A COMPARATIVE ANALYSIS OF DIVIDEND POLICY OF NABIL, HBL AND NIBL

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RECOMMENDATION

This is to certify that the thesis

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has been prepared as approved by this Department in the prescribed format of Faculty of Management. This thesis is forwarded for examination.

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VIVA-VOCE SHEET

We have conducted the viva-voce examination of the thesis presented by

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and found the thesis to be the original work of the student written according to the prescribed format. We recommend the thesis to be accepted as partial fulfillment for

Master's Degree in Business Studies (M.B.S.)

Viva-Voce Committee

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DECLARATION

I hereby, declare that the work reported in this thesis entitled **"A COMPARATIVE ANALYSIS OF DIVIDEND POLICY OF NABIL, HBL AND NIBL"** submitted to Central Department of Management, University Campus, T.U., Kirtipur is my original piece of work done in the form of partial fulfillment of the requirement for the Master's Degree in Business studies under the supervision and guidance of Prof. Dr. Sunity Shrestha, Central Department of Management.

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ABBREVIATIONS

C.V.	:	Coefficient of Variation
DPR	:	Dividend Payout Ratio
DPS	:	Dividend Per share
DY	:	Dividend Yield
EBL	:	Everest Bank Ltd.
EPS	:	Earning Per Share
EY	:	Earning Yield
FY	:	Fiscal Year
Govt.	:	Government
HBL	:	Himalayan Bank Limited
JVBS	:	Joint Venture Banks
MPPS	:	Market Price Per Share
NABIL	:	Nepal Arab Bank Limited
NEPSE	:	Nepal stock Exchange
NIBL	:	Nepal Investment Bank Ltd.
S.D.	:	Standard Deviation

CHAPTER-ONE

INTRODUCTION

1.1 Background of the Study

Dividend policy is an integral part of financial management decision of a business firm. Dividend refers to that portion of a firm's net earning which are paid out to the shareholders. Whether dividends have an influential on the value of the firm is the most critical question in dividend policy. If dividends are irrelevant, the firm should retain earnings for investment opportunities. If there are not sufficient investment opportunities providing expected return in excess of the required return, the unused funds should be paid out as dividends. Dividend is the most inspiring factor for the investment on shares of the company is thus desirable form the stockholder's point of view. In one hand, the payment of dividend makes the investors happy. But in the other hand the payment of dividend decreases the internal financing required for making investment in golden opportunities. This will hamper the growth of the firm, which in turn affects the value of the stock.

Dividend policy of a firm refers, dividing its net earning into two parts: the retained earnings and dividend (Pandey, I.M, 1999). Business firms use the retained earnings to provide funds to the firm for long-term growth; we call it as internal financing source. Dividend is return on the on investment of common stock holders. By a dividend policy we mean some kind of consistent approaches to the distribution versus retention decision rather than making the decision on the purely adhoc basis from period to period (Hunt person, Veilliam Charlos and Donaldson, 1972). Likewise, dividend policy must be considered in relation to the overall financing decision. In practice, net earnings always may not be appropriate measure of the ability of the firm to pay dividend, that's why, what and how much it is desirable to pay dividend is always a

controversial topic because shareholders expect higher dividend but companies ensure towards setting aside funds for maximizing the shareholders wealth.

In the capital market, all firms operate in order to generate earnings. Shareholders make investment in equity capital with the expectation of making earning in the form of dividend or capital gains. Thus, shareholders wealth can increase thorough either dividend or capital gain. Once the company earns a profit, it should decide on what to do with the profit. It could be continued to retain the profit within the company, or it could pay out the profit to the owners of the company in the form of dividend. Dividends are payment made to stockholders form a firm's earning in return to their investment. Dividend policy is to determine the amount of earnings to be distributed to shareholders and the amount to be retained or reinvestment.

It is often said that the concept of the banking has been developed from the ancient history with an effort of ancient goldsmiths who developed the practice of storing people's gold and other valuables. Under such an arrangement, the depositors would leave their gold with goldsmiths for safekeeping. Whenever the receipts were presented, the depositors would get back their gold and other valuables after paying a small amount as interests (fee) for safekeeping and serving (Gautam, 1999).

Financial institutions have definitely contributed and played a gigantic role for domestic resource mobilization and economic development to build up the confidence of the businessmen for promoting their business and industrialists for encouraging opening new business venture. It maintains confidence for various segments and extends credit to people.

After the restoration of democracy in 1990 AD, Nepal has implemented liberal economic policy. As a result, many more companies are established in different sectors such as industrial, tourism, transportation, trade and mostly in financial

sector who contribute to build up economy of the country. Nepal is a country trying to develop its economy through global trend and cooperation with developed countries.

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.

1.1.1 A Brief Introduction of Sample Commercial Banks

Himalayan Bank limited (HBL)

Himalayan bank limited was established in 1997 by the distinguished business personalities of Nepal in partnership with employees provident and Habib Bank Limited one of the largest commercial bank of Pakistan. It is the first commercial bank of Nepal with maximum shareholding by the Nepalese private sector. Himalayan Bank Limited was register in 2049/2050 and started its operation on the same data. Its authorized capital is 240000000 and issued capital is 12162500. It has shareholders the share is listed in Nepal Stock Exchange Ltd. On 2050/03/21 BS. It is the first bank to register after the democratic government of Girija Prasad Koirala, which adopted liberally economic policy and called foreign investment in all sectors except defense and communication.

Capital Structure:

Promoter shareholders 51%
Habib bank Ltd. 20%
Karmachari sanchaya Kosh 14%
Nepalese public shareholders 15% (Annual Report of HBL, 2010/11).

Nepal Investment Bank limited (NIBL)

Nepal Investment Bank Ltd (NIB), Previously Nepal Indosuez Bank Ltd was established in 1986 as a joint venture between Nepalese and French partner. The French partner (holding 50% of the capital of NIB) was credit Agricola Indosuez a subsidiary of one the largest banking group in the world. The main activities of this bank are to collect deposit, provide loans against collateral and other banking transactions and provide modern banking services to its customers.

The name of the bank has been change to Nepal Investment Bank Ltd. upon approval of banks Annual general meeting. Nepal Rasta bank and company Register's office with the following shareholding structure.

A group of companies holding 50 percent of capital
Rastriya Banijya Bank holding 15 percent of capital
Rastriya Bema sans than holding 5 percent
Remaining 20 percent being held by general public

Authorized capital of this bank is Rs 400000000, and issued and paid up capital are Rs 2409097700 and Rs 2407068900 respectively. The stock at Nepal Indosuez Bank was listed in Bhadra-8 -2044 B.S. (1978 B.S.) on Nepal stock exchange. Its vision is to the most preferred provide of financial services of Nepal (Annual Report of NIBL, 2010/11).

Nabil Bank Limited

Nabil Bank Limited (Nepal Arab Bank Limited was incorporated in the year 1984 A.D.) It commenced its operation on 12 July 1984 as the first joint venture bank in Nepal. It was listed in the Nepal Stock Exchange in the year 1986 A. D. (08/09/2042 B.S.). Dubai Bank Ltd. Dubai (Later acquired by Emirates Bank International Ltd. Dubai) was the first joint venture partner to NABIL currently, NB (International) Ltd., and Ireland is the foreign partner.

NABIL Bank Limited had the official name Nepal Arab Bank Ltd. till 31st December 2001.

Capital Structure:

NB International Limited 50%

Nepalese Public 30%

Nepal Industrial Development Corporation (NIDC) 6.15%

Rastriya Beema Sansthan 9.67%

Nepal Stock Exchange 0.33%

Other (promoter) 3.85%

NABIL Bank is the pioneer in introducing many innovative banking services and marketing concept in banking sector of Nepal. It operates its activities through 15 branches and 2 counters. It is the only bank having presence in the Tribhuvan International Airport. Some of the services provided by NABIL Bank Limited are accepting deposits, documentary credit, guarantees, collections, credit cards, Tele- banking, safe deposit, fund transfer etc. (Annual Report of NABIL, 2010/11).

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.

1.2 Statement of the Problem

Dividend policy is an integral part of financial management decision of a business firm. Dividend refers to that portion of a firm's net earning which are paid out to the shareholders. Whether dividends have an influential on the value

of the firm is the most critical question in dividend policy. If dividends are irrelevant, the firm should retain earnings for investment opportunities. If there are not sufficient investment opportunities providing expected returns in excess of the required return, the unused funds should be paid out as dividends. Dividend is the most inspiring factor for the investment on shares of the company is thus desirable form the stockholder's point of view. In one hand the payment of dividend makes the investors happy. But in the other hand the payment of dividend decreases the internal financing required or making investment in golden opportunities. This will hamper the growth of the firm, which in turn affects the value of the stock. Earnings are also treated as financing sources of the firm. The firm retains the earning; its impact can be seen in many factors such as decreased leverage ratio, expansion of activities and increase in profit in succeeding years, whereas if firm pays dividend, it may need to raise capital through capital that will affect on risk characteristics of the firm. Therefore there are many dimensions to be considered on dividend theories, policies and practices. Shareholders make investment in equity capital with the expectation of making earnings.

Commercial Banks in Nepal have not adopted consistent policy on dividend decision. Firstly, dividend distribution does not match with earnings of Commercial Banks. Secondly; there is no proper relationship between dividend and quoted market price of shares. It is affected by the various government rules and regulation for the declaration and distribution of dividend in operation of banking transaction so there is no limitation for the identification of dividend policy in the banking sector specifically. Capital may be raised through debenture, which ultimately affects the risk of the firm. However, dividend is the most important factor, which reflects the healthy position of the company.

This study deals with these following issues

- Is there uniformity of dividend distribution or not?

- Does dividend decision affect the market price of shares differently in different banks or not?
- Does the prevailing dividend policy influence the corporate liquidity position?
- Does changing dividend policy or payout ratio increase the value of stock or not?
- What is the relationship between dividends with other key variables like earning per share, market price per share, price earnings ratio, earning yield, dividend yield of the banks?
- What are the prevailing practices of the banks regarding their dividends?

1.3 Objective of the Study

The main objective of the study is analyze dividend policy is to maximize return on shareholders equity so the value of investment is maximized. The specific goals of this study are mentioned as below:

- To analyze the dividend policies followed by the selected commercial banks.
- To compare the dividend policies followed by the selected commercial banks.
- To analyze the relationship of dividend with various important variables such as EPS, DPR, DY, P/E ratio, EY & MVPS.
- To recommend the appropriate suggestions and possible guidelines to take corrective actions based on the findings of the study.

1.4 Significance 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. The investment opportunities due to economic recession have 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 topes 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:

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

1.5 Limitations of the Study

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:

- This research is based on secondary data hence there may be the reporting error and validity of the data determines the reliability of the result.
- The study period covers only five years beginning from 2063/64 to 2067/68.
- 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.

1.6 Organization of the Study

The whole study has been categorized into five major chapters as follows:

Chapter I: Introduction: First chapter is the introductory part of the research deals with background of the study, statement of the problem, significance of the study, objectives of the study, limitation of the study and chapter scheme of the study.

Chapter II: Review of Literature: This chapter concerns with literature review that includes a discussion the conceptual framework of dividend and review of major studies relating with dividend decision.

Chapter III: Research methodology: This chapter describes the research methodology adopted in carrying out the present research. It deals with research design, source of data, data processing procedures, population and sample, period of the study, method of analysis and financial and statistical framework.

Chapter IV: Presentation, Analysis of Data and Major findings: This chapter concerned with Data Presentation, Analysis and Major findings. it includes the analysis of financial indicators; analysis of mean, standard deviation, coefficient of variation, correlation coefficient and regression analysis and major findings.

Chapter V: Summary, Conclusions and Recommendations: Fifth chapter is the last and concluding part of the research, which is concerned with summary of the study, conclusion and recommendations for further improvement.

Finally, bibliography and appendices have been incorporated.

CHAPTER -TWO

REVIEW OF LITERATURE

Review of the Literature is undertaken in order to find out what works have already been conducted in the area of the concerned research problem. It promotes greater understanding of the problem under study, provides comparative data to evaluate and interpret the significance of the findings, and provides fruitful sources of hypothesis and conceptual framework. It is the chapter where a researcher reviews the books, journals, magazines or any other types of studies, which are related to his/her field of study.

2.1 Theoretical Framework

Dividends are payments made by a corporation to its shareholders. It is the portion of corporate profits paid out to stockholders. When a corporation earns a profit or surplus, that money can be put to two uses: it can either be reinvested in the business i.e. retained earnings, or it can be paid to the shareholders as a dividend. Many corporations retain a portion of their earnings and pay the remainder as dividend. Dividend policy refers to the guidelines that management uses in establishing portion of earning that is paid to the shareholders in the form of dividend. Dividend policy involves the decision to payout earnings or to retain them for reinvestment in the finance (Weston and Brigham, 2007).

How much dividend should be retained in business, is not a simple question. Since dividends would be more attractive to shareholders, one might not hesitate to say that dividends weight more than retention in the perception of the shareholders. But one might equally pressure that gross dividend would be reduced some what with an increase in net after tax dividend still available to shareholders and an increase in retained earnings for the corporation. It would be wise policy to maintain balance between shareholders interest with that of

corporate growth from initially generated fund. If the company cannot get required rate of return by investing the funds in investment opportunities, it will be better to distribute funds so that the shareholders can invest in the more profitable project. This arguments of funds plugging back into the firms/companies in an analogy to the financial management's objective to increase the value of the shareholders wealth or well being and that well being can be measured by dividend received but more accurate measure is the market value of the stock.

The most widely accepted objective of a firm is to maximize the value of the firm and to maximize shareholder wealth. In general, there are three types of financial decisions which might influence the value of a firm: investment decisions, financial decisions and dividend decisions. These three decisions are interdependent in a number of ways. The investments made by a firm determine the future earnings and future potential dividends; and dividend policy influences the amount of equity capital in a firm's capital structure and further influences the cost of capital. In making these interrelated decisions the goal is to maximize shareholder wealth.

Normally, dividends are paid in cash, which decrease the cash balance of firm. It affects the investor's attitude, financial structure, corporate liquidity and the flow of funds.

2.1.1 Types 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."(Shrestha manohar Krishna, financial management and practice)

A) 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 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.

B) 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."

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.

C) Reverse Spilt

A method that is used to raise the market price of a firm's stock by exchanging certain number of outstanding share for one new share of stock. The effect of Reverse Spilt is a decrease in the number of share outstanding and an increase in a par or stated value of the shares. The total net worth of the firm remains unchanged. The Reverse Spilt does not involve any cash payments only additional certificates representing new shares are issued.

D) 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.

E) 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.

2.1.2 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" 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.

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

$$P* = \frac{S \, x \, Pc}{S - N}$$

Where,

P* = Repurchase Price of Share

S = Total number of share outstanding

P_c = 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.

2.1.3 Types of Dividend Policy

The dividend policy can be mainly studied into two categories:

- Residual Dividend Policy

- Stable Dividend Policy

A) 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:

- Profits are in those acceptable projects which rate of return is higher than expected rate of return.
- Reinvestment of profit helps to maintain optimal capital structure
- 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.

B) 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:

I) 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.

II) 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.

III) 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.

2.2 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 policies which are given below:

A) 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.

B) 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.

C) 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.

D) 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.

E) Access to the Capital Market

Another factor that can strongly affects 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.

F) 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.

G) 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.

H) 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.

I) 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.

2.3 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:

- Incase any law forbids the distribution of dividend,
- Incase the right for dividend is disputed

- Incase 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): Incase 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 has touched each and every aspect to regulate dividend and fund transfer to reserve.

2.4 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 (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. Modigliani 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:

- 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.
- The world without taxes.
- The firm has fixed investment policy, which is not subject to change.
- Risk of uncertainty doesn't exist.

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.

$$P_0 = \frac{Di + Pi}{1 + Ke}$$

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.

$$np_0 = \frac{n\,(Di + Pi)}{1 + Ke}$$

Where,

n =Total number of shares outstanding

Step - 3

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

$$np_0 = \frac{n\,Di + (n + \Delta n)\,Pi - \Delta n\;\; Pi}{1 + Ke}$$

Where,

n = Number of shares at the beginning

ζn = 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:

$$\zeta n\, P_i = I - (E - n\, D_i)$$

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

Where,

$\zeta n P_i$ = 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 $\zeta n P_i$ from equitation step - 4 to equitation step – 3, we find,

$$np_0 = \frac{n Di + (n + \Delta n) - I + E - n Di}{1 + Ke}$$

$$nP0 = \frac{Pi + (n + \Delta n) - I + E}{1 + Ke}$$

By solving the above equitation 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-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

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

$$p = \frac{K\,(1-b)}{K-b\,.r}$$

Where,

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

By solving above equitation, 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

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

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 ΨK then stock price increases when dividend decreases and vise 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 ΦK then stock price increases when dividend payout ratio increases and vise 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

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 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

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.

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

Demand Supply Function : $D_t = g [E_t, D_{(t-1)}, (P/E)^1_{t-r}]$

Identity : $E_t = D_t + R_t$

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 Squire 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

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 stastistical 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.

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.

2.5 Review of Journals in Nepalese Prospective

Manohar Krishna Shrestha's Study

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:

- Proper evaluation of public enterprises on capability of paying dividend through corporate co-ordination committee.
- Imposition of fixed rate dividend policy by government to financially sound public enterprises.

- Circulating the information to all public enterprises about the minimum rate of dividend.
- 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 reveals both acceptance and fantastic results.

Radhe Shyam Pradhan study

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

- 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.

2.6 Review of 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:

Ghimire (2003), has carried out a research on "Dividend Policy: A Comparative Study between Commercial Banks and Insurance Companies" through data are collected from three commercial banks and three insurance companies.

The main objectives of his study are

- To examine the relationship between dividend and Market price of the stock.
- To identify the appropriate dividend policy followed by the bank and insurance company.
- To analyze the relationship between dividend policy decision of bank and insurance companies.

The major findings are as follows:

1. The average DPS and all concerned institution except NABIL and EPS of all sample institutions seem satisfactory.
2. The analysis of coefficient of variation shows that there is the largest fluctuation in EPS and DPS, other companies have seemed to be relatively more consistent.
3. The analysis of dividend payout ratio shows none of the banks and insurance companies has constant ratio each year. It is always fluctuating from year to year.

Bhatta (2006), has carried out a research entitled "Dividend Policy and Its Impact of Market Price of the Share" He has selected seven commercial banks and collects the data from the year 1996/97 to 2004/2005.

The objectives of this study are as follows:

- To highlight the dividend policy practices in Nepal.
- To identify and analysis of the variables that are affecting the dividend policy.
- To provide feedback to the policy makers and executives working in various commercial banks chosen for study based on finding analysis.

The major findings of this study are as follows:

- The average earning per share of the bank under study shows a positive result. But the coefficient of variation indicates that EPS of the banks are not stable.
- The average DPS shows that there is no regularity in payment of dividend.
- The average MPS to BVPS of the bank range between 4.22% & 2.94%.
- The MPS of NABIL has positive correlation with EPS, DPS, DP, PER, &MPS to BVPS.
- The dividend per share is affected by EPS, retention ratio, in different banks. The extents of effect also differ in the banks.

Gurung (2008), has conducted a research on "Dividend Pattern in Nepal : A Case Study of Listed Commercial Banks in NEPSE" with the objectives of:

- To identify what types of dividend policy being followed & find out whether the policy is appropriate or not in selected commercial banks.
- To test the relationship between EPS & DPS; EY &DY; EPS & MPS and so on.
- To determine the impact of dividend on share price.
- To know whether there is any uniformity among EPS,DPS & DPR of selected banks or not.

The major findings of this study are as follows:

- The average Earning per share of related banks are satisfactory.
- The dividend per share of these banks is also satisfactory.
- The growth rate analysis only gives the tentative idea of growing rate of dividend because the growth in dividend is not consistent and not having consistent dividend payout ratio.
- Fluctuation of earning yield of NABIL has the highest in the rank but in case of NIBL and HBL are almost to close to each other.
- Correlation coefficient between DPS and CR is positive in all cases and the relationship is insignificant in all cases of 't' test.
- The correlation coefficient between earning yield and dividend yield of all banks are positive but the relationship is significant in all cases except the HBL And so on.

Rana (2007), has conducted a study on "Dividend Behavior of Joint Ventures Banks in Nepal" with the objectives of:

- To highlight the dividend behavior of Nepalese joint ventures banks.
- To analyze the relationship of dividend with earning per share, stock price, net profit and net worth.

- To find out whether dividend behavior affect the market price of shares differently in different banks.
- To provide valuable suggestion regarding dividend behavior (policy).

The major findings of this study are as follows:

- Their average dividend yield of the joint ventures banks under study indicates that the dividend yield is quite high which shows the fluctuation of dividends.
- The DPS of NBB is positively correlated with EPS, MPPS, and NP. Similarly DPR is positively related with MPPS.
- The average price earnings ratio of joint venture banks seems to be satisfactory. Everest bank has higher P.E ratio and NBB has lowest. It indicates that investors perceive that investment in EB is more worthy. And so on.
- Positive relationship between dividend payout and profitability.
- Positive relationship between dividend payout and turnover ratio.
- Positive relationship between dividend payout and interest coverage.

Bista (2009), "Impact of Dividend on Market Price of Shares of Selected Commercial Banks" with the aim to highlight the various aspects of dividend policies and practices in Nepal and to analyze the variables such as DPS, DPR, dividend yield and their relation with market value. Collecting the data from secondary sources of few years from 1998/99 to 2005/06, she analyzed and made the study using financial and statistical tools. The major findings of her study are:

- EPS and DPS of commercial banks in average are fluctuating year by year.
- MPS is also in fluctuating trend since coefficient of variation of MPS for the sample banks is 28.17 which indicate the fluctuation.

- There is highly positive co-relation between EPS and DPS of the sample firms.
- There is moderate positive co-relation between EPS and MPS.
- There is very poor positive co-relation between DPR and MPS of the sample firms.
- High negative co-relation exists between dividend yield and MPS.
- Multiple regression analysis of MPS on EPS and DPS reveals the positive relation between of MPS with EPS and of MPS with DPS.

2.7 Research Gap

Various studies in national and international level have been conducted but the justifiable relation of dividend on MPS has not reported yet since they are conducted under certain assumption but the real world is different. A study made in America does not significant for our country since the capital market mechanism is different. Similarly, a research made on a period may not be true at all other points of time; hence, updating those results is must. This research is not a comprehensive research but it is a supplementary research about dividend policy in Nepal. Different scholars has developed linear regression model to describe the relation of DPS and MPS for individual firms separately. Generally, regular dividend paying companies are being the matter of their study. But in this research, the researcher has sampled the companies that are regularly dividend distributing and not distributing companies. Highly reputed, growing and poor performing bank are the firms under study. Study of these three categories of banks in relation to the dividends and MPS, a representative result will be obtained which will explain the relation of MPS and dividend of Nepalese commercial banks. Developing models to explain the relation of MPS with DPS, EPS, RE, lagged DPS, lagged E/P ratio etc in Nepalese commercial banks will be a really a new and distinct study and thus, will be beneficial for further research and studies too.

CHAPTER-THREE

RESEARCH METHODOLOGY

Research methodology describes the methods and processes to be followed during the research period. The basic objective of the study is to compare the dividend policy and practices of Nepalese Commercial Banks and the factors that affect it. It also tries to find out the relationship between dividend and earning per share, net profits after taxes, market price of shares and net worth of Commercial Banks taken as sample for data analysis purpose. It is given in another sub-topic of this section. Basically secondary data will be used for analysis.

3.1 Research Design

Research design helps in the analysis of data related to the study topic. It is a controlling media for the collection of data. It helps to collect the accurate information, which is related to dividend practices of the commercial bank. The research design of this study will be descriptive as well as analytical by using the all variables related to the dividend policy of Commercial Bank. For the analytical purpose, the reports of relative Commercial Bank will be collected from the year 2063/64 to 2066/2067.

3.2 Sources of Data and Collection Procedure

This research is mainly based on the secondary data. The data relating to dividend policy has been obtained from concerned banks. In this study, data has been collected from different sources either in published or unpublished forms. Annual reports of the concerned banks, publications of SEBON, NEPSE, NRB, Annual reports of SEBON, Annual trading Reports of NEPSE, Economic Survey published by Ministry of Finance, Research Reports, newspapers,

journals, articles, books etc are the major sources of data for this study. In addition to this, data from websites of NEPSE, SEBON, NRB, MOF and concerned banks are other sources of data. The relevant data have been collected by official visit, website search and library visit.

3.3 Populations and Sample

The total number of listed commercial banks in NEPSE i.e. called population. Among them only three banks are taken for the study, this study, which is called sample size. In the absence of reliable and valid data, the study has been selected only three banks which are NABIL, NIBL and HBL.

Sample of Commercial Banks

1. Nabil Bank Ltd. (NABIL)
2. Himalayan Bank Ltd. (HBL)
3. Nepal Investment Bank ltd.(NIBL)

3.4 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.

3.5 Financial Indicator Tools

3.5.1. 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.

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

3.5.2. 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.

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

3.5.3. 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.

Dividend Payout Ratio (DPR) = Dividend Per Share (DPS) / Earning Per Share (EPS)

3.5.4. 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.

P/E - Ratio = Market Value Per Share (MVPS) / Earning Per Share (EPS)

3.5.5. 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.

MVPS / BVPS = Market Value Per Share (MVPS) / Book Value Per Share (BVPS)

3.5.6. 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 change 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.

Dividend Yield Ratio (DYR) = Dividend Per Share (DPS) / Market Value Per Share (MVPS)

3.5.7. 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.

RONW = Net Profit After Tax (NPAT) / Net Worth (NW)

3.6 Statistical Tools

i) Arithmetic Mean or Average (*X*)

An average is the value, which represents a group of values. It depicts the characteristic of the whole group. It is an envoy of the entire mass of homogeneous data. Generally, the average value lies somewhere in between the two extremes, i.e. the largest and the smallest items. It is also known as simple average. In general, $x_1, x_2, x_3 \ldots\ldots x_n$ are the given "n" observations. Then their arithmetic mean, usually denoted by *X* is given by:

$$\text{Arithmetic Mean } (\overline{X}) = \frac{x_1 + x_2 + x_3 \ldots\ldots + x_n}{N}$$

$$\text{Or, } \overline{X} = \frac{\phi x}{N}$$

Where, N = number of items ∑x = Sum of size of the items.

ii) Standard Deviation (σ)

The measurement of the scatterings of the mass of figures in a series about an average is known as dispersion. The standard deviation measures the absolute dispersion of a distribution. The greater the amount of dispersion, the greater the standard deviation will be, i.e. greater will be the magnitude of the deviations of the values from their mean. A small standard deviation means a high degree of uniformity of the observation as well as homogeneity of a series; a large standard deviation means just opposite. Standard deviation is denoted by a Greek letter 'σ" (Sigma) and is calculated as follows:

$$\text{Standard Deviation } (\sigma) = \sqrt{\frac{\phi x^2}{n} Z \left(\frac{\phi x}{n}\right)^2}$$

Where,

$\overline{X}$ =Mean

x = Variable

n= Number of items in the series

iii) Coefficient of Variation (CV)

The coefficient of variation reflects the relationship between standard deviation and mean. It is the relative measure of dispersion, comparable across, which is defined as the ratios of the standard deviation to the mean expressed in percent (Levin, Richard I. and Rubin, David S.: 1994,p.144).The series with higher coefficient of variation is said to be more variable, less consistent, less stable and less homogenous. On the contrary, the series with less coefficient of variation is said to be less variable, more consistent, more uniform, and more stable and more homogenous. It is denoted by C.V. and is obtained by dividing the standard deviation by arithmetic mean. Thus, in symbol Coefficient of Variation (C.V) = $\frac{SD}{X} \times 100$

SD = Standard Deviation

$\overline{X}$ = Mean average

iv) Coefficient of correlation(r)

Correlation analysis is the statistical tools that can be used to describe the degree to which one variable is linearly related to another. The coefficient of correlation measures the direction between two sets of figures. It is the square root of the coefficient of determination. Correlation can either be positive or it can negative. If both variables are changing in the same direction, the correction is said to be positive but when the variation is the two variables take place in opposite direction, the correlation is termed as negative. In this study, coefficient of correlation is calculated between stock prices and dividends, stock prices and retained earnings, stock prices and lagged earning.

The following method can be used to study correlation as well as to compute the correlation coefficient.

Karl person method (Direct method)

$$r\ X \frac{n\phi x_1 x_2 - \Sigma x_1 \Sigma x_2}{\sqrt{n\phi x_1^2 - (\phi x_1)^2}\sqrt{n\phi x_2^2 - (\phi x_2)^2}}$$

v) Coefficient of Determination (r^2)

The coefficient of determination is the primary way to measure the extent, or strength of the association that exists between two variables, X and Y. It refers to a measure of the total variance in a dependent variable that is explained by its linear relationship to an independent variable. The coefficient of determination is denoted by r^2 and the value lies between zero and unity. The closer the r^2 to unity; the greater will be the explanatory power. A value of one can occur only if the unexplained variation is zero, which simply means that all the data points in the scatter diagram fall exactly on the regression line. The r^2 is always a positive number. It can't tell whether the relationship between the two variables is positive or negative. The r^2 is defined as the ratio of explained variance to the total variance. Thus,

Coefficient of Determination (r^2) = $\frac{\text{Explained Variation}}{\text{Total Variation}}$

Or, $r^2 = 1 - \frac{\text{Unexplained Variance}}{\text{Total Variance}}$

vi. Probable Error (PE)

The probable error is used to measure the reliability and test of significance of correlation coefficient. It is calculated by the following formula.

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

where,

r= the value of correlation coefficient

n= number of pairs of observation

P.E is used in interpretation whether the calculated value of r is significant or not.

i. If r< 6 P.E, it is insignificant, i.e. there is no evidence of correlation.

ii. If r>6.P.E, it is significant.

vii. Standard Error of Estimate (SEE)

The standard error of estimate can be used to determine whether statistically significant relationship exists between the dependent and given independent variables and also make inferences about the predicated values i.e. it is used as a test of reliability for the predicated values and construction of confidence limits.

The formula used for standard error of estimate is

$$\text{S.EE } X\sqrt{\frac{\Sigma y^2\ \Gamma a\phi y - b\phi xy}{n\ Z2}}$$

where,

y= value of dependent variable

x= value of independent variable

a= regression constant

b= regression coefficient

n= number of data point

viii) Regression Equation

Correlation analysis shows the direction of movement but doesn't tell the relative movement in the variable under study and doesn't show cause and

effect relationship. Regression analysis is used to describe how well an estimating equation describes the relationship being studies. Simple regression analysis of the following variables are calculated and interpreted in this study.

1. Dividend per share on EPS

   For this, following model is used

   $y=a+bx$

where,

   y= DPS (Dependent variable)

   a= Regression constant (y-intercept)

   b= Slope of line (regression coefficient)

   x= EPS (independent variable)

2. Market price per share on dividend per share

   $y=a+bx$

where,

   y= MPPS (dependent variable)

   a= Reg. constant

   b= slope of line (Reg. coefficient)

   x= DPS (Independent variable)

CHAPTER-IV

PRESENTATION AND ANALYSIS OF DATA

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 Commercial.

4.1 Financial Indicator Tools

4.1.1 Earnings Per Share (EPS)

Earnings per share are 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 the EPS, and its mean, standard deviation, co-efficient of variation of different commercial banks.

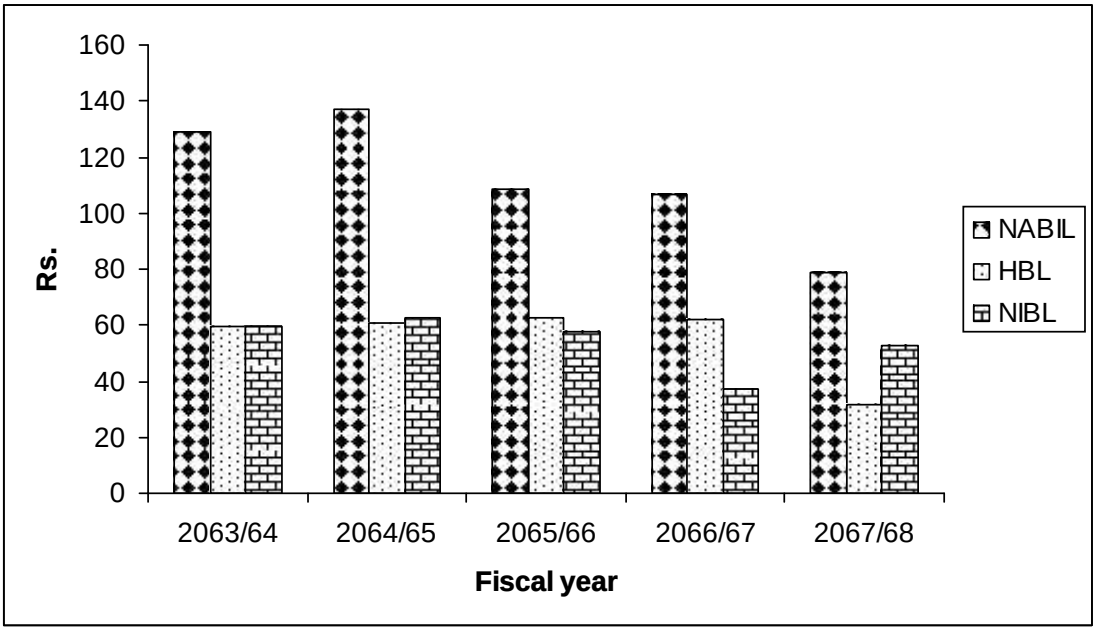
Table No. 4.1: EPS of Commercial Banks

Bank / Year	NABIL	HBL	NIBL
2063/64	129.21	59.24	59.35
2064/65	137.08	60.66	62.57
2065/66	108.31	62.74	57.87
2066/67	106.76	61.90	37.42
2067/68	78.61	31.80	52.55
Mean	112	55.27	54
S.D.	20.40	17.08	8.58
C.V.	18.21	30.90	15.59

(Source: Annual report of 2067/68)

EPS of Different commercial Bank are also presented in the following figure

Figure No. 4.1: EPS of Commercial Bank



From the above table and figure its seen that the EPS of concerned banks from 2063/64 to 2067/68. Normally the performance and the achievement of

the business organization are measure in terms of its capital to generate earning. Higher earning shows higher strength while lower earnings show weaker strength of business organization.

To start from the fiscal year 2063/64 to 2067/68 shows that EPS of NABIL has highest than HBL and NIBL. From individual analyze EPS of NABIL Bank has decrease but EPS of HBL has increase until 2066/67 but at last year EPS decrease. Similarly EPS of NIBL has increase two year (063/64,066/67) and decrease in two year (2064 to 2066).

Finally, the average EPS of NABIL has highest among the three other commercial bank and lowest EPS of NIBL other than other banks. S.D. of NABIL is 20.40, HBL is 17.08, and NIBL is 8.58. A small S.D measures a high degree of uniformity of the observation as well as homogeneity of a series and vice versa. The coefficient of variation of the EPS of NABIL, HBL, and NIBL have been high fluctuation or quite different i.e. 18.21, 30.90 and 15.89 respectively.

4.1.2 Dividend Per Share Analysis

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 and figure shows the DPS, its mean, standard deviation and C.V. at different commercial banks for the five different fiscal year.

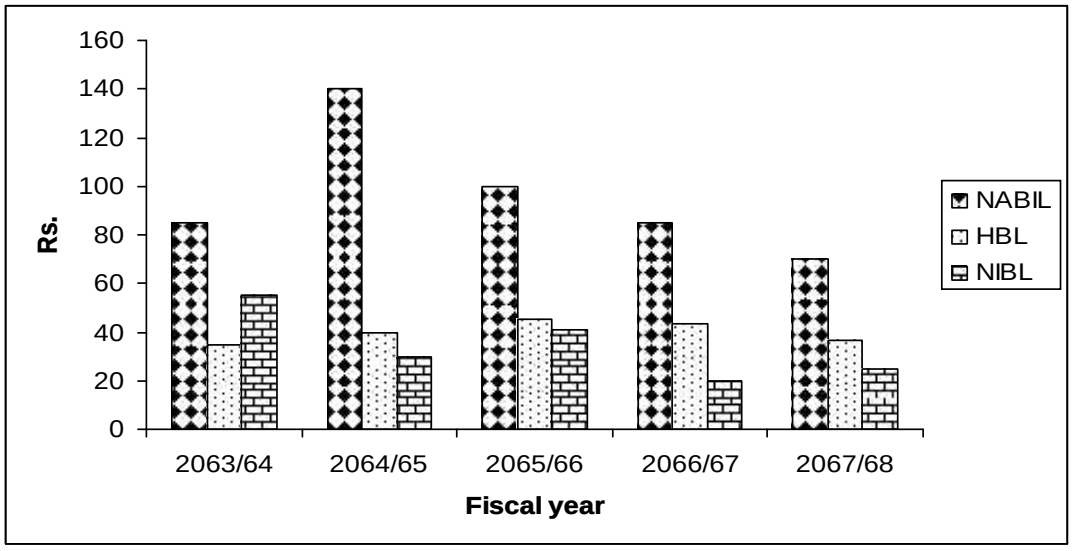
Table No. 4.2: DPS of Commercial Bank (in Rs.)

Bank / Year	NABIL	HBL	NIBL
2063/64	85	35	55.46
2064/65	140	40	30
2065/66	100	45	40.83
2066/67	85	43.56	20
2067/68	70	36.84	25
Mean	96	40.08	34.26
S.D.	23.9583	3.81	12.65
C.V.	24.96	9.51	36.20

(Source: Annual report 2067/68

DPS of Different commercial Bank are also presented in the following figure.

Figure No. 4.2: DPS of Commercial Bank



From the above table and figure it showed that. In the year 2063/64 NABIL paid highest cost of dividend Rs. 85 per share than other bank. In other hand HBL and NIBL are paid Rs 35 and 55.46 respectively.

NABIL paid Rs 140 dividend per share, which was the highest dividend for the fiscal year 2064/65. NIBL paid Rs. 30 dividend per share which was the lowest dividend. Similarly for individual analyze from the fiscal year 2065/66 NABIL has paid lower dividend from until 2067/68.HBL DPS has increasing until three year (ie 2063/64 to2065/66).but in the year 2066/67 to 2067/68 HBL pays a lower dividend. but NIBL DPS has fluctuation.

On the average, NABIL paid the highest dividend Rs. 96 of all. Whereas HBL paid Rs. 40.08 and NIBL paid Rs 34.26. Here S.D of NABIL is 23.96, HBL Rs. 3.81. NIBL Rs. 12.65. A small S.D measures the high degree of uniformity of observation as small as homogeneity of a series and vice-versa. The C.V. of NIBL is 36.20, which show the high fluctuation in paid dividend. On other hand, HBL show minimum C.V. 9.51%. It means that this bank paid dividend about same ratio or the rate of fluctuation is low.

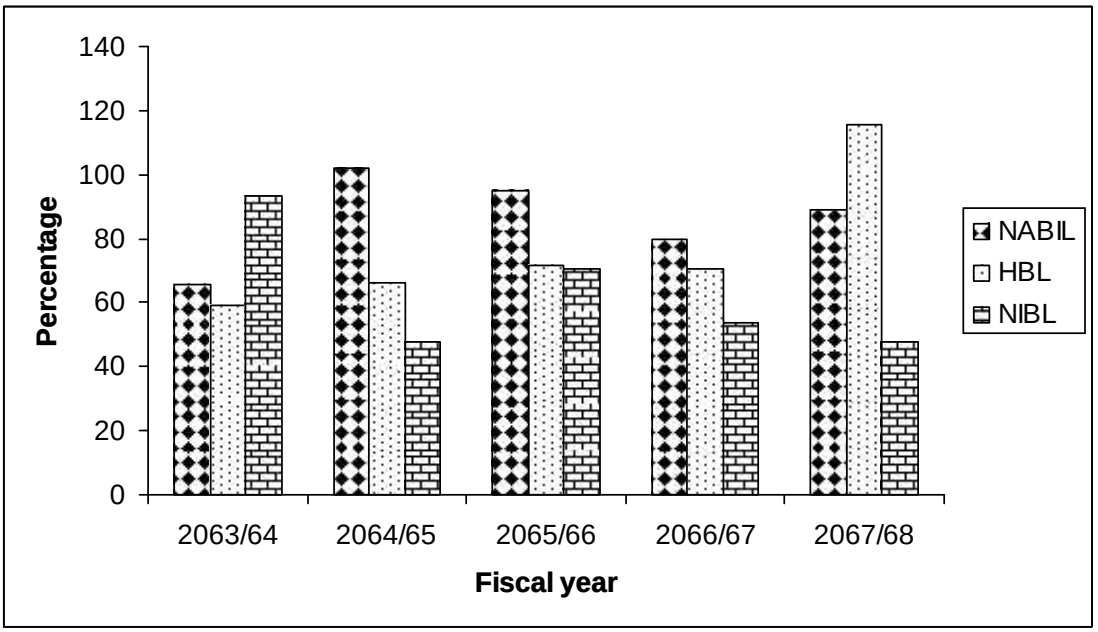
4.1.3 Dividend Pay-out Ratio (DPR) in Percent

Table No. 4.3: DPR of Commercial Bank (in Percent)

Bank / Year	NABIL	HBL	NIBL
2063/64	65.78	59.08	93.46
2064/65	102.13	65.94	47.95
2065/66	95.09	71.72	70.55
2066/67	79.62	70.37	53.45
2067/68	89.05	115.5	47.57
Mean	86.33	76.59	62.596
S.D.	12.66	20.12	17.54
C.V.	14.66	26.27	28.03

(Source: Annual report of 2067/68)

Figure No. 4.3: DPR of Commercial Bank



Assumption:

Conservation dividend policy	less than 20%
Moderate dividend policy	20% to 50%.
Aggressive dividend policy	more than 50%

The above table and figure show that in the year 2063/64, NABIL, HBL and NIBL are applied aggressive dividend policy which is 67.78 percent, 59.09 percent, and 93.46 percent. In year 2064/65 NABIL and HBL applied aggressive dividend policy. but NIBL applied moderate dividend policy. similarly until five year NABIL and HBL applied aggressive dividend policy but in NIBL applied moderate dividend policy on two year.(ie 2064/65 and 2067/68).

The average of NABIL, HBL and NIBL are aggressive dividend payout ie 86.33, 76.59, 62.60 respectively. the coefficient variation of DPR of three bank suggest that the DPR of NABIL is move constant ie 14.66 percent. The DPR of NABIL is more fluctuation i.e. 28.03 percent.

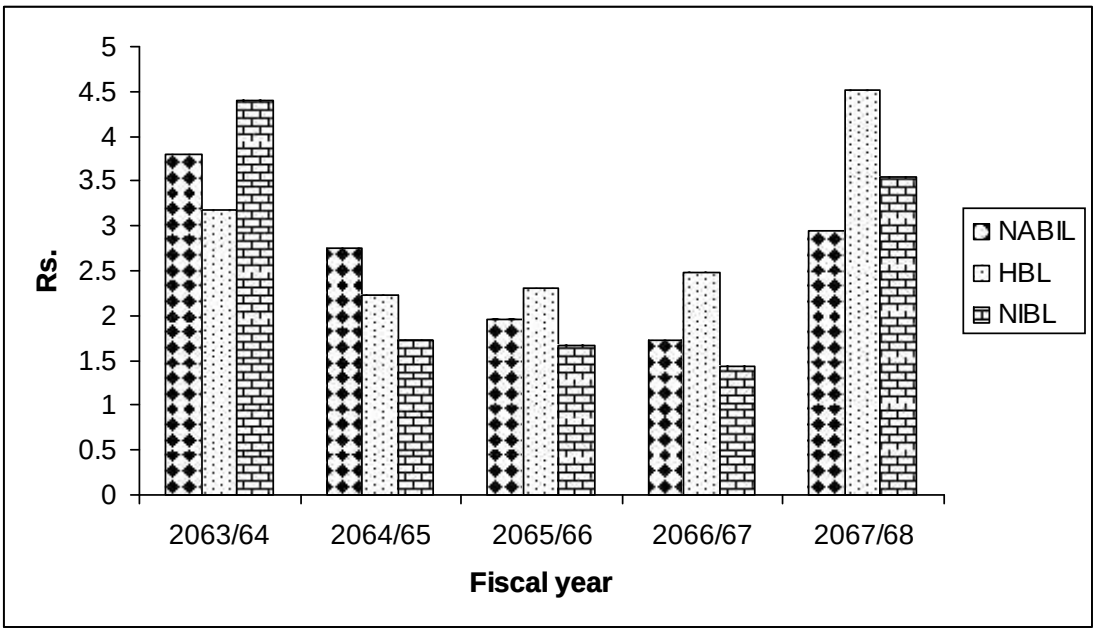
4.1.4 Dividend Yield Analysis

Table No. 4.4: Dividend Yield of Commercial Bank (in percent)

Bank / Year	NABIL	HBL	NIBL
2063/64	3.79	3.18	4.40
2064/65	2.75	2.23	1.73
2065/66	1.95	2.30	1.67
2066/67	1.73	2.48	1.44
2067/68	2.94	4.51	3.55
Mean	2.632	2.94	2.56
S.D.	.7387	.8541	1.19
C.V.	28.16	29.05	46.38

(Source: Annual report of 2067/68)

Figure No. 4.4: Dividend Yield of Commercial Bank



The above table and figure show dividend yield analysis for the fiscal year 2063/64 to 2067/68. Dividend highly influences the market value per share

because change in dividend per share can bring effective change in market value of the share.

In the year 2063/64, the data related to dividend yield of NABIL 3.79 percent, HBL 3.18 percent, and NIBL 1.56 percent acquire the shareholder. NABIL and NIBL dividend yield are decrease until 2066/67.but in year 2067/68 NABIL,HBL and NIBL are increased.

In the average, HBL dividend Yield 2.94 percent was the highest at all. The coefficient of variation analysis shows that the NABIL dividend yield is most consistent i.e. 28.16 percent. But the coefficient of variation of EBL 46.38 percent seems to be more fluctuating

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

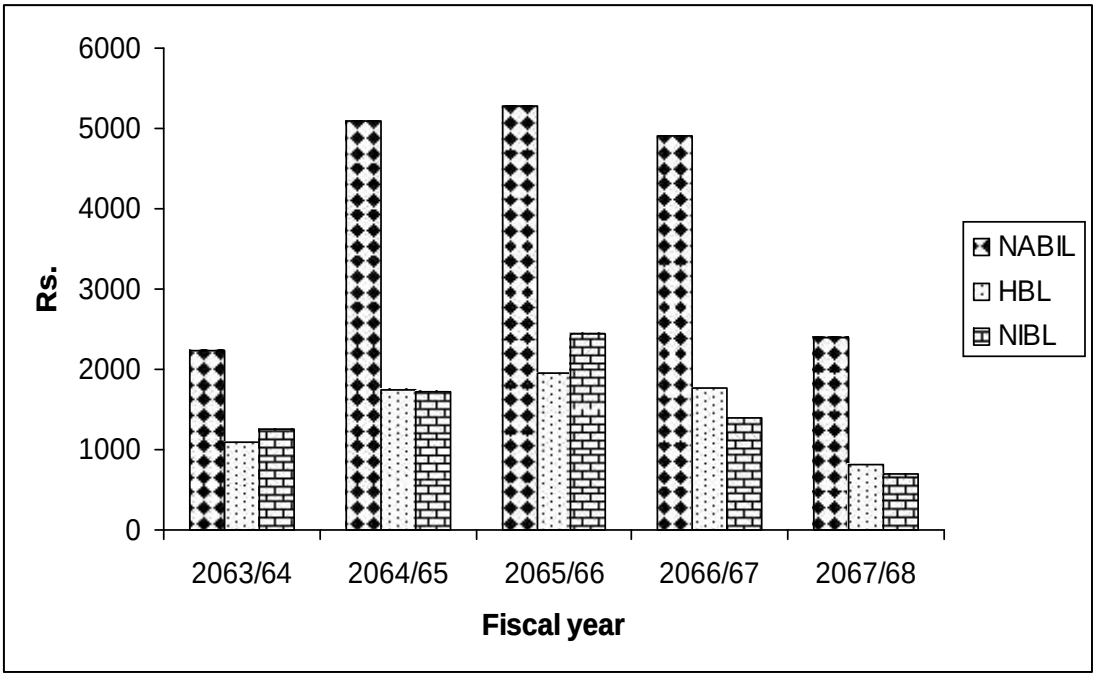
4.1.5 Market Price Per Share Analysis (MPPS)

Table No. 4.5: MPPS of Commercial Bank (in percent)

Bank / Year	NABIL	HBL	NIBC
2063/64	2240	1100	1260
2064/65	5090	1740	1729
2065/66	5275	1960	2450
2066/67	4899	1760	1388
2067/68	2384	816	705
Mean	3977.6	1475.2	1506.4
S.D.	1365.90	438.54	575.66
C.V.	34.34	29.73	38.21

(Source: Annual report of 2067/68)

Figure No. 4.5: MPPS of Commercial Bank



The above table and figure show that the market price per share of the concerned banks from the fiscal year 2063/64 to 2067/68.

Market value per share means to evaluate value of share in the market. In the year 2063/64, NABIL was highest at all Rs. 2240 And HBL has lowest at Rs 1100. MPPS of all three commercial bank have increasing trend from 2066/67 to 2067/68. MPPS of all three commercial bank decreased.

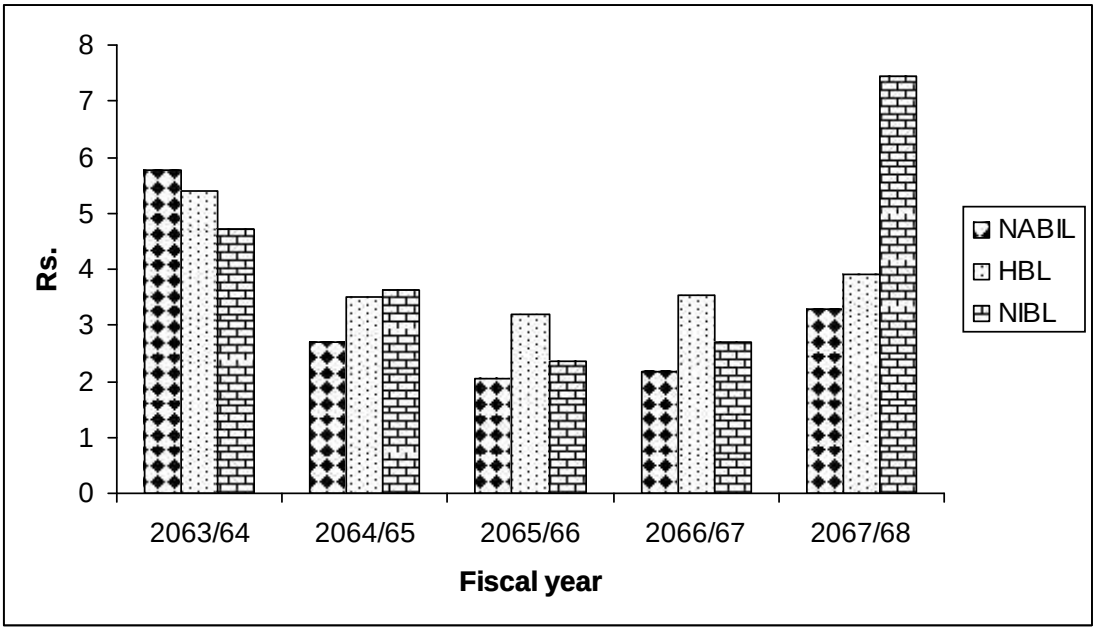
In average, NABIL has the highest share price Rs. 3977.6, HBL share price Rs. 1496, and NIBL share price Rs. 1525.4. The coefficient at variation analysis shows that MPPS of HBL 29.7 is more constant but CV of NABIL 98.21 is more fluctuating.

4.1.6 Earning Yield Analysis

Table No. 4.6: EY of Commercial Banks

Bank / Year	NABIL	HBL	NIBL
2063/64	5.76	5.39	4.71
2064/65	2.69	3.49	3.62
2065/66	2.05	3.20	2.36
2066/67	2.18	3.52	2.69
2067/68	3.30	3.90	7.45
Mean	3.20	3.9	4.17
S.D.	1.35	.78	1.82
C.V.	42.07	19.94	43.76

Figure No. 4.6: EY of Commercial Banks



The above table and figure show that the earning yield of the concerned banks from the year 2063/64 to 2067/68.

In the year 2063/64, P/E ration of NABIL earning yield is higher than HBL and NIBL. in a year 2064/65 earning yield of NIBL is greater than NABIL and HBL. Similarly in 2067/68 earning yield of NIBL is greater than HBL and NABIL.

On the average NIBL has the highest earning yield Rs 4.17 Percent. The coefficient variation analysis shows that Earning yield of HBL is more constant ie19.94 percent but cv of NIBL43.76 percent seem to be more fluctuation.

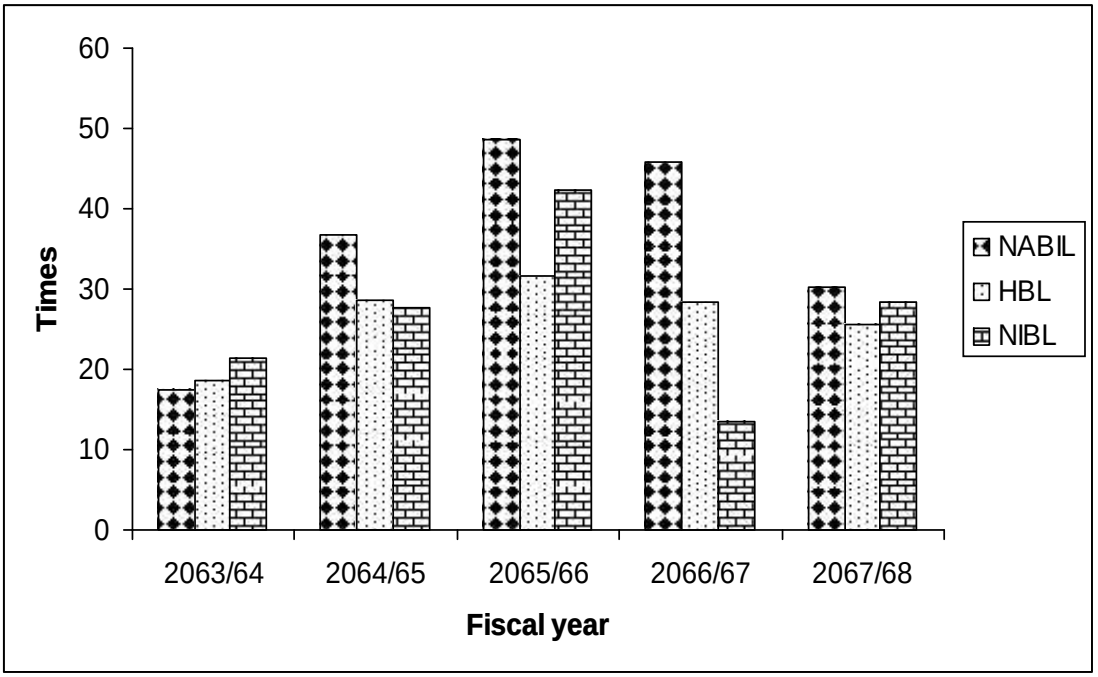
4.1.7 Price Earnings Ratio Analysis

Table No. 4.7: P/E Ratio of Commercial Bank

Bank / Year	NABIL	HBL	NIBC
2063/64	17.34	18.57	21.32
2064/65	36.84	28.69	27.63
2065/66	48.70	31.56	42.33
2066/67	45.89	28.43	13.42
2067/68	30.33	25.66	28.36
Mean	35.82	26.58	10.44
S.D.	11.31	4.43	36.81
C.V.	31.58	16.67	36.81

(Source: Annual report of 2067/68)

Figure No. 4.7: P/E Ratio of Commercial Bank



The above table and figure showed that the price earnings ratio of the concerned bank from fiscal year 2063/64 to 2067/68.

In the year 2063/64, All P/E ratios are normal. P/E ratio of NIBL has greater than others commercial banks. From 2063/64 to 20065/066 P/E ratio has decreased of NABIL. But last year P/E ratio has decreased trend.

On Average P/E ratio of NABIL, HBL and NIBL are 31.58, 16.67, and 36.81 respectively. the coefficient variation analyze show that the P/E ratio of HBL is more consistent (ie16.67 times)

4.2 Analysis of Financial Variables of Individual Banks

4.2.1 Nepal Arab Bank Ltd. (NABIL)

Table No. 4.8: Financial Variable of NABIL

Variable	2063/64	2064/65	2065/66	2066/67	2067/68	Mean	S.D.	C.V.
EPS	129.21	137.08	108.31	106.76	78.61	112	20.40	18.21
DPS	85	140	100	85	70	96	23.96	24.36
DR	65.8	102.13	75.09	79.62	89.05	86.33	12.66	14.66
DY	3.97	2.75	1.95	1.73	2.94	9.63	73.87	28.16
PPS	2240	5090	5279	4899	2384	3977.6	1365.90	34.34
P/E ratio	17.34	36.84	48.70	45.89	30.33	35.82	11.31	31.56
E/Y	5.76	2.69	2.05	2.18	3.30	3.20	1.35	4.3

(Source: Annual report of 2067/68)

From the above table showed that earning per share (EPS) of Nepal Arab Bank Limited range between Rs. 78.61 to Rs. 137.08 .The standard deviation and C.V. of its EPS are 20.40 and 18.21 percent respectively. NABIL Bank has average DPS is Rs.112, until two year bank earnings per share has increase but after two year EPS of the has decrease trend.

DPS of the has increase until two year(i.e. 2063/64 to 2064/65) .after three year DPS of three year decrease (i.e.2065/66 to 2067/68).The average DPS of NABIL has Rs96.standred deviation and CV of this bank are 23.96 and 24.96 respectively. Similarly DPR of this bank has fluctuation trend. The average DPR, standard deviation and coefficient variation (CV) are 89.05, 12.66,14.66 percent respectively.

The average D/Y of this bank is 9.63.the highest D/Y is 3.79 percent in year 2063/64.the S.D and CV of D/Y at this bank are 7387 and 28016 respectively. The average MPPS of this bank is Rs3977.6.the highest MPPS

of the bank is Rs 5279 in year 2063/64.the S.D. and C.V of this bank are Rs 365.90, and 34.34 percent respectively.

The Average E/Y ratio of this bank is 3.20 percent. The highest E/Y of this bank is 48.70 percent in the year 2065/66.s.d,cv of the bank are 1.35 and 42.07 respectively. The Average P/E ratios and cv are 35.82, 11.33 and 31.58 respectively.

The overall financial performance of this bank can be taken as satisfactory for the given year.

4.2.2 Himalayan Bank Ltd (HBL)

Table No. 4.9: Financial Variable of HBL

Variable	2063/64	2064/65	2065/66	2066/67	2067/68	Mean	S.D.	C.V.
EPS	59.24	60.66	62.74	61.90	31.80	55.27	17.08	30.90
DPS	35	40	45	43.56	36.84	40.08	3.18	9.51
DR	59.06	65.94	71.72	70.37	115.85	76.59	20.21	26.27
DY	3.18	2.23	2.30	2.48	4.51	2.94	8541	29.05
MPPS	1100	1740	1960	1760	818	1475.2	438.54	29.73
EY	5.39	3.49	3.20	3.52	3.90	3.9	.78	19.94
PE ratio	18.57	28.69	31.56	28.43	25.66	25.58	4.43	16.67

From the above table showed that HBL has average EPS of Rs 55.27. The standard deviation and C.V. of this bank is Rs 17.07 and 30.90 percent respectively. EPS of HBL has increasing trend in every year till 2063/64 to 2066/67.but in the last year EPS of this bank has decreased.

Similarly the average DPS of this bank has 40.08. the highest DPS HBL has Rs 45.the standard deviation and co-variance of DPS of this bank are Rs 3.81 and 9.51 percent respectively. HBL DPR has increasing trend in every year. The Average DPR of HBL is 76.59 percent which means the bank pay

76.59 percent of its earning as dividend for its Investor. the standard deviation and co-variance are 20.12 and 26.27 percent respectively.

HBL has average D.Y 2.94 percent. the highest DY is 4.51 percent and lowest dividend yield is 2.23 percent. The S.D and C.V are .8541 and 29.05 percent respectively

The average MPPS for HBL bank is Rs 1475.2.the highest MPPS of the bank is Rs1960 and lowest MPPS is Rs 816 in year 2067/68. The S.D. and C.V of MPPS are 438.50 and 29.73 percent respectively. The average E.Y of HBL is 3.9 percent and S.D. and C.V. of HBL are .78 percent and 19094 percent respectively.

The average P/E ratio is 25.58 times. The P/E ratio between 32.56 times to 18.57 times. The standard deviation and co-variance of P/E ratio of this bank are 4.43 and 166.67 percent respectively.

4.2.5 Nepal Investment Bank Limited

Table No. 4.10: Financial Variable of NIBL

Variable	2063/64	2064/65	2065/66	2066/67	2067/68	Mean	S.D.	C.V.
EPS	59035	62.57	57.87	37.42	52.55	54	8.58	15.89
DPS	55.46	30	40.83	20	25	34.29	12.65	36.20
DR	93.46	47.95	70.55	53.45	47.57	62.60	17.54	28.03
DY	4.40	1.73	1.67	1.44	3.55	2.56	1.19	43.4
MPPS	1260	1729	2450	1388	705	1506.4	575.66	38.21
EY	4.71	3.62	2.36	2.69	7.45	4.17	1.82	43.76
P/E ratio	21.32	27.63	42.33	37.10	13.42	28.36	10.44	36.81

From the above table showed that Nepal Investment Bank Ltd. (NIBL) has average income Rs 54.the highest EPS of this bank is 62.57 and lowest EPS

is 37.42. The S.D and C.V of the bank is Rs 8.58 and 15.89 percent respectively.

NIBL has average DPS is Rs 31.76. its highest DPS is Rs 55.46 in year 2063/64 and lowest DPS is RS 20 in year 2066/67.the S.D and C.V of this bank are Rs 12.65 and 36.20 percent respectively. The average of NIBL has 62.60 percent which mean the bank pay 62.60 percent of its earning as dividend for its investor. The DPR range between 93.46 percent to 47.57 percent. The S.D and CV of DPR of this bank are 17.54 and 38.03 percent respectively.

The average D/Y of NIBL has 1.19 percent. The range of D/Y is 1.44 percent to 4.40 percent. The S.D and CV of D/Y of NIBL are 1.19 and 46.38 percent respectively.

The average MPPS of NIBL has Rs 1506.4.The highest MPPS fo this bank has Rs 2450 in year 2065/66 and lowest MPPS has Rs 705 in year 2067/68.the S.D and C.V of MPPS of this bank is Rs575.66 and 38.21 percent respectively.

The Average EY of the NIBL has average DPS is Rs 4.17 percent. the range of E/y between 2.36 percent and 7.47 percent. the S.D and CV of this bank are 4.17 percent and 43.76 percent respectively. The average P/E ratio of this bank is 28.36 times. the S.D and CV of this bank are 10.44 and 36.81 percent respectively.

4.3 Statistical Analysis

4.3.1 Correlation Analysis

The correlation coefficient measures the degree of relationship between two variables. The relationship exists either or negative. In this study, positive relationship of dividend with related variable is considered favorable.

4.3.1.1 Correlation Analysis of DPS and EPS

Table No. 4.11: Correlation Analysis of DPS and EPS

Bank	Correlation of coefficient (r)	Relationship	Correlation of determination (r^2)	6× PE	Significant/in significant
NABIL	0.7478	Positive	.5578	.8004	Significant
HBL	0.21	Positive	0.044	1.73	Significant
NIBL	0.6367	Positive	0.4054	1.076	Significant

See * Appendix-B

The above table showed that the relationship between DPS and EPS of sample banks. The correlation coefficient of all sample banks has positive. NABIL has highest value of correlation coefficient (r) then three commercial banks and HBL has the lowest value of correlation coefficient (r) then sample banks.

4.3.1.2 Correlation Analysis of DPS and MPPS

Table No. 4.12: Correlation Analysis of DPS and MPPS

Bank	Correlation of coefficient (r)	Relationship	Correlation of determination (r^2)	6× PE	Significant/in significant
NABIL	0.6379	Positive	0.4079	1.072	Significant
HBL	0.134	Positive	0.018	1.78	Significant
NIBL	0.25	Positive	0.63	0.67	Significant

See * Appendix-B

The above table showed that the relationship between DPS and MPPS of three sample banks. The correlation coefficient of all sample banks has positive correlation. The correlation coefficient at NABIL has high degree of positive correlation and HBL has very low degree of positive correlation.

4.3.2 Regression Analysis

The regression result of dividend per share on earning per share and market price per share on dividend per share are presented in the following different tables.

4.3.2.1 Regression Analysis: DPS on EPS

Table No. 4.13: Regression Analysis of DPS on EPS

Bank	Observation	Regression coefficient			
		a	b	SEE	R^2
NABIL	5	-2.22	.8770	75.92	.5578
HBL	5	34.85	0.058	43.68	0.044
NIBL	5	-13.96	0.89	140.21	.4054

(See * Appendix-B)

Table no: 4.13 exhibits the regression equation of DPS and EPS of NAbIL, HBL and NIBL.The above table showes that the linear relationship between dividend per share (DPS) and earnings per share (EPS). The regression line shows that DPS is dependent variable and EPS is independent variable. This analysis shows that value change in earning per share may effect of dividend per share or not. All sample commercial bank have positive regression coefficient (b).NABIL regression coefficient indicates that one rupee increase in EPS leads to average Rs..8770 increase in DPS. Similarly in case of HBL and NIBL the regression coefficient shows that one rupee increases in EPS leads to Rs. 0.058 and Rs.89 respectively. The highest regression coefficient (b) of NIBL is 0.89, which indicates that NIBL should provide more DPS if all banks earn equal EPS.

The standard error of estimate (SEE) of NABIL, HBL, and NIBL are Rs.75.92, Rs43.68 and Rs140.21 respectively.

4.3.2.2 Regression Analysis: MPPS on DPS

Table No. 4.14: Regression Analysis of MPPS on DPS

Bank	Observation	Regression coefficient			
		a	b	SEE	R^2
NABIL	5	51.46	0.011	5398.50	0.4079
HBL	5	34.17	0.0027	1965.52	0.018
NIBL	5	25.95	0.0055	2066.09	0.63

See * Appendix-B

Table no: 4.14 exhibits the regression equation of DPS and MPPS of NABIL, HBL and NIBL. The above table shows that the respect to the above regression result of market price per share and dividend per share regression coefficient (b) is positive for all three commercial banks. In case of NABIL regression coefficient (b) indicate that one rupee increase in dividend per share leads to average about Rs.0.011 increase in market price per share, holding other variable constant. In case of HBL and NIBL regression coefficient (b) indicate that one rupee increase in dividend per share leads to average about Rs. 0.0027 and Rs. 0.0055 respectively increase in market price per share, holding other variable constant. The regression constant (a) of all banks indicates that the average effect on dependent variables (MPPS) if all the independent variables (DPS) omitted from the model. The regression constant (a) of NABIL, HBL and NIBL are 51.46, 34.17and 25.95 respectively. The standard error of estimate measures the variability around the line of regression. The larger the standard error of estimate, the greater the dispersion of point around regression line. The standard errors of estimate of NABIL, HBLand NIBL are 5398.50, 1955.52 and 2066.09 respectively.

4.4 Major Finding

The major findings of the study are highlighted as follows:

- NABIL has highest EPS among the other sample commercial banks. After that, HBL has more EPS than other three banks. Until beginning two year three banks EPS have been increasing. but in last three year banks EPS have been decreasing (i.e. 2065/66 to 2067/68).
- NABIL has paid highest DPS among sample commercial bank. Its DPS has increasing in 2064/65. But After year 2065/66, Its DPS has slight decrease. DPS of HBL has been increasing until 2065/66. But after 2066/67 DPS of HBL was decreasing. Similarly EPS of NIBL has fluctuating trend.
- NABIL has highest MPPS among the other sample commercial banks. MPPS of NABIL, HBL and NIBL have increasing trend until three year (i.e. 2063/64 to 2065/66).but after MPPS of both banks are decreasing trend.
- Dividend yield of NABIL bank has decreasing trend. but D/Y of HBL and NIBL are fluctuation trend.
- Earning Yield (EY) of the commercial Banks is not stability. EY of HBL and NIBL have decreased in starting four year. But in ending year EY of these banks have increased. but E/Y of NABIL has fluctuation trend.
- Price Earnings Ratio of commercial bank is stability. Price earnings ratio of NABIL has fluctuation trend. but price earnings ratio of HBL and NIBL have increased in starting three year. But in ending two year price earnings ratio of these banks have decreased.
- Earnings per share (EPS) of commercial banks in Nepal seem positive. The average EPS of NABIL is highest.

- The average dividend per share (DPS) of NABIL is highest; so far HBL is lowest among three commercial banks.
- The average DPR of NABIL is the highest among sample commercial banks. Average DPR of NIBL is lowest.
- The average market price per share of NABIL is highest among the other three commercial bank. So this bank is in good position but MPPS of all commercial bank be considered to be encouraging.
- The average earning yield (EY) of NIBL is higher than other commercial bank. The mean EY of different commercial banks ranged from 3.20 percent to 3.90 percent.
- The average price earnings ratio of NABIL is highest among other sample banks. P/E ratio of NIBL is lowest among sample bank. The coefficient variation analysis shows that the P/E ratio of NIBL is most consistent.
- The DPS of all three commercial banks are positively correlated with EPS.
- The DPS of all sample banks are positively correlated with MPPS.
- Earnings per share and market price per share affects the dividend policy differently in different commercial banks.
- The regression analysis of DPS on EPS shows that regression coefficient (b) is positive among all the sample banks.
- The regression analysis between MPPS and DPS indicates that the regression coefficient (b) is positive for all sample banks.

CHAPTER-V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter, summary and conclusion regarding the study topic are presented. These findings regarding dividend policy certainly have shown necessity for the improvement of existing condition of the commercial banks of Nepal. So, the analysis of dividend, carried out from many dimension has provided some substantial feedback for the further improvement of the performance of the financial institution.

5.1 Summary

Dividend policy decision is one of the major decisions of financial management. The dividend policy decision affects on the operation and prosperity of the organization because it has the power to influence other two decisions of the organization i.e. capital structure decision and investment decision. An investor expects two types of return namely capital gain and dividend by investing in equity capital or ordinary share. So, payment of dividend to shareholders is an effective way to attract new investors and maintain present investors. It is important to have clearly defined and effectively managed dividend policy so as to fulfill the shareholders' expectations and corporate growth.

Dividend paying banks have been analyzed to show the implication of dividend policy that they have adopted in their market price per share. Now in Nepal, those banks have earned profit on only those paid dividend. Instability of dividend and inconsistent dividend payout ratio are the most applied phenomena of commercial banks in Nepal. But, only the some banks are paying dividend more attractively than the banks promoted by indigenous promoters. However, dividend policy is taking its path, slowly in Nepalese Commercial Environment.

In analyzing the problem with the stated objectives, this study has been in more descriptive nature. The study covers three commercial banks as well as it cover for the past five fiscal years from 2063/064 to 2067/2068. The available secondary data has been analyzed using various financial and statistical tools. So, the reliability of conclusions of this study is determined on the accuracy of secondary data.

The theoretical statement of this study is that dividend decision should depend upon EPS, MPPS, E/Y of the sample banks. Among Sample Banks, dividend payout ratio of NABIL is higher than other. Similarly, according to EPS, among sample banks, NABIL is more successful than other whereas HBL is the lowest. On the basis of P/ E ratio, among sample banks, NABIL has the higher ratio than other. It means NABIL has the better performance for enhancing the wealth of shareholders rather than other banks. On the basis of DPS, NABIL is paying higher value of dividend among sample banks. Moreover, on the basis of market price per share, NABIL has higher MPS then others.

For the purpose of statistical analysis of the entire sample banks, simple correlation and regression analysis are used to interpret the results. According to regression analysis of DPS on EPS is concerned, coefficient (b) is positive in all sample banks. It indicates that among others DPS increase with the increase in EPS in all. As for the relationship between DPS on NP is concerned, coefficient (b) is positive in all sample banks. The positive coefficient indicates that DPS increase with higher NP in all. As for the regression analysis of NW on DPS is concerned, coefficient (b) is positive for all banks. The positive coefficient (b) is indicates of net worth increase with higher DPS. Similarly, for the regression analysis of MPPS on DPS is concerned, coefficient (b) is positive for all banks except in NABIL. The positive coefficient (b) indicates that dividend per share increase MPPS whereas negative coefficient (b) indicates the DPS decrease MPPS.

The situation of capital market of Nepal is improving day by day. As a result, the capital market is efficient with compare to previous year. Though, there is weak efficient market where share price movement is random. This means share price movement does not follow any trends. In such market cash dividend will more effective than other forms of dividends like bonus and right. But it is reality that capital market of Nepal is still immature.

5.2 Conclusion

In conclusion, uncontrollable growth in number of financial institutions within a short span of time has raised reasonable doubts to the common people. By the analysis of investment activities, it is noticed that only few institutions have aggressive investment strategy with compare to conservative strategy among most of the financial institutions. Despite this, there is no doubt that financial institutions are the pillars of a nation's economy. The overall growth of the nation’s economy is linked with financial institutions. In these days, some financial institutions are running successfully and providing dividend to the shareholders according to their capacity. Also, they achieve the trust of common people which is the great success of their performance. On the whole, over this period, the scale of operation has expanded many times which makes more earnings every year. The financial institutions are able to distribute divided and able to expand their activities with the good earnings. But, it is yet to be done for the satisfaction of shareholders as well as overall growth of nation’s economy.

5.3 Recommendations

Based on the findings, the suggestions for future guidelines are presented here. These suggestions may also need some regressions but there is no doubt that these measures are helpful to improve the existing condition of financial

institutions as well as other organizations of Nepal. These suggestions will be proved to be milestone in order to correct the existing situation.

1. Dividend policy is must for the enhancement of existing return to meet the expectation of shareholders as well as improvement of nation's economy. By the formulation of dividend policy, there is a clear way to follow the dividend distribution. Therefore, the HMG must impose a minimum dividend obligation policy through suitable pragmatic legislative measure to ensure protection in the form of dividend payment to the investors in general.

2. There is a lack of consciousness in Nepalese investors regarding their rights and the company act. Therefore, there should be a kind of educating center about their rights on dividend income and other specific rights. Everybody should have clear knowledge about Nepalese Company Act- 1997 that makes some legal provisions for dividend payments.

3. Payment of dividend is neither static nor constantly growing. It is highly fluctuating. Such way of paying dividend could not impress the market positively. So, these financial institutions are advised to follow either static or constantly growing dividend payment policy. It would be better to fix the amount of dividend in the general annual meeting. This is important not only from the point of view of adequate return to shareholders but also to generate stable and increasing market value per share, long run survival of financial institutions, efficient management and socially acceptable distribution of income. Ability to maintain linkage of the adequate earning power with the adequate dividend return provides the benchmark for dynamic growth stability.

4. Issue of stock dividend decreases market value per share and earnings per share. But, issue of cash dividend increases market value per share and earnings per share. So, due to this reason common shareholders should be given a choice whether they prefer stock dividend or cash dividend. Therefore, all the financial institutions are suggested to take care regarding the interest of shareholders.

5. As financial institutions are assisting to promote the capital market and improve the economic condition of nation through collecting the scattered resources and utilizing them into productive ways. The government should provide facilities to improve the efficiency of the financial institutions and reduce the interference in daily affair. Similarly, the management should be careful about their duties and responsibilities for the operation of the financial institutions towards the interest of the shareholders as well as the improvement of nation's economy.

6. Formulation of dividend policy will clearly guide the way to follow dividend distribution. They should determine whether the company is going to adopt stable dividend policy, constant payout ratio or low regular plus extra dividend. There should be the long run dividend payout ratio, either it is pure residual theory, fixed dividend payout policy or smoothed residual dividend policy they all should have been clearly explained by the dividend policy.

7. Since financial institutions are dealing with public money collected by way of deposits in different sectors, there should be active supervision and credit-monitoring role of NRB becomes important. Progress reporting should be continuous and financial institutions should make their performance transparent to the investors. Moreover, there should also be professional representation in the Credit Information Bureau instead of having only member of it.

8. All the financial institutions should conduct a seminar and workshop for shareholders to get experience at least twice in a year. Private consultancy firms' experts in financial activities and top executives from all the financial institutions should be the key participants in seminar to identify where the problems lie in the efficient operation. Only then, there will be the solution of the problems regarding the financial performance of the financial institutions, which are helpful for more profit as well as more dividends to their shareholders.

9. It is more important for financial institutions for long-term sustainability then getting quick rich tendency of short-term value. Since, financial institutions have to survive as institutions in the long run and provide capital gain to the investor. That's why all the financial institutions have to maintain certain discipline by learning from experience of operation regarding what is good to do and what is not good to do for future improvement and further success.

10. The managers should be able to perform their duties and responsibilities to protect shareholders interest. They mustn't show their desire to operate the company in their own way.

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APPENDICES

Appendix-A
Financial Variables of Commercial Banks Used in Analysis

1. Nepal Arab Bank Ltd (NABIL)

Year	Net profit After Tax	No. of Common Stock (n)	Total Dividend	EPS	DPS	MPPS	Dividend Yield (%)	Earning Yield (%)	PE ratio	DPR (%)
2063/064	635266650.2	4916544	417906240	129.21	85	2240	3.79	5.76	17.34	65.78
2064/065	673959851.5	4916544	688316160	137.08	140	5050	2.75	2.69	36.84	102. 13
2065/066	746489849.6	6892160	68921600	108.31	100	5275	1.95	2.05	48.70	75.09
2066/067	1031031497	9657470	820884950	106.76	85	4899	1. 73	2.18	45.89	79.62
2067/068	11333598880	14491240	10143866800	78.21	70	2384	2.94	3.30	30.33	89.05

2. Himalayan Bank limited. (HBL)

Year	Net profit After Tax	No. of Common Stock (n)	Total dividend	EPS	DPS	MPPS	Dividend Yield (%)	Earning Yield (%)	PE ratio	DPR (%)
2063/064	457451280	7722000	270270000	59.24	35	1100	3.18	5.39	18.57	59.06
2064/065	491837346	8108100	324324000	60.66	40	1740	2.23	3.49	28.69	65.94
2065/066	635877742.5	10135125	456080625	62.74	45	1980	2.30	3.20	31.56	71.72
2066/067	752837085	12162150	529783254	61.90	43.56	1760	2.48	3.52	28.43	70.37
2067/068	510400000	16000000	589440000	31.90	36.84	816	4.51	3.90	25.66	115.85

3. Nepal Investment Bank Ltd. (NIBL)

Year	Net profit After Tax	No. of Common Stock (n)	Total dividend	EPS	DPS	MPPS	Dividend Yield (%)	Earning Yield (%)	PE ratio	DPR (%)
2063/064	350512791	5905860	3275389956	59.35	55.46	1260	4.40	4.71	21.32	93.46
2064/065	499002264	8013526	240405780	62.57	30	1729	1.73	3.62	27.63	47.95
2065/066	696705842	12039154	491558657.8	57.87	40.83	2450	1.67	2.36	42.33	70.55
2066/067	9007251824	24070689	481413780	37.42	20	1388	1.44	2.69	37.10	53.55
2067/068	1265980841	24090977	602274425	52.55	25	705	3.55	7.45	13.42	47.57

Appendix B

Correlation and Regression Analysis

1. Nabil Bank Limited correlation and Regression

B-1 Correlation Analysis of DPS on EPS

y	x	XY	y^2	x^2
85	129.21	10982.85	7225	16695.2241
140	137.08	19191.2	19600	18790.9264
100	108.31	10131	10000	11731.06
85	106.76	9074.6	7225	11397.6976
70	78.61	5522.7	4900	6179.53
480	559.97	55582.35	48950	647944.44

Note ,
Where, y represent DPS
x represent EPS
n represent number of year

Correlation coefficient is given by

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

$$= \frac{5 \times 55582.35 - 480 \times 559.97}{\sqrt{5 \times 48950 - (480)^2} \sqrt{5 \times 64794.44 - (559.97)^2}}$$

$= 0.7468$

$r^2 \ (o.7468)^2 = 0.5578$

$$PE = o.6745 \frac{1 - r^2}{\sqrt{n}}$$

$$= o.6745 \times \frac{1 - 0.5578}{\sqrt{5}}$$

$= 0.1334$

Regression equation of DPS on EPS is given by

$y = a + bx$ i

The values of the constants a and b can be determined by solving following two normal equation.

$\phi y = na + b\phi x$ ii

$\phi xy = a\phi x + b\phi x^2$…… iii

Substituting the values of n, ϕx, ϕy, ϕxy, ϕx^2 and ϕy^2 in (ii) and (iii) we get,

$559.97 = 5a + 480b$…….(iv)

$555582.35 = 480a + 6479.44$…….(v)

Now, Multiplying (iv) by 96 and equation by (v) by 5 and then subtracting we get,

$53757.12 = 480a + 46080b$

$55582.35 = 480a + 6479.44b$

$= -1825.23 = 39600.56b$

$\therefore b = 0.04609$

Putting the value of b in (iv) we get

$480 = 5a + 559.97 \times (0.8770)$

$a = -2.22$

$$SEE = \sqrt{\frac{\phi y^2 - a\phi y - b\phi xy}{n - 2}}$$

$$= \sqrt{\frac{64794.44 - (-2.22) \times 559.97 - 0.8770 \times 555823.35}{5 - 2}}$$

$$= 75.92$$

B-2 Correlation Analysis of DPS and MPPs

y	**x**	**XY**	**y^2**	**x^2**
85	2240	190400	7225	5017600
140	5090	712600	19600	25908100
100	5279	527900	10000	27867841
85	4899	416415	7225	24000201
70	2384	166880	4900	5683456
480	19892	2014195	48950	88477198

Note:

Value of y represent DPS
Value of x represent MPPS.
n represent number of year
Correction coefficient is given by

$$r_{xy} = \frac{n \quad xy - \quad x. \quad y}{\sqrt{n \quad x^{2} - \quad x^{2}}\sqrt{n. \quad y^{2} - \quad y^{2}}}$$

$$= \frac{5 \times 2014195 - 480 \times 19892}{\sqrt{5 \times 48950 - (480)^2}\sqrt{5 \times 88477198 - (19892)^2}}$$

$$= 0.6387$$

$$r^2 = .4079$$

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

$$= 0.6745 \times \frac{1 - 0.4079}{\sqrt{5}}$$

$$= 0.1786$$

Regression equation of MPPS on DPS is given by

$$y = a + bx \quad \text{……..(i)}$$

The values of the constants a and b can be determined by solving following two normal equation,

$$\phi y = na + b\phi x \quad \text{……. (ii)}$$

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

Substituting the values of n, ϕ x, ϕ y, ϕ xy, ϕ x^2 and ϕ y^2 in (ii) and (iii), we get,

$$480 = 5a + 19892b \quad \text{…….(iv)}$$

$$2014195 = 19892a + 88477198b \quad \text{……..(v)}$$

Now, multiplying (iv) by 19892 and (v) by 5 and then subtracting

$$9548160 = 99460a + 395691664b$$

$$-10070975 = 99460a \pm 442385990b$$

$$-522815 = -46694326b$$

$$\therefore b = 0.011$$

Putting the value of b in (iv) we get

$$482 = 5a + 19892 \times (0.010)$$

$$a = 51.46$$

$$\text{SEE} = \sqrt{\frac{\phi y^2 - a\phi y - b\phi xy}{n - 2}}$$

$$= \sqrt{\frac{88477198 - 51.46 \mid 19892 - 0.011 \mid 2014195}{5 - 2}}$$

$$= 5398.50$$

2. Himalayan bank limited

B-1 Correlation and Regression Analysis of DPS and EPS

y	**x**	**XY**	**y^2**	**x^2**
35	59.24	2073.4	1225	3509.4
40	60.66	2426.4	1600	3679.6
35	62.74	2195.9	1225	3936.3
43.56	61.90	2696.36	189705	3831.6
36.84	31.80	1171.51	1357.2	1011.2
190.4	276.34	10563.57	7304.69	15968.1

Note,

Value of y represents DPS

Value of x represents EPS

n represent number of year

Correlation Coefficient is given by

$$r_{12} = \frac{n.\phi xy \ Z \phi xy}{\sqrt{n\phi x^2 \ Z (\phi x)^2}\sqrt{n\phi y^2 \ Z (\phi y)^2}}$$

$$= \frac{5 \mid 10563.57 - 276.34 \mid 190.4}{\sqrt{5 \mid 7304.69 \ Z \int 190.4 Å}\sqrt{5 \mid 15968.1 Z \int 276.34 Å}}$$

$= 0.21$

$r^2 = 0.044$

$$P.E = 0.6745 \mid \frac{1 Z r^2}{\sqrt{n}}$$

$$= 0.6745 \mid \frac{1 Z 0.4370}{\sqrt{5}}$$

$= 0.1698$

Regression Equation of DPS on EPS is given by

$y = a + bx$ ----------(i)

The values of the constants a and b can be determinants and by solving following two normal equation,

$\phi y = na + b\phi x$ ……. (ii)

$\phi xy = a\phi x + b\phi x^2$…… (iii)

Substituting the values of n, x, y, xy, x^2 and y^2 in (ii) and (iii) we get

190.4=5a+276.34b ----------(iv)

10563.11=276.34a +15968.1b ----------(v)

Multiplying (iv) by 267.34 and (v) by 5 and then subtracting, we get

52615.136 X1381.7*a* Γ 76363.79*b*

Z52818.05 X1381.7*a* ⎨ 79840.5*b*

Z202.91 X Z3476.71*b*

b= 0.058

Putting the value of b in (iv) , we get

190.4= 5a + 276.34×(.058)

a = 34.85

$$S.EE = \sqrt{\frac{\phi y^2 \; Z\, a\phi y \; Z\, b\phi xy}{n \; Z\, 2}}$$

$$X\sqrt{\frac{15968.1 \; Z 34.75 \; | \; 276.34 \; Z 0.058 \; | \; 10563.61}{5 \; Z \; 2}}$$

= 43.68

B-2 Correlation Analysis of DPS on MPPS

X	**Y**	**X^2**	**XY**	**Y^2**
35	1100	1225	38500	1210000
40	1740	1600	69600	3027600
35	1960	1225	68600	3841600
43.56	1760	189705	76665.6	3097600
36.84	816	1357.2	30061.44	665856
190.4	7376	7304.69	283427.04	11842656

Note,

Value of y represents DPS

Value of x represents MPPS.

n represent the number of year

Correlation Coefficient is given by

$$r = \frac{n.\phi xy \; Z \phi x.\phi y}{\sqrt{n \; Z \phi x^2 \; Z (\phi x)^2} \sqrt{n \phi y^2 \; Z (\phi y)^2}}$$

$$= \frac{5 \mid 283427.04 - 190.4 \mid 7376}{\sqrt{5 \mid 17302.66 \, Z \int 190.4 \AA} \sqrt{5 \mid 11842656 \, Z \int 7376 \AA}}$$

$$= 0.134$$

$$r^2 = 0.018$$

$$P.E = 0.6745 \mid \frac{1 Z r^2}{\sqrt{n}}$$

$$= 0.6745 \mid \frac{1 Z 0.134}{\sqrt{5}}$$

$$= 0.2612$$

Regression Equation of DPS on MPPS is given by

$$y = a + bx \text{ ----------(i)}$$

The values of the constants a and b can be determinants and by solving following two normal equation,

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

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

Substituting the values of n, x, y, xy, x^2 and y^2 in (ii) and (iii) we get

$$190.4 = 5a + 7376b \text{ ----------(iv)}$$

$$283427.04 = 7376a + 11842656b \text{ ----------(v)}$$

Multiplying (iv) by 7376 and (v) by 5 and then subtracting

$$14043904 \; X 36880a \; \Gamma 54405376b$$

$$\frac{Z1417135.2 \; X 36880a \; \{ \; 59213280b}{Z12744.8 \; X Z4807904b}$$

$$b = 0.0027$$

Putting the value of b in (iv), we get,

$$190.4 = 5a + 7376 \times (0.0027)$$

$$a = 34.17$$

$$S.EE = \sqrt{\frac{\phi y^2 - a\phi y - b\phi xy}{n - 2}}$$

$$X\sqrt{\frac{11842656 - 34.17 - 7376 - 0.0027 - 411706.2}{5 - 2}}$$

=1964.65

3. Nepal Investment Bank Limited

B-1 Correlation and Regression Analysis of DPS on EPS

X	**Y**	**XY**	**X^2**	**Y^2**
55.46	59.35	3291.55	3075.81	3522.42
30	62.57	1877.1	900	3915.00
40.83	57.87	1667.09	1667.09	3348.94
20	37.42	748.4	400	1400.26
25	52.55	1313.75	625	2761.50
171.29	269.76	9593.63	6667.90	14948.12

Note,

Value of y represents DPS

Value of x represents EPS.

n represent the number of year

Correlation Coefficient is given by

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

$$= \frac{5 - 9593.63 - 171.29 - 269.76}{\sqrt{5 - 6667.90 - (171.29)^2}\sqrt{5 - 14948.12 - (269.76)^2}}$$

= 0.6367

r^2 = 0.4054

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

$= 0.6745 \mid \frac{1 - 0.4054}{\sqrt{5}}$

$= 0.1794$

Regression Equation of MPPS on DPS is given by

$y = a + bx$ ----------(i)

The values of the constants a and b can be determinants and by solving following two normal equation,

$\phi x = na + b\phi x$ …… (ii)

$\phi xy = a\phi x + b\phi x^2$

Substituting the values of n, x, y, xy, x^2 and y^2 in (ii) and (iii) we get

$171.29=5a+269.76b$ ----------(iv)

$9593.63=269.76a+14948.12b$ ----------(v)

Multiplying (iv) by 269.76 and (v) by 5 and subtracting each other we get,

$$\frac{46207.19 - 1348.8a - 72770.46b}{47968.15 - 1348.8a - 74740.6b}$$

$$\frac{}{1760.96 - 1970.14b}$$

$\therefore b = .89$

Putting the value of b in (iv) , we get

$171.29 = 5a + 269.76 \times (1.276)$

$\therefore a = -13.96$

$$SEE = \sqrt{\frac{\phi y^2 - a\phi y - b\phi xy}{n - 2}}$$

$$= \sqrt{\frac{14948 - (-13.96) \mid (269.76) - .89 \mid (9593.63)}{5 - 2}}$$

$= 140.21$

B-2 Correlation Analysis of DPS on MPPS

y	x	XY	y^2	x^2
55.46	1260	69879.6	3075.81	1587600
30	1729	51870	900	2989441
40.83	2450	100033.5	1667.09	6002500
20	1388	27760	400	1926544
25	705	17625	625	497025
171.29	7532	2671668.1	6667.91	13003110

Note,
Value of y represents DPS
Value of x represents MPPS
n represent number of year
Correlation Coefficient is given by

$$r = \frac{n.\phi xy \; Z \phi x.\phi y}{\sqrt{n\phi x^2 \; Z (\phi x)^2}\sqrt{n\phi y^2 \; Z (\phi y)^2}}$$

$$= \frac{5 \mid 267168.1 Z 171.29 \mid 7532}{\sqrt{5 \mid 6667.91 Z f 171.29 Å}\sqrt{5 \mid 13003110 Z f 7532 Å}}$$

= 0.25

r^2 = 0..63

$$P.E = 0.6745 \mid \frac{1 Z r^2}{\sqrt{n}}$$

$$= 0.675 \mid \frac{1 Z 0.21}{\sqrt{5}}$$

= 0.2827

Regression Equation of MPPS on DPS is given by

y = a + bx ----------(i)

The values of the constants a and b can be determinants and by solving following two normal equation,

$\phi y = na + b\phi x$…… (ii)

$\phi xy = a\phi x + b\phi x^2$…….. (iii)

Substituting the values of n, x, y, xy, x^2 and y^2 in (ii) and (iii) we get

171.29=5a+7532b ----------(iv)

267168.1=7532a+13003110b ----------(v)

Multiplying (iv) by 156.79 and (v) by 5 and subtracting

$$1290156.28 - 37660a - 56731024b$$
$$\underline{1335840.5 - 37660a - 65015550b}$$
$$-45684022 - -8284526b$$

$\therefore b = 0.0055$

Putting the value of b in (iv), we get

171.29=5a+7532×0.0055

$\therefore a = 25.95$

$$SEE = \sqrt{\frac{\phi y^2 - a\phi y - b\phi xy}{n - 2}}$$

$$= \sqrt{\frac{13003110 - 25.95 | 7532 - 0.0055 | 267168}{5 - 2}}$$

= 2066.09