents DPS in Rs.

n = Number of observation in the sample

#### Worked out results:

Mean ( $\bar{X}$ ) = 117.47

Mean ( $\bar{Y}$ ) = 96.00

Standard Deviation ( $\sigma_x$ ) = 13.08

Standard Deviation ( $\sigma_y$ )	= 23.96
Bivariate Regression Result of DPS	= -58.92 + 1.3188 EPS
Coefficient of Correlation ( $r_{xy}$ )	= 0.72
Coefficient of Determination ( $R^2$ )	= 0.5184
Standard Error of Estimate (SEE)	= 0.1694
Coefficient of Variation on X ( $CV_x$ )	= 11.13%
Coefficient of Variation on Y ( $CV_y$ )	= 24.96%

### Appendix (A.2): Variable EAT and DPS used in analysis

Year	X	Y	XY	X <sup>2</sup>	Y <sup>2</sup>
2061/062	520	70	36400	270400	4900
2062/063	635	85	53975	403225	7225
2063/064	674	140	94360	454276	19600
2064/065	750	100	75000	562500	10000
2065/066	1031	85	87635	1062961	7225
	$\Sigma X=3610$	$\Sigma Y=480$	$\Sigma XY=347370$	$\Sigma X^2=2753362$	$\Sigma Y^2=48950$

X represents Earning After Tax in million

Y represents DPS in Rs.

n = Number of observation in the sample

#### **Worked out results:**

$$\bar{X} = 722 \qquad \bar{Y} = 96$$

$$\sigma_x = 171.43 \qquad \sigma_y = 23.96$$

Bivariate Regression Result of DPS = 92.029 + 0.0055 EAT

$$r_{xy} = 0.0394 \qquad R^2 = 0.0016$$

$$SEE = 3.1972$$

$$CV_x = 23.74\%$$

$$CV_y = 24.96\%$$

### Appendix (A.3): Variable DPS and MVPS used in Analysis

Year	X	Y	XY	X <sup>2</sup>	Y <sup>2</sup>
2061/062	70	1505	105350	4900	2265025
2062/063	85	2240	190400	7225	5017600
2063/064	140	5050	707000	19600	25502500
2064/065	100	5275	527500	10000	27825625
2065/066	85	4899	416415	7225	24000201
	$\Sigma X=480$	$\Sigma Y=18969$	$\Sigma XY=1946665$	$\Sigma X^2=48950$	$\Sigma Y^2=84610951$

X represents DPS in Rs

Y represents Market Value Per Share in Rs.

n = Number of observation in the sample

#### Worked out results:

$$\bar{X} = 96 \qquad \bar{Y} = 3793.8$$

$$\sigma_x = 23.96 \qquad \sigma_y = 1590.37$$

Bivariate Regression Result of MVPS = - 408.792 + 43.777 DPS

$$r_{xy} = 0.6595 \qquad R^2 = 0.4349$$

$$SEE = 0.000899$$

$$CV_x = 24.96\% \qquad CV_y = 41.92\%$$

### Appendix (A.4): Variable DPS and NW used in analysis

Year	X	Y	XY	X <sup>2</sup>	Y <sup>2</sup>
2061/062	70	1656.88	115981.6	4900	2745251.33
2062/063	85	1873.20	159222	7225	3508878.24
2063/064	140	2055.12	287716.8	19600	4223518.21



2064/065	100	2439.32	243932	10000	5950282.06
2065/066	85	3129.02	265966.7	7225	9790766.16
	$\Sigma X=480$	$\Sigma Y=11153.54$	$\Sigma XY=1072819.1$	$\Sigma X^2=48950$	$\Sigma Y^2=26218696.01$

X represents DPS in Rs.

Y represents Net Worth in million.

n = Number of observation in the sample

**Worked out results:**

$$\bar{X} = 96 \qquad \bar{Y} = 2230.708$$

$$\sigma_x = 23.96 \qquad \sigma_y = 517.38$$

$$\text{Bivariate Regression Result of Net Worth} = 2161.156 + 0.7245 \text{ DPS}$$

$$r_{xy} = 0.0335 \qquad R^2 = 0.0011$$

$$\text{SEE} = 0.0207$$

$$CV_x = 24.96\% \qquad CV_y = 23.19\%$$

**Appendix (B): Financial Variables of Himalayan Bank Ltd.**

Year	EAT Rs. in million	DPS	EPS	MVPS	BVPS	NW Rs. in million
2061/062	308.28	11.58	47.91	920	239.59	1541.76
2062/063	457.46	30	59.24	1100	228.72	1766.18
2063/064	491.82	15	60.66	1740	264.74	2146.54
2064/065	635.88	25	62.74	1980	247.95	2513
2065/066	754.08	12	61.9	1780	256.52	3119.83
Average	529.5	18.716	58.49	1504	247.5	2217.5

**Appendix (B.1): Variable EPS and DPS used in analysis**

Year	X	Y	XY	X <sup>2</sup>	Y <sup>2</sup>
2061/062	47.91	11.58	554.8	2295.37	134.0964
2062/063	59.24	30	1777.2	3509.38	900

2063/064	60.66	15	909.9	3679.64	225
2064/065	62.74	25	1568.5	3936.31	625
2065/066	61.9	12	742.8	3831.61	144
	$\Sigma X=292.45$	$\Sigma Y=93.58$	$\Sigma XY=5553.2$	$\Sigma X^2=17252.31$	$\Sigma Y^2=2028.10$

X represents EPS in Rs

Y represents DPS in Rs.

n = Number of observation in the sample

**Worked out results:**

$$\bar{X} = 58.49 \qquad \bar{Y} = 18.716$$

$$\sigma_x = 5.42 \qquad \sigma_y = 7.44$$

Bivariate Regression Result of DPS = -12.87 + 0.54 EPS

$$r_{xy} = 0.40 \qquad R^2 = 0.16$$

$$SEE = 0.2986$$

$$CV_x = 9.27. \% \qquad CV_y = 39.74 \%$$

**Appendix (B.2): Variable EAT and DPS used in analysis**

Year	X	Y	XY	X <sup>2</sup>	Y <sup>2</sup>
2061/062	308.28	11.58	3569.882	95036.56	134.0964
2062/063	457.46	30	13723.8	209269.65	900
2063/064	491.82	15	7377.3	241886.91	225
2064/065	635.88	25	15897	404343.37	625
2065/066	754.08	12	9048.96	568636.65	144
	$\Sigma X=2647.52$	$\Sigma Y=93.58$	$\Sigma XY=49616.94$	$\Sigma X^2=1519173.14$	$\Sigma Y^2=2028.10$

X represents Earning After Tax in million

Y represents DPS in Rs.

n = Number of observation in the sample

**Worked out results:**

$$\begin{aligned}\bar{X} &= 529.504 & \bar{Y} &= 18.72 \\ \sigma_x &= 153.17 & \sigma_y &= 7.44 \\ \text{Bivariate Regression Result of DPS} &= 18.398 + 0.0006 \text{ EAT} \\ r_{xy} &= 0.0116 & R^2 &= 0.0001 \\ \text{SEE} &= 9.2065 \\ \text{CV}_x &= 28.93\% & \text{CV}_y &= 39.74\%\end{aligned}$$

**Appendix (B.3): Variable DPS and MVPS used in Analysis**

Year	X	Y	XY	X <sup>2</sup>	Y <sup>2</sup>
2061/062	11.58	920	10653.6	134.0964	846400
2062/063	30	1100	33123	900	1210000
2063/064	15	1740	26100	225	3027600
2064/065	25	1980	49500	625	3920400
2065/066	12	1780	21360	144	3168400
	$\Sigma X=93.58$	$\Sigma Y=7520$	$\Sigma XY=140736.6$	$\Sigma X^2=2028.1$	$\Sigma Y^2=12172800$

X represents DPS in Rs

Y represents Market Value Per Share in Rs.

n = Number of observation in the sample

**Worked out results:**

$$\begin{aligned}\bar{X} &= 18.72 & \bar{Y} &= 1504 \\ \sigma_x &= 7.44 & \sigma_y &= 415.38 \\ \text{Bivariate Regression Result of MVPS} &= 1504.52 + 0.0279 \text{ DPS} \\ r_{xy} &= 0.0005 & R^2 &= 0.0000 \\ \text{SEE} &= 0.008 \\ \text{CV}_x &= 39.74\% & \text{CV}_y &= 27.62\%\end{aligned}$$

### Appendix (B.4): Variable DPS and NW used in analysis

Year	X	Y	XY	X <sup>2</sup>	Y <sup>2</sup>
2061/062	11.58	1541.76	17853.581	134.0964	2377023.89
2062/063	30	1766.18	52985.4	900	3119391.79
2063/064	15	2146.54	32198.1	225	4607633.97
2064/065	25	2513	62825	625	6315169
2065/066	12	3119.83	37437.96	144	9733339.23
	$\Sigma X=93.58$	$\Sigma Y=11087.31$	$\Sigma XY=203300.04$	$\Sigma X^2=2028.1$	$\Sigma Y^2=26152557.89$

X represents DPS in Rs

Y represents Net Worth in million.

n = Number of observation in the sample

#### Worked out results:

$$\bar{X} = 18.72 \qquad \bar{Y} = 2217.46$$

$$\sigma_x = 7.44 \qquad \sigma_y = 559.798$$

Bivariate Regression Result of Net Worth = 2502.28 + (-15.22) DPS

$$r_{xy} = -0.2022 \qquad R^2 = 0.0409$$

$$SEE = 0.0058$$

$$CV_x = 39.74\% \qquad CV_y = 25.24\%$$

### Appendix (C): Financial Variables of Everest Bank Ltd.

Year	EAT Rs. in million	DPS	EPS	MVPS	BVPS	NW Rs. in million
2061/062	170.81	-	54.2	870	219.87	692.6
2062/063	237.38	25	62.8	1379	217.67	822.8
2063/064	296.41	10	78.41	2430	292.75	1106.6
2064/065	451.2	20	91.82	3132	321.77	321.77
2065/066	638.76	30	99.99	2455	345.23	345.23
Average	358.91	17	77.44	2053.2	279.46	657.8

### Appendix (C.1): Variable EPS and DPS used in analysis

Year	X	Y	XY	X <sup>2</sup>	Y <sup>2</sup>
2061/062	54.2	-	0	2937.64	0
2062/063	62.8	25	1570	3943.84	625
2063/064	78.41	10	784.1	6148.1281	100
2064/065	91.82	20	1836.4	8430.91	400
2065/066	99.99	30	2999.7	9998	900
	$\Sigma X=387.22$	$\Sigma Y=85$	$\Sigma XY=7190.2$	$\Sigma X^2=31458.52$	$\Sigma Y^2=2025$

X represents EPS in Rs

Y represents DPS in Rs.

n = Number of observation in the sample

#### Worked out results:

$$\bar{X} = 77.44 \quad \bar{Y} = 17$$

$$\sigma_x = 17.15 \quad \sigma_y = 10.77$$

Bivariate Regression Result of DPS =  $-14.75 + 0.41 \text{ EPS}$

$$r_{xy} = 0.004 \quad R^2 = 0.00002$$

$$\text{SEE} = 0.7121$$

$$\text{CV}_x = 22.15\% \quad \text{CV}_y = 63.35\%$$

### Appendix (C.2): Variable EAT and DPS used in analysis

Year	X	Y	XY	X <sup>2</sup>	Y <sup>2</sup>
2061/062	170.81	0	0	29176.06	0
2062/063	237.38	25	5934.5	56349.26	625
2063/064	296.41	10	2964.1	87858.89	100
2064/065	451.2	20	9024	203581.44	400
2065/066	638.76	30	19162.8	408014.34	900
	$\Sigma X=1794.56$	$\Sigma Y=85$	$\Sigma XY=37085.4$	$\Sigma X^2=784979.99$	$\Sigma Y^2=2025$

X represents Earning After Tax in million

Y represents DPS in Rs.

n = Number of observation in the sample

**Worked out results:**

$$\begin{aligned} \bar{X} &= 358.91 & \bar{Y} &= 17 \\ \sigma_x &= 167.86 & \sigma_y &= 10.77 \\ \text{Bivariate Regression Result of DPS} &= 0.2388 + 0.0467 \text{ EAT} \\ r_{xy} &= 0.7277 & R^2 &= 0.5295 \\ \text{SEE} &= 4.7811 \\ \text{CV}_x &= 46.77\% & \text{CV}_y &= 63.35\% \end{aligned}$$

**Appendix (C.3): Variable DPS and MVPS used in analysis**

Year	X	Y	XY	X <sup>2</sup>	Y <sup>2</sup>
2061/062	0	870	0	0	756900
2062/063	25	1379	34475	625	1901641
2063/064	10	2430	24300	100	5904900
2064/065	20	3132	62640	400	9809424
2065/066	30	2455	73650	900	6027025
	$\Sigma X=85$	$\Sigma Y=10266$	$\Sigma XY=195065$	$\Sigma X^2=2025$	$\Sigma Y^2=24399890$

X represents DPS in Rs.

Y represents Market Value Per Share in Rs.

n = Number of observation in the sample

**Worked out results:**

$$\begin{aligned} \bar{X} &= 17 & \bar{Y} &= 2053.2 \\ \sigma_x &= 10.77 & \sigma_y &= 815.08 \\ \text{Bivariate Regression Result of MVPS} &= 1451.06 + 35.42 \text{ DPS} \\ r_{xy} &= 0.4680 & R^2 &= 0.2190 \\ \text{SEE} &= 0.0052 \end{aligned}$$

$$CV_x = 63.35\% \qquad CV_y = 39.70\%$$

### Appendix (C.4): Variable DPS and NW used in analysis

Year	X	Y	XY	X <sup>2</sup>	Y <sup>2</sup>
2061/062	0	692.6	0	0	479694.76
2062/063	25	822.8	20570	625	676999.84
2063/064	10	1106.6	11066	100	1224563.56
2063/064	20	321.77	3217.7	400	103535.93
2064/065	30	345.23	6904.6	900	119183.75
	$\Sigma X=85$	$\Sigma Y=3289$	$\Sigma XY=41758.3$	$\Sigma X^2=2025$	$\Sigma Y^2=2603977.84$

X represents DPS in Rs

Y represents Net Worth in million.

n = Number of observation in the sample

#### Worked out results:

$$\bar{X} = 17 \qquad \bar{Y} = 657.8$$

$$\sigma_x = 10.77 \qquad \sigma_y = 296.81$$

Bivariate Regression Result of Net Worth = 1072.6 + (-24.40) DPS

$$r_{xy} = -0.8856 \qquad R^2 = 0.7842$$

$$SEE = 0.0075$$

$$CV_x = 63.35\% \qquad CV_y = 45.12\%$$

**Appendix (D): Formulae used in analysis**

$$\text{Mean } (\bar{X}) = \Sigma X / n$$

$$\text{Mean } (\bar{Y}) = \Sigma Y / n$$

$$\text{Standard Deviation } (\sigma_x) = \sqrt{\Sigma X^2 / n - (\Sigma X / n)^2}$$

$$\text{Standard Deviation } (\sigma_y) = \sqrt{\Sigma Y^2 / n - (\Sigma Y / n)^2}$$

$$\text{Coefficient of Correlation } (r_{xy}) = \frac{n \Sigma XY - (\Sigma X) (\Sigma Y)}{\sqrt{n \Sigma X^2 - (\Sigma X)^2} \sqrt{n \Sigma Y^2 - (\Sigma Y)^2}}$$

$$\text{Coefficient of Determination } (R^2) = r^2$$

$$\text{Standard Error of Estimate (SEE)} = \frac{\sigma_x}{\sigma_y} \frac{\sqrt{1 - r^2}}{n} \text{ (For regression co-efficient)}$$

$$\text{Coefficient of Variation on X (CVx)} = \frac{\sigma_x}{\bar{X}} \times 100$$

$$\text{Coefficient of Variation on Y (CVy)} = \frac{\sigma_y}{\bar{Y}} \times 100$$

$$\text{Bivariate Regression Result (Yc)} = a + b X \dots \dots \dots \text{ (i)}$$

The above mentioned ‘a’ and ‘b’ variable have been calculated with the help of following two normal equations:

$$y = na + b \ x \dots \dots \dots \text{ (ii)}$$

$$xy = a \ x + b \ x^2 \dots \dots \dots \text{ (iii)}$$