

CHAPTER I

INTRODUCTION

1.1 Background

Nepal is an underdeveloped country surrounded by two economic superpowers of the world China and India. Majority of the population lie below the poverty line. Various factors like landlocked situation, poor resources mobilization, lack of entrepreneurship, lack of institutional commitment, erratic government policies, political instability etc are responsible for the slow pace of development in Nepal. Here, we can also look at the positive side too. After the restoration of democracy in 1990 and universal echo of economic liberalization, Nepal has implemented liberal economy policy. As a result, many more companies are established in different sectors such as industrial, tourism, transportation, trade and mostly in the finance sector whose contribution in economy has great significance. Nepal is a country trying to develop its economy through global trend and of course with country suited economy liberalization. Development in the financial terms is the efficient flow and generation of the funds in the most productive sectors.

Once a company makes a profit, it should decide on what to do with the profit. It could continue 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 from a firm's earnings in return to their investment, whether those earning were generated in the current period or in previous periods and policy refers to the decision about how much earnings, at what form should be distributed. Thus, dividend policy is to determine the amount of earnings to be distributed to shareholders and the amount to be retained in the firm. The objective of a dividend policy should be to maximize shareholder's position.

Dividend refers to that portion of retained earnings that is paid to stockholders while dividend policy refers to the policy or guidelines that management uses in establishing the portion of retained earnings that is to be paid in dividends. The policy of a company regarding division of profit between dividend and retention is also known as dividend policy. Before making dividend decision a firm should forecast its future need for the funds and then determines the amount to be retained.

Dividend policy is an integral part of the firm's financing decision¹. The dividend policy of the firm is regarded as a tool to determine the appropriate allocation of profits between dividend payments and the amount to be retained in the firm. Dividend is a portion of earning of a firm which is distributed to its shareholders. Retained earnings are the most significant internal sources of financing for the growth of the firm. When any company makes profit, there is further problem of how much should be retained in the firm. Dividend policy helps to solve this problem.

Dividend policy is a major decision of the firm under which it is determined that what percentage of the earnings is retained in the firm which is desirable for the growth of the firm. Dividend policy, being of a crucial importance and purely a policy matter is to be formulated with consistent approach instead of making decision on ad hoc/ spur of the moment basis. Retention of earning is desirable for the growth of the firm where as shareholders are interested to get some sort of return in the form of dividend.

In the context of Nepal, most of the public enterprises are operating in loss. In such situation it is not possible to distribute dividend. Such enterprises mainly focus on the minimizing their loss. Dividend distribution trend has not only attracted the investor's but has also made the management conscious about the policy regarding the payment of dividend, which has always correlation with MPS.

¹ James C Van Horne and John M. Wachowicz, Fundamentals of Financial Management 9th Ed. (New Delhi: Prentice Hall of India Pvt Ltd, 1997) p. 494.

But in some cases out of this interrelation, the price may remain constant, or decrease too. Therefore information lack or flow is also vital in the analysis of MPS. Thus, this study aims to focus on prevailing practice and policies of Nepalese listed companies with reference to commercial Banks in Nepal regarding dividend payments.

1.2 Focus of the Study

Dividend policy is one of the important decisions which play a vital role in financial sector. In any firm, dividend policy is taken as major financial decision which affects the value of the firm. Any investor does not invest in stock without knowing the dividend policy of the firm. This study is mainly focused on the dividend practices of 4 sample companies which include 4 commercial banks. These commercial banks taken under study are already experienced in the practice of dividend distribution. In Nepalese context, most of the investors are investing in the stock without knowledge of company's performances. This is due to the lack of availability of research about these company's performances. In this study it is tried to find out the appropriate dividend policies of banks and their performances regarding to the dividend payment. It is believed that this study will be useful to those investors who are interested to have knowledge about the performances of the banks taken under study.

1.3 Statement of Problem

Dividend policy determines the division of earnings between payments to stockholders and reinvestment in the firm. Retained earnings are one of the most significant sources of funds for financing corporate growth, but dividends constitute the cash flows that accrue to stockholders².

² J. Fred Weston and Eugene F. Brigham, "Dividend Policy", Essentials of Managerial Finance, 7th Ed. (New York: The Dryden Press International Editions, 1972) p.673

There are different Schools of thoughts on dividend policy in the theoretical literature of finance. One school of thought holds that capital gains expected to result from earnings retention are more riskier than dividend expectations. Another school of thought holds that investors are basically indifferent to returns in the form of dividends or capital gains.

Many theories and empirical findings concerning dividend policy have been evolved in the literature of finance yet; the dividend policy is still a crucial and probably a most controversial topic in finance. Dividend policy may affect such areas like financial structure, the flow of funds, corporate liquidity, stock prices and investor's satisfaction. It is clearly an important aspect of financial management.

In the context of Nepal, there are more than 100 companies and public enterprises listed with Nepal Stock Exchange Limited. These companies are not seen so serious regarding dividend decisions since most of them do not have any consistent and clear-cut policy on dividend distribution. In connection to Nepalese public Enterprises Dr. M.K. Shrestha remarks that Dividend is still considered as the unintended strategy or the non-payable obligation at a time when GON is not in a position to impose the public limited companies to pay minimum rate of dividend on the equity capital contributed³.

Some Nepalese Acts like Nepal Company Act 2063, Nepal Company Act 2053, Commercial Bank Act 2031, and other regulating acts are still silent regarding dividend payments. Because of these reasons, different companies are adopting different dividend decision inconsistently. There is common trend that dividend is decided by company management instead of by shareholders meeting.

In Nepalese context, different companies have adopted different policies and dividends are paid in the different forms such as cash dividend and stock dividend.

³ Manohar Krishna Shrestha, "Dividend Policy in Selected Public Limited Companies", The Nepalese Management Review (Vol.No.1 Summer 1985).

Nowadays stock dividends are more popular in Nepal especially in banking sector. But there is no uniformity in dividend distribution. The banks taken under study are also not distributing dividend in equal proportion. Under the prevalence of these situations, this study tries to deal with the following problems:

- What is the prevailing practice of the Nepalese listed companies regarding their dividend policies?
- Whether or not the prevailing dividend policy affects corporate liquidity and stock prices of selected companies?
- Whether there is any relationship between dividend policy & other financial indicators?
- Whether there is significant difference between DPS, EPS and DPR of the selected companies?

1.4 Objectives of the Study

The basic objectives of the study is to assess the prevailing practice of the Nepalese listed companies regarding dividend and to test whether or not dividend decision is influencing factors of financial structure, the flow of funds, corporate liquidity, stock prices and investors satisfaction.

The objectives of the study are as follows:

- To assess prevailing dividend policy adopted by listed companies under study.
- To study whether or not dividend influences the liquidity position and stock prices of selective companies.
- To examine whether there is significant difference between earning per share, dividend per share, dividend payout ratio.
- To provide suggestions for the improvement of sample companies dividend policy on the basis of findings.

1.5 Significance of the Study

Nowadays, people are attracted to invest in shares for the purpose of getting greater returns and maximizing their wealth position. So, the dividend policy has become an effective way to attract new investors, retain existing investors, and to keep present investors happy and to maintain goodwill of the company. When any new company floats shares through capital market, very big congregation gathers to apply for owner's certificate. It indicates people's expectation on higher of investment in shares.

While investing in shares the investor forgoes opportunity income that he could have earned. In capital market, the return can be earned in two ways

- a) By means of dividend
- b) By capital gains i.e. increase in price

Due to the lack of enough knowledge, the people are investing hit-or-miss in shares. It is necessary to establish clear conceptions about the return that results from investing in securities. In Nepal, there are almost none of the companies adopting dividend policy. There would be many reasons behind it for which there is not enough study.

Therefore, considering all these facts the study is undertaken which will help the investors to choose a profitable firm, which will provide higher return to their investment. So, this will help them to choose the better company for investment. This research will also useful for management to point out the loopholes and suggest the remedies about the appropriate dividend policy and also for stockbrokers, financial agencies, scholars, policy makers and other interested persons.

1.6 Organization of the Study

The study has been organized into five chapters:

Chapter I – This chapter deals with the subject matter of the study consisting background of the study, profiles of the companies, Statement of problem, objectives of the study, limitation of the study and organization of the study.

Chapter II – This chapter deals with review of literature. It includes conceptual frame work along with review of major books, journals, research works and thesis e.t.c.

Chapter III – This chapter deals with Research Methodology. It includes Methodology used to achieve the objectives of the study, sources of data, population and sample, financial and statistical tools used.

Chapter IV – This chapter deals with analysis and interpretation of data using financial and statistical tools and Major Findings are described in third chapter.

Chapter V – This is the last chapter which deals with Summary, conclusions and recommendation of the study.

CHAPTER II

REVIEW OF LITERATURE

2.1 The Conceptual Framework

Dividend decision is the crucial area of Financial Management. The dividend policy determines the amount of earnings to be distributed to shareholders and the amount to be retained in the firm. Dividend is a portion of earning which is distributed to shareholders in return of their investment in share capital. Dividend implies to the portion of earnings that is paid to the shareholders while dividend policy refers to the guidelines that management uses in establishing portion of retained earning that is paid to the shareholders in the form of dividend⁴. Dividend conveys pro rata distribution of earnings either in the form of direct cash or additional stock in accordance with the proportionate shareholding. Nowadays, it is mostly interpreted in terms of left-over earnings after financing all acceptable investment opportunities and these are used for the payment of dividend. In this way, dividend is just the means of distributing unused funds or paying out whatever funds left after making all attractive investment⁵. Further more, it is stated simply as the by product of the firm's capital budgeting decision and borrowing decision.

What and how much it is desirable to pay as dividend is always a matter of dispute. Dividends are desirable from shareholders point of view as it tends to increase their current wealth where as retention of earning is desirable for the growth of the firm. These two objectives of the dividend policy are always in conflict.

So, the objective of choosing a dividend policy should be to maximize the value of the firm to its shareholders. There are different theories on the relationship between dividend and the value of the firm; this will be discussed later on this chapter.

⁴ Iqbal Mathur, An Introduction to Financial Management, (New York : Macmillan Publishing Company Inc, 1979) p.297.

⁵ James C Van Horne, "Dividend Policy: Theory and Practice", Financial Management and Policy, 10th Ed. (New Delhi : Prentice Hall of India Pvt. Ltd., 1981) p.448

2.1.1 Types of Dividend

Corporations need to follow different types of dividend in view of the objective and policies they implement. In Nepalese context, the type of dividend that corporations follow is partly of a matter of attitude of directors and partly a matter of shareholders preferences and partly depending to the various circumstances and financial constraints and corporate plans and policies⁶. Before considering dividend policy at theoretical level, it is useful to explain major types of dividend.

➤ Cash Dividend

Cash dividend is the dividend which is distributed to the shareholders in cash out of the earnings. The payment of the cash dividend reduces the cash account or the reserve account of the company. So, it may create liquidity problem in company. When cash dividend is paid both total assets and the net worth of the company are reduced. The market price of the share drops in most cases by the amount of cash dividend distributed⁷. So, the companies should wisely make decision regarding payment of cash dividend.

➤ Stock Dividend

A stock dividend represents a distribution of shares in lieu of or in addition to the cash dividend to the existing shareholders. Payment of stock dividend increases the number of outstanding shares of the company. Simply it is a recapitalization of the owner's equity portion, i.e. he reserves and surpluses and transfers a portion of retained earnings to the capital accounts. When there is given stock dividend.

- 1) There is no change in the firm's assets or liability. It does not affect cash and earnings position of the firm.
- 2) It increases share numbers held by current shareholder reducing par value of stock remains as before their equity.

⁶ Manohar Krishna Shrestha, Financial Management (Theory and Practice) CDC, TU, 1980, p. 670

⁷ P.G. Hasting, The Management of Business Finance, (New York : D. Ban Nostrand Company Inc. 1996) p.370.

➤ Bond Dividend

Another aspect of dividend payment is bond dividend. It is rare phenomenon and long term enough to fall the current liability. It is somehow similar to scrip dividend. But different between the two is in respect of date of payment. As in scrip dividend, dividend isn't paid immediately. This issue of bond dividend increases the long-term obligation of the company's current liability.

➤ Scrip Dividend

Sometimes, there may be temporary shortage of cash availability in the company. In such situation, company may issue scrip or notes promising to pay dividend with maturity date or disbursement date. So, if the dividend payment made through scrip of promising notes instead of cash is known as scrip dividend. Such dividend may be interest bearing or non-interest bearing they are paid when current or past earnings are adequate to holding of cash.

➤ Property Dividend

When payment is made in the form of assets or property rather than cash is termed as property dividend. It is distributed when assets are considered no longer essential in the operation of the business or in extra ordinary circumstances. Such assets may be products of the company itself or securities of subsidiaries owned by the company.

2.1.2 Stability of Dividends

Stability of dividends means regularity in paying some dividend annually, even though the amount of dividend may fluctuate from year to year and may not be related with earning⁸. Stability of dividend payment is an attractive feature to many investors. By stability, we mean maintaining the position of the firm's dividend payments in relation to

⁸ I.M. Pandey "Dividend Policy in Practice" Financial Management 6th Ed. (New Delhi: Vikash Publishing House Pvt Ltd, 1979) p.302.

a trend line, preferably one that is upward sloping⁹. There are some reasons to believe that a stable dividend policy does lead to higher stock prices. First, investors are generally expected to value more highly dividends they are very sure of receiving, since fluctuating dividends are riskier than stable ones. Accordingly, the same average amount of dividend received under a fluctuating dividend policy is likely to have a higher discount factor applied to it than is applied to dividends under a stable dividend policy. This means that a company with a stable dividend will have a lower required rate of return or cost of equity capital than one whose dividend fluctuates. Second, many stockholders live on income received in the form of dividends. These stockholders are greatly inconvenienced by fluctuating dividends, and they will pay a premium for a stock with a relatively assured minimum dollar dividend. Third, from the stand point of both the corporation and its stockholders is that stability of dividend is desirable for the requirement of legal listing¹⁰.

There are three distinct forms of such stability of dividend payments. They are:

1) Constant dividend per share

Under this policy, dividend is paid in a fixed amount per share every year, irrespective of the fluctuations in the earnings. This policy is followed by most of the companies. It is easy to follow this policy when earnings are stable. If the earnings pattern of a company shows wide fluctuations, it is difficult to maintain such a policy. Investors who have dividend as the only one source of income prefer this policy.

2) Constant payout ratio

Constant payout ratio means paying a fixed percentage of net earning as dividend payment every year. With this policy the amount of dividend will fluctuate in direct proportion of earnings. This type of policy is generally adopted by management because it is directly related to the company's ability to pay dividends. If the company generates

⁹ James C Van Horne and John M.Jr. Wachowicz, "Dividend Policy", Fundamentals of Financial Management, 9th Ed. (New Delhi: Prentice Hall of India Pvt Ltd, 1997) p.503.

¹⁰ J.Fred Weston and Eugene F. Brigham, "Dividend Policy", Essentials of Managerial Finance, 7th Ed. (New York : The Dryden Press International Editions,1972) p. 681.

profits dividend shall be paid otherwise not. It insures that dividends are paid when profits are earned and avoided when it incurs losses.

3) Low regular dividends plus extras

The low regular dividend plus extras policy is a compromise between the first two. It gives the companies flexibility but leaves investors some what uncertain about what their dividend income will be if a company's earnings are quite volatile, however, this policy may well be its best choice, under this policy, the small amount of dividend is fixed to reduce the possibility of ever missing a dividend payment. By paying extra dividend in periods of good profits an attempt is made to prevent investors from expecting dividend amount. This policy enables a company to pay constant amount of dividend regularly without a default and allows a great deal of flexibility.

2.1.3 Conflicting Theories on Dividends

Two basic schools of thoughts on dividend policy have been expressed in the theoretical literature of finance. First school holds that capital gains expected to result from earnings retention are riskier than are dividend expectations. Myron Gordon and John Lintner are Theorists of this school of thought. These theorists suggest that earnings of a firm with a low payout ratio are typically capitalized at higher rates than the earnings of a high payout firm.

The other school, associated with Metron Miller and Franco Modigliani holds that investors are basically indifferent to returns in the form of dividend or capital gains. When firms raise or lower their dividends, if their stock prices tend to rise or fall in like manner. They assert that, given the investment decision of the firm the value of the firm is determined safely by the earning power of the firm's assets and the manner in which the earnings split between dividends and retained earnings does not affect the value of firm.

2.1.4 The Residual theory of Dividends

Dividend policy can be viewed as one of the firm's investment decisions. A firm that behaves in a manner is said to believe in the residual theory of dividends. According to this theory, dividend policy is a residual from investment policy. It assumes that the internally generated funds are comparatively cheaper than the funds obtained from external sources.

This theory is based on the premise that investors prefer to have the firm retain and reinvest earnings exceeds the rate of return the investor could himself, obtain on other investments of comparable risks. The dividend under a residual dividend policy equals the amount left over from earnings, no dividends are paid. If equity investment is greater than earnings, then no dividends are paid and new shares are sold to cover any equity investment not covered by earnings. If there isn't any investment opportunity, then cent percent earnings are distributed to the shareholders. Dividends are therefore, merely a residual remaining after all equity investment needs are fulfilled¹¹.

Although the residual theory of dividends appears to make further analysis of dividend policy unnecessary, it is indeed not clear that dividends are solely a means of disbursing excess funds¹². It would therefore be imprudent to conclude that there are no other implications of dividend policy and so this study shall take a closer look at the relationship between dividends and values.

2.1.5 Factors Influencing Dividend Policy

While making dividend decision, there are many factors that have to be considered. Some factors that influence the dividend policy are explained below.

¹¹ Lawrence D. Schall and Charles W. Haley, "The Firm's Investment, Financing and Dividends Decisions", Introduction to Financial Management, 6th Ed. (Mc-Graw Hill International Editions, Finance Series, 1991) p.448

¹² Ramesh K.S Rao, "The Dividend Policy decision", Financial Management concept and application, 2nd Ed. (New York : Macmillan Publishing company, 1992) p.458

1. Legal Rules

Legal rules are significant because they provide the framework within which the dividend policy can be formulated. Within their boundaries, financial and economic factors have a major influence on the policy. Following are some laws regarding dividend.

i. Capital Impairment Rule

This rule states that dividend should not be paid if a firm's capital has been impaired or if dividend payment will cause capital to become impaired. It means dividends should not be paid out of paid up capital.

ii. The surplus Rule

Dividends should be paid only out of surplus. If there is no surplus or profits, dividends cannot be legally declared. The Insolvency Rule

iii. The Insolvency Rule

According to insolvency rule, dividends cannot be paid if company is insolvent or if a payment would result in insolvency.

2. Liquidity Position

Profits held as retained earnings which are shown up on the right-hand side of the balance sheet are generally invested in assets required for the conduct of the business. Retained earnings are not held as cash because they are already invested in plant and equipment, inventories and other assets. Therefore, even if a firm has a record of earnings, it may not be possible to pay cash dividends because of its liquidity position. Even a growing and a profitable firm needs heavy funds, in such a situation the firm may choose another option i.e. not paying dividends.

3. Stability of Earnings

A firm having relatively stable earnings is more likely to pay out a higher percentage of its earnings than is a firm with fluctuating earnings. The unstable firm is not certain of their earnings in subsequent years. So, it is likely to retain a high proportion of earnings.

4. Access to the Capital Markets

A well-established large firm with a record of profitability and stability of earnings has easy access to capital markets and other forms of external financing. However, a small, new or venturesome firm doesn't have the ability to raise equity or debt funds from capital markets are restricted. So, it must retain more earnings to finance its operation." Larger firms tend to be more mature and thus have easier access to the capital market which reduces their dependence on internally generated funding and follows for higher dividend payout ratios."¹³.

5. Control

Another important variable is the effect of alternative sources of financing on the control situation of the firm. Some firm follows a policy i.e. to expand only to the extent of their internal earnings. It is because raising funds by selling additional common stock dilutes the control of the dominant group in that firm. At the same time, selling debt increases the risks of fluctuating earnings to the present owners of the firm. Thus reliance on internal financing in order to maintain control reduces the dividend payout.

6. Profit Rate

The expected rate of return on asset determines the relative attractiveness of paying out earnings as the firm of dividend to stockholders. Thus high profits provide high dividend.

7. Contractual Restrictions

A contract made with lenders such as debt-holders, creditors and preference shareholders may restrict to pay cash dividends. Due to such restriction paying certain level of earnings or not paying more than specified sum of amount or setting aside some percentage of earnings to the investment.

¹³ W.P Lloyd, J.S. Jahera and D.E Page " Agency Costs and Dividend payout ratios". Quarterly Journal of Business and Economics. (Summer, 1985) pp. 19-21

8. Others

Tax position of the shareholders also affects the dividend policy.

2.1.6 Legal Provision Regarding Dividend Practices

In Nepal, “The Company Act 2063”¹⁴ makes some legal provision for dividend payments. These provisions may be seemed as under:

1. Except in the following circumstances, dividend shall be distributed to the shareholders within forty five days of the decision made to provide dividend:
 - a) If any law prohibits the distribution of dividend;
 - b) If the right to receive dividend is subject to any dispute;
 - c) If, in a circumstances beyond control of the company or for any reason, dividend cannot be distributed within the said time-limit.
2. A company fully or partly owned by the Government of Nepal may distribute dividend only after obtaining prior approval of the Government of Nepal; and the Government of Nepal may give necessary directive on the matter of dividend to be distributed by such company.
3. In the event of failure to distribute a dividend within the time limit as referred to in sub-section (1), the dividend shall be distributed together with the interest thereon at such rate as may be prescribed.
4. The person whose name is maintained in the shareholder register at the time of declaration of a dividend or his legal heir shall be entitled to such dividend.

¹⁴ Nepal Company Act, 2063

5. A company shall not pay or distribute a dividend in any other manner except out of the amount of profits set aside for the distribution of dividend.
6. Before paying or declaring a dividend out of the profits for any financial year, a company shall have fully deducted the pre operation expenses, the amount required to be depreciated in accordance with the accounting standards fixed by the competent authority under the prevailing law, any amount required to be paid or set aside out of the profits under the prevailing law or the amount of accumulated loss in previous financial years.

Provided, however, that if the prevailing law requires the establishment of a reserve or consolidated fund of any amount prior to distributing dividend, any company which is required to comply with such legal requirement shall not distribute dividend without establishing such reserve or consolidated fund.

7. Subject to the various provisions contained in this Section, the board of directors of any company may, in the following circumstance, distribute interim dividend out of the profits for the previous financial year:
 - a) Where the articles of association contain a provision on the distribution of interim dividend;
 - b) Where the annual financial statement for the financial year out of the profits of which year interim dividend is to be distributed has already been certified by the auditor and approved by the board of directors.
8. No company shall pay or distribute any amount in cash or kind, chargeable on its funds, to its shareholders, except a dividend approved by the general meeting.
9. The amount of dividend not claimed/received by any shareholders even after the expiry of a period of five years after the date of resolution adopted by the company in its general meeting to distribute dividend shall be credited to the investors protection fund to be established under Section 183.

10. In crediting the amount as referred to in sub-section (9) to the fund as referred to in Section 183, a company shall, prior to the expiry of the period mentioned in that sub-section, publish a notice in a national daily newspaper inviting the concerned to receive the dividend, within the time limit of at least one month.
11. A company shall credit the amount of a dividend to be distributed to its shareholders pursuant to this Act to a separate account within forty five days after the date of approval by the general meeting and pay the amount of dividend out of that account; and the company shall not use such amount for any other purpose.

2.2 REVIEW OF PREVIOUS MAJOR STUDIES

2.2.1 Walter's Study

The arguments advanced by Professor Walter is of considerable interest in the literature of finance. He holds that the choice of dividend policies almost always affect the value of the enterprise¹⁵. The main point which he emphasized is that there is significant relationship between the internal rate of return on investment projects and market rate demanded by the investors. As long as the internal rate is greater than the market rate, the stock price will be enhanced by retention of earnings and will inversely dividend payout. This approach is based on that dividend policy can be used to maximize the wealth position of stockholders.

Basic Assumptions:

- The firm finances all investment through retained earnings that is debt or new equity is not issued.
- The firm's internal rate of return, r and its cost of capital, k is constant.
- All earnings are either distributed as dividends or reinvested internally.

¹⁵ James E. Walter, "Dividend Policies and Common Stock Prices" Journal of Finance, (American Finance Association, March 1996) pp. 29-41.

- There is no change in values of earning per share and dividend per share.
- The firm has a very long or infinite life.

Based on above assumption, Walter has suggested the following formula:

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

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

Where,

P = Market price per share

r = Internal rate of return

K = Cost of capital

DPS = Dividend per share

EPS = Earning per share

Walter has suggested different dividend policy for different firms based on their growth stage. They are:

Growth Firms

Firms having $r > k$ are referred as growth firms. Growth firms are assumed to have ample profitable investment opportunity. These firms reinvest earnings because they have higher rate of return than the rate expected by shareholders. These firms will maximize the value per share by retaining all earnings for internal investment. Thus the optimum pay out ratio for growth firm is zero. The market price per share increases as pay out ratio declines where $r > k$.

Normal Firms

When the firms do not have unlimited investment opportunities with $r > k$. after exploiting profitable investment opportunities, these firms earn equal to the cost of capital and they have $r = k$. When firms are in this situation dividend policy do not have any effect on market value per share. Thus, there is no unique optimum payout ratio for the normal firms.

Declining Firms

When the firms do not have any profitable investment opportunity to invest, these are referred as declining firms. If these firms invest on unattractive investment, they will earn less internal rate of return than required by the investors. So, investing on these investments is worthless. Thus, optimum payout ratio for declining firms is 100%. The market value per share 'P' increases as pay out ratio increases.

Criticism of Walter's Approach

1) No External Financing – Walter's approach assumes that the investment opportunities of the firms are financed by retained earnings only and no external financing debt or equity is used for the financing. When such a situation exists, either the firm's investment or its dividend policy or both will be suboptimum¹⁶.

This means, when the firm's earnings are not adequate to exploit all investment opportunities having return at least equal or more than cost of capital, this approach does not allow to finance the gap by using other sources.

2) Constant r and k – Walter's approach is based on assumption that r and k are constant. In fact, r decreases as more investment occurs and k changes directly with the firm's risk.

¹⁶ Jack Clark Francis, Investment : Analysis and Management, (New York : MC-Graw Hill Book Company Inc, 1972) p.347.

2.2.5 Gordon's Study¹⁷

Myron Gordon has recommended the interesting approach relating the market value of the firm to dividend policy. He holds that investors have a strong preference for present dividends to future capital gains under the condition of uncertainty. It is assumed that current dividend is less risky than the expected capital gain. According to him, market value of a share is equal to the present value of an infinite stream of dividends to be received by the share.

Gordon's model is based on the following assumption:

- The firm is an all equity firm.
- No external financing is available, so retained earnings would be used to finance any expansion.
- Internal rate of return (r) and cost of capital (k) are constant.
- Discount rate, k, for the firm remains constant.
- The firm and its stream of earnings are perpetual.
- The corporate taxes do not exist.
- The retention ratio b, once decided upon is constant. Thus, growth rate $g = b.r$ is constant.
- $K > br = g$ to get meaningful value.

Based on above assumption, the formula advanced by him is as follows.

$$P_0 = \frac{EPS(1-b)}{K_e - g}$$

Where,

P_0 = Price of a share

EPS = Earning per share

¹⁷ Myron J. Gordon "The Investment Financing and Valuation of Corporation" (Home wood III. Irwin.1962).

b = Retention ratio

K_e = Capitalization rate

g = Growth rate

$1-b$ = Dividend payout ratio

In case of growth firm's, share price tends to enhance with increase in retention ratio, b , or decrease in pay out ratio $1-b$.

In case of normal firms, share price tends to be constant regardless of changes in retention ratio b , and payout ratio $1-b$.

In case of declining firms, share price tends to enhance with increase in payout ratio, $1-b$, or decrease in retention ratio, b .

2.2.5 Modigliani and Miller's Study¹⁸

Modigliani and Miller (MM) provide the most comprehensive argument for the irrelevance of dividends. According to MM, dividend policy of a firm is irrelevant as it does not affect the wealth of the shareholders. They hold that the value of the firm depends on the earning power of the firm's assets, or its investment policy. When investment decision of the firm is given, dividend decision the split of earnings between dividends and retained earnings is of no significance in determining the value of the firm. According to them the effect of dividend payments on shareholders wealth is exactly offset by other means of financing.

M- M Hypothesis of Irrelevance:

- Perfect capital market, rationale investors, free information, no flotation cost and infinite divisibility of security.

¹⁸ F Modigliani and M.H. Miller, "Dividend Policy, Growth and valuation of shares". Journal of Business (October, 1961) pp 411-433.

- Taxes do not exist.
- The firm has a fixed investment policy.
- Risks of uncertainty does not exist. Investors are able to forecast future prices and dividend with certainty and one discount rate is appropriate for all securities and all time periods. Thus, $r = k = k_t$ for all time. Based on above assumptions.

They have advanced following formulae.

$$r = \frac{\text{Dividends} + \text{Capital gain (loss)}}{\text{Purchase price}}$$

$$r = \frac{D_1 + (P_1 - P_0)}{P_0}$$

Where,

r = rate of return

D_1 = Dividend per share at time t

P_1 = Market price per share at time 1

P_0 = Market price per share at time 0

Or

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

$$P_0 = \frac{D_1 + P_1}{1 + k} \quad (\text{Since } r = k \text{ with assumption of certainty})$$

To obtain the total value of the firm let us multiply both sides by number of shares outstanding.

$$V = n P_0 = \frac{n(D_1 + P_1)}{1 + k}$$

If the firm sells n number of new shares at time 1 at a price of P_1 , the value of the firm at time 0 will be

$$V = n P_0 - \frac{n(D1 + P1) + mp1 - mp1}{1 + k}$$

$$= \frac{n D1 + n P1 + mp1 - mp1}{1 + k}$$

$$= \frac{n D1 + (n + m) P1 - mp1}{1 + k}$$

If the investment proposals of a firm, in a given period of time can be financed either by retained earning or the issuance of new shares or both. Thus, the amount of new issued will be

$$m P1 = I - (E - nD1)$$

$$= I - E + nD1$$

Where,

I = investment need

E = earning available

By substituting this equation in above equation, we get

$$n P_0 = \frac{n D1 + (n + m) P1 - (I - E + nD1)}{1 + k}$$

$$= \frac{(n+m) P1 - I + E}{1 + k}$$

In this way, M-M show that the value of the firm is unaffected by its dividend policy. A firm which pays dividends will have to raise funds externally to finance its investment plans. M-M holds that when the firm pays dividends, its advantage is offset by external financing.

2.2.4 Van Horne and McDonald's Study

Van Horne and McDonald provide a more comprehensive study on dividend policy and new equity financing¹⁹. The basic objective of the study was to highlight the combined effect of dividend policy and new equity financing decision on the market value of the firm's common stocks.

For the purpose of the study two industries viz 86 electric utility firms included on the compustat utility database and 39 firms in the electronics and their electric component industries listed on the compustat industrial data tape in 1968 were selected.

They employed two regression for electric utilities and one regression model for electronics components industry. From the study it was found that share value of electric firms in 1968 was adversely affected by new equity financing in the presence of cash dividends except for those firms in the highest new issue group and it made new equity a more costly form of financing than retention of earnings. They also indicated that the payment of dividend through excessive equity financing reduces share prices.

2.2.5 Friend and Puckett's Study²⁰

Friend and Puckett (1964) conducted a study on the relationship between dividends and stock prices, by running regression analysis on the data of 110 firms from five industries in the years 1956 and 1958. These five industries were chemicals, electric utilities, electronics, food and steels. These industries were selected to permit a distinction made between the results for growth and non-growth industries and to provide a basis for comparison with results by other authors for earlier years. They also considered cyclical and non-cyclical industries which they covered. The study periods covered a boom year for the economy when stock prices leveled off after a rise (1956) and a

¹⁹ James C Van Horne and John G McDonald, "Dividend Policy and new equity financing", Journal of Finance (May 1971) pp 507-519.

²⁰ Irwin Friend and Marshall Puckett, "Dividend and stock prices ", The American economic review, (Vol. LIV, September 1964) pp.656-682.

somewhat depressed year for the economy when stock prices, however, rose strongly (1958).

They used dividends, retained earnings and price earnings ratio as an independent variables in their regression model of price function. They used supply function, i.e. dividend function also. In their dividend function, earnings, last years dividends and price earnings ratio are independent variables. They quoted that the dividend supply function was developed by Lintner. Symbolically, their price function and dividend supply function are price function:

$$P_t = a + b D_t + c R_t + d (E/P)_{t-1}$$

Where ,

P_t = per share price at time t

D_t = Dividends at time t

R_t = Retained earnings at time t

$(E/P)_{t-1}$ = Lagged earnings price ratio

Dividend supply function:

$$D_t = e + f E_t + g D_{t-1} + h (E/P)_{t-1}$$

Where,

E_t = Earnings per share at time t

D_{t-1} = Last years dividend

Assumption :

- 1) Dividend do react to year to year fluctuation in earnings .
- 2) Price doesn't contain speculative components
- 3) Earnings fluctuations may not sum zero over the sample.

There regression results based on the equation of $P_t = a + bD_t + cR_t$ showed the customary strong dividend and relatively weak retained earnings effects in three of the five industries. i.e. chemicals, foods and steel. Again they tested other regression equations by adding lagged earnings price ratio to the above equation and resulted the following equation: $P_t = a + bD_t + cR_t + d(E/P)_{t-1}$. They found the following results: they

found that more than 80% of the variation in stock prices can be explained by three independent variables. Dividends have a predominant influence on the stock prices in the same three out of five industries but they found the differences between the dividends and retained earnings coefficient are not quite so marked as in the first set of regressions. They also found that the dividends and the retained earnings coefficient are closer to each other for all industries in both years except for steels in 1956 and the correlation are higher again except for steels.

They also calculated dividends supply equation i.e.

$D_t = e + fE_t + gD_{t-1} + h(E/P)_{t-1}$ and the dividend price equation for four industry groups in 1958. in their derived price equation it seems that there was no significant changes from those obtained from the single equation approach as explained above. They argued that the stock prices or more accurately the price earning ratio does not have a significant effect on dividend payout. On the other hand, they noted that the retained earnings effect is increased relatively in three of the four cases tested. Further, they argued that their result suggests price effect on the dividend supply are not a serious source of bias in the customary derivation of the dividend and retained earnings effects on the stock prices, though such a bias might be marked if the disturbing effect of short run income movements are sufficiently great.²¹

Further, they lagged price as a variable instead of lagged earnings price ratio and showed that more than 90% of variation in stock prices can be explained by the three independent variables and retained earnings received greater relative weight than dividends in most of the cases. The only exception was steels and foods in 1958. They considered chemicals, electronics and utilities as growth industries, in these groups and the retained earnings effect was larger than the dividend effect for both years covered. For the other two industries, namely foods and steels. There were no significant systematic differences between the retained earnings and dividend coefficients.

²¹ Ibid pp.675

Similarly, they tested the regression equation of $P_t = a + bD_t + cR_t$ by using normalized earnings again. They obtained normalized retained earnings by subtracting dividends from normalized earnings. That normalized procedure was based on the period 1950-1961. Again they added prior year's normalized earning price variable and they compared the result.

Comparing the result they found that there was significant role of normalized earnings and retained earnings but effects of normalized price earning ratio was constant. When they examined the later equation, they found that the difference between dividend and retained earnings coefficients disappeared.

Finally they concluded that management might be able to increase prices somewhat by raising dividends in foods and steel industries. They conducted more detailed examination of the chemical samples. That examination disclosed that the result obtained largely reflected the undue regression weighting given the three firms with price deviating most from the average price in the sample of 20 firms and retained earnings as a price determinant.

Finally, Friend and Puckett concluded that, it is possible that management might be able, at least in some measure, to increase stock prices in the non growth industries by raising dividends and in growth industries by greater retention, i.e., low dividends

2.2.6 Deepak Chawla and G. Srinivasan's Study

Chawala and Srinivasan conducted a study on the impact of dividend and retention on share prices.²² 18 chemical and 13 sugar industries were selected for study. The basic objectives of the study were:

- To set a model to explain share price dividend and retained earnings relationship.

²² Deepak Chawala and G. Srinivasan, "Impact of Dividend and retention share price", An Econometric Study Decision, (Vol.14, July- Sept.1987) pp. 137-140

- To test the dividend, retained earnings hypothesis.
- To examine the structural changes in estimated relations overtime.

Simultaneous equation model as developed by Friend and Puckett in 1964 was employed.

1) Price Function

$$P_t = F [D_t, R_t, P/E_{(t-1)}]$$

2) Dividend Supply Function

$$D_t = F [E_t, D_{(t-1)}, P/E_{(t-1)}]$$

Where,

P = Market Price Per Share

D = Dividend Per Share

R = Retained Earnings Per Share

E = Earning Per Share

P/E = Deviation From Sample, Average of Price Earning Ratio

t = Subscript for Time

They used two stage least square techniques for estimation and in case of chemical industry they found the estimated coefficient had the correct sign and coefficient of determination of all the equations were very high.

It implies that the stock price and dividend supply variation can be explained by their independent variables. But in case of sugar industry they found that the sign for retained earning is negative. Finally, they concluded that dividend hypothesis holds good in the chemical industry. Both dividend and retained earnings significantly explain the variation in share price in chemical industry.

2.2.7 H.K. Baker, G.E. Farrelly and Richard B. Edelman's Study

H.K.Baker, Gail E. Farrelly and Richard B. Edelman surveyed management view on dividend policy.²³ They asked corporate financial managers what they considered most important in determining their firm's dividend policy.

- 1) The objectives of their survey were as follows. To compare the determinants of dividend policy today with Linter's behavioral model of corporate dividend policy and to assess management's agreement with Linter's findings.
- 2) To examine management's perception of signaling and clientele effect
- 3) To determine whether managers in different industries share similar views about the determinants of dividend policy.

The firms they surveyed were listed on the New Yorks Stock Exchange and classified four digit standard industrial classification codes. Total of 562 NYSE firms were selected from three industrial groups, Utility (150), Manufacturing (309) and Whole sale/retail(103).

They mailed questionnaire to obtain information about corporate dividend policy. The questionnaire consisted three parts (i) 15 closed end statements about the importance of Various factors that each firm used in determining its dividend policy, (ii) 18 closed end statement about theoretical issues involving corporate dividend policy and (iii) a respondent's profile including such items as the firm's dividends and earning per share.

They send the final survey instrument to the chief financial officer of the 562 firms, followed by a second complete mailing to improve the response rate and reduce potential non-response bias. Their survey yielded 318 usable responses (56.6% response rate), which were divided among the three industry groups as follows: 114 utilities (76%), 147 manufacturing firms (47.6%) and 57 wholesale/retail (5.3%).

²³ H.Kent Baker, Gail E.Farrelly and Richard B. Edelman, "A Survey of Management Views on Dividend Policy" Financial Management, (Autumn Vol.) pp.78-84.

Based on dividend and earning per share data provided by the respondents, the average dividend payout ratio were computed.

They found that payout ratio of the responding utilities (70.3%) was considerably higher than for the manufacturing (36.6%) and wholesale/retail (36.1%).

2.3 Review of Journals and Articles

2.3.1 Shrestha's Study

Dr. Manohar Krishna Shrestha has conducted a study to deal with policies and financial performance of some companies in Nepal.²⁴ A book entitled "Shareholder's Democracy and Annual General Meeting Feedback" contains a paper, presented by Dr. Shrestha, on the occasion of fifth Annual Meeting of Nepal Arab Bank. On this paper, Shrestha has raised the following issues:

- The cost push inflation at exorbitant rate has made the shareholders to expect higher returns from their investment.
- Multiple decrease in the purchasing power of the Nepalese Currency to the extent that higher return by way of dividend is just a natural economic consequence of it.
- Erosion in the purchasing power of people has made it clear that dividend payment must be directed to enhance shareholder's purchasing power by raising dividend payout ratio on the basis of both earning and cost theory.
- Indo- Nepal trade transit deadlock has become a sort of economic warfare putting rise in the cost of living index to a considerable extent. This has caused the shareholders to expect higher dividend.

²⁴ Manohar Krishna Shrestha, "Shareholder's democracy and Annual General Meeting Feedback", Portfolio Analysis, (Kathmandu : Nepal Publications,1992)

The waiting of five years with peanut dividend in previous year is equally a strong enforceable reason of the bank's shareholders to expect handsome dividend already assured and committed in various reports of earlier Annual General Meeting.

- One way to encourage risk – taking and preference is to have proper risk – return trade off by Bank Management in a way that higher return must be the investment rule for higher risk takers that compromise bank's share holders.

In the prevalence of these conditions, Shrestha suggests bank management to rethink the matters related to payment of dividend.

2.3.2 Pradhan's Study

Radhe Shyam Pradhan conducted a comprehensive study on stock market behavior in a small capital market.²⁵ The study was based on pooled cross sectional data of 17 enterprises whose stocks are listed in stock exchange centre and traded in the stock market. The results revealed by the study are as follows.

- Stocks with larger Market Value to Book Value have larger P/E ratios and lower dividends. Price – earning ratios are more variable for stock with larger MV to BV ratios and dividend ratios are more variable for stocks with smaller MV to BV.
- Stock with larger MV to BV ratios have lower liquidity, higher leverage, lower earnings, lower turnover and lower interest coverage. However, liquidity and leverage are more variable for stocks with larger MV to BV ratios while earnings, assets turnover and interest coverage are more variable for stocks with smaller MV to BV.

²⁵ Radhe Shyam Pradhan, "Stock Market Behavior in a small capital market: A case of Nepal", The Nepalese Management Review (Vol IX, Summer, 1993) pp. 23-49.

- Stock with larger P/E ratio have larger MV to BV of equity and smaller dividend ratios. But these ratios of MV to BV and dividends are more variable for smaller stocks than for larger stocks.
- Stocks with larger P/E ratio have lower liquidity, higher leverage, lower profitability, lower asset turnover and lower interest coverage. However, liquidity, leverage, earnings, turnover and interest coverages are more variable for stocks with smaller P/E ratios.
- Stocks paying higher dividends have higher liquidity, lower leverage, higher earnings, higher turnover and higher coverages. However, liquidity and leverage ratios are more variable for stocks paying lower dividends while earnings, assets turnover and interest coverage are more variable for the stocks paying higher dividends.

2.3.3 Kamal Das Manandhar's Study²⁶

K.D. Manandhar has carried out latest study on the topic of "Bonus share and dividend changes empirical analysis in Nepalese context" based on the data collected for the period of 11 years from 1987/88 to 1997/98. The analysis covers 35 observations pre bonus dividend rate and 29 observation of post bonus dividend rate of 12 samples of the Nepalese corporate firms selected from the listed corporate firms in NEPSE. The sample corporate firms include 5 from banking, 3 from insurance and finance company and 4 from manufacturing, Trading and Airlines.

The study is made to analyze the actual dividends behavior of Nepalese corporate firms after an issue of bonus share. Moreover, there are some specific research questions.

- Is quantum of the dividends increases directly related to ratio of bonus issue?
- Is there any association between existing dividend rate and bonus issue?

²⁶ Kamal Das Manandhar, "Bonus share and Dividend changes Emperical Analysis in Nepalese Context", Management Dynamics: a Journal of Management (Vol.11 No.1, 2001) Shanker Dev Campus, P.P. 4-18

- Does the dividend announcement of the management indicate its intention of increasing future dividend?

Major findings of this study are as follows:

- The announcement of bonus share issue has a significant impact in market price of share which ultimately the wealth of the stockholders.
- In overall, corporate management have not found considering its effect on dividend distribution in future as reflected by absence of the systematic dividend paying practice before and after bonus share issue.
- There is no systematic policy of dividend distribution after the issue.
- There is diversity in the increase in dividend rate and the total dividend payment after bonus issue. It means dividend increase doesn't follow the bonus share issue in Nepalese corporate firm's dividend behavior.
- The relationship between existing dividend and various ranges of bonus share issue ratio is not found significant in Nepalese corporate firms.

2.4 Review of Previous Thesis

Sadaker Timilsina's Study²⁷

Mr. Sadaker Timilsina had conducted the study on "Dividend and stock prices: an Emperical study" of 16 enterprises.

The main objectives of the study are as follows:

- To test the relationship between DPS and stock prices.
- To determine the impact of dividend policy on stock prices.
- To identify whether it is possible to increase the market value of the stock changing dividend policy or payout ratio.

The findings of his study are as follows

²⁷ Sadakar Timilsina, "Dividend and Stock prices : An Emperical Study" Unpublished Masters Degree Dissertaton (T.U., Central Department of Management Kirtipur) August, 1997.

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

Adhikari's Study²⁸

Nabha Raj Adhikari carried out a research on " Corporate Dividend Practices in Nepal " using primary as well as secondary data.

Main Objectives of his research are as follows:

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

Major findings of his research are as follows:

- Differences in financial position between high dividend paying and low dividend paying companies.
- Financial positions of high dividend paying companies are comparatively better than that of low dividend paying companies.
- Market price of stock of both finance and non- finance sectors are affected by dividends.
- There is a positive relationship between dividend and stock price.
- There is a negative relationship between dividend payout and earnings before tax to net worth.

²⁸ Nabha Raj Adhikari, "Corporate Dividend Practice in Nepal" Unpublished Masters Degree Thesis (T.U., Central Department of Management Kirtipur) April, 1999.

- Stocks with larger ratio of DPS to book value per share have higher profitability. These profitability ratios of stocks paying larger dividends are also more variable as compared to stocks paying smaller dividends.
- Companies paying higher dividend are reluctant to employ higher degree of leverage in their capital structures.
- The stocks with larger ratio of dividend per share to book value per share have also higher turnover ratio and higher interest coverage.

Some findings through primary data:

- With respect to factors affecting corporate dividend policy, the majority of the respondents give the first priority to "earning", the second to availability of cash the third to past dividend and fourth to concern about maintaining or increasing stock price.
- Dividend payout affects the price of the common stock.
- As regards dividend as a residual decision, the majority of the respondents feel that it is not a real residual decision.
- With respect to major motives for paying cash dividend, the majority of the respondents feel that it is to convey information to shareholders that the company is doing good.
- Nepalese shareholders are not really indifferent towards payout or non payment of dividend.
- One of the major findings is that earning announcement helps to increase the market price of the share.

Gautam's Thesis²⁹

Mr. Rishi raj Gautam has conducted a research on " Dividend Policy in Commercial Banks, A Comparative Study of NGBL, NIBL and NABIL " in 1998. The study is based on secondary data.

²⁹ Rishi Raj Gautam, "Dividend Policy in Commercial Banks : A Comparative study of NGBL,NIBL and NABIL" Unpublished Masters Degree Thesis Shanker Dev Campus, October 1996.

Main Objectives of his study are as follows:

- To identify what type of dividend policy is being followed and find out whether the policy followed is appropriate or not.
- To examine the impact of dividend on share prices.
- To identify the relationship between DPS and other financial indicators.
- To know if there is any uniformity among DPS, EPS and DPR of the three sample commercial banks.

Major Findings of his study are as follows:

- Average earnings per share and dividend per share of all concerned banks are satisfactory.
- Analysis indicates that there is the largest fluctuation in EPS and DPS and have relatively more consistency dividend per share in all the three banks.
- No commercial banks seen to be guided by clearly defined dividend strategy in spite of the good earnings and potentials.
- Shares of the financial institution are actively traded and market prices are increasing.
- Commercial banks represents a robust body of profit earnings organization in comparison to the other sectors such as manufacturing, trading etc.
- One of the most striking findings of this study is that no commercial bank sample for this study has clearly dividend strategy. On the other hand, there is significant relationship perceives between earnings and dividend of expansion program.

It is necessary to research about the dividend policy in the joint venture commercial banks taking large number of sample and do wide spread analysis in above variables.

Katawal's Study³⁰

Yagya Bahadur Katawal has conducted a thesis on " A Comparative Study of Dividend Policy in Commercial Banks" in July 2001 based on data collected from 1994/95 to 1998/99 for 6 sample commercial banks.

The main objectives of his study are as follows:

- To study the current practice of dividend policy in commercial banks.
- To find out the impact of dividend on share prices.
- To analyze the relationship of financial indicators.
- To examine if there is any uniformity among DPS, EPS and DPR on the six sample banks.

The major findings of his study are as follows:

- Average EPS and DPS for the period covered by the study of all concerned banks are satisfactory.
- Analysis of coefficient of variation indicates that there is largest fluctuation in EPS and DPS and other are relatively more consistent.
- The analysis of DPR shows that none of the sample banks have consistent dividend policy.
- The market value of shares in the market is fluctuating in all sample banks.
- The most important decision is that no specific dividend payment strategy is following by these banks. Payment of cash dividend and stock dividend are made without wise managerial decision due to unstable and adequate dividend and unequal payout ratio.

Rajbhandari's Thesis³¹

Prerana Laxmi Rajbhandari has conducted research on dividend policy: A Comparative study between banks and insurance companies through data collected from

³⁰ Yagya Bahadur Katawal, "A Comparative Study of Dividend Policy in Commercial Banks" Unpublished Master's Degree Thesis Shaker Dev Campus, July 2001.

³¹ Prerana Laxmi Rajbhandari, "Study on Dividend Policy: A Comparative Study Between Banks and Insurance Companies" Unpublished Master's Degree Thesis Shanker Dev Campus, May 2001.

1994/95 to 1998/99 with 3 joint venture commercial banks and 3 insurance companies in May 2001.

The objectives of her research are as follows:

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

Major findings are as follows:

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

Sharma's Thesis³²

Minarba Sharma has conducted the study on "Dividend Policy with respect to Insurance companies in Nepal" from 1994/95 to 1998/99 with four Insurance Companies in Nepal.

The main objectives of her study was:

- To identify the existing practice of dividend policy in Insurance companies.
- To find out the impact of dividend per share and market price of stock.
- To examine whether there is significant difference or not among DPS, EPS and DPR of the selected companies.

³² Minarba Sharma, "Dividend Policy with respect to Insurance Companies in Nepal" Unpublished Masters Degree Thesis Shanker Dev Campus, July 2002.

- To know if there is any relationship between Market value per share and Dividend policy and other financial indicator such as DPS, EPS, DPR, PE Ratio, Liquidity ratio.
- To provide workable suggestion that may be helpful to the formulation of the optimum dividend policy and maximize the stock price.

Major Findings are as follows:

- The average DPS and EPS of NLGICO NICO is satisfactory compared to PICO & UICO. Since, later Insurance companies are new in dividend distribution.
- The analysis of Coefficient of variation indicates largest fluctuation in PICO & UICO.
- The analysis of DPR shows that NLGICO, PICO and UICO have followed moderate dividend policy whereas NICO followed aggressive dividend policy.
- The dividend yield analysis is fluctuating in all sample Insurance companies.

Ghimire's Thesis³³

Pravin Kumar Ghimire has conducted the study on "Dividend Policy of Listed Companies (with Ref. to Banks, Finance & Insurance Companies)".

The Main Objectives of his Studies are as follows:

- To identify the Dividend Policy of different sample companies.
- To identify the regularity of dividend distribution of different listed companies.
- To identify the relationship between dividend policy & other financial indicators.
- To find out whether dividend policy affects value of the firm or not.
- To analyze the relationship between DPS & MPS.
- To provide suggestions for the improvement of sample companies dividend policy on the basis of findings.

³³ Pravin Kumar Ghimire, "Dividend Policy of listed companies (with ref. to Banks, Finance & Insurance Companies)". Unpublished Masters Degree Thesis Shanker Dev Campus, July 2002.

Major Findings:

- The average dividend per share of the banks are satisfactory compared to Finance & Insurance companies.
- The average earning per share of the bank is also satisfactory than finance & Insurance companies.
- DPS of the finance companies are more fluctuating in comparison to banks among them HBL has more fluctuation and NGBL being consistent.
- Dividend Yield of the finance & Insurance companies are higher than banks and more consistent also.
- Banks are following aggressive dividend policy due to higher DPR where as finance & Insurance companies have implemented moderate dividend policy.

Bhattarai's Thesis³⁴

Mashesh Bhattarai conducted a study on "An Examination of the Effects of Dividend Policy on the Market Price of shares" in 2004, the objectives of the study are:

- To analyze, examine and interpret the stock price movement after announcing the dividend decisions by the selected banks.
- To highlight the various aspects of dividend policies and practices in Nepal carried out by the banking sector.

The major findings of the study are as follows:

- From the analysis, it was been found that none of the sample banks had followed consistent dividend policy as a result a high degree of fluctuation is observed in DPS.
- Although the payout ratio of the sample firms is fluctuating from year to year, there is no rational approach in deciding the payout. All the firms should analyze the internal rate of return and the cost of capital in deciding DPR, which helps to maximize the shareholders wealth.
- The legal rules and regulations must be in favour of investors to exercise the dividend practice and to protect the shareholders right.

³⁴ Mahesh Bhattarai , "An Examination of the Effects of Dividend Policy on the Market Price of shares".

Unpublished Maters Degree Thesis, 2004.

- The decision regarding dividend payments should not be bias and it should always be in favour of the prosperity and betterment of the company.

Adhikari's Thesis³⁵

Sarita Adhikari has conducted a study on "A study on Dividend practices in Nepal: A comparative study of Commercial Banks and Finance Companies" in 2007, the objectives of the study are:

- a) To identify, analyze and compare the dividend policies and patterns adopted by commercial banks and finance companies.
- b) To compare the earning and dividend pattern of commercial banks and financial companies.
- c) To identify the determinants of the price of the stock and dividend per share.

The major findings of the study are as follows:

- a) The average earning per share of the commercial bank is satisfactory than finance companies.
- b) The Finance companies has higher dividend payout ratio in comparison to commercial banks.
- c) The P/E ratio of finance companies exert higher than that of commercial banks, which indicates the better earning pattern of the finance companies based on the market price.
- d) The market yields of the sample commercial banks and finance companies were found more or less similar but the book yield of banks were found higher than finance companies.
- e) The earning pattern (in terms of scale) of banks are different than that of finance companies, he return to investors are similar as indicated by DPR and Market Yield.

³⁵ Sarita Adhikari, "A study on Dividend practices in Nepal: A comparative study of Commercial Banks and Finance Companies". Unpublished Maters Degree Thesis Shanker Dev Campus, April 2004.

Though the above mentioned studies are related to dividend behavior and practices in Nepalese Context. These studies cover the data till 1998/99. There are many changes taken place in last few years i.e. after 1998/99. It has now become necessary to find out whether their studies are still valid or not. So, it is necessary to carryout a fresh study related to dividend pattern in Nepalese companies. In this study, it has tried to carryout the latest data of the sample companies for analyzing the dividend policies of these companies. Because the earlier studies on dividends have become old and need to be updated and validated due to the rapid changes taking place in financial market of Nepal.

This study has been conducted by taking four sample companies from banking sector. The sample companies represent four commercial banks in Nepal. It is believed that this study will be different than earlier research. It is also found that no research has been conducted by taking the sample companies which are taken under this study.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Introduction

Research Methodology is the methods, steps, guidelines which are to be followed in analysis and it is the way of presenting collected data with meaningful analysis. In other words, Research Methodology is a systematic way to solve the researcher problem. According to C.R. Kothari Research Methodology refers to the various sequential steps (along with a rationale, of each step) to be adopted by a researcher in studying a problem with certain object/ objects in view³⁶.

Research Methodology is important to carry out research, which describes the entire methodological approaches employed in the study. Therefore, this chapter focuses on research design, nature and sources of data, data population and samples, method of analysis and limitations of the study. So, in this study research methodology has been paid due attention to achieve the objectives of the study.

3.2 Research Design

Research design is a plan, structure and strategy to obtain the objectives of the study. The research design of this study will be descriptive as well as analytical using the variables related with the dividend policy. The annual reports, financial statements and other relevant materials of the companies will be studied. This research is based on secondary data. It covers the data from the year 2002/03 to 2006/07. The collected data is analyzed with financial as well as statistical tools and interpreted.

³⁶ C.R Kothari, "Quantitative Techniques", (New Delhi : Vikas Publishing House Pvt. Ltd. 1994) p.19.

3.3 Source of Data

The study is basically based on secondary data. All the data required for the research is collected from the secondary source, mainly from the financial statement of the listed companies and trading report published by NEPSE. The other supplementary data and information have been obtained from the annual reports published by the concerned Banks to their shareholders. The data of different financial variables related with dividend is collected from:

- Annual Reports
- Publications of the concerned companies
- Newspapers and Magazines
- Publication of Nepal Stock Exchange
- Central Library T.U., Shanker Dev Campus Library, St. Xavier's College Library
- Websites of sample banks

3.4 Population and Sample

This study is based on the data of the companies listed in NEPSE. So, the population is taken from only those companies which are listed in NEPSE. Since, the topic implies the study should be done among the dividend paying practices and actively traded companies, the sampling will be done accordingly. Out of the 161 companies listed with Nepal Stock Exchange Ltd, only 4 companies are selected under this study.

The selected four companies taken under this study are from banking sector. This study covers 4 commercial banks whose shares are actively traded in NEPSE. The selection is not based on a particular opinion or knowledge, but rather judgmental sampling. There are altogether 23 commercial banks registered under Nepal Rastra Bank. There are 15 banks listed in NEPSE.

The selected samples are as follows:

- 1) Standard Chartered Bank Nepal Limited
- 2) Himalayan Bank Limited

- 3) Everest Bank Limited
- 4) Nepal Investment Bank Limited

3.5 Method of Analysis / Analysis Technique

Data collected from various sources have been properly organized, analyzed and presented in appropriate tables and formats. Such tables and formats are subjected to interpretation and explanation as necessary. The study also employs various financial and statistical tools to analyze the data collected from various sources. Mainly, the analysis is grouped into four parts:

- General Analysis
- Correlation Analysis
- Regression Analysis
- Test of Hypothesis

General Analysis

- 1) DPS Analysis
- 2) DPR Analysis
- 3) Dividend Yield Analysis
- 4) Earning Per Share Analysis
- 5) Market Price of Share Analysis
- 6) Earning Yield Analysis
- 7) Price Earning Ratio Analysis

Correlation Analysis

Correlation Analysis tells us whether variables under study move in the same direction or in reverse direction. Correlation co-efficient between following financial variables has been calculated and analyzed.

Simple Correlation Analysis

- 1) Between DPS and EPS
- 2) Between EPS and MPS

- 3) Between DPR and MPS
- 4) Between DPS and MPS
- 5) Between DY and MPS.

Regression Analysis

Simple Regression Analysis

- 1) Regression Analysis of DPS on EPS
- 2) Regression Analysis of MPS on DPS
- 3) Regression Analysis of MPS on EPS
- 4) Regression Analysis of MPS on DY
- 5) Regression Analysis of MPS on DPR

Multiple Regression Analysis

- 1) Multiple Regression of MPS on EPS, DPS and DPR

Financial tools:

Financial tools are those which help to study the financial position of the firms. The financial tools used in this study are as follows:

- 1) Earning per share (EPS)

Earning per share refers the rupee amount earned per share of common stock outstanding. It measures the return of each equity shareholders. Its calculation will be helpful whether the company's earning power on per share basis have changed over the period or not. It is also identified to measure the profitableness of the shareholders investment. The earning per share simply shows the profitability of the banks on a per share basis. The higher earning indicates the funds and vice versa. In other words, higher earning per share denotes the strength and lower earning per share indicates the weakness of the banks. EPS is defined as the result received by dividing the earning available to common shareholders by the total number of common stock outstanding. Thus,

$$\text{EPS} = \frac{\text{Earning available to common shareholders}}{\text{No. of common stock outstanding}}$$

2) Dividend Per Share (DPS)

Dividend per share indicates the rupee earning actually distributed to common stockholders on per share basis. It measures the dividend distribution to each equity.

The DPS simply shows the portion of earning distribution to the shareholders on per share basis. Generally, the higher DPS creates positive attitude of the shareholders toward the bank, which consequently helps to increase the market value of the shares. And it also works as the indicator of better performance of the bank management. It is defined as the result received by dividing the total dividend distributed to equity shareholders by the total number of equity share outstanding. Thus,

$$\text{DPS} = \frac{\text{Net profit that is distributed as dividend (or total dividend)}}{\text{No. of common shares outstanding}}$$

3) Earning yield (EY)

The earning yield may be defined as the ratio of earnings per share to the market value per ordinary share. Thus,

$$\text{Earning yield} = \frac{\text{Earning per share}}{\text{Market value per share}}$$

4) Dividend Yield (DY)

Dividend yield is a percentage of dividends per share on market price per share. It shows that how much is the dividend per share on market price per share. It measures the dividend in relation to market value of share. So, dividend yield is the dividend received by the investors as a percentage of market prices per share in the stock market.

This ratio highly influences the market price per share because a small change in dividend per share can bring effective change in the market value of the share. The share with higher dividend yields is worth buying. Dividend has important guidance to commit funds for the buying of shares in the secondary market. Dividend yield

reflects percentage relationship between dividend per share and market value per share. It is calculated by dividing the cash dividends per share by the market value per share. Thus,

$$\text{Dividend yield} = \frac{\text{Dividend per share}}{\text{Market value per share}}$$

5) Dividend payout ratio (DPR)

Dividend payout ratio is calculated to indicate the percentage of the profit that is distributed as dividend and the percentage of profit retained as reserve and surplus for the growth of the company. It is the portion of the earning used for the payment of dividend. The dividend payout ratio is the earning paid to the equity holders from the earning of a firm in a particular year. In other words, the amount of dividend that a bank pays depends upon the earning capacity of the bank. Higher earning enhances the ability to pay more dividends and vice versa.

There is a reciprocal relationship between dividends and retained earnings. The higher the dividend payout ratio, the lower will be the portion of retained earning and vice versa. The capacity of internal financing of the firm is checked by the retention ratio. It is calculated to indicate the percentage of the profit that is distributed as dividend. This ratio is calculated by dividing dividend per share by the earning per share. Thus,

$$\text{Dividend Payout ratio} = \frac{\text{Dividend per share (DPS)}}{\text{Earning per share (EPS)}}$$

6) Price earning ratio (P/E ratio)

Price earning ratio reflects the price currently paid by the market for each rupee of currently reported earning per share. It is calculated by dividing the market price per share (MPS) by earning per share (EPS). Thus,

$$\text{P/E Ratio} = \frac{\text{Market price per share (MPS)}}{\text{Earning per share (EPS)}}$$

7) Market Price Per Share (MPS)

Market price per share is that value of stock, which can be obtained by a firm from the market which is affected by dividend per share of the firm. If the earning per share and dividend per share are high, the market value of the share will be high. The capital market determines the market price per share. In this study the market price of the share means the closing price of the share indicated in the NEPSE index.

Statistical tools:

Besides the Financial tools, various statistical tools have been used to conduct this study. The result of analysis has been properly tabulated, compared, analyzed and interpreted. In this study, the following statistical tools are used to analyze the relationship between dividend and other variables:

1. Mean (\bar{X})

The arithmetic mean or average is the sum of total values to the number of observations in the sample. It represents the entire data which lies almost between the two extremes. For this reason an average is frequently referred to as measure of central tendency. In this study it is used in data related to dividend of sample companies over different years. It is calculated as:

$$\text{Mean } (\bar{X}) = \frac{\text{Sum of total values}}{\text{No. of values}}$$

$$\text{Or, } \bar{X} = \frac{1 + 2 + 3 + \dots + n}{n}$$

$$\text{Or, } \bar{X} = \frac{\sum X}{N}$$

Where,

$\sum X$ = sum of total values

N = number of items

2. Standard Deviation (S.D.)

The measurement of the scatter ness of the mass of figures in a series about an average is known as dispersion. The standard deviation is an absolute measurement of dispersion in which the drawbacks present in other measures of dispersion are removed. The high amount of dispersion reflects high standard deviation. The small standard deviation means the high degree of homogeneity of the observations. It is calculated for selected dependent and independent variables specified. It is the positive square root of mean squared deviation from the arithmetic mean. Generally, it is denoted by small Greek letter σ (read as sigma) and is obtained as follows:

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

Where,

X = Variable

\bar{X} = Mean

N = number of items in the series

3. Coefficient of variations (C.V)

The coefficient of variations reflects the relation between standard deviation and mean. The relative measure of dispersion based on the standard deviation is known as coefficient of standard deviation. The coefficient of dispersion based on standard deviation multiplied by 100 is known as the C.V. It is used for comparing variability of two distributions. Lower value of coefficient of variation is preferable since it denotes the lower degree of dispersion.

$$\text{Coefficient of Variation (C.V.)} = \frac{\text{S.D.} \times 100}{\bar{X}}$$

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

Where,

σ = Standard Deviation

\bar{X} = Mean

4. Probable Error (P.E)

Probable error of the correlation coefficient denoted by P.E. is the measure of testing the reliability of the calculated value of 'r'.

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

Where,

r = coefficient of correlation

N = number of years

- (1) If $r < P.E.$, it is insignificant. So perhaps there is no evidence of correlation.
- (2) If $r > 6 P.E.$, it is significant. The P.E. of correlation coefficients may be used to determine the limits within which the population correlation lies. Limits for population correlation coefficient are $r \pm P.E.$

5. Coefficient of correlation (r)

Correlation analysis is the statistical tool that can be used to describe the degree to which one variable is linearly related to another. The coefficient of correlation measures the direction of relationship between two sets of figure. It is the square root of the coefficient of determination. Correlation can either be positive or it can be negative. If both variables are changing in the same direction, then correlation is said to be positive but when the variations in the two variables take place in the 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.

$$r = \frac{\text{Cov}(x, y)}{\sigma_x \sigma_y}$$

$$\text{Or, } r = \frac{\sum (x - \bar{x})(y - \bar{y})}{\sqrt{\sum (x - \bar{x})^2 \sum (y - \bar{y})^2}}$$

$$\text{Or, } (r) = \frac{\sum X - \frac{\sum X \sum Y}{N}}{\sqrt{\sum X^2 - \frac{(\sum X)^2}{N}}} \frac{-\sum Y + \frac{\sum X \sum Y}{N}}{\sqrt{N \sum Y^2 - (\sum Y)^2}}$$

Where,

Are the standard deviation of the distributions of X and Y values respectively.

COV(X, Y) = Covariance of X, Y Value

$$= \frac{\sum (X - \bar{X})(Y - \bar{Y})}{(n - 1)}$$

6. Coefficient of Determination (R^2)

The coefficient of determination is a measure of the degree of linear association or correlation between two variables, one of which happens to be independent and other being dependent variable.

Coefficient of determination measures the percentage total variation in dependent variable explained by independent variable. Coefficient of determination can have value ranging from zero to one. If coefficient of determination is equal to 0.85 which indicates that the independent variables used in regression model explain 85% of the total variation in the dependent variable. 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 coefficient of determination is denoted by R^2 and is defined as the ratio of explained variance to the total variance. Thus,

$$\text{Coefficient of determination } (R^2) = \frac{\text{Explained variance}}{\text{Total Variance}}$$

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

7. Regression Analysis

Regression analysis is concerned with the study of the relationship between one variable called the explained or dependent and one or more other variables called independent variables or explanatory. Regression refers to an analysis which is involving the fitting of an equation to set of data points, generally by the method of least square. In other words the regression is a statistical method for investigating relationships between the

variables by the establishment of an approximate functional relationships between them .It is considered as a useful tool for determining the strength of relationship between two (Simple regression) or more (Multiple regression) variables. It helps to predict or estimate the value of one variable when the value of other variable is known. The analysis, which is used to explain the average relationship between two variables, is known as simple linear regression analysis. In this study, the following simple regression has been analyzed.

Dividend per Share on Earning per Share

$$Y = a + bX$$

Where,

Y = Dividend per share

a= Regression Constant

b= Regression Coefficient

X= Earning per Share

This model has been constructed to examine the relationship between Dividend per Share (Dependent variable) and Earning per Share (Independent variable).

Market Price per Share on Earning per Share

$$Y = a + bX$$

Where,

Y = Market Price per share

a= Regression Constant

b= Regression Coefficient

X= Earning per Share

This model has been constructed to examine the relationship between Market Price per Share (Dependent variable) and Earning per Share (Independent variable).

Market Price per Share on Dividend per Share

$$Y = a + bX$$

Where,

Y = Market Price per share

a= Regression Constant

b= Regression Coefficient

X= Dividend per Share

This model has been constructed to examine the relationship between Market Price per Share (Dependent variable) and Dividend per Share (Independent variable).

Market Price per Share on Dividend Payout Ratio

$$Y = a + bX$$

Where,

Y = Market Price per share

a= Regression Constant

b= Regression Coefficient

X= Dividend Payout ratio

This model has been constructed to examine the relationship between Market Price per Share (Dependent variable) and Dividend Payout ratio (Independent variable).

Market Price per Share on Dividend yield

$$Y = a + bX$$

Where,

Y = Market Price per share

a= Regression Constant

b= Regression Coefficient

X= Dividend yield

This model has been constructed to examine the relationship between Market Price per Share (Dependent variable) and Dividend yield (Independent variable).

In order to obtain the value of 'a' and 'b', we have following two equations:

$$\begin{aligned} \sum Y &= na + b\sum X \\ \sum XY &= a\sum X + b\sum X^2 \end{aligned}$$

Where,

Y = Market Price per share

a= Regression Constant

b= Regression Coefficient

X= Dividend yield

n = Number of observations in the sample

In the same way following multiple regressions are analyzed:

Regression Equation no.1

$$X_1 = a_1 + b_1 \cdot X_2 + b_2 \cdot X_3$$

Where,

X_1 = Market Price Per Share (dependent variable)

X_2 = Earning Per Share (independent variable)

X_3 = Dividend Per Share (independent variable)

a_1 = Regression Constant

b_1 and b_2 = Coefficient of Net Regression

Regression Equation no.2

$$X_1 = a_1 + b_1 \cdot X_2 + b_2 \cdot X_3$$

Where,

X_1 = Market Price Per Share (dependent variable)

X_2 = Dividend Payout Ratio (independent variable)

X_3 = Dividend Per Share (independent variable)

a_1 = Regression Constant

b_1 and b_2 = Coefficient of Net Regression

I. Regression Constant (a)

The value of the constant which is the intercept of the model indicates the average level of dependent variable when independent variable is zero. In other words, it is better to understand that 'a' (constant) indicates the mean or average effect on dependent variable if all the variables omitted from the model.

II. Regression coefficients (b_1, b_2, b_3)

The regression coefficient of each independent variable indicates the marginal relationship between independent variable and value of dependent variable, holding constant the effect of all other independent variables in the regression model. It describes how changes in independent variables affect the values of dependent variables estimate.

8. Standard Error of Estimate (S.E.E)

With the help of regression equation perfect prediction is practically impossible. Standard error of estimate is a measure of reliability of the estimating equation, indicating the variability of the observed points around the regression line, that is, the extent to which observed values differs from their predicted values on the regression line. The smaller the values of standard error of estimate, the closer will be the dots to the regression line and the better estimates based on the equation for this line. If standard error of estimate is zero, then there is no variation about the line and the correlation will be perfect. Thus, with the help of standard error of estimate, it is possible for us to ascertain how good and representative the regression line is as a description of the average relationship between two series.

9. F – test

To test the validity of our assumption, we can also use F-test. The differences between two samples means can be studied through t – test whereas to examine the significance of the differences between more than two sample means at one and at the same time, F-test is used.

F-test, i.e. the technique of analysis of variance enables us to test or for the significance of the differences between more than two sample means. Using this technique, one will be able to make inferences about whether his regression equation provides statistically significant result or not.

10. T – Statistics

To test the validity of our assumption, if sample size is less than 30, t-test is used. For applying t-test in the context of small sample, the 't' value is calculated first and compared with the table value of 't' at a certain level of significance for given degree of freedom. If the calculated value of 't' exceeds the table value (say $t_{0.05}$) we infer that the difference is significant at 5% level but if 't' value is less than the concerning table value of 't' the difference is not significant.

Hypothesis of the study

Hypothesis means the presumption or quantitative statement of the population parameter which may be true or false. In order to make proper decision about the quantitative statement of the population, testing of hypothesis technique is used. Note that the testing of hypothesis is carried out by using sample information.

Steps in testing of Hypothesis

Testing of hypothesis includes the following systematic steps in order to make precise decision about the value which has to be tested.

Null hypothesis

In the decision making procedure, first of all the Null hypothesis is stated which is denoted by H_0 . The null hypothesis means hypothesis of no difference. It is usually set for the express purpose of being rejected.

Null hypothesis is set as:

H_0 : The successive or lagged price changes are independent.

Alternative Hypothesis

The researchers also have to specify a hypothesis that will be accepted if null hypothesis is rejected. Such hypothesis is called alternative hypothesis. It should be noted that alternative hypothesis is a mutually exclusive and complementary statement of null hypothesis. Alternative hypothesis will be accepted if the null hypothesis is rejected.

Alternative hypothesis is set as:

H₁: The successive or lagged price changes are dependent.

Test of Hypothesis

A hypothesis is a conjectural statement of the relationship between two or more variables. The test of hypothesis discloses the fact whether the difference between the computed statistic and hypothetical parameter is significant or not. It also prefers clear implications for testing the stated relations. The research on this thesis topic strongly holds that the hypothesis criteria. The hypothesis tests of this research work are as follows.

First Hypothesis

Null Hypothesis (H₀): $\mu_1 = \mu_2 = \mu_3 = \mu_4$

i.e. There is no significant difference in DPS of HBL, SCBL, EBL and NIBL.

Alternative Hypothesis (H₁): $\mu_1 = \mu_2 = \mu_3 = \mu_4$

i.e. There is significant difference in DPS of HBL, SCBL, EBL and NIBL.

Second Hypothesis

Null Hypothesis (H₀): $\mu_1 = \mu_2 = \mu_3 = \mu_4$

i.e. There is no significant difference in EPS of HBL, SCBL, EBL and NIBL.

Alternative Hypothesis (H₁): $\mu_1 = \mu_2 = \mu_3 = \mu_4$

i.e. There is significant difference in EPS of HBL, SCBL, EBL and NIBL.

Third Hypothesis

Null Hypothesis (H₀): $\mu_1 = \mu_2 = \mu_3 = \mu_4$

i.e. There is no significant difference in DPR of HBL, SCBL, EBL and NIBL.

Alternative Hypothesis (H_1): $\mu_1 = \mu_2 = \mu_3 = \mu_4$

i.e. There is significant difference in DPR of HBL, SCBL, EBL and NIBL.

3.6 Limitation of the Study

Dividend decision is a major decision area of any business concern. In Nepal, there are few studies on this topic. So, this study aims to highlight some issues regarding dividend decision in Nepalese listed companies. There are some limitations of the study.

They are:

- This study has employed secondary data published by and collected from sample companies. The output may not be accurate one since the secondary data itself induces various limitations.
- Only four commercial Banks are taken as sample due to the lack of time.
- The study covers only a period of 5 fiscal years from 2002 /03 to 2006/07.
- The problem of non availability of required data and information may limit the scope of the study.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

The chapter consists presentation and analysis of data related with different variables using the financial and statistical tools explained in previous chapter (Research Methodology). This chapter is the focal part of the study.

4.1 ANALYSIS OF FINANCIAL INDICATORS AND VARIABLES

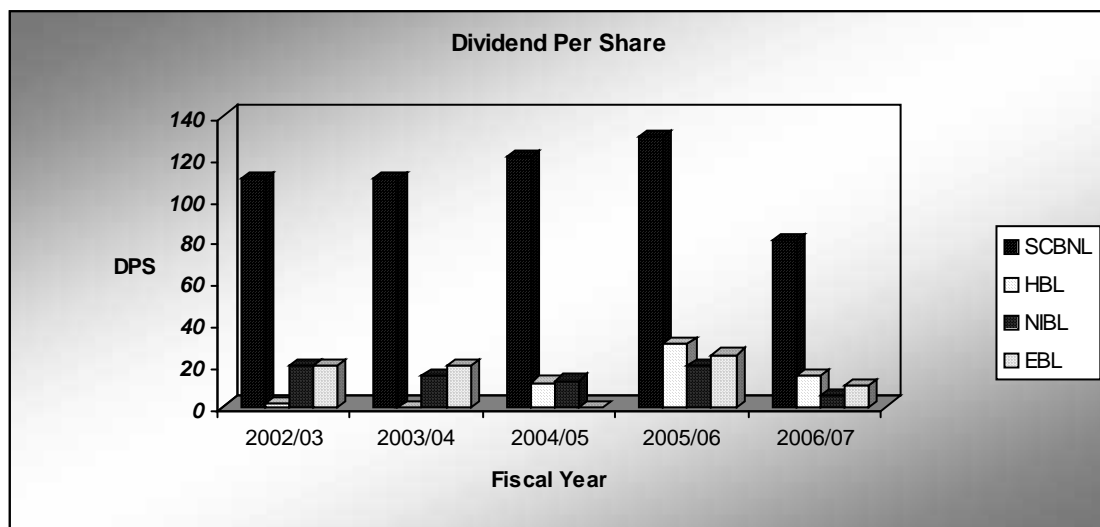
4.1.1 Dividend Per Share Analysis

Table No. 4.1

Banks	2002/03	2003/04	2004/05	2005/06	2006/07	Mean	Std.Dev	C.V.
SCBNL	110	110	120	130	80	110	18.71	17.01
HBL	1.32	-	11.58	30.00	15	11.58	12.15	104.92
NIBL	20	15	12.5	20	5	14.5	6.22	42.896
EBL	20	20	-	25	10	15	10	66.67

The above table (Table No. 4.1) shows the dividend per share (DPS) of the Banks from the year 2002/03 to 2006/07.

Figure No. 1: Dividend Per Share Analysis



The chart depicts the picture of Dividend Per Share of all the four banks from the fiscal year 2002/03 to 2006/07. Among all the four banks, SCBNL has paid highest dividend with an average of Rs. 110. Rest of the three banks has dividend payments in lower two digit numbers. HBL has an average dividend payment of Rs. 11.58. NIBL has an average of Rs. 14.5 and EBL has an average DPS of Rs. 15.

Standard Chartered Bank Limited:

SCBNL has average DPS of Rs.110. Its standard deviation is 18.71 and Coefficient of variation is 17.01%. In the year 2002/03 and 2003/04, the DPS was Rs.110 in both years. It clearly shows there was consistency in dividend payments in first two years. In the year 2004/05, DPS was Rs.120 which was higher in comparison with last year's DPS. In the year 2005/06, DPS was Rs. 130 which was again higher in comparison with last year's DPS. In the year 2006/07, DPS was Rs. 80 which was lower than previous year. There are fluctuations in dividend payments from the year 2004/05 to 2006/07.

Its coefficient of variation shows that there is 17.01% fluctuation in DPS except in the year 2002/03 and 2003/04.

Himalayan Bank Limited:

HBL has average DPS of Rs.11.58 and its standard deviation is 12.15. The coefficient of variation is 104.92%. The coefficient of variation shows that there is 104.92% fluctuation in DPS which means that there is no consistency in DPS. The coefficient of variation of this bank is highest among other banks because the bank did not pay dividend in the year 2003/04.

In the year 2002/03, The DPS was Rs.1.32 and in the year 2003/04, no dividend was paid. In the year 2004/05, The DPS was Rs.11.58. In the year 2005/06, The DPS was Rs.30 which is more than two times higher than last year. The DPS of the year 2006/07 was Rs.15.00 which is lower in comparison to previous year's DPS.

Nepal Investment Bank Limited:

NIBL has average DPS of Rs.14.5 and its standard deviation is 6.225. The coefficient of variation is 42.896%. The coefficient of variation shows that there is 42.896% fluctuation in DPS which means that there is no consistency in DPS.

In the year 2002/03, The DPS was Rs.20 and in the year 2003/04 the DPS was Rs.15 which is lower than last year. In the year 2004/05 the DPS of the bank was Rs.12.5 which is again lower than previous year. In the year 2005/06 the DPS was Rs. 20 which is higher than last year and in the year 2006/07 the DPS of the bank was Rs.5.

Everest Bank Limited:

EBL has average DPS of Rs.15. Its standard deviation is 10 and its coefficient of variation is 66.67%. In the year 2002/03 and 2003/04, the DPS was Rs.20 in both years. It clearly shows there was consistency in dividend payments in first two years.

In the year 2004/05, the bank did not pay any dividend. In the year 2005/06, DPS was Rs. 25 which was higher in comparison with last year's DPS. In the year 2006/07, DPS was Rs. 10 which was lower than previous year. There are fluctuations in dividend payments from the year 2004/05 to 2006/07.

Its coefficient of variation shows that there is 66.67% fluctuation in DPS except in the year 2002/03 and 2003/04

Above analysis shows that DPS of sample banks are not consistent. Average DPS of SCBNL bank is highest among the sample banks with Rs. 110 and HBL bank has the lowest DPS of Rs. 11.58. From the study of coefficient of variation of DPS of SCBNL, HBL, NIBL and EBL are 17.01%, 104.92%, 42.896% and 66.67% respectively. It shows SCBNL has lower fluctuation in dividend payment among other banks. HBL, EBL have higher fluctuation in dividend payments. Since, these banks have not paid dividend in year 2002/03 (HBL) and 2003/04 (EBL).

4.1.2 Dividend Payout Ratio

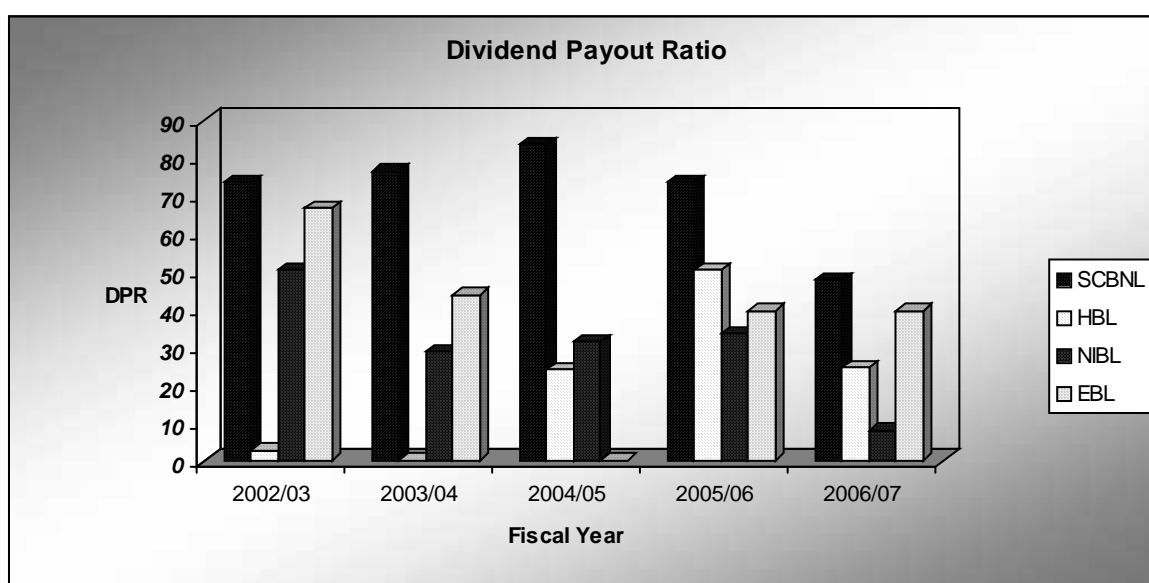
Table 4.2

Company	2002/03	2003/04	2004/05	2005/06	2006/07	Mean	Std.Dev	C.V
---------	---------	---------	---------	---------	---------	------	---------	-----

SCBNL	73.68	76.63	83.83	73.93	47.8	71.17	13.694	19.24
HBL	2.66	-	24.17	50.64	24.73	20.44	20.483	100.21
NIBL	50.56	29.01	31.65	33.7	8	30.58	15.185	49.66
EBL	66.89	43.86	-	39.81	12.76	32.66	26.509	81.17

The above table (Table No. 4.1.2) shows the Dividend payout ratio (DPR) of the Banks from the year 2002/03 to 2006/07.

Figure No. 2: Dividend Payout Ratio



The chart depicts the picture of Dividend Payout Ratio of all the four banks from the fiscal year 2002/03 to 2006/07. Among all the four banks, SCBNL has paid highest D/P Ratio with an average of 71.17 %. Rest of the three banks has lower D/P Ratio. HBL has the lowest average D/P Ratio of 20.44 %. NIBL has an average D/P Ratio of 30.58 % and EBL has an average D/P Ratio of 32.66 %.

Standard Chartered Bank Limited:

SCBNL has average D/P Ratio of 71.17% and its standard deviation is 13.694%. The coefficient of variation is 19.24%. This indicates that there is 19.24% fluctuation in D/P Ratio. The D/P Ratio of the bank in the year 2002/03 was 73.68% followed by

76.63% in the year 2003/04 and increased to 83.83% in year 2004/05. In the year 2005/06 the D/P ratio decreased to 73.93% in comparison to last year and in the year 2006/07 it further decreased to 47.8%.

Himalayan Bank Limited:

The average D/P Ratio of HBL is 20.44%. Its standard deviation is 20.48% and coefficient of variation is 100.21%. This indicates that there is 100.21% fluctuation in D/P Ratio. The D/P Ratio of the bank in year 2002/03 was 2.66% and in year 2003/04 the bank did not paid any dividend and in the year 2004/05 the D/P ratio was 24.17%, the D/P Ratio increases to 50.64% in the year 2005/06 followed by 24.73% in the year 2006/07 which was lower than last year.

Nepal Investment Bank Limited:

The average D/P Ratio of NIBL is 30.58%. Its standard deviation is 15.185% and coefficient of variation is 49.66%. This indicates that there is 49.66% fluctuation in D/P Ratio. The D/P Ratio of the bank in year 2002/03 was 50.56% and in the year 2003/04 it decreases to 29.01%, after that the D/P Ratio increases to 31.65% in the year 2004/05. In the year 2005/06 the D/P ratio further increases to Rs. 33.70 and in the year 2006/07, the D/P Ratio was 8% which is lower in comparison to previous years.

Everest Bank Limited:

The average D/P Ratio of EBL is 32.66%. Its standard deviation is 26.51% and coefficient of variation is 81.17%. This indicates that there is 81.17% fluctuation in D/P Ratio. The D/P Ratio of the bank in year 2002/03 was 66.89% and in the year 2003/04 it decreases to 43.86%, the bank did not paid any dividend in the year 2004/05 and after that the D/P Ratio increases to 39.81% in the year 2005/06. In the year 2006/07, the D/P Ratio was 12.76% which is lower in comparison to previous years.

Finally, EBL and SCBNL have higher D/P Ratio and HBL, NIBL have lower D/P Ratio. There is greater consistency in D/P Ratio of SCBNL and EBL. HBL and NIBL have highest fluctuation in D/P Ratio. The D/P Ratio of the banks have fluctuated in

range of 19.24% to 100.21% as indicated by the respective coefficient of variation of the banks. D/P Ratio of all the banks are fluctuating from year to year.

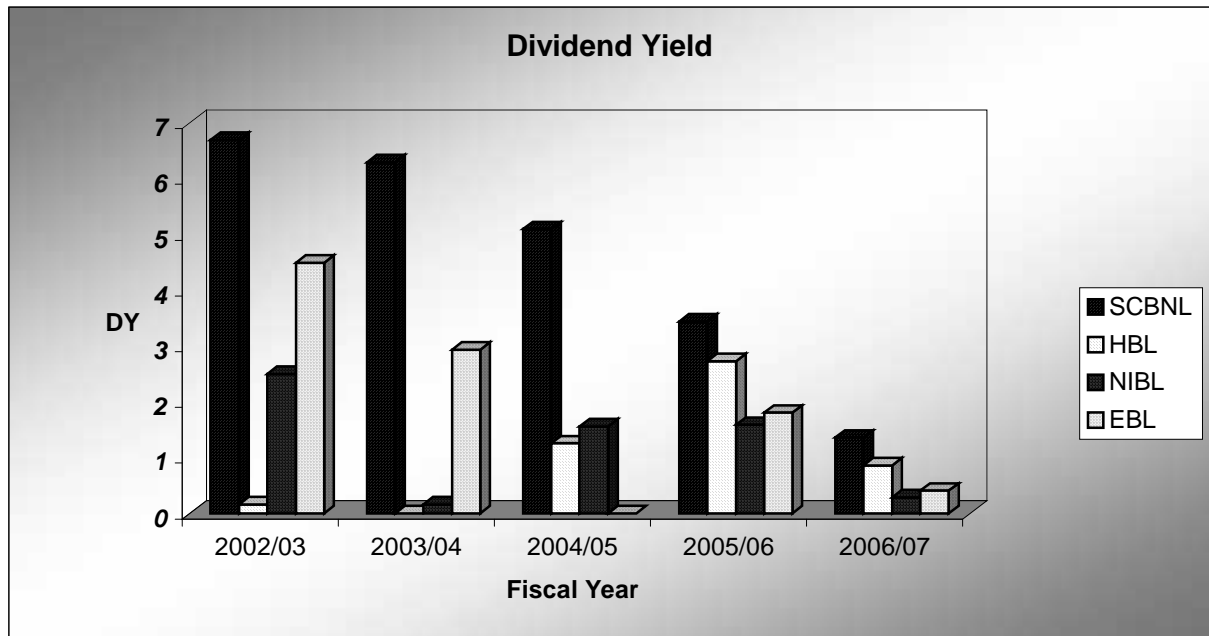
4.1.3 Dividend Yield

Table 4.3

Company	2002/03	2003/04	2004/05	2005/06	2006/07	Mean	Std.Dev	C.V
SCBNL	6.7	6.3	5.1	3.44	1.36	4.58	2.2	48.03
HBL	0.16	-	1.26	2.73	0.86	1.002	1.1	109.78
NIBL	2.5	0.16	1.56	1.59	0.29	1.22	0.985	80.73
EBL	4.5	2.94	-	1.81	0.41	1.93	1.85	95.85

The above table (Table No. 4.1.3) shows the dividend yield (DY) of the Banks from the year 2002/03 to 2006/07. The dividend yield shows that how much is the DPS on MPS. So, higher the dividend yield, It is more desirable.

Figure No. 3: Dividend Yield Analysis



The chart depicts the picture of Dividend Yield of all the four banks from the fiscal year 2002/03 to 2006/07. Among all the four banks, SCBNL has the highest dividend yield with an average of 4.58 %. HBL has an average dividend yield of 1.002 %. NIBL has an average of 1.22 % and EBL has an average DPS of 1.93 %.

Standard Chartered Bank Limited:

SCBNL has average dividend yield of 4.58% and its standard deviation is 2.2%. The coefficient of variation is 48.03%. This indicates that there is 48.03% fluctuation in dividend yield of the bank.

In the year 2002/03, the DY was 6.7% and in the year 2003/04, the DY was 6.3% which was lower than last year. In the year 2004/05, the DY was 5.1% which was again lower than previous year. In the year 2005/06, the DY further decreased to 3.44%. The DY of the year 2006/07 was 1.36% which is again lower in comparison to previous year's DY.

Himalayan Bank Limited:

The average dividend yield of HBL is 1.002%. Its standard deviation is 1.1%. The coefficient of variation is 109.78% which indicates that there is 109.78% fluctuation in dividend yield. The fluctuation is highest among other banks and at the same time very low dividend yield.

In the year 2002/03, the DY was 0.16% and in the year 2003/04, the bank did not pay any dividend. In the year 2004/05, the DY was 1.26% which was lower than previous year. In the year 2005/06, the DY further decreased to 2.73%. The DY of the year 2006/07 was 0.86% which is again lower in comparison to previous year's DY.

Nepal Investment Bank Limited:

The average dividend yield of NIBL is 1.22%. Its standard deviation is 0.985%. The coefficient of variation is 80.73% which indicates that there is 80.73% fluctuation in dividend yield.

In the year 2002/03, the DY was 2.5% and in the year 2003/04, the DY was 0.16% which was lower than last year. In the year 2004/05, the DY was 1.56% which

was lower than previous year. In the year 2005/06, the DY further decreased to 1.59%. The DY of the year 2006/07 was 0.29% which is again lower in comparison to previous year's DY.

Everest Bank Limited:

The average dividend yield of NABIL is 1.93%. Its standard deviation is 1.85%. The coefficient of variation is 95.85% which indicates that there is 95.85% fluctuation in dividend yield.

In the year 2002/03, the DY was 4.5% and in the year 2003/04, the DY was 2.94% which was lower than previous year. In the year 2004/05, the bank did not pay any dividend. In the year 2005/06, the DY was 1.81% which was lower than previous year. The DY of the year 2006/07 was 0.41% which is again lower in comparison to previous year's DY.

Finally, on the average the dividend yield of SCBNL has the highest average value. The coefficient of variation shows that the highest fluctuating dividend yield is HBL with 109.78%. The dividend yield of SCBNL and NIBL are lower than other banks.

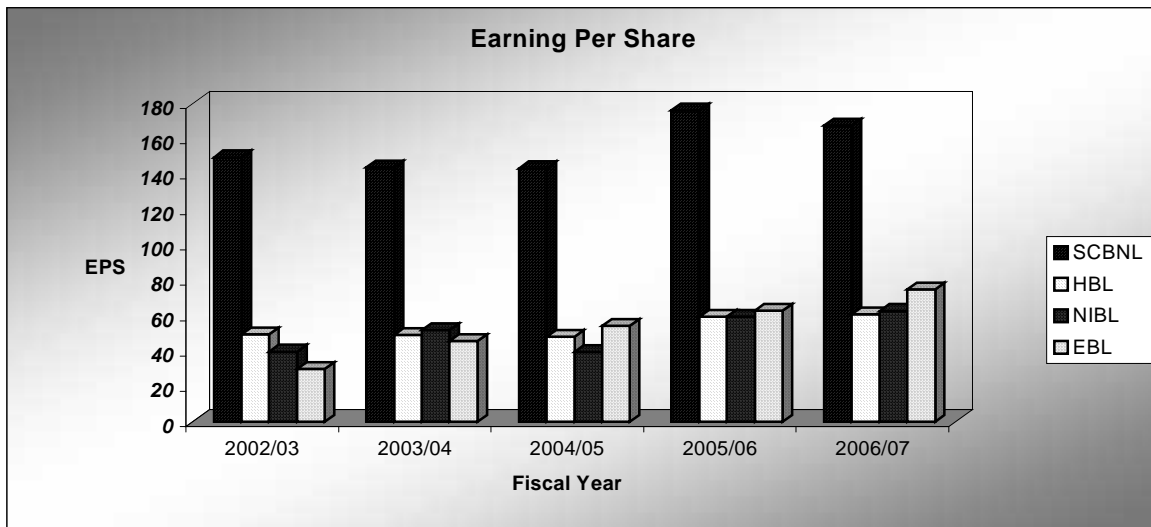
4.1.4 Earning per Share

Table 4.4

Company	2002/03	2003/04	2004/05	2005/06	2006/07	Mean	Std.Dev	C.V
SCBNL	149.30	143.55	143.14	175.84	167.37	155.84	14.9	9.6
HBL	49.45	49.05	47.91	59.24	60.66	53.262	6.15	11.55
NIBL	39.56	51.70	39.5	59.35	62.57	50.536	10.795	21.36
EBL	29.9	45.6	54.2	62.8	74.8	53.46	17.03	31.86

The above table (Table No. 4.1.4) shows the earning per share (EPS) of the Banks from the year 2002/03 to 2006/07.

Figure No. 4: Earning Per Share Analysis



The chart depicts the picture of Earning Per Share of all the four banks from the fiscal year 2002/03 to 2006/07. Among all the four banks, the average EPS of SCBNL is the highest of i.e. 155.84. HBL has an average EPS of Rs. 53.262. NIBL has an average EPS of Rs. 50.536 and EBL has an average EPS of Rs. 53.46.

Standard Chartered Bank Limited:

SCBNL has average EPS of Rs.155.84 and its standard deviation is Rs.14.9.The coefficient of variation is 9.6%. The CV of the bank indicates that there is 9.6% fluctuation in EPS.

In the year 2002/03, the EPS was Rs.149.30 and in the year 2003/04, the EPS was Rs. 143.55 which is lower than last year. In the year 2004/05, the EPS was Rs.143.14 which was again lower than previous year. In the year 2005/06, the EPS was Rs.175.84 which is more than last year. The EPS of the year 2006/07 was Rs.167.37 which is lower in comparison to previous year's EPS.

Himalayan Bank Limited:

The average EPS of HBL is Rs.53.262. Its standard deviation is Rs.6.15. The coefficient of variation is 11.55% which indicates that there is 11.55% fluctuation in EPS.

In the year 2002/03, the EPS was Rs.49.45 and in the year 2003/04, the EPS was Rs. 49.05 which is lower than last year. In the year 2004/05, the EPS was Rs.47.91 which was again lower than previous year. In the year 2005/06, the EPS was Rs.59.24 which is more than last year. The EPS of the year 2006/07 was Rs.60.66 which is again higher in comparison to previous year's EPS.

Nepal Investment Bank Limited:

The average EPS of NIBL is Rs.50.54. Its standard deviation is Rs.10.795. The coefficient of variation is 21.36% which indicates that there is 21.36% fluctuation in EPS of the bank.

In the year 2002/03, the EPS was Rs.39.56 and in the year 2003/04, the EPS was Rs. 51.70 which is higher than last year. In the year 2004/05, the EPS was Rs.39.5 which was lower than previous year. In the year 2005/06, the EPS was Rs.59.35 which is more than last year. The EPS of the year 2006/07 was Rs.62.57 which is again higher in comparison to previous year's EPS.

Everest Bank Limited:

The average EPS of EBL is Rs.54.18. Its standard deviation is Rs.18.19. The coefficient of variation is 22.16% which indicates that there is 22.16% fluctuation in EPS of the bank. The fluctuation is highest among other banks. In the year 1996/97 and 1998/99 the EPS of the bank are same i.e. Rs.67.68 and Rs.67.84. But during 1997/98 the EPS decreases to Rs.44.50 followed by an increase in EPS by Rs.83.79 in year 1999/00 and again a decrease by Rs.59.26 in year 2000/01.

Finally, EPS of the Banks seems encouraging. SCBNL has the highest EPS among other banks in the study. There seems relative fluctuation of 10.93% to 54.34% fluctuation in EPS of the banks. NBBL has the highest fluctuation of EPS is NBBL.

Except SCBNL and HBL, the EPS of NBBL and NABIL have been decreased. SCBNL has better position in the market due to higher EPS of the company. Since, Higher the EPS, better position is seen in the stock market.

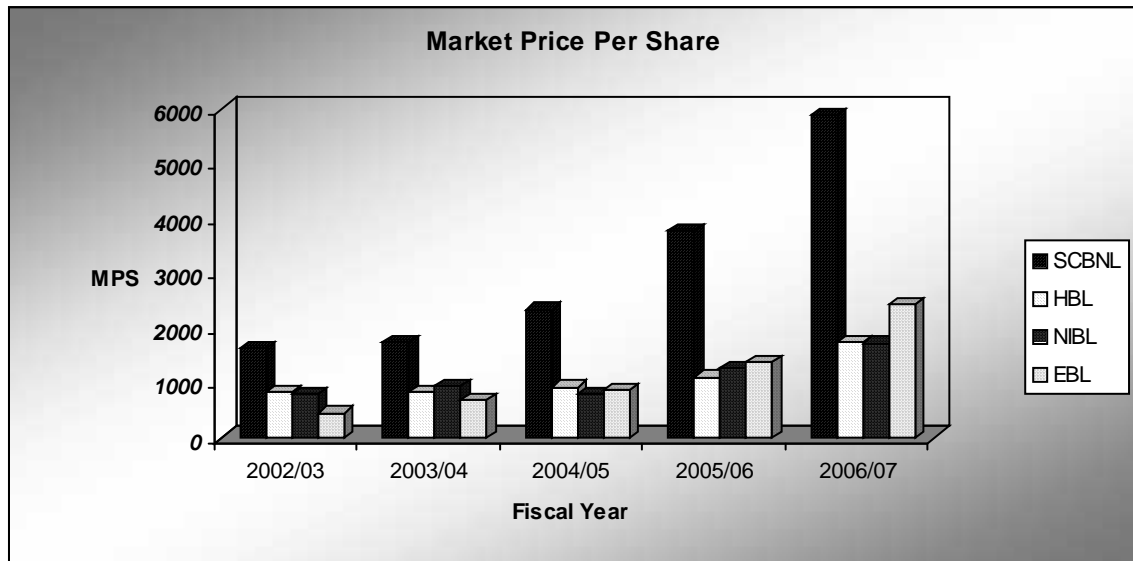
4.1.5 Market Price Per Share

Table 4.5

Company	2002/03	2003/04	2004/05	2005/06	2006/07	Mean	Std.Dev	C.V.
SCBNL	1640	1745	2345	3775	5900	3081	1791.052	58.13
HBL	836	840	920	1100	1740	1087.2	380.288	34.98
NIBL	795	940	800	1260	1729	1104.8	396.784	35.91
EBL	445	680	870	1379	2430	1160.8	788.445	67.92

The above table (Table No. 4.1.4) shows the Market price per share (MPS) of the Banks from the year 2002/03 to 2006/07.

Figure No. 5: Market Price Per Share Analysis



The chart depicts the picture of Market Price Per Share of all the four banks from the fiscal year 2002/03 to 2006/07. Among all the four banks, the average MPS of

SCBNL is the highest of Rs. 3081. HBL has an average EPS of Rs. 1087.2. NIBL has an average EPS of Rs. 1104.8 and EBL has an average EPS of Rs. 1160.8.

Standard Chartered Bank Limited:

SCBNL has average MPS of Rs. 3081 and its standard deviation is Rs. 1791.052. The coefficient of variation is 58.13%. The CV of the bank indicates that there is 58.13% fluctuation in MPS.

In the year 2002/03, the MPS was Rs.1640 and in the year 2003/04, the MPS was Rs. 1745 which is higher than last year. In the year 2004/05, the MPS was Rs.2345 which was again higher than previous year. In the year 2005/06, the MPS further increased to Rs.3775. The MPS of the year 2006/07 was Rs.5900 which is again higher in comparison to previous year's MPS.

Himalayan Bank Limited:

The average MPS of HBL is Rs.1087.2. Its standard deviation is Rs.380.288. The coefficient of variation is 34.98% which indicates that there is 34.98% fluctuation in MPS of the Bank.

In the year 2002/03, the MPS was Rs. 836 and in the year 2003/04, the MPS was Rs. 840 which is higher than last year. In the year 2004/05, the MPS was Rs. 920 which was again higher than previous year. In the year 2005/06, the MPS further increased to Rs.1100. The MPS of the year 2006/07 was Rs.1740 which is again higher in comparison to previous year's MPS.

Nepal Investment Bank Limited:

The average MPS of NIBL is Rs. 1104.8. Its standard deviation is Rs.396.78. The coefficient of variation is 35.91% which indicates that there is 35.91% fluctuation in MPS of the bank.

In the year 2002/03, the MPS was Rs. 795 and in the year 2003/04, the MPS was Rs. 940 which is higher than last year. In the year 2004/05, the MPS was Rs. 800 which

was lower than previous year. In the year 2005/06, the MPS was Rs.1260 which was higher than last year. The MPS of the year 2006/07 was Rs.1729 which is again higher in comparison to previous year's MPS.

Everest Bank Limited:

The average MPS of EBL is Rs.1160.8. Its standard deviation is Rs.788.445. The coefficient of variation is 67.92% which indicates that there is 67.92% fluctuation in MPS of the bank. The fluctuation is highest among other banks and at the same time market price of share is also low in comparison to other banks.

In the year 2002/03, the MPS was Rs. 445 and in the year 2003/04, the MPS was Rs. 680 which is higher than last year. In the year 2004/05, the MPS was Rs. 870 which was again higher than previous year. In the year 2005/06, the MPS further increased to Rs.1379. The MPS of the year 2006/07 was Rs.2430 which is again higher in comparison to previous year's MPS.

Finally, the average MPS of SCBNL, HBL, NBBL, NABIL seems encouraging. So, we can say that SCBNL is the most appreciable bank among the selected ones since it has the highest average MPS. There is less fluctuation in the MPS of NIBL and HBL since they have lower coefficient of variation. The MPS of the banks has fluctuated in range of 34.98% to 67.92% as indicated by the respective CV of the banks. EBL has the highest fluctuating MPS compared to other banks. But in the year 2000/01 except NABIL rest of the three banks MPS has decreased.

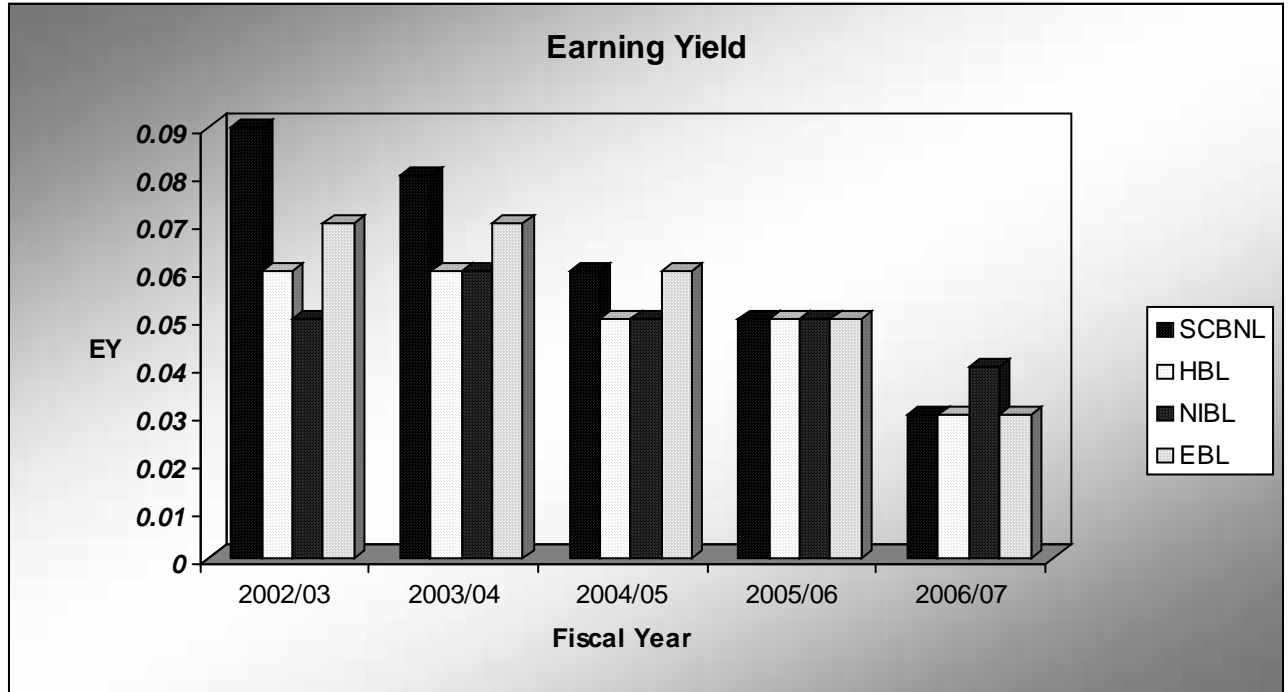
4.1.6 Earning Yield

Table 4.6

Company	2002/03	2003/04	2004/05	2005/06	2006/07	Mean	Std.Dev	C.V
SCBNL	0.09	0.08	0.06	0.05	0.03	0.062	0.0239	38.55
HBL	0.06	0.06	0.05	0.05	0.03	0.05	0.0122	24.4
NIBL	0.05	0.06	0.05	0.05	0.04	0.05	0.0071	14.2
EBL	0.07	0.07	0.06	0.05	0.03	0.56	0.0167	2.98

The above table (Table No. 4.1.6) shows the Earning Yield (EY) of the Banks from the year 2002/03 to 2006/07.

Figure No. 6: Earning Yield Analysis



The chart depicts the picture of Dividend Yield of all the four banks from the fiscal year 2002/03 to 2006/07. Among all the four banks, SCBNL has the highest earning yield with an average of 0.062 %. HBL and NIBL have an average earning yield of 0.05 %. EBL has an average of 0.056 %.

Standard Chartered Bank Limited:

The average EY of SCBNL is 0.062% and its standard deviation is 0.0239%. The coefficient of variation is 38.55%. The Coefficient of variation of the bank indicates that there is 38.55% fluctuation in EY. The fluctuation is highest among other banks. The EY of the bank in the year 2002/03 was 0.09%. After that EY of the bank decreases to 0.08%

in 2003/04. Again the EY of the bank decreases to 0.06% and 0.05% during 2004/05 and 2005/06 respectively. In 2006/07 the EY again decreases to 0.03%.

Himalayan Bank Limited:

The average EY of HBL is 0.05%. Its standard deviation is 0.0122%. The coefficient of variation is 24.4% which indicates that there is 24.4% fluctuation in EY of the Bank. The EY of the bank in the year 2002/03 and 2003/04 was 0.06% in both the years. Again the EY of the bank decreases to 0.05% during 2004/05 and 2005/06 respectively. In 2006/07 the EY again decreases to 0.03%.

Nepal Investment Bank Limited:

The average EY of NBBL is 0.05%. Its standard deviation is 0.0071%. The coefficient of variation is 14.2% which indicates that there is 14.2% fluctuation in EY of the bank. The EY of the bank in the year 2002/03 was 0.05%. After that EY of the bank increases to 0.06% in 2003/04. Again the EY of the bank decreases to 0.05% during 2004/05 and 2005/06 respectively. In 2006/07 the EY again decreases to 0.04%.

Everest Bank Limited:

The average EY of NABIL is 0.56%. Its standard deviation is 0.0167%. The coefficient of variation is 2.98% which shows that there is 2.98% fluctuation in EY of the bank. The EY of the bank in the year 2002/03 and 2003/04 was 0.07% in both the years. Again the EY of the bank decreases to 0.06% and 0.05% during 2004/05 and 2005/06 respectively. In 2006/07 the EY again decreases to 0.03%..

Finally, the average EY of NABIL is the highest among other banks. There is less fluctuation in the EY of SCBNL and NABIL since they have lower coefficient of variation. The EY of the banks has fluctuated in range of 43.13% to 53.96% as indicated by the respective CV of the banks. HBL has the highest fluctuating EY compared to other banks.

4.1.7 Price Earning Ratio

Table 4.7

Company	2002/03	2003/04	2004/05	2005/06	2006/07	Mean	Std.Dev	C.V
SCBNL	10.18	12.16	16.38	21.47	35.25	19.09	10.02	52.49
HBL	16.91	17.12	19.2	18.57	28.69	20.098	4.899	24.37
NIBL	20.10	18.18	20.25	21.23	27.63	21.478	3.612	16.82
EBL	14.9	14.9	16	22	31	19.76	6.94	35.12

The above table (Table No. 4.1.7) shows the price earning ratio (P/E Ratio) of the Banks from the year 2002/03 to 2006/07.

Figure No. 7: Price Earning Ratio Analysis



The chart depicts the picture of Price Earning Ratio of all the four banks from the fiscal year 2002/03 to 2006/07. Among all the four banks, the average P/E Ratio of NIBL is the highest of 21.478 %. HBL has an average P/E Ratio of 20.098 %. EBL has an average P/E Ratio of 19.76 % and SCBNL has the lowest average P/E Ratio of 19.09 %.

Standard Chartered Bank Limited:

SCBNL has average P/E Ratio of 19.09 and its standard deviation is 10.02. The coefficient of variation is 52.49%. The CV of the bank indicates that there is 52.49% fluctuation in P/E Ratio.

In the year 2002/03, the P/E Ratio was 10.18 and in the year 2003/04, the P/E ratio was 12.16 which is higher compared to last year. In the year 2004/05, the P/E ratio was 16.38 which was again higher than previous year. In the year 2005/06, the P/E Ratio further increased to 21.47. The P/E Ratio of the year 2006/07 was 35.25 which is again higher in comparison to previous year's P/E Ratio.

Himalayan Bank Limited:

The average P/E Ratio of HBL is 20.098. Its standard deviation is 4.899. The coefficient of variation is 24.37% which indicates that there is 24.37% fluctuation in P/E Ratio of the Bank.

In the year 2002/03, the P/E Ratio was 16.91 and in the year 2003/04, the P/E ratio was 17.12 which is higher compared to last year. In the year 2004/05, the P/E ratio was 19.20 which was again higher than previous year. In the year 2005/06, the P/E Ratio was 18.57 which was lower than last year. The P/E Ratio of the year 2006/07 was 28.69 which is higher in comparison to previous year's P/E Ratio.

Nepal Investment Bank Limited:

The average P/E Ratio of NIBL is 21.48. Its standard deviation is 3.612. The coefficient of variation is 16.82% which indicates that there is 16.82% fluctuation in P/E Ratio of the bank.

In the year 2002/03, the P/E Ratio was 20.10 and in the year 2003/04, the P/E ratio was 18.18 which was lower compared to last year. In the year 2004/05, the P/E ratio was 20.25 which was higher than previous year. In the year 2005/06, the P/E Ratio was 21.23 which was again higher than last year. The P/E Ratio of the year 2006/07 was 27.63 which is higher in comparison to previous year's P/E Ratio.

Everest Bank Limited:

The average P/E Ratio of NABIL is 19.76. Its standard deviation is 6.94. The coefficient of variation is 35.12% which indicates that there is 35.12% fluctuation in P/E Ratio of the bank.

In the year 2002/03 and 2004/05, the P/E Ratio was 14.90 in both the year. In the year 2004/05, the P/E ratio was 16 which was higher than previous year. In the year 2005/06, the P/E Ratio was 22 which was again higher than last year. The P/E Ratio of the year 2006/07 was 31 which was higher in comparison to previous year's P/E Ratio.

Finally, the average P/E Ratio of NIBL is in the highest position. SCBNL, EBL and HBL are also in good position. There is less fluctuation in the P/E Ratio of HBL and NIBL since they have lower coefficient of variation. The P/E Ratio of the banks has fluctuated in range of 16.82% to 52.49% as indicated by the respective CV of the banks. EBL and SCBNL have higher fluctuation in P/E Ratio compared to other two banks.

4.2 Correlation Analysis

4.2.1. Correlation between Earning per Share (EPS) and Dividend

Per Share (DPS)

Table No. 4.8

Company	Coefficient of correlation	Relationship	R ²	6P.E	Sig/Insig
SCBNL	.065	Direct	.004	1.8024	Insig
HBL	.747	"	.558	0.7998	"
NIBL	.385	"	.148	1.5426	"
EBL	.274	"	.075	1.674	"

The above table depicts the relationship between EPS and DPS of the four Banks. Coefficient of correlation (r) between EPS and DPS of SCBNL, HBL, NIBL and EBL are 0.065, 0.747, 0.385, and 0.274 respectively. Coefficient of determination between EPS

and DPS of SCBNL is 0.004 which indicates that 0.4 percent variation is explained in the dependent variable DPS due to the changes in the value of independent variable EPS. Secondly coefficient of determination between EPS and DPS of HBL is 0.558 which indicates that the variations in the EPS explain 55.8 percent of the variations in DPS. In case of NIBL, the coefficient of determination is 0.148 which shows 14.8 percent variation is explained in DPS due to changes in EPS. Finally the coefficient of determination of EBL is 0.075 which indicates that the variations in the EPS explain 7.5 percent of the variation in DPS.

To measure the significance of the relationships between EPS and DPS probable error is calculated. The same table depicts that coefficient of correlation of four Banks. All the banks, coefficient of correlation are smaller than 6P.E which shows that there is an insignificant relationship between EPS and DPS.

4.2.2. Correlation between Earning per Share (EPS) and Market Price Per Share (MPS)

Table No. 4.9

Company	Coefficient of correlation	Relationship	R ²	6P.E	Sig/Insig
SCBNL	0.764	Direct	0.584	0.753	Sig
HBL	0.833	Direct	0.695	0.552	Sig
NIBL	0.902	Direct	0.813	0.3384	Sig
EBL	0.943	Direct	0.890	0.1992	Sig

The above table depicts the relationship between EPS and MPS of the four Banks. Coefficient of correlation (r) between EPS and MPS of SCBNL, HBL, NIBL and EBL are 0.764, 0.833, 0.902, and 0.943 respectively. There is a direct relationship between EPS and MPS in all the four banks. Coefficient of determination between EPS and MPS of SCBNL is 0.584 which indicates that 58.4 percent variation is explained in MPS due to the changes in the value of EPS. In case of HBL, the coefficient of determination

between EPS and MPS is 0.695 which indicates that explains 69.5 percent variations in MPS due to the variations in EPS. In case of NIBL, the coefficient of determination is 0.813 which shows 81.3 percent variation is explained in MPS due to changes in EPS. Finally the coefficient of determination of EBL is 0.890 which indicates that the variations in the EPS explain 89 percent of the variation in MPS.

To measure the significance of the relationships between EPS and MPS probable error is calculated. The same table depicts that coefficient of correlation of four Banks. SCBNL, HBL, NIBL and EBL its coefficient of correlation is greater than 6P.E. which indicates that there exists have significant relationship between EPS and MPS.

4.2.3 Correlation between Dividend Payout Ratio (DPR) and Market price per share (MPS)

Table No. 4.10

Company	Coefficient of correlation	Relationship	R ²	6P.E	Sig/Insig
SCBNL	.858	Direct	.736	.4476	Sig
HBL	.388	"	.150	1.5384	Insig
NIBL	.824	"	.680	.579	Sig
EBL	.527	"	.278	1.3068	Insig

The above table depicts the relationship between DPR and MPS of the four Banks. Coefficient of correlation (r) between DPR and MPS of SCBNL, HBL, NIBL and EBL 0.858, 0.388, 0.824 and 0.527 respectively. The figures indicate that all the banks have direct relationship between DPR and MPS. Coefficient of determination between DPR and MPS of SCBNL, HBL, NBBL and NABIL are 0.736, 0.150, 0.680, and 0.278 respectively. The figure of SCBNL indicates that there is 73.6 percent variations are explained in MPS due to the changes in the value of DPR. Similarly, the figure of HBL explains 15 percent variations in MPS. In case of NIBL there is a 68 percent variation in

MPS. Finally, the figure of EBL explains 27.8 percent variations in MPS due to the changes in DPR.

To measure the significance of the relationships between DPR and MPS probable error is calculated. The same table depicts that coefficient of correlation of four Banks. Since correlation coefficient of SCBNL and NIBL are greater than 6P.E. So, we can conclude that there is significant relationship between DPR and MPS. And rest of the banks coefficient of correlation is smaller than 6P.E. which indicates that there is insignificant relationship between DPR and MPS. However, it is difficult to say anything about significance of relationships between DPR and MPS.

4.2.4 Correlation between Dividend Per Share (DPS) and Market price per share (MPS)

Table No. 4.11

Company	Coefficient of correlation	Relationship	R ²	6P.E	Sig/Insig
SCBNL	.582	Direct	.339	1.1964	Insig
HBL	.428	"	.183	1.4784	Insig
NIBL	.633	"	.401	.6522	Insig
EBL	.183	"	.034	1.7484	Insig

The above table depicts the relationship between DPS and MPS of the four Banks. Coefficient of correlation (r) between DPS and MPS of SCBNL, HBL, NIBL and EBL 0.582, 0.428, 0.633 and 0.183 respectively. The figures indicate that all the banks have direct relationship between DPS and MPS. Coefficient of determination between DPS and MPS of SCBNL, HBL, NIBL and EBL are 0.339, 0.183, 0.401, and 0.034 respectively. The figure of SCBNL indicates that there is 33.9 percent variation is explained in MPS due to the changes in the value of DPS. Similarly, the figure of HBL explains 18.3 percent variations in MPS. In case of NIBL there is 40.1 percent variation in MPS. Finally, the figure of NABIL explains 3.4 percent variations in MPS due to the changes in DPS.

To measure the significance of the relationships between DPS and MPS probable error is calculated. The same table depicts that coefficient of correlation of four Banks. All the four banks coefficient of correlation is smaller than 6P.E. which indicates that there is insignificant relationship between DPS and MPS.

4.2.5 Correlation between Dividend Yield (DY) and Market price per share (MPS)

Table No. 4.12

Company	Coefficient of correlation	Relationship	R ²	6P.E	Sig/Insig
SCBNL	.989	Direct	.979	.038	Sig
HBL	.208	"	.043	1.732	Insig
NIBL	.543	"	.295	1.276	Insig
EBL	.618	"	.382	1.1184	Insig

The above table depicts the relationship between DPR and MPS of the four Banks. Coefficient of correlation (r) between DY and MPS of SCBNL, HBL, NIBL and EBL 0.989, 0.208, 0.543 and 0.618 respectively. The figures indicate that all the banks have direct relationship between DY and MPS. Coefficient of determination between DY and MPS of SCBNL, HBL, NIBL and EBL are 0.979, 0.043, 0.295, and 0.382 respectively. The figure of SCBNL indicates that there is 97.9 percent variation is explained in MPS due to the changes in the value of DY. Similarly, the figure of HBL explains 4.3 percent variations in MPS. In case of NIBL there is 29.5 percent variation in MPS. Finally, the figure of EBL explains 38.2 percent variation in MPS due to the changes in DY.

To measure the significance of the relationships between DY and MPS probable error is calculated. The same table depicts that coefficient of correlation of four Banks. Since correlation coefficient of SCBNL is greater than 6P.E. So, we can conclude that there is significant relationship between DY and MPS. And rest of the three banks

coefficient of correlation is smaller than 6P.E. which indicates that there is insignificant relationship between DY and MPS.

4.3 Regression Analysis

Regression Analysis is a statistical device and considered as a useful tool for determining the strength of relationship between two or more variables. With the help of this device we can estimate or predict the value of one variable when the value of other variable is known. The estimation has an important role in various sectors. So, this tool has been used for this study. The analysis has two parts.

4.3.1 Dependent Variable DPS (Y) on EPS (X)

Regression Equation : $Y = a + bX$

Table No. 4.13

Banks	No. of observation	Constant (a)	Regression Coefficient B	S.E. of b	R ²	S.E. of Estimate	't' Value	Sig t
SCBNL	5	122.793	-0.082	.723	.004	21.556	-0.113	.917
HBL	5	-66.986	1.475	.758	.558	9.33	1.946	.147
NIBL	5	25.73	-0.222	.307	.148	6.63	-0.723	.522
EBL	5	23.164	-0.151	.305	.075	11.105	-0.494	.655

The above table depicts the major output of the simple regression analysis between DPS (Y) and EPS (X) of four banks.

From the above regression equation, the regression Coefficient (b) SCBNL is -0.082 which indicates that one rupee increase in EPS leads to 8.2 paisa decrease in DPS. The coefficient of determination is 0.004. This indicates that only 0.4 percent variation in DPS explained by variations in EPS. The value of constant (a) is 122.793.

In case of NIBL and EBL the regression coefficient (b) of both are negative. i.e. -0.222 and -0.151 respectively. It indicates that one rupee increase in EPS leads to a decrease of 22 paisa and 15 paisa in DPS. In case of HBL, its regression coefficient is 1.475 which shows that one rupee increase in EPS leads to Rs.1.475 increase in DPS. The regression coefficients (b) of all the banks are not statistically significant at 5% level of significance since its 't' value is smaller than tabulated value.

4.3.2 Dependent Variable MPS (Y) on DPS (X)

$$Y = a + bX$$

Table No. 4.14

Banks	No.of observation	Constant (a)	Regression Coefficient B	S.E. of b	R ²	S.E.of Estimate	't' Value	Sig t
SCBNL	5	9213.5	-55.75	44.93	.339	1681.29	-1.241	.303
HBL	5	932.08	13.396	16.33	.183	396.88	.820	.472
NIBL	5	1689.76	-40.342	28.49	.401	354.73	-1.42	.252
EBL	5	1377.74	-14.463	44.75	.034	894.97	-0.323	.768

The above table depicts the major output of the simple regression analysis between MPS (Y) and DPS (X) of four banks.

From the above regression equation, the regression Coefficient (b) of SCBNL is -55.75 which indicate that one rupee increase in DPS leads to Rs.55.75 decrease in MPS. The coefficient of determination is 0.339. This indicates that only 33.9 percent variation in MPS explained by variations in DPS. The value of constant (a) is 9213.5.

In case of HBL the regression coefficient (b) is positive. i.e. 13.396 which indicate that one rupee increase in DPS leads to a increase of Rs.13.396 in MPS. The coefficient of determination is .183 which shows that 18.3 percent variation in MPS

explained by variation in DPS. In case of NIBL and EBL, The regression coefficient are -40.342 and -14.463 which indicates that one rupee increase in DPS leads to Rs.40.342 and Rs.14.463 decrease in MPS respectively.

The coefficient of determination is .401 and .034 which shows that 40.1 percent and 3.4 percent variation in MPS explained by variation in DPS The regression coefficient (b) of all the four banks are not statistically significant at 5 percent level since the value of 't' is smaller than tabulated value.

4.3.3 Dependent Variable MPS (Y) on EPS (X)

$$Y = a + bX$$

Table No. 4.15

Banks	No.of observation	Constant (a)	Regression Coefficient B	S.E. of b	R ²	S.E.of Estimate	't' Value	Sig T
SCBNL	5	-11234.1	91.86	44.76	0.584	1333.95	2.052	.133
HBL	5	-1656.97	51.52	19.72	0.695	242.64	2.613	.080
NIBL	5	-570.451	33.15	9168	0.813	197.93	3.616	.036
EBL	5	-1053.788	40.875	8.312	0.890	302.46	4.917	.016

The above table depicts the major output of the simple regression analysis between MPS (Y) and EPS (X) of four banks.

From the above regression equation, the regression Coefficient (b) of SCBNL is 91.86 which indicate that one rupee increase in EPS leads to Rs.91.86 increase in MPS. The coefficient of determination is 0.584. This indicates that only 58.4 percent variation in MPS explained by variations in EPS. The value of constant (a) is -11234.1.

In case of HBL the regression coefficient (b) is positive. i.e. 51.52 which indicate that one rupee increase in EPS leads to a increase of Rs.51.52 in MPS. The coefficient of

determination is .695 which shows that 69.5 percent variation in MPS explained by variation in EPS. In case of NIBL and EBL, The regression coefficient are 33.15 and 40.875 which indicates that one rupee increase in EPS leads to Rs.33.15 and Rs.40.875 increase in MPS respectively.

The coefficient of determination is .813 and .890 which shows that 81.3 percent and 89 percent variation in MPS explained by variation in EPS. The regression coefficient (b) of EBL, HBL and NIBL are statistically insignificant at 5 percent level of significance since the value of 't' is greater than tabulated value. But in case of SCBNL the regression coefficient is not statistically significant at 5 percent level of significance since the value of 't' is smaller than the tabulated value.

4.3.4 Dependent Variable MPS (Y) on DY (X)

$$Y = a + bX$$

Table No. 4.16

Banks	No.of observation	Constant (a)	Regression Coefficient B	S.E. of b	R ²	S.E.of Estimate	't' Value	Sig t
SCBNL	5	6766.48	-804.69	68.78	.979	302.86	-11.7	.001
HBL	5	1014.864	72.192	196.35	.043	429.55	.386	.738
NIBL	5	1371.66	-218.737	195.35	.295	384.77	-1.12	.344
EBL	5	1660.342	-272.490	189.98	.382	701.205	-1.434	.247

The above table depicts the major output of the simple regression analysis between MPS (Y) and DY (X) of four banks.

From the above regression equation, the regression Coefficient (b) of SCBNL is - 804.69 which indicate that one rupee increase in DY leads to Rs.804.69 decrease in MPS. The coefficient of determination is 0.979. This indicates that only 97.9 percent variation in MPS explained by variations in DY. The value of constant (a) is 6766.48.

In case of HBL the regression coefficient (b) is positive. i.e. 72.192 which indicate that one rupee increase in DY leads to a increase of Rs.72.192 in MPS. The coefficient of determination is .043 which shows that 4.3 percent variation in MPS explained by variation in DY. In case of NIBL and EBL, The regression coefficient are - 218.74 and -272.49 which indicates that one rupee increase in DY leads to Rs.40.342 and Rs.14.463 decrease in MPS respectively.

The coefficient of determination is .295 and .382 which shows that 29.5 percent and 38.2 percent variation in MPS explained by variation in DY.

The regression coefficient (b) of SCBNL is statistically significant at 5 percent level of significance since the value of ‘t’ is greater than tabulated value. But in case of HBL, NIBL and EBL the regression coefficient are not statistically significant at 5 percent level of significance since the value of ‘t’ is smaller than tabulated value.

4.3.5 Dependent Variable MPS (Y) on DPR (X)

$$Y = a + bX$$

Table No. 4.17

Banks	No.of Observatio n	Constant (a)	Regression Coefficient b	S.E. of b	R ²	S.E.of Estimate	‘t’ Value	Sig t
SCBNL	5	11069.16	-112.23	38.77	.736	1061.77	-2.895	.063
HBL	5	940.045	7.199	9.88	.150	404.76	.721	.519
NIBL	5	1763.54	-21.54	8.54	.680	259.38	-2.522	.086
EBL	5	1673.095	-15.68	14.59	.278	773.55	-1.075	.361

The above table depicts the major output of the simple regression analysis between MPS (Y) and DPR (X) of four banks.

From the above regression equation, the regression Coefficient (b) of SCBNL is -112.23 which indicates that one percent increase in DPR leads to 112.23 percent decrease in MPS. The coefficient of determination is 0.736. This indicates that there is 73.6 percent variation in MPS explained by variations in DPR. The value of constant (a) is 11069.16.

In case of HBL the regression coefficient (b) is 7.199 which indicate that one percent increase in DPR leads to increase of 7.199 percent in MPS. The coefficient of determination is .150 which shows that 15 percent variation in MPS explained by variation in DPR. In case of NIBL and EBL, The regression coefficient is negative i.e. - 21.54 and – 15.68 which indicates that one percent increase in DPR leads to 21.54 percent and 15.68 decrease in MPS. The coefficient of determination is .680 and .278 which shows that 68 percent and 27.8 percent variation in MPS explained by variation in DPR.

The regression coefficient (b) of SCBNL is statistically significant at 5 percent level of significance since the value of ‘t’ is greater than tabulated value. But in case of HBL, NIBL and EBL the regression coefficient are not statistically significant at 5 percent level of significance since the value of ‘t’ is smaller than tabulated value.

4.4 Multiple Regression Analysis:

4.4.1 Regression of MPS on EPS, DPS and DPR

$$\text{Regression Equation } P_t = a + b_1 E_t + b_2 D_t + D_r$$

Table No. 4.18

Banks	No. of case listed	Constant A	Regression Coefficient			R ₂	S.E.	F	Sig F
			b ₁	b ₂	b ₃				
SCBNL	5	-112069	735.17 (87.68) [8.385]	-892.65 (113.78) [-7.845]	1387.75 (187.49) [7.402]	.998	173.85	141.18	.062

HBL	5	-5738.64	133.43 (11.15) [11.97]	-281.757 (39.79) [-7.07]	-145.54 (21.59) [6.742]	.995	52.295	70.175	.087
NIBL	5	-1441.042	52.68 (20.51) [2.57]	-89.06 (54.84) [-1.624]	38.41 (30.25) [1.27]	.965	148.06	9.243	.236
EBL	5	-2956.33	70.675 (1.57) [45.111]	-65.73 (3.73) [-17.624]	39.002 (1.892) [20.611]	1.00	24.68	1360.6	.020

Note: Values in () and [] represents standard errors of coefficient value and T values.

The above table shows regression equation of dividend per share on earning per share, dividend per share and dividend payout ratio. In case of SCBNL, the regression coefficient for DPS is negative i.e. -892.65 which indicates that one rupee increase in DPS leads to Rs.892.65 decrease in MPS. The regression coefficient of EPS and DPR are 735.17 and 1387.75 which shows that there is positive relationship between MPS, EPS and DPR since increase in EPS and DPR causes increase in MPS.

The value of multiple coefficient of determination is 0.998 which shows 99.8 percent variation in MPS explained by variations in EPS, DPS and DPR. In case of HBL, the regression coefficient for DPS and DPR are negative. i.e. -281.757 and -145.54 which indicates that one rupee increase in DPS leads about Rs.281.757 and 145.54 decrease in MPS. Similarly, increase in DPR causes decrease in MPS. The regression coefficient of EPS is 133.43. This situation indicates that the relationship between MPS and EPS is positive since one rupee increase in DPS causes Rs.133.43 increase in MPS. The value of multiple coefficient of determination is 0.995 which shows 99.5 percent variation in MPS explained by variations in EPS, DPS and DPR.

In case of NIBL, the regression coefficient of DPS is negative. i.e. -89.06 respectively. This situation indicates that DPS has negative relationship with MPS. Thus, one rupee increase in DPS leads to Rs.89.06 decrease in MPS. The regression coefficient of EPS and DPR is 52.68 and 38.41. This situation indicates that the relationship between MPS, EPS and DPR is positive since one rupee increase in DPS causes Rs.52.68 and 38.41 increase in MPS. Similarly, increase in DPR causes increase in MPS. The value of multiple coefficient of determination is 0.965 which shows 96.5 percent variation in MPS explained by variations in EPS, DPS and DPR.

In case of EBL, the regression coefficient of EPS and DPR are positive i.e. 70.675 and 39.002 respectively. Thus, MPS has positive relationship with EPS and DPR respectively. One rupee increase in EPS leads to Rs.70.675 increase in MPS. Similarly, one rupee increase in DPR leads about Rs.39.002 increase in MPS. The regression coefficient of DPS is negative i.e. -65.73 respectively. This situation indicates that DPS has negative relationship with MPS. Thus, one rupee increase in DPS leads to Rs.65.73 decrease in MPS. The value of multiple coefficient of determination is 1.00 which shows 100 percent variation in MPS explained by variations in EPS, DPS and DPR.

SCBNL and NIBL has relatively high S.E of coefficients but HBL and EBL has low S.E of coefficients.

F- Statistics for the regression shows only in case of SCBNL, HBL and EBL, the computed value of F is greater than its table value at 1% level of significant. It indicates that regression equation provide a statistically significant explanation of variation in DPS of these banks. Whereas in case of NIBL, F- Statistics are lower than critical value. It indicates that the regression equation do not provide a statistically significant explanation of variation in dividend per share of these two banks.

4.5 Test of Hypothesis

First Hypothesis Test

Null Hypothesis (H_0): $\mu_1 = \mu_2 = \mu_3 = \mu_4$

i.e. There is no significant difference in DPS of SCBNL, HBL, NIBL and EBL.

Alternative Hypothesis (H_1): $\mu_1 \neq \mu_2 = \mu_3 = \mu_4$

i.e. There is significant difference in DPS of SCBNL, HBL, NIBL and EBL.

Computation of 'F' test Statistics

Grand Total (T) = 755.4

Correction Factor (C.F.) = 28531.46

Total Sum of Square (SST) = 37360.63

Sum of Square due to Row or between Banks (SSC) = 34815.27

Sum of Square due to Error or within Banks (SSE) = 2545.36

Analysis of Variance Table (ANOVA)

S.No	Source of Variation	Sum of Squares (S.S)	Degree of Freedom(d.f.)	Mean Square (M.S.)	Calculated 'F'
1	Between Banks (Due to Row)	SSC = 34815.27	(4 - 1) = 3	11605.09	72.5
2	With in Banks (Due to Error)	SSE = 2545.36	(19 - 3) = 16	159.085	
3	Total	37360.63	(20-1) = 19		

Critical value for d.f's $v_1 = 3$ and $v_2 = 16$ $F_{0.05} = 3.68$

Decision: Since computed value of f is greater than the table value at 5% level of significance, H_1 accepted i.e. there is significant difference in DPS of SCBNL, HBL, NIBL and EBL.

Second Hypothesis Test

Null Hypothesis (H_0): $\mu_1 = \mu_2 = \mu_3 = \mu_4$

i.e. There is no significant difference in EPS of SCBNL, HBL, NIBL and EBL.

Alternative Hypothesis (H_1): $\mu_1 = \mu_2 = \mu_3 = \mu_4$

i.e. There is significant difference in EPS of SCBNL, HBL, NIBL and EBL.

Computation of 'F' test Statistics

Grand Total (T) = 1569.09

Correction Factor (C.F.) = 123102.17

Total Sum of Square (SST) = 42789.33

Sum of Square due to Row or between Banks (SSC) = 39959.33

Sum of Square due to Error or within Banks (SSE) = 2830

Analysis of Variance Table (ANOVA)

S. No	Source of Variation	Sum of Squares (S.S)	Degree of Freedom(d.f.)	Mean Square (M.S.)	Calculated 'F'
1	Between Banks (Due to Row)	SSC = 39959.33	$(4 - 1) = 3$	13319.78	75.31
2	Within Banks (Due to Error)	SSE = 2830	$(19 - 3) = 16$	176.875	
3	Total	42789.33	$(20-1) = 19$		

Critical value for d.f's $v_1 = 3$ and $v_2 = 16$ $F_{0.05} = 3.68$

Decision: since computed value of f is greater than the table value at 5% level of significance, H_1 accepted i.e. there is significant difference in EPS of SCBNL, HBL, NIBL and EBL.

Third Hypothesis Test

Null Hypothesis (H_0): $\mu_1 = \mu_2 = \mu_3 = \mu_4$

i.e. There is no significant difference in DPR of SCBNL, HBL, NIBL and EBL.

Alternative Hypothesis (H_1): $\mu_1 = \mu_2 = \mu_3 = \mu_4$

i.e. There is significant difference in DPR of SCBNL, HBL, NIBL and EBL.

Computation of 'F' test Statistics

Grand Total (T) = 744.31

Correction Factor (C.F.) = 29977.8

Total Sum of Square (SST) = 13613.23

Sum of Square due to Row or between Banks (SSC) = 7451.45

Sum of Square due to Error or within Banks (SSE) = 6161.78

Analysis of Variance Table (ANOVA)

S.No	Source of Variation	Sum of Squares (S.S)	Degree of Freedom(d.f.)	Mean Square (M.S.)	Calculated 'F'
1	Between Banks (Due to Row)	SSC = 7451.45	(4 - 1) = 3	2483.82	6.45
2	Within Banks (Due to Error)	SSE = 6161.78	(19 - 3) = 16	385.11	
3	Total	13613.23	(20-1) = 19		

Critical value for d.f's $v_1 = 3$ and $v_2 = 16$ $F_{0.05} = 3.68$

Decision: since computed value of f is greater than the table value at 5% level of significance, H_1 accepted i.e. there is significant difference in DPS of SCBNL, HBL, NIBL and EBL.

4.6 Major Findings

The major findings obtained from the above data analysis are stated as follows:

1. SCBNL has the highest average dividend per share among other banks. HBL has lowest DPS. While looking at the CV of the banks HBL has the highest CV which indicates relative dispersion is also the highest than other banks. Whereas, SCBNL has the lowest CV. The study shows that both HBL and EBL do not have stable and consistent dividend payment practice.
2. In case of DPR, SCBNL has the highest average DPR among other banks. EBL comes in second position. HBL has the lowest average DPR and also it has the highest fluctuation indicated by its CV of 100.21 percent. SCBNL has the lowest fluctuation in DPR. The fluctuation of the DPR of the banks ranged from 19.24 percent to 100.21 percent.
3. SCBNL has the highest average dividend yield. HBL has lowest average DY and also it has highest fluctuation in DY as indicated by its CV of 109.78 percent. SCBNL has lowest CV of 48.03 percent. But, EBL has CV of 95.85 percent which indicates that it also has high fluctuation in Dividend Yield.
4. SCBNL has the highest average EPS of Rs.155.84 followed by EBL, HBL and NIBL being the lowest. The highest fluctuation in EPS is 31.86 percent of EBL as indicated by its CV. SCBNL has the lowest fluctuation in EPS as measured by CV of 9.6 percent.
5. The average highest MPS is of SCBNL with Rs.3081. HBL has lowest MPS of Rs.1087.7. The highest fluctuation in share price is 67.92 percent of EBL. The HBL has the lowest fluctuation in share price as measured by its CV of 34.98 percent.
6. EBL has the highest average earning yield. And Both HBL and NIBL come in second position followed by SCBNL. SCBNL has the highest fluctuation in EY as indicated by its CV. Whereas EBL has lowest fluctuation in EY.

7. NIBL has highest average P/E Ratio. And SCBNL has the lowest P/E Ratio. The CV analysis shows that SCBNL has highest fluctuation in P/E Ratio followed by EBL, HBL and NIBL.
8. The DPS and EPS of all the banks are positively correlated which means higher the EPS, higher will be the DPS. The regression analysis of HBL shows that increase in EPS causes to increase in DPS. However, the regression analysis of NIBL, SCBNL and EBL shows that increase in EPS causes to decrease in DPS due to negative relationship between DPS and EPS.
9. The correlation between EPS and MPS of all the banks are positively correlated which means higher the MPS higher will be the EPS. The regression analysis SCBNL, HBL, NIBL and EBL shows that increase in EPS causes to increase in MPS.
10. The correlation between MPS and DY of SCBNL, HBL, EBL and NIBL are positively correlated which means higher the DY higher will be the MPS. The regression analysis of HBL shows that increase in DY causes to increase in MPS. However, the regression analysis of NIBL, SCBNL and EBL shows that increase in DY causes to decrease in MPS due to negative relationship between MPS and DY.
11. The MPS and DPS of the banks are positively correlated which means higher the DPS higher will be the MPS. The regression analysis of HBL shows that increase in DPS causes to increase in MPS which is negligible increment. At the same, the regression analysis of SCBNL, EBL and NIBL shows increase in DPS causes decrease in MPS which is considerable.
12. The correlation between MPS and DPR of the banks are positively correlated which means higher the DPR, higher will be the MPS. The regression analysis of HBL shows increase in DPR causes to increase in MPS. Whereas the regression analysis of SCBNL, EBL and NIBL shows increase in DPR causes to decrease in MPS due to negative relationship between MPS and DPR.
13. The multiple regression analysis of SCBNL shows that the relationship between MPS with DPS is negative i.e. increase in DPS causes to decrease in MPS which is ridiculous. At the same time, there is positive relationship between MPS, EPS

and DPR which shows increase in EPS and DPR leads to increase in MPS. In case of HBL, the regression analysis shows that the relationship of MPS with DPS and DPR are negative i.e. increase in DPS and DPR causes to decrease in MPS which is ridiculous. At the same time it also shows that increase in EPS causes to increase in MPS. Whereas in case of NIBL, its regression analysis shows that there is negative relationship of MPS with DPS. It means increase in DPS causes to decrease in MPS which do not happen practically. But it also shows that increase in EPS and DPR leads to increase in MPS quite considerable. In case of EBL, its regression analysis shows that there is positive relationship of MPS with EPS and DPR which means that increase in EPS and DPR lead to increase in MPS. At the same time, it shows that there is negative relationship between MPS and DPS which shows increase in DPS leads to decrease in MPS.

14. The test of hypothesis of F-test statistic between SCBNL, HBL, NIBL and EBL shows that there is a significant difference between DPS of the banks at 5% level of significance.
15. The test of hypothesis of F-test statistic between SCBNL, HBL, NIBL and EBL shows that there is a significant difference between EPS of the banks at 5% level of significance.
16. The test of hypothesis of F-test statistic between SCBNL, HBL, NIBL and EBL shows that there is a significant difference between DPR of the banks at 5% level of significance.

CHAPTER V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

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 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. Besides this dividend paying ability also reflects the financial positions of the organization in the market.

Dividend distribution is very important factor to any organization for effective goal achievement to satisfy the shareholders. Dividends are payments made to the shareholders in return to their investment in the shares of the firm. In other words, dividend can be known as the portion of profit distributed to shareholders. And policy refers to the decision about how much earning, at what form should be distributed to the shareholder's. Thus, dividend policy is to determine the amount of earning to be distributed to shareholders and the amount to be retained or reinvested in the firm.

Dividend serves as simple, comprehensive signal of management's interpretations of the firm's recent performance and its future prospects. The main objective of the study is to see the relationship of dividend per share, earning per share, dividend payout ratio, dividend yield and market price per share.

This paper attempts to determine the impact of dividend policy on stock price. A sample of four commercial banks listed in Nepal Stock Exchange is examined for a period of 2002/03 to 2006/07. To make the research more reliable, different types of

analysis have been conducted to find out the appropriate relationship between market price of common share and other variables, which affect the dividend.

5.2 Conclusions

- 5.2.1 The rules and regulations that bind the companies to pay dividend is lacking. There is no provision in Company Act 2063 and other regulating acts regarding dividend payment. This has caused inconsistency and random walk of dividend payment which is seen in case HBL and EBL.
- 5.2.2 Out of four banks taken under this study, only SCBNL and NIBL have paid dividend regularly and consistently whereas HBL and EBL have not paid dividend regularly.
- 5.2.3 There seems instability and inconsistency in dividend payment. Dividend payout ratio of HBL does not show any stability in dividend payments. So, this situation indicates that HBL do not have strategic dividend policy.
- 5.2.4 The average DPR of the banks has ranged from 20.44 to 71.17 percent HBL faces greatest fluctuation in DPR among other banks with 100.21 percent which clearly indicates instability in dividend payout ratio. SCBNL shows lower fluctuation in DPR. EBL and NIBL shows higher fluctuation than SCBNL but lower than HBL.
- 5.2.5 EBL faces greatest fluctuation in EPS and MPS as measured by its CV which is higher than other banks i.e. 31.86% and 67.92% respectively. This sort of fluctuation causes loosing public faith in the market. Whereas SCBNL has lower fluctuation in EPS. At the same time, HBL and NIBL come in second and third position. Also, HBL has the lowest fluctuation in MPS whereas NIBL and SCBNL come in second and third position.
- 5.2.6 The analysis of DPS shows that SCBNL is following constant dividend payout policy from first two years. However, HBL, NIBL and EBL are not following the constant dividend payout policy. The dividend payment trends of these banks are highly fluctuating.

It is found that only a few company that pay dividend to the shareholders but there is no consistency in dividend distribution in all the sample banks. HBL and EBL have not distributed any cash dividend in the fiscal year 2003/04 and 2004/05 respectively. SCBNL pays the high cash dividend among the sample banks. The research shows that none of the sample banks have well defined and appropriate policy regarding dividend payment. They don't seem to follow the optimum dividend policy of paying regular dividend as per the shareholder's expectation. It might cause uncertainty among shareholders.

5.3 Recommendations

- 5.3.1 The analysis shows that clearly defined dividend policy among sample companies and none of the sample companies have followed a relevant and appropriate dividend policy except SCBNL. The DPS of other sample companies are highly fluctuating. SCBNL is following constant dividend payment policy. However, other companies are neither following fixed dividend policy nor constant payout dividend policy. This sort of fluctuation in dividend payment may create uncertainty among stockholders. So, it is recommended that the banks should maintain constant dividend payout policy to satisfy stockholders and also to build good image in stock market.
- 5.3.2 The analysis shows that all the four banks have insignificant relationship between EPS and DPS which indicates that EPS is not taken in account for declaration of dividend. So, it is very important for these above mentioned banks to consider earnings rather than neglecting it while making dividend decision.
- 5.3.3 The analysis of dividend payout ratio of HBL shows that it has the highest fluctuation in dividend payout ratio. This sort of imbalance causes serious inconvenience and uncertainty among shareholders as well as many other sectors of the company. So, it is recommended that HBL should follow constant dividend payout ratio policy.
- 5.3.4 There is lack of rules and regulations which binds the companies listed in stock exchange including four banks taken under study. The legal rules regarding to the

- dividend policy should be clear for smooth growth of the enterprises as well as growth of national economy. For this purpose, GON, NEPSE, SEBON and other concerned parties should enact legal rule that bind the listed companies to pay dividend regularly.
- 5.3.5 Banks should have long term vision regarding earnings and dividend per share which helps them to cope with challenging competitive situation of present world. They should define their vision clearly considering their future plans, expansion in business, future economy of the country. Considering various internal and external factors, companies should choose whether to adopt stable dividend policy, constant payout ratio or low regular plus extras or adopting dividend as residual dividend policy.
- 5.3.6 There seems a necessity to establish an organization that carries out activities to promote and protect shareholders/investors interest. The Government should recognize those kind of organization. The activities of Nepal Stock Exchange Ltd and Security Board of Nepal should be made wide and these organizations should be revitalized equipping them with competent manpower and other physical facilities.
- 5.3.7 Banks are playing on the public money. So in this regard, they are advised to have target rate of return (earnings) and target payout ratio that will help the banks to build good image in stock market and investors will be benefited on making investment decision.
- 5.3.8 Banks should have their clearly defined dividend policy. Clearly defined policy helps to determine specific policy regarding stable dividend, constant payout ratio and low regular plus extras. This sort of policy helps the investors to decide whether to buy or not the share of the particular bank. Banks can clearly define their dividend policy discussing in AGM among shareholders in democratic manner.
- 5.3.9 The decision regarding dividend payment should not be biased and it should always in favour of the prosperity and betterment of the company.

Bibliography

Books and Journals

Baker, H.K. and Philips, Aaron L. 1992. "*Management View on Stock Dividend*" Working paper series. Florida: Nov. Issue. Jacksonville. pp 1-27.

Chawala, Deepak and Srinivasan, G. 1987. "*Impact of Dividend and retention share price*", An Econometric Study Decision, Vol.14. pp. 137-140

Francis, Jack Clark. 1988. *Investment: Analysis and Management*, 3rd Edition. New York : MC-Graw Hill Book Company Inc.

Friend, Irwin and Puckett, Marshall. 1964. "*Dividend and Stock Prices* ", The American economic review, Vol. LIV.

Gitman, Lawrence J. 1998. *Principles of Managerial Finance*, 6th Edition. New York: Harper Collins College Publishers.

Hasting, P.G. 1996. *The Management of Business Finance*, New York: D. Ban Nostrand Company Inc. p.370.

Kothari, C.R. 1994. "*Quantitive Techniques*", 3rd Edition. New Delhi : Vikas Publishing House Pvt. Ltd. p.19.

Manandhar, K. D. 2001. "*Bonus share and Dividend changes Emperical Analysis in Nepalese Context*", Management Dynamics. Vol.11 No.1, Shanker Dev Campus, p.p. 4-18

Mathur, Iqbal. 1979. *An Introduction to Financial Management*, New York: Macmillan Publishing Company Inc.

Miller Metron H. and Modigliani, Franco. 1961. *"Dividend Policy, Growth and valuation of shares"*. Journal of Business. pp 411-433.

Pandey, I.M. 1995. *"Financial Management"* 7th Edition. New Delhi: Vikash Publishing House Pvt Ltd.

Rao, Ramesh K.S. 1992. *Financial Management concept and application*, 2nd Ed. New York : Macmillan Publishing company.

Shrestha, Manohar Krishna. 1980. *Financial Management (Theory and Practice)* CDC, TU. p. 670

Shrestha, Manohar Krishna. 1992. *"Shareholder's democracy and Annual General Meeting Feedback"*, Portfolio Analysis, Kathmandu : Nepal Publications.

Van Horne, James C. 1981. *"Dividend Policy: Theory and Practice"*, Financial Management and Policy, 10th Ed. New Delhi : Prentice Hall of India Pvt. Ltd. p. 448

Van Horne, James C and Mc Donald, John G. 1971. *"Dividend Policy and new equity financing"*, Journal of Finance. pp 507-519.

Van Horne, James C and Wachowicz, John M. Jr. 1997. *"Dividend Policy"*, Fundamentals of Financial Management, 9th Ed. New Delhi: Prentice Hall of India Pvt Ltd.

Walter, James E. 1996. *"Dividend Policies and Common Stock Prices"* Journal of Finance, American Finance Association.

Weston, J.Fred and Brigham, Eugene F. 1972. *"Dividend Policy"*, Essentials of Managerial Finance, 9th Ed. New York : The Dryden Press International Editions.

Official Publications

Commercial Bank Act of Nepal, 1974.

Nepal Company Act, 2063

Standard Chartered Bank Limited, Annual Report, F/Y (2002/03 to 2006/07)

Himalayan Bank Limited, Annual Report, F/Y (2002/03 to 2006/07)

Everest Bank Limited, Annual Report, F/Y (2002/03 to 2006/07)

Nepal Investment Bank Limited, Annual Report, F/Y (2002/03 to 2006/07)

Website:

<http://www.standardchartered.com.np>

<http://www.himalayanbank.com>

<http://www/nibl.com.np>

<http://www.everestbankltd.com>

<http://www.nepalstock.com>

Unpublished Master Degree Thesis

Gautam, Rishi Raj. 1996. *"Dividend Policy in Commercial Banks: A Comparative study of NGBL, NIBL and NABIL"* Unpublished Masters Degree Thesis Shanker Dev Campus.

Timilsina, Sadakar. 1997. *"Dividend and Stock prices: An Emperical Study"* Unpublished Masters Degree Dissertation T.U., Central Department of Management Kirtipur.

Adhikari, Nabha Raj. 1999. *"Corporate Dividend Practice in Nepal"* Unpublished Masters Degree Thesis T.U., Central Department of Management Kirtipur.

Rajbhandari, Prerana Laxmi. 2001. *"Study on Dividend Policy: A Comparative Study Between Banks and Insurance Companies"* Unpublished Master's Degree Thesis Shanker Dev Campus.

Katawal, Yagya Bahadur. 2001. *"A Comparative Study of Dividend Policy in Commercial Banks"* Unpublished Master's Degree Thesis Shaker Dev Campus.

Sharma, Minarba. 2002. *"Dividend Policy with respect to Insurance Companies in Nepal"* Unpublished Maters Degree Thesis Shanker Dev Campus.

Ghimire, Prabin Kumar. 2002. *"Dividend Policy of listed companies (with ref. to Banks, Finance & Insurance Companies)"*. Unpublished Maters Degree Thesis Shanker Dev Campus.

Bhattarai, Mahesh. 2004. *"An Examination of the Effects of Dividend Policy on the Market Price of shares"*. Unpublished Maters Degree Thesis.

Adhikari, Sarita. 2007. *"A study on Dividend practices in Nepal: A comparative study of Commercial Banks and Finance Companies"*. Unpublished Maters Degree Thesis Shanker Dev Campus.

Appendix 1

Profile of the Concerned Banks:

1. Everest Bank Limited.

Everest Bank Limited (EBL) started its operation in 1994 with a view and objectives of extending professionalized and efficient banking services to various segments of the society. The bank is providing customer friendly services through a network of 27 branches across the nation. Punjab National Bank (PNB), our joint venture partner (holding 20% equity in the bank) is the largest nationalized bank in India having 113 years of banking history. PNB is a technology driven bank serving over 35 billion customers through a network of over 4500 branches spread all over the country with a total business of around INR 2178.74 billion.

The bank has been conferred with “Bank of the Year 2006, Nepal” by the banker, a publication of financial times, London. The bank was bestowed with the “NICCI Excellence award” by Nepal India chamber of commerce for its spectacular performance under finance sector.

- Largest Network (27 branches as on Bhadra 65) among private sector banks spread across Nepal and all connected with ABBS
- Strong Joint Venture Partner providing Technical Support
- Representative office in India to facilitate remittance from India
- Direct Drawing arrangement with PNB and HDFC bank India whereby instant payment is done on presentation of the instrument.
- Direct account credit in PNB branches connected with Central Banking System and RTGS member banks via speed remittance.
- More than 170 remittance payout location in Nepal

Recognizing the value of offerings a complete range of services, we have pioneered in extending various customer friendly products such as Home Loan, Education Loan, EBL Flexi Loan, EBL Property Plus (Future Lease Rental), Home Equity Loan, Vehicle

Loan, Loan Against Share, Loan Against Life Insurance Policy and Loan for Professionals

EBL was one of the first bank to introduce Any Branch Banking System (ABBS) in Nepal.

2. Himalayan Bank Limited.

Himalayan Bank was established in 1993 in joint venture with Habib Bank Limited of Pakistan. Despite the cut-throat competition in the Nepalese Banking sector, Himalayan Bank has been able to maintain a lead in the primary banking activities- Loans and Deposits.

Legacy of Himalayan lives on in an institution that's known throughout Nepal for its innovative approaches to merchandising and customer service. Products such as Premium Savings Account, HBL Proprietary Card and Millionaire Deposit Scheme besides services such as ATMs and Tele-banking were first introduced by HBL. Other financial institutions in the country have been following our lead by introducing similar products and services. Therefore, we stand for the innovations that we bring about in this country to help our Customers besides modernizing the banking sector. With the highest deposit base and loan portfolio amongst private sector banks and extending guarantees to correspondent banks covering exposure of other local banks under our credit standing with foreign correspondent banks, we believe we obviously lead the banking sector of Nepal. The most recent rating of HBL by Bankers' Almanac as country's number 1 Bank easily confirms our claim.

All Branches of HBL are integrated into Globus (developed by Temenos), the single Banking software where the Bank has made substantial investments. This has helped the Bank provide services like 'Any Branch Banking Facility', Internet Banking and SMS Banking. Living up to the expectations and aspirations of the Customers and other stakeholders of being innovative, HBL very recently introduced several new products and services. Millionaire Deposit Scheme, Small Business Enterprises Loan, Pre-paid Visa Card, International Travel Quota Credit Card, Consumer Finance through

Credit Card and online TOEFL, SAT, IELTS, etc. fee payment facility are some of the products and services. HBL also has a dedicated offsite 'Disaster Recovery Management System'. Looking at the number of Nepalese workers abroad and their need for formal money transfer channel; HBL has developed exclusive and proprietary online money transfer software- HimalRemit™. By deputing our own staff with technical tie-ups with local exchange houses and banks, in the Middle East and Gulf region, HBL is the biggest inward remittance handling Bank in Nepal. All this only reflects that HBL has an outside-in rather than inside-out approach where Customers' needs and wants stand first.

3. Nepal Investment Bank Limited

Nepal Investment Bank Ltd. (NIBL), previously Nepal Indosuez Bank Ltd., was established in 1986 as a joint venture between Nepalese and French partners. The French partner (holding 50% of the capital of NIBL) was Credit Agricole Indosuez, a subsidiary of one the largest banking group in the world.

With the decision of Credit Agricole Indosuez to divest, a group of companies comprising of bankers, professionals, industrialists and businessmen, has acquired on April 2002 the 50% shareholding of Credit Agricole Indosuez in Nepal Indosuez Bank Ltd.

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

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

We believe that NIBL, which is managed by a team of experienced bankers and professionals having proven track record, can offer you what you're looking for. We are

sure that your choice of a bank will be guided among other things by its reliability and professionalism.

Nepal Investment Bank Limited (NIBL), operating under the guidelines set by The Government of Nepal and Nepal Rastra Bank (the Central Bank of Nepal), offers one of the safest and the most secured means of money transfer to Nepal. Remitters can send money to NIBL from any part of the globe through our correspondent banks, exchange houses and banks in the Middle East and using PrithiviExpress, our in-house remittance software.

4. Standard Chartered Bank Nepal Limited

Standard Chartered Bank Nepal Limited has been in operation in Nepal since 1987 when it was initially registered as a joint-venture operation. Today the Bank is an integral part of Standard Chartered Group who has 75% ownership in the company with 25% shares owned by the Nepalese public. The Bank enjoys the status of the largest international bank currently operating in Nepal.

Standard Chartered Group employs almost 60,000 people, representing over 100 nationalities in over 50 countries in the Asia Pacific Region, South Asia, the Middle East, Africa, the United Kingdom and the Americas. This diversity lies at the heart of the Bank's values and supports the Bank's growth as the world increasingly becomes one market.

With strong organic growth supported by strategic alliances and acquisitions and driven by its strengths in the balance and diversity of its business, products, geography and people, Standard Chartered is well positioned in the emerging trade corridors of Asia, Africa and the Middle East.

An integral part of the only international banking Group currently operating in Nepal, the Bank enjoys an impeccable reputation of a leading financial institution in the country. With 15 points of representation and 16 ATMs across the Kingdom and with around 350

local staff, Standard Chartered Bank Nepal Ltd. is in a position to serve its customers through a large domestic network. In addition to which the global network of Standard Chartered Group gives the Bank a unique opportunity to provide truly international banking in Nepal.

Standard Chartered Bank Nepal Limited offers a full range of banking products and services in Wholesale and Consumer banking, catering to a wide range of customers encompassing individuals, mid-market local corporates, multinationals, large public sector companies, government corporations, airlines, hotels as well as the DO segment comprising of embassies, aid agencies, NGOs and INGOs.

The Bank has been the pioneer in introducing 'customer focused' products and services in the country and aspires to continue to be a leader in introducing new products in delivering superior services. It is the first Bank in Nepal that has implemented the Anti-Money Laundering policy and applied the 'Know Your Customer' procedure on all the customer accounts.

Appendix 2

Standard Chartered Bank Nepal Limited (SCBNL)

Simple Correlation and Regression Analysis between EPS and MPS

Year	EPS (X)	MPS (Y)	XY	X ²	Y ²
2002/03	149.30	1640	244852	22290.49	2689600
2003/04	143.55	1745	250494.75	20606.60	3045025
2004/05	143.14	2345	335663.3	20489.06	5499025
2005/06	175.84	3775	663796	30919.71	14250625
2006/07	167.37	5900	987483	28012.72	34810000
N=5	X = 779.2	Y = 15405	XY = 2482289.05	X ² = 122318.58	Y ² = 60294275

$$\text{Coefficient of Correlation (r)} = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \sqrt{n \sum Y^2 - (\sum Y)^2}} = 0.764$$

$$\text{Coefficient of Determination (r}^2\text{)} = 0.584$$

$$\text{Standard error of Correlation Coefficient, S.E. (r)} = \frac{1 - r^2}{\sqrt{n}} = 0.1860$$

$$\text{Probable Error of Correlation Coefficient P.E. (r)} = 0.6745 \frac{1 - r^2}{\sqrt{n}} = 0.1255$$

Independent Variable (X): EPS

Dependent Variable (Y): MPS

Regression Equation of Y on X is, Y = a + bX

Where,

a = Regression constant

b = Regression coefficient (Slope of the Regression Line)

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

$$Y = n.a + b. X$$

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

Solving these two normal equations, we get

$$b = \frac{n.\sum XY - \sum X \sum Y}{n.\sum X - (\sum X)^2} = 91.86$$

$$a = Y - bX = -11234.1$$

$$\text{Standard error of Estimate (SE}_e\text{)} = \sqrt{\frac{\sum Y^2 - a \sum Y - b \sum XY}{n - 2}} = 1333.95$$

Simple Correlation and Regression Analysis between EPS and DPS

Year	EPS (X)	DPS (Y)	XY	X ²	Y ²
2002/03	149.30	110	16423	22290.49	12100
2003/04	143.55	110	15790.5	20606.60	12100
2004/05	143.14	120	17176.8	20489.06	14400
2005/06	175.84	130	22859.2	30919.71	16900
2006/07	167.37	80	13416	28012.72	6400
N=5	X = 779.2	Y = 550	XY = 85665.5	X ² = 122318.58	Y ² = 61900

$$\text{Coefficient of Correlation (r)} = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \sqrt{n \sum Y^2 - (\sum Y)^2}} = 0.065$$

$$\text{Coefficient of Determination (r}^2\text{)} = 0.004$$

Standard error of Correlation Coefficient, S.E. (r) = $\frac{1-r^2}{\sqrt{n}} = 0.4454$

Probable Error of Correlation Coefficient P.E. (r) = $0.6745 \frac{1-r^2}{\sqrt{n}} = 0.3004$

Independent Variable (X): EPS

Dependent Variable (Y): DPS

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

Where,

a = Regression constant

b = Regression coefficient (Slope of the Regression Line)

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

$$Y = n.a + b. X$$

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

Solving these two normal equations, we get

$$b = \frac{n \cdot \sum XY - \sum X \sum Y}{n \cdot \sum X - (\sum X)^2} = -0.082$$

$$a = Y - bX = 122.79$$

$$\text{Standard error of Estimate (SE}_e\text{)} = \sqrt{\frac{\sum Y^2 - a \sum Y - b \sum XY}{n - 2}} = 21.556$$

Simple Correlation and Regression Analysis between DPS and MPS

Year	DPS (X)	MPS (Y)	XY	X ²	Y ²
2002/03	110	1640	180400	12100	2689600

2003/04	110	1745	191950	12100	3045025
2004/05	120	2345	281400	14400	5499025
2005/06	130	3775	490750	16900	14250625
2006/07	80	5900	472000	6400	34810000
N=5	X = 550	Y = 15405	XY = 1616500	X ² = 61900	Y ² = 60294275

$$\text{Coefficient of Correlation (r)} = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \sqrt{n \sum Y^2 - (\sum Y)^2}} = 0.582$$

$$\text{Coefficient of Determination (r}^2\text{)} = 0.339$$

$$\text{Standard error of Correlation Coefficient, S.E. (r)} = \frac{1-r^2}{\sqrt{n}} = 0.2956$$

$$\text{Probable Error of Correlation Coefficient P.E. (r)} = 0.6745 \frac{1-r^2}{\sqrt{n}} = 0.1994$$

Independent Variable (X): DPS

Dependent Variable (Y): MPS

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

Where,

a = Regression constant

b = Regression coefficient (Slope of the Regression Line)

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

$$Y = n.a + b. X$$

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

Solving these two normal equations, we get

$$b = \frac{n \cdot \sum XY - \sum X \sum Y}{n \cdot \sum X - (\sum X)^2} = -55.75$$

$$a = Y - bX = 9213.5$$

$$\text{Standard error of Estimate (SE}_e) = \sqrt{\frac{\sum Y^2 - a \sum Y - b \sum XY}{n - 2}} = 1681.29$$

Simple Correlation and Regression Analysis between DPR and MPS

Year	DPR (X)	MPS (Y)	XY	X ²	Y ²
2002/03	73.68	1640	120835.2	5428.74	2689600
2003/04	76.63	1745	133719.35	5872.16	3045025
2004/05	83.83	2345	196581.35	7027.47	5499025
2005/06	73.93	3775	279082.75	5465.65	14250625
2006/07	47.8	5900	282020	2284.84	34810000
N=5	X = 355.87	Y = 15405	XY = 1012238.65	X ² = 26078.86	Y ² = 60294275

$$\text{Coefficient of Correlation (r)} = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \sqrt{n \sum Y^2 - (\sum Y)^2}} = 0.858$$

$$\text{Coefficient of Determination (r}^2) = 0.736$$

$$\text{Standard error of Correlation Coefficient, S.E. (r)} = \frac{1 - r^2}{\sqrt{n}} = 0.1181$$

$$\text{Probable Error of Correlation Coefficient P.E. (r)} = 0.6745 \frac{1 - r^2}{\sqrt{n}} = 0.0796$$

Independent Variable (X): DPR

Dependent Variable (Y): MPS

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

Where,

a = Regression constant

b = Regression coefficient (Slope of the Regression Line)

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

$$Y = n.a + b. X$$

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

Solving these two normal equations, we get

$$b = \frac{n.\sum XY - \sum X \sum Y}{n.\sum X - (\sum X)^2} = -112.23$$

$$a = Y - bX = 11069.16$$

$$\text{Standard error of Estimate (SE}_e) = \sqrt{\frac{\sum Y^2 - a \sum Y - b \sum XY}{n - 2}} = 1061.77$$

Simple Correlation and Regression Analysis between DY and MPS

Year	DY (X)	MPS (Y)	XY	X ²	Y ²
2002/03	6.7	1640	109.88	0.00449	2689600
2003/04	6.3	1745	109.94	0.00397	3045025
2004/05	5.1	2345	119.59	0.0026	5499025
2005/06	3.44	3775	129.86	0.00118	14250625
2006/07	1.36	5900	80.24	0.00018	34810000
N=5	X = 0.229	Y = 15405	XY = 549.51	X ² = 0.01243	Y ² = 60294275

$$\text{Coefficient of Correlation (r)} = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \sqrt{n \sum Y^2 - (\sum Y)^2}} = 0.208$$

$$\text{Coefficient of Determination (r}^2\text{)} = 0.043$$

$$\text{Standard error of Correlation Coefficient, S.E. (r)} = \frac{1-r^2}{\sqrt{n}} = 0.4280$$

$$\text{Probable Error of Correlation Coefficient P.E. (r)} = 0.6745 \frac{1-r^2}{\sqrt{n}} = 0.2887$$

Independent Variable (X): DY

Dependent Variable (Y): MPS

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

Where,

a = Regression constant

b = Regression coefficient (Slope of the Regression Line)

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

$$Y = n.a + b. X$$

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

Solving these two normal equations, we get

$$b = \frac{n \cdot \sum XY - \sum X \sum Y}{n \cdot \sum X - (\sum X)^2} = 72.19$$

$$a = Y - bX = 1014.86$$

$$\text{Standard error of Estimate (SE}_e\text{)} = \sqrt{\frac{\sum Y^2 - a \sum Y - b \sum XY}{n - 2}} = 429.55$$

Appendix 3

Himalayan Bank Limited (HBL)

Simple Correlation and Regression Analysis between EPS and MPS

Year	EPS (X)	MPS (Y)	XY	X ²	Y ²
2002/03	49.45	836	41340.2	2445.30	698896
2003/04	49.05	840	41202	2405.9	705600
2004/05	47.91	920	44077.2	2295.37	846400
2005/06	59.24	1100	65164	3509.38	1210000
2006/07	60.66	1740	105548.4	3679.63	3027600
N=5	X = 266.31	Y = 5436	XY = 297331.8	X ² = 14335.58	Y ² = 6488496

$$\text{Coefficient of Correlation (r)} = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \sqrt{n \sum Y^2 - (\sum Y)^2}} = 0.833$$

$$\text{Coefficient of Determination (r}^2\text{)} = 0.695$$

$$\text{Standard error of Correlation Coefficient, S.E. (r)} = \frac{1 - r^2}{\sqrt{n}} = 0.1364$$

$$\text{Probable Error of Correlation Coefficient P.E. (r)} = 0.6745 \quad \frac{1 - r^2}{\sqrt{n}} = 0.092$$

Independent Variable (X): EPS

Dependent Variable (Y): MPS

Regression Equation of Y on X is, $Y = a + bX$

Where,

a = Regression constant

b = Regression coefficient (Slope of the Regression Line)

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

$$Y = n.a + b. X$$

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

Solving these two normal equations, we get

$$b = \frac{n.\sum XY - \sum X \sum Y}{n.\sum X - (\sum X)^2} = 51.522$$

$$a = Y - bX = -1656.97$$

$$\text{Standard error of Estimate (SE}_e) = \sqrt{\frac{\sum Y^2 - a \sum Y - b \sum XY}{n - 2}} = 242.64$$

Simple Correlation and Regression Analysis between EPS and DPS

Year	EPS (X)	DPS (Y)	XY	X ²	Y ²
2002/03	49.45	1.32	65.27	2445.30	1.74
2003/04	49.05	-	-	2405.9	-
2004/05	47.91	11.58	554.79	2295.37	134.10
2005/06	59.24	30	1777.20	3509.38	900
2006/07	60.66	15	909.9	3679.63	225
N=5	X = 266.31	Y = 57.9	XY = 3307.16	X ² = 14335.58	Y ² = 1260.84

$$\text{Coefficient of Correlation (r)} = \frac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2} \sqrt{n\sum Y^2 - (\sum Y)^2}} = 0.747$$

Coefficient of Determination (r^2) = 0.558

Standard error of Correlation Coefficient, S.E. (r) = $\frac{1-r^2}{\sqrt{n}}$ = 0.1977

Probable Error of Correlation Coefficient P.E. (r) = 0.6745 $\frac{1-r^2}{\sqrt{n}}$ = 0.1333

Independent Variable (X): EPS

Dependent Variable (Y): DPS

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

Where,

a = Regression constant

b = Regression coefficient (Slope of the Regression Line)

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

$$Y = n.a + b. X$$

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

Solving these two normal equations, we get

$$b = \frac{n \cdot \sum XY - \sum X \sum Y}{n \cdot \sum X - (\sum X)^2} = 1.475$$

$$a = Y - bX = -66.99$$

$$\text{Standard error of Estimate (SE}_e\text{)} = \sqrt{\frac{\sum Y^2 - a \sum Y - b \sum XY}{n-2}} = 9.327$$

Simple Correlation and Regression Analysis between DPS and MPS

Year	DPS (X)	MPS (Y)	XY	X ²	Y ²
2002/03	1.32	836	1103.52	1.74	698896
2003/04	-	840	-	-	705600
2004/05	11.58	920	10653.6	134.10	846400
2005/06	30	1100	33000	900	1210000
2006/07	15	1740	26100	225	3027600
N=5	X = 57.9	Y = 5436	XY = 70857.12	X ² = 1260.84	Y ² = 6488496

$$\text{Coefficient of Correlation (r)} = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \sqrt{n \sum Y^2 - (\sum Y)^2}} = 0.428$$

$$\text{Coefficient of Determination (r}^2\text{)} = 0.183$$

$$\text{Standard error of Correlation Coefficient, S.E. (r)} = \frac{1-r^2}{\sqrt{n}} = 0.3654$$

$$\text{Probable Error of Correlation Coefficient P.E. (r)} = 0.6745 \frac{1-r^2}{\sqrt{n}} = 0.2464$$

Independent Variable (X): DPS

Dependent Variable (Y): MPS

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

Where,

a = Regression constant

b = Regression coefficient (Slope of the Regression Line)

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

$$Y = n.a + b. X$$

$$XY = a + bX$$

Solving these two normal equations, we get

$$b = \frac{n \sum XY - \sum X \sum Y}{n \sum X^2 - (\sum X)^2} = 13.396$$

$$a = Y - bX = 932.08$$

$$\text{Standard error of Estimate (SE}_e\text{)} = \sqrt{\frac{\sum Y^2 - a \sum Y - b \sum XY}{n - 2}} = 396.88$$

Simple Correlation and Regression Analysis between DPR and MPS

Year	DPR (X)	MPS (Y)	XY	X ²	Y ²
2002/03	2.66	836	2223.76	7.076	698896
2003/04	-	840	-	-	705600
2004/05	24.17	920	22236.4	584.19	846400
2005/06	50.64	1100	55704	2564.41	1210000
2006/07	24.73	1740	43030.2	611.57	3027600
N=5	X = 102.2	Y = 5436	XY = 123194.36	X ² = 3767.25	Y ² = 6488496

$$\text{Coefficient of Correlation (r)} = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \sqrt{n \sum Y^2 - (\sum Y)^2}} = 0.388$$

$$\text{Coefficient of Determination (r}^2\text{)} = 0.150$$

$$\text{Standard error of Correlation Coefficient, S.E. (r)} = \frac{1 - r^2}{\sqrt{n}} = 0.3801$$

$$\text{Probable Error of Correlation Coefficient P.E. (r)} = 0.6745 \frac{1 - r^2}{\sqrt{n}} = 0.2564$$

Independent Variable (X): DPR

Dependent Variable (Y): MPS

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

Where,

a = Regression constant

b = Regression coefficient (Slope of the Regression Line)

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

$$\sum Y = n.a + b. \sum X$$

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

Solving these two normal equations, we get

$$b = \frac{n \cdot \sum XY - \sum X \sum Y}{n \cdot \sum X^2 - (\sum X)^2} = 7.199$$

$$a = \bar{Y} - b\bar{X} = 940.045$$

$$\text{Standard error of Estimate (SE}_e\text{)} = \sqrt{\frac{\sum Y^2 - a \sum Y - b \sum XY}{n - 2}} = 404.76$$

Simple Correlation and Regression Analysis between DY and MPS

Year	DY (X)	MPS (Y)	XY	X ²	Y ²
2002/03	0.16	836	133.8	0.0256	698896
2003/04	-	840	-	-	705600
2004/05	1.26	920	1159.2	1.5876	846400
2005/06	2.73	1100	3003	7.4529	1210000
2006/07	0.86	1740	1496.4	0.7396	3027600
N=5	X = 5.01	Y = 5436	XY =	X ² =	Y ² =

			5792.4	9.8057	6488496
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$$\text{Coefficient of Correlation (r)} = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \sqrt{n \sum Y^2 - (\sum Y)^2}} = 0.208$$

$$\text{Coefficient of Determination (r}^2\text{)} = 0.043$$

$$\text{Standard error of Correlation Coefficient, S.E. (r)} = \frac{1-r^2}{\sqrt{n}} = 0.4280$$

$$\text{Probable Error of Correlation Coefficient P.E. (r)} = 0.6745 \frac{1-r^2}{\sqrt{n}} = 0.2887$$

Independent Variable (X): DY

Dependent Variable (Y): MPS

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

Where,

a = Regression constant

b = Regression coefficient (Slope of the Regression Line)

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

$$Y = n.a + b. X$$

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

Solving these two normal equations, we get

$$b = \frac{n \cdot \sum XY - \sum X \sum Y}{n \cdot \sum X - (\sum X)^2} = 72.19$$

$$a = Y - bX = 1014.86$$

$$\text{Standard error of Estimate (SE}_e\text{)} = \sqrt{\frac{\sum Y^2 - a \sum Y - b \sum XY}{n-2}} = 429.55$$

Appendix 4

Nepal Investment Bank Limited (NIBL)

Simple Correlation and Regression Analysis between EPS and MPS

Year	EPS (X)	MPS (Y)	XY	X ²	Y ²
2002/03	39.56	795	31450.2	1564.99	632025
2003/04	51.70	940	48598	2672.89	883600
2004/05	39.5	800	31600	1560.25	640000
2005/06	59.35	1260	74781	3522.24	1587600
2006/07	62.57	1729	108183.53	3915	2989441
N=5	X = 252.68	Y = 5524	XY = 294612.73	X ² = 13235.37	Y ² = 6732666

$$\text{Coefficient of Correlation (r)} = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \sqrt{n \sum Y^2 - (\sum Y)^2}} = 0.902$$

$$\text{Coefficient of Determination (r}^2\text{)} = 0.813$$

$$\text{Standard error of Correlation Coefficient, S.E. (r)} = \frac{1 - r^2}{\sqrt{n}} = 0.084$$

$$\text{Probable Error of Correlation Coefficient P.E. (r)} = 0.6745 \frac{1 - r^2}{\sqrt{n}} = 0.0564$$

Independent Variable (X): EPS

Dependent Variable (Y): MPS

Regression Equation of Y on X is, $Y = a + bX$

Where,

a = Regression constant

b = Regression coefficient (Slope of the Regression Line)

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

$$Y = n.a + b. X$$

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

Solving these two normal equations, we get

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

$$a = Y - bX =$$

$$\text{Standard error of Estimate (SE}_e\text{)} = \sqrt{\frac{\sum Y^2 - a\sum Y - b\sum XY}{n-2}} = 197.93$$

Simple Correlation and Regression Analysis between EPS and DPS

Year	EPS (X)	DPS (Y)	XY	X ²	Y ²
2002/03	39.56	20	791.2	1564.99	400
2003/04	51.70	15	775.5	2672.89	225
2004/05	39.5	12.5	493.75	1560.25	156.25
2005/06	59.35	20	1187	3522.24	400
2006/07	62.57	5	312.85	3915	25
N=5	X = 252.68	Y = 72.5	XY =3560.3	X ² = 13235.37	Y ² = 1206.25

$$\text{Coefficient of Correlation (r)} = \frac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2} \sqrt{n\sum Y^2 - (\sum Y)^2}} = 0.385$$

Coefficient of Determination (r^2) = 0.148

Standard error of Correlation Coefficient, S.E. (r) = $\frac{1-r^2}{\sqrt{n}}$ = 0.3810

Probable Error of Correlation Coefficient P.E. (r) = 0.6745 $\frac{1-r^2}{\sqrt{n}}$ = 0.2571

Independent Variable (X): EPS

Dependent Variable (Y): DPS

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

Where,

a = Regression constant

b = Regression coefficient (Slope of the Regression Line)

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

$$Y = n.a + b. X$$

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

Solving these two normal equations, we get

$$b = \frac{n.\sum XY - \sum X \sum Y}{n.\sum X - (\sum X)^2} = -0.222$$

$$a = Y - bX = 25.73$$

$$\text{Standard error of Estimate (SE}_e\text{)} = \sqrt{\frac{\sum Y^2 - a\sum Y - b\sum XY}{n-2}} = 6.63$$

Simple Correlation and Regression Analysis between DPS and MPS

Year	DPS (X)	MPS (Y)	XY	X ²	Y ²
2002/03	20	795	15900	400	632025
2003/04	15	940	14100	225	883600
2004/05	12.5	800	10000	156.25	640000
2005/06	20	1260	25200	400	1587600
2006/07	5	1729	8645	25	2989441
N=5	X = 72.5	Y = 5524	XY = 73845	X ² = 1206.25	Y ² = 6732666

$$\text{Coefficient of Correlation (r)} = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \sqrt{n \sum Y^2 - (\sum Y)^2}} = 0.633$$

$$\text{Coefficient of Determination (r}^2\text{)} = 0.401$$

$$\text{Standard error of Correlation Coefficient, S.E. (r)} = \frac{1-r^2}{\sqrt{n}} = 0.2679$$

$$\text{Probable Error of Correlation Coefficient P.E. (r)} = 0.6745 \frac{1-r^2}{\sqrt{n}} = 0.1807$$

Independent Variable (X): DPS

Dependent Variable (Y): MPS

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

Where,

a = Regression constant

b = Regression coefficient (Slope of the Regression Line)

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

$$Y = n.a + b. X$$

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

Solving these two normal equations, we get

$$b = \frac{n \cdot \sum XY - \sum X \sum Y}{n \cdot \sum X^2 - (\sum X)^2} = -40.342$$

$$a = Y - bX = 1689.76$$

$$\text{Standard error of Estimate (SE}_e\text{)} = \sqrt{\frac{\sum Y^2 - a \sum Y - b \sum XY}{n - 2}} = 354.73$$

Simple Correlation and Regression Analysis between DPR and MPS

Year	DPR (X)	MPS (Y)	XY	X ²	Y ²
2002/03	50.56	795	40147.5	2556.31	632025
2003/04	29.01	940	27269.4	841.58	883600
2004/05	31.65	800	25320	1001.72	640000
2005/06	33.7	1260	42462	1135.69	1587600
2006/07	8	1729	13832	64	2989441
N=5	X = 152.92	Y = 5524	XY = 149030.9	X ² = 5599.3	Y ² = 6732666

$$\text{Coefficient of Correlation (r)} = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \sqrt{n \sum Y^2 - (\sum Y)^2}} = 0.824$$

$$\text{Coefficient of Determination (r}^2\text{)} = 0.680$$

$$\text{Standard error of Correlation Coefficient, S.E. (r)} = \frac{1 - r^2}{\sqrt{n}} = 0.1431$$

$$\text{Probable Error of Correlation Coefficient P.E. (r)} = 0.6745 \frac{1 - r^2}{\sqrt{n}} = 0.0965$$

Independent Variable (X): DPR

Dependent Variable (Y): MPS

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

Where,

a = Regression constant

b = Regression coefficient (Slope of the Regression Line)

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

$$Y = n.a + b. X$$

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

Solving these two normal equations, we get

$$b = \frac{n \cdot \sum XY - \sum X \sum Y}{n \cdot \sum X^2 - (\sum X)^2} = -21.54$$

$$a = Y - bX = 1763.54$$

$$\text{Standard error of Estimate (SE}_e) = \sqrt{\frac{\sum Y^2 - a \sum Y - b \sum XY}{n - 2}} = 259.38$$

Simple Correlation and Regression Analysis between DY and MPS

Year	DY (X)	MPS (Y)	XY	X ²	Y ²
2002/03	2.5	795	19.87	6.25	632025
2003/04	0.16	940	1.504	0.0256	883600
2004/05	1.56	800	12.48	2.4336	640000
2005/06	1.59	1260	20.03	2.5281	1587600
2006/07	0.29	1729	5.014	0.0841	2989441

N=5	X = 0.061	Y = 5524	XY = 58.898	X ² = 11.3214	Y ² = 6732666
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$$\text{Coefficient of Correlation (r)} = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \sqrt{n \sum Y^2 - (\sum Y)^2}} = 0.208$$

$$\text{Coefficient of Determination (r}^2\text{)} = 0.043$$

$$\text{Standard error of Correlation Coefficient, S.E. (r)} = \frac{1-r^2}{\sqrt{n}} = 0.4280$$

$$\text{Probable Error of Correlation Coefficient P.E. (r)} = 0.6745 \frac{1-r^2}{\sqrt{n}} = 0.2887$$

Independent Variable (X): DY

Dependent Variable (Y): MPS

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

Where,

a = Regression constant

b = Regression coefficient (Slope of the Regression Line)

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

$$Y = n.a + b. X$$

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

Solving these two normal equations, we get

$$b = \frac{n \cdot \sum XY - \sum X \sum Y}{n \cdot \sum X - (\sum X)^2} = 72.19$$

$$a = Y - bX = 1014.86$$

$$\text{Standard error of Estimate (SE}_e\text{)} = \sqrt{\frac{\sum Y^2 - a \sum Y - b \sum XY}{n-2}} = 429.55$$

Appendix 5

Everest Bank Limited (EBL)

Simple Correlation and Regression Analysis between EPS and MPS

Year	EPS (X)	MPS (Y)	XY	X ²	Y ²
2002/03	29.9	445	13305.5	894.01	198025
2003/04	45.6	680	31008	2079.36	462400
2004/05	54.2	870	47154	2937.64	756900
2005/06	62.8	1379	86601.2	3943.84	1901641
2006/07	74.8	2430	181764	5595.04	5904900
N=5	X = 267.3	Y = 5804	XY = 359832.7	X ² = 15449.89	Y ² = 9223866

$$\text{Coefficient of Correlation (r)} = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \sqrt{n \sum Y^2 - (\sum Y)^2}} = 0.943$$

$$\text{Coefficient of Determination (r}^2\text{)} = 0.890$$

$$\text{Standard error of Correlation Coefficient, S.E. (r)} = \frac{1 - r^2}{\sqrt{n}} = 0.0492$$

$$\text{Probable Error of Correlation Coefficient P.E. (r)} = 0.6745 \frac{1 - r^2}{\sqrt{n}} = 0.0332$$

Independent Variable (X): EPS

Dependent Variable (Y): MPS

Regression Equation of Y on X is, $Y = a + bX$

Where,

a = Regression constant

b = Regression coefficient (Slope of the Regression Line)

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

$$Y = n.a + b. X$$

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

Solving these two normal equations, we get

$$b = \frac{n.\sum XY - \sum X \sum Y}{n.\sum X - (\sum X)^2} = 40.875$$

$$a = Y - bX = -1053.79$$

$$\text{Standard error of Estimate (SE}_e\text{)} = \sqrt{\frac{\sum Y^2 - a\sum Y - b\sum XY}{n - 2}} = 302.46$$

Simple Correlation and Regression Analysis between EPS and DPS

Year	EPS (X)	DPS (Y)	XY	X ²	Y ²
2002/03	29.9	20	598	894.01	400
2003/04	45.6	20	912	2079.36	400
2004/05	54.2	-	-	2937.64	-
2005/06	62.8	25	1570	3943.84	625
2006/07	74.8	10	748	5595.04	100
N=5	X = 267.3	Y = 75	XY = 3828	X ² = 15449.89	Y ² = 1125

$$\text{Coefficient of Correlation (r)} = \frac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2} \sqrt{n\sum Y^2 - (\sum Y)^2}} = 0.274$$

Coefficient of Determination (r^2) = 0.075

Standard error of Correlation Coefficient, S.E. (r) = $\frac{1-r^2}{\sqrt{n}} = 0.4137$

Probable Error of Correlation Coefficient P.E. (r) = 0.6745 $\frac{1-r^2}{\sqrt{n}} = 0.279$

Independent Variable (X): EPS

Dependent Variable (Y): DPS

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

Where,

a = Regression constant

b = Regression coefficient (Slope of the Regression Line)

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

$$Y = n.a + b. X$$

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

Solving these two normal equations, we get

$$b = \frac{n \cdot \sum XY - \sum X \sum Y}{n \cdot \sum X - (\sum X)^2} = -0.151$$

$$a = Y - bX = 23.164$$

$$\text{Standard error of Estimate (SE}_e\text{)} = \sqrt{\frac{\sum Y^2 - a \sum Y - b \sum XY}{n - 2}} = 11.105$$

Simple Correlation and Regression Analysis between DPS and MPS

Year	DPS (X)	MPS (Y)	XY	X ²	Y ²
2002/03	20	445	8900	400	198025
2003/04	20	680	13600	400	462400
2004/05	-	870	-	-	756900
2005/06	25	1379	34475	625	1901641
2006/07	10	2430	24300	100	5904900
N=5	X = 75	Y = 5804	XY = 81275	X ² = 1125	Y ² = 9223866

$$\text{Coefficient of Correlation (r)} = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \sqrt{n \sum Y^2 - (\sum Y)^2}} = 0.183$$

$$\text{Coefficient of Determination (r}^2\text{)} = 0.034$$

$$\text{Standard error of Correlation Coefficient, S.E. (r)} = \frac{1 - r^2}{\sqrt{n}} = 0.4320$$

$$\text{Probable Error of Correlation Coefficient P.E. (r)} = 0.6745 \frac{1 - r^2}{\sqrt{n}} = 0.2914$$

Independent Variable (X): DPS

Dependent Variable (Y): MPS

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

Where,

a = Regression constant

b = Regression coefficient (Slope of the Regression Line)

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

$$Y = n.a + b. X$$

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

Solving these two normal equations, we get

$$b = \frac{n \cdot \sum XY - \sum X \sum Y}{n \cdot \sum X - (\sum X)^2} = -14.463$$

$$a = Y - bX = 1377.74$$

$$\text{Standard error of Estimate (SE}_e\text{)} = \sqrt{\frac{\sum Y^2 - a \sum Y - b \sum XY}{n - 2}} = 894.97$$

Simple Correlation and Regression Analysis between DPR and MPS

Year	DPR (X)	MPS (Y)	XY	X ²	Y ²
2002/03	66.89	445	29766.1	4474.272	198025
2003/04	43.86	680	29824.8	1923.7	462400
2004/05	-	870	-	-	756900
2005/06	39.81	1379	54898	1584.836	1901641
2006/07	12.76	2430	31006.8	162.8176	5904900
N=5	X = 163.32	Y = 5804	XY = 145496	X ² = 8145.6	Y ² = 9223866

$$\text{Coefficient of Correlation (r)} = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \sqrt{n \sum Y^2 - (\sum Y)^2}} = 0.527$$

$$\text{Coefficient of Determination (r}^2\text{)} = 0.278$$

$$\text{Standard error of Correlation Coefficient, S.E. (r)} = \frac{1 - r^2}{\sqrt{n}} = 0.3229$$

$$\text{Probable Error of Correlation Coefficient P.E. (r)} = 0.6745 \frac{1 - r^2}{\sqrt{n}} = 0.2178$$

Independent Variable (X): DPR

Dependent Variable (Y): MPS

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

Where,

a = Regression constant

b = Regression coefficient (Slope of the Regression Line)

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

$$Y = n.a + b. X$$

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

Solving these two normal equations, we get

$$b = \frac{n \cdot \sum XY - \sum X \sum Y}{n \cdot \sum X - (\sum X)^2} = -15.684$$

$$a = Y - bX = 1673.095$$

$$\text{Standard error of Estimate (SE}_e) = \sqrt{\frac{\sum Y^2 - a \sum Y - b \sum XY}{n - 2}} = 773.55$$

Simple Correlation and Regression Analysis between DY and MPS

Year	DY (X)	MPS (Y)	XY	X ²	Y ²
2002/03	4.5	445	2002.5	20.25	198025
2003/04	2.94	680	1999.2	8.64	462400
2004/05	-	870	-	-	756900
2005/06	1.81	1379	2495.99	3.28	1901641
2006/07	0.41	2430	996.3	0.1681	5904900
N=5	X = 0.0965	Y = 5804	XY = 7493.99	X ² = 32.34	Y ² = 9223866

$$\text{Coefficient of Correlation (r)} = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \sqrt{n \sum Y^2 - (\sum Y)^2}} = 0.618$$

$$\text{Coefficient of Determination (r}^2\text{)} = 0.382$$

$$\text{Standard error of Correlation Coefficient, S.E. (r)} = \frac{1-r^2}{\sqrt{n}} = 0.2764$$

$$\text{Probable Error of Correlation Coefficient P.E. (r)} = 0.6745 \frac{1-r^2}{\sqrt{n}} = 0.1864$$

Independent Variable (X): DY

Dependent Variable (Y): MPS

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

Where,

a = Regression constant

b = Regression coefficient (Slope of the Regression Line)

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

$$Y = n.a + b. X$$

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

Solving these two normal equations, we get

$$b = \frac{n \cdot \sum XY - \sum X \sum Y}{n \cdot \sum X - (\sum X)^2} = -271.49$$

$$a = Y - bX = 1660.342$$

$$\text{Standard error of Estimate (SE}_e\text{)} = \sqrt{\frac{\sum Y^2 - a \sum Y - b \sum XY}{n-2}} = 715.891$$