Impact of Dividend Policy on Common Stock Price

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RECOMMENDATION

This is to certify that the thesis

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And found the thesis to be original work of the student and written according to the prescribed format .We recommended the thesis to be accepted as a Partial Fulfilment of the requirement of the Degree of Master of Business Studies (MBS)

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DECLARATION

I hereby declare that this study entitled "**Impact of Dividend Policy on Common Stock Price"** submitted to the office of the Dean, Faculty of Management, Tribhuvan University, is my original Thesis work carried out as a partial fulfilment of the requirement for degree of Master in Business Studies.

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LIST OF ABBREVIATIONS

AD	:	Anno Domini
AGM	:	Annual general meeting.
C.V.	:	Coefficient Variation
CAR	:	Cumulative Abnormal Return
DPS	:	Dividend Per Share
DW	:	Durbin-Watson -Statistic
DPR	:	Dividend Payout Ratio
DP	:	Dividend Percent
EPS	:	Earning Per Share
EY	:	Earning Yield
etc.	:	Etcetera
F/Y	:	Fiscal Year
i.e.	:	That is
Ln	:	Logarithm
MNC	:	Multi-national companies
MPS	:	Market Price Per Share
MPPSLg	:	Lagged Market Price Per Share
NEPSE	:	Nepal Stock Exchange
NIR	:	New Issue Ratio
NW	:	Net Worth
PE	:	Price Earning Ratio
PE Lag	:	Lagged Price Earning Ratio
REPS	:	Retained Earning Per Share
ROE	:	Return on Equity
SEBO/N	:	Securities Board Nepal
SEE	:	Standard Error of Estimate
SPSS	:	Statistical Package For Social Science
Std. Dev.	:	Standard Deviation

CHAPTER ONE: INTRODUCTION

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CHAPTER I
INTRODUCTION

1.1 General Background

Common stocks, generally issued at the face value of rupees one hundred in the primary market are the main sources of ownership capital to the corporate firms. While investing in common stock, shareholders have to sacrifice their opportunity of income they could have received in investing elsewhere. The sacrifice and the present opportunity in expectation of future increased income or return remain in the form of dividend or capital gains.

Dividend refers to the portion of corporate firm's net earnings, which should be paid to the shareholders (Khan and Jain 1990: 555). Dividend is a direct return of shareholders and generally paid in cash. Dividend may be a fluctuating portion of disposable income. Dividend is also interpreted as left over earnings paid to the stockholders after all acceptable investment opportunities (Van Horne 1981: 448). Generally management of the corporate firm announces dividend only if profits are made after successful business operation and the distributed amount of dividend should be adequate to meet the normal expectation of average shareholders. Dividend also refers to the signal of the sustainable income of the corporate firms (Watts, 1973:191) and can be a tangible evidence of the firm's ability to generate liquidity (Martin, Petty, Keown and Scott, 1979:484). Dividend implies to the portion of retained earnings which is paid to the stock holders while dividend policy refers to the guidelines that corporate management uses in establishing portion of retained earnings that is paid the stockholders in dividends(Mathur 1979:217)Therefore dividend policy should be able to provoke that dividend meet the average shareholders expectation. Under controversial circumstances of distributing dividend and maintaining retain

earning in optimal way; a study on dividend policy of the Nepalese corporate firms has been felt necessity. Dividend policy comprises the two functions of profit i.e. the payment of rewards in the form of dividend and other drawings to the owners and directors of the firms and the provision of a source of funds in the form of retained profits for the maintenance and expansion of the business. Dividend is both a problem and opportunity, which can affect the internal and external financing in the corporate firm so it is a complex decision. The decision relating to dividend policy is after mixed up with financing and investment decisions which involves trade off between retained earnings needed for reinvestment on one side and paying out cash as dividend to the shareholders to recoup the opportunities foregone if funds are left with the firm on the other (Brealy and Myers,1981:324) In this sense dividend policy is concerned with balancing the current income to the shareholders and future growth of the firm through the reinvestment of retain earnings that maximizes the prices of the stock. This policy generally raises the question i.e. what fraction of earning should be paid out of on an average over time? Along with this dividend decision of a corporate firm implies on liquidity, flow of funds, composition of capital structure, investors attitude and expectation with ultimately affecting the cost of financing and the growth of the firm. Corporate firm reflects the dividend practice and plays a role in efficient transaction of common stocks in the stock markets. Dividend policy is a channel to collect the funds facilitating attraction to new investors through issue of various financial securities in the capital markets .Dividend policy and practice assure that payment of dividend and robust of investment for long term i.e. increase in market price per share confidently.

1.2 Statement of the Problem

The division of earnings between payments to stockholders and reinvestment in the firm is dividend policy. Dividend policy may cause cash flow and

retained earnings can be regarded as significant sources of funds for the growth of corporate financing. The dividend decision includes the percentage of earnings paid to stockholders in cash dividends, the stability of absolute dividends about a trend, stockholders, and splits and the repurchase of stock.

Dividend policy can be influenced by the factors like liquidity position need to repay debt, restriction in debt controls, rate of assets expansion, profit rate, stability of earnings, access to the capital markets, control and tax position of stockholders. Due to complex nature of the problem, corporate dividend policy has been a subject of considerable study particularly since the emergence of MM's Classical work (Miller and Modigliani, 1961).

According to Hackett 1981 corporate dividend policy decision is not an easy straight forward and simple job as many people conceive it. It is unresolved economic puzzle which requires rational resolution if the privilege economic paradigm of corporate finance is to continue (Miller 1986). After having such literature of finance researcher has felt a need to justify in which attribute of dividend policy is incurring.

Probably due to the short history of Nepalese stock market as well as firms, there are only few studies here, which can be looked into corporate dividend behavior. Though there are some dividend related studies in the context of Nepal, only few studies have been attempted to study the relationship between dividend policy and stock prices. Furthermore, among the few studies related to dividend and stock price, near about all are carried out before year and needs to be updated.

Under these environment a need of explore research work has been felt which can explore the relationship of stock prices with dividend policy, can update the previous research works and can be more qualitative research using recent data from reliable resource.

Conceptually speaking, the difference between dividend and dividend policy is only one of degree but not of the kind itself. But for simplicity dividend implies to the portion of retained earnings that is paid to stockholders while dividend policy refers to the guidelines that management uses in establishing portion of retained earning that is paid to the stockholders in dividends (Walter, 1956:29-41). In theoretical perspectives, the overall essence in divided policy in to maximize value of the stock wealth since divided determines the availability internally generated funds needed for tapping given investment opportunities long–term growth of the firm. Professor James. E Walter argues that dividend policy always affects the value of the firm referring different dividend policy for different types of the firm.

Gordon (1962) argues that dividend policy affects the value of stock even in situation in which the return on investment is equal to capitalization rate. It can be assumed that under the condition of uncertainty, the shareholders have a preference for present dividend to future capital gain. According to Modigliani and Miller (1961, 411-433) the value of the firm depends upon firm's earning, depending upon investment policy. According to Chawla and Srinivasan, (1987) share holders prefer current to future income as well as indication of dividend payment information which causes a good earning capacity due to this belief the retention of earnings whether base or not to increase market price share or may be in the form of capital gain subjecting to lower taxes.

In context of Nepal Pradhan's study covers the valuation of firms traded in Nepalese stock market with use of pooled cross section data 29 companies from 1994 to 1999 with the total of 93 observations, which attempted to determine relative importance of dividends and retain earnings in determining market price of share.

There are some basic outstanding issues about dividend payment in context of Nepal. Some of them are described as dividend can be paid as lower taxes or as investors return or only alluring people to raise the goodwill of the company but it is still not clear about the relationship between dividend payment and share market price. According to Chawla and Shrinivashan,(1987) following hypothesis exists like share holders prefer current to future income or dividend can prevail current good information and can indicate company's good future market but on behalf of retained earnings arguments as company contains good investment opportunities and subject to lower taxes. According to optimal dividend policy on behalf of maximization of shareholder's wealth dividend policy may affect value of the firm .the burning issue in Nepal contains whether companies are preparing their dividend payout pattern either to increase MPS or only to continue corporate culture. Even at losses companies are paying dividend due to this whether company is getting high future market price or not it is also issue of the Nepalese business firms. Statement of the problem basically focuses on the following points. Corporate firms do not have appropriate dividend policy and investors could not actualize about their investment and corporate performance. In other words we can say there is lacking of optimal dividend policy. The effect of corporate firm’s dividend policy on current price its share is not favorable i.e. there is no standard dividend policy. Corporate management is not so much positive in rewarding the shareholders. Does the relationship between dividend and external financing hold true in context of

Nepal? Corporate firms have not target dividend payout this research tries to seek the answer somewhat. Is dividend policy important in affecting and predicting the market prices? Management attitude towards dividend policy is not clear. Corporate management has not realized the need to consider the relevant quantitative financial variables like PElag, adjustment of lag market per share is determining the appropriate dividend policy and increasing market price of the stock. This research seeks to find the use of stock dividend. The problem is whether the corporate firms have followed the dividend policy to meet the shareholder's expectation of return on their investment. What types of dividend policy are in practice in Nepalese corporate firms? Have corporate management realized the need to pay adequate dividend in return of shareholder's investment? What are the opinions of corporate executives in regard for maintaining dividend rate in satisfied way with management and shareholders? Besides this there is no legal transparency and solid regulation about issue of bonus share in our country Nepal. Majority of shareholders are not satisfied with the dividend policy and practice, management attitude towards them is maximizing shareholders wealth while different sectors keep different vision and opinion. So this study deals with the problem of analyzing and studying the different opinions in different sectors regarding dividend policy and practice of corporate firms.

1.3 Objectives of the Study

This research work attempts to analyze the impact of dividend policy on common stock in terms of share price, retained earnings per share, dividend per share, lagged price earning ratio and lagged market price per share itself. The main purpose of this paper is to explain market price per share, dividend per share and retained earnings per share relationship in context of Nepal. It is yet to know in Nepal whether there is a customary strong relationship of

dividend or retained earnings effects on market price of share till the date. Following are the specific objectives of the study:

- To examine whether dividend or retained earnings are more attractive among Nepalese shareholders?
- To test the elasticity of retained earnings and dividends with market price per share?
- To reflect the relationship between market price per share and some other financial indicators such as lagged price earning ratio and lagged market price per share.

1.4 Significance of the Study

The study has multidimensional importance in this particular area of concern. It will benefit shareholders, brokers, managers and concerned authority for making future plans and policies in financial decision. The present study will make the shareholders and investors aware of the dividend policies of the institutions. The comparative analysis identifies the dividend practices of different sectors. This study will be beneficial also to the upcoming largest commercial banks. And it is supposed to be useful for researcher for further study.

1.5 Limitation of the Study

No, study can be free from its own limitations. So, the present study has also some limitation. Dividend policy is the most important topic in financial management. There are several aspects of decision that should be taken by financial manager to achieve the management goal. Area of the financial management decision is investment, capital structure, liquidity, finance and others dividend and short term assets decision and short term assets decision. Only dividend is selected in this study to more specific. This study will interprets and analyze the dividend distribution practices relationship with

earning per share, market price of share, retained earning per share, lagged price earning ratio etc.

This study will be limited by following factors:

- This study will be primarily based on the secondary data source such as annual reports of concerned banks, and other related journals, magazines, book etc. the up to date and complete data are very difficult to obtain due to inability of providing the required data by concern authorities. Especially data has been brought from NEPSE and SEBON.
- Only those factors will be considered which are related with dividend.
- The related data are considered on only cash dividend.
- The study period only covers up to nine years.

1.6 Organization of the Study

This study comprises a recent survey till now (2007 A.D.) of enlisted firms specifically from 1995 including five different sectors i.e. banking and finance sector, insurance sector, manufacturing sector, hotel sector and other sectors in other sectors remain in this study. This study is based on empirical basis. This study can be categorized into five categories i.e. introduction of the study, review of literature, research methodology, presentation, analysis and interpretation of data and summary and conclusion.

The first chapter entitled **"Introduction"** introduces the subject, present the research problem, reason for studying, objective of the study, along with limitation.

The second chapter entitled **"Review of Literature"** concerned with the study of dividend policy with different reviews & presentation.

The third chapter discussed the **"Research Methodology"** used in the study. It comprises research design, nature & source of data, data gathering method and analytical tools used.

The fourth chapter deals with the **"Presentation & Analysis"** of data & scoring the empirical finding out the study through definite course of research methodology.

The last chapter i.e. **"Summary"** of the study, which is followed by the basic conclusion of the study based in the fourth chapter on the basic of these conclusion and recommendation has also been presented for consideration. . At the end bibliography and appendices have been incorporated

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CHAPTER II
REVIEW OF LITERATURE

2.1 Conceptual Framework

The term dividend refers to the distributed earning to the shareholders of the firm in return to their investment either in cash dividend or bonus shares to the stockholders of the corporate firms. Stockholders wealth can increase either through dividend or capital gain. While corporate firm announces cash dividend it reduces cash balances and issue of bonus share reduces retained earning with the effect of increase in share capital with increase of share outstanding.

The policy of a company on the division of its profits between dividend and retention is considered as dividend policy. All aspects and questions regarding to the payment of dividend contain in a dividend policy, adopted by a firm can be taken as an indicator to divide its net income to cash dividend and retained earnings in order to maximize the value of the firm, but actually the dividend policy really includes other aspects of dividends such as stock dividends, stock splits and repurchase of stocks.

The dividend policy of a firm directly relates to the price of the stock. If the firm adopts a policy of paying out more cash dividends, the expected dividends will raise, which will tend to increase the price of the stock. if cash dividend increases then less money will be available for reinvestment, the expected future growth rate will be lowered, and this will decrease the price of the stock. The optimal dividend policy for a firm keeps the balance between current dividends and future growth, which maximizes the price of the stock. The market price of the stock of a company can be as a competent

variable to target the value of the company. Even the effect of dividend policy on market value of stock is yet to clear.

Due to shareholders' expectation towards higher dividend from corporation but corporations ensure towards setting aside funds for maximizing the overall shareholder's wealth. Usually stockholders think that the dividend yield is less risky than capital gain.

Mostly shareholders desire to be paid dividend as cash, but it reduces the cash balance of the company. Therefore the financial structure, the flow of funds, corporate liquidity, and investors' attitudes etc. can be affected by dividend policy. There are some major dividend policies as

2.2 Major Policies for Dividend Payout

Whenever a decision concerns about dividend payout policy it should be regarded that various internal and external factors such as firm's liquidity position, rate of asset expansion, availability of profitable investment opportunities, expectation of stockholders, tax position of stockholders etc. Thus the corporations need to follow different types of dividend policies under these circumstances. The type of dividend that corporations follow is partly of a matter of attitude of directors and partly a matter of the various circumstances and financial constraints that bound corporate plans and policies. Among various dividend policies major polices are considered as

Cash Dividend Policy

If the policy is to pay a portion to common stockholders in cash as dividend after the earnings after interest, tax and preferred stock dividend, the policy is called cash dividend policy. Even this policy is popular the company should have sound liquidity position when cash dividends are declared Even the company does not have sound liquidity position, arrangements can be

made by borrowing funds but this task of borrowing to pay cash dividend is much controversial. Cash planning is useful for the company paying cash dividend. The reserves account of a company along with total assets and the net worth of the company can be reduced. The amount of the cash dividend distributed may reduce the price of common stock. There are mainly two major policies under cash dividend policy.

Active Dividend Policy

The amount of dividend to be paid can be determined first and then retained earnings decision can be followed is concerned as active dividend policy ., Generally the regular stable dividend paying companies can follow this type of policy. Under this policy there are three major types of dividend payout patterns they are:

Constant Dividend Per Share

Under this policy a fixed rupees dividend is paid in each period with irrespective of the fluctuations in the earnings of the company. The policy is easy to follow when earnings of the firms are stable. Those persons and institutions that depend upon the divided as income to meet their living and operation expenses generally prefer this policy. Increases and decreases in market values may even be of little concern to these investors, and this condition tends to produce a steady long run demand that automatically makes steadfast the market value of the share.

Constant Payout Ratio

When fixed percentage of earnings is paid as dividend in every period as constant ratio, the policy is called constant payout ratio. Such dividends are paid when profits are earned, and avoided when it incurs losses. Internal financing with retained earnings is obviously when this policy is followed.

Low Regular Dividends Plus Extras

A certain amount of dividend is fixed to pay per period and in periods of prosperity again extra dividends are paid is said to be low regular dividends plus extras. This type of a policy ensures a company to pay constant amount of dividends regularly without any default and allows a great deal of flexibility for supplementing the income of shareholders only when the company's earnings are higher than usual. In this policy dividend expectators will not be ensured about their income.

Passive Dividend Policy or Residual Theory of Dividend Policy

Before dividend payments are determined automatically retained earnings are determined. "One school of thought, the residual theory of dividends, suggests that the dividend paid by a firm should be viewed as a residual amount left after all acceptable investment opportunities have been undertaken"(Gitman). Thus, according to this theory, dividend policy is a residual from investment policy. It is a residue since shareholders get dividends only when there exists balance of earning after paying fixed obligations and investing in profitable sector or expansion.. If not, there will be no dividends due to flotation costs; it assumes that the internally generated funds are comparatively cheaper than the funds obtained from external sources. The dividend under a residual dividend policy equals the amount left over from earnings after equity investment. If equity investment equals earnings, no dividends are paid and new shares are sold to cover any equal investment not covered by earnings. If there is no any investment opportunity, then cent percent earnings are distributed to shareholders. Dividend is therefore merely a residual remaining after all equity investment needs are fulfilled.

Under this policy, dividend policy can be influenced by the company's investment opportunities and the availability of internally generated capital, where dividends are paid only after all acceptable investment opportunities have been financed. Hence, according to this concept, dividend policy is totally passive in nature. According to Van Horn (1993, p. 327),"When we treat dividend policy as strictly a financing decision, the payment of cash dividend is a passive residual."

2.3 Other Aspects of Dividend Policy

In view of the different objectives and policies company should follow other policy rather than cash dividend. Under another aspect of dividend policy stock dividends (bonus share), stock split and stock repurchase are explained although stock split and stock repurchases are not forms of dividends, but its effects are some how not different from the effects of the stock dividend.

Stock Dividend

A stock dividend is simply the issue of additional shares of stocks to existing stockholders in lieu of or in addition to the cash dividend. The effect of increasing the number of outstanding shares of the company is also said to be a stock dividend. The shares are distributed proportionately, thus a shareholder retains his proportionate ownership of the company. The declaration of the stock dividend will increase the equity share capital and reduces the reserves and retained earnings of the company. The total net worth is not affected by the stock dividend .The effects of a stock dividend can be summarized as increase in the number of outstanding stock, transfer of retained earnings balance to capital accounts, cause not any change in net worth and par value of the company along with not affecting the shareholders' proportional ownership.

Stock Splits

A stock split is the increment of the number of share outstanding through a proportional reduction in the par value of the stock. Thus in the case of stock split as the par value is reduced the amount of common stock, paid in capital and retained earnings accounts remain unchanged. In other words a stock split affects only the par value and the number of outstanding shares, the capitalization of the company is not changed at all. Under a two for one stock split, each shareholder would be given one additional share of stock for every share already owned and no change in the proportionate ownership of the company. The stock split has reverse effect on market price of the stock i.e. market price per share will fall proportionately with a stock split. "A stock split, however, is usually reserved for occasions when a company wishes to achieve a substantial reduction in the market price per share." (Van Horne, 1997:335)

The effect of stock split can be summarized as increase in the number of outstanding stocks reducing the par value and market price of the stock without changing the proportional ownership of stockholders. It neither changes the capital a/c nor the net worth of the company at all. The stock dividend and stock split are very similar in terms of accounting treatment.

In certain cases, the reduction of the number of outstanding shares by increasing par value per shares is known as reverse stock split. Thus, reverse stock split is just opposite to stock split i.e. it decreases the number of outstanding stocks and increases the par value and market value of the stock.

The effect of reverse stock split can be considered as decreases in the number of outstanding stocks increases in the par value and market price of

the stock without changing the proportional ownership of the stockholders. It neither changes the capital a\c nor the net worth of the company.

Stock Repurchases

Purchase of own share by the issuing company from the secondary market is known as stock repurchase. Stock repurchase is often viewed as an alternative for paying dividends. If some of the outstanding stock is repurchased, fewer shares will remain outstanding; and assuming that the repurchase does not adversely affect the firm's earnings, the earnings per share of the remaining shares will increase. This increment in earning per share may result in a higher market price per share, so capital gains will have been substituted for dividends. It is thus stock repurchase is often taken as an alternative to paying dividends. "A corporation's repurchase of its own stock can serve as a tax advantageous substitute for dividend payout. Repurchase has the effect of raising share prices so that shareholders can be taxed at the capital gains rate instead of the ordinary dividend rate of cash dividends."(Weston and Copeland, p.682) The effect of stock repurchase can be considered as reduces in the number of outstanding stock, increases in the proportional ownership of remaining shareholders along with increase in stock price as net worth per share increase.

Nepalese Company has prohibited company from purchasing its own shares. Furthermore no company shall purchase its own shares or supply loans against the security of its own shares.

Dividend as a Signalling Effect

Managers, as insiders who have monopolistic access to information about the firm's cash flows and the level of present and future earning power, will choose to establish unambiguous signals about the firm's future and they

may use dividend payments as the medium through which their expectations and conveyed if they have proper incentive to do so. Thus dividends may be viewed as a signal to investors. Presumably, firms with good news about their future profitability will want to tell investors. Investors may believe that management is announcing a change in the expected future profitability of the firm. The signal to investors is that management and the Board of Directors truly believes things are not worse than the stock price reflects. Accordingly, the price of the stock may react to this change in dividends. In other words, dividend speaks louder than words under these circumstances. Highlighting this, "the management of a firm may use dividend payments as a method of indicating their estimates of the firm's earning power and liquidity". (Petit, 1972:994)

2.4 Factors Influencing Dividend Policy

The company's decision regarding the amount of earnings to be distributed as dividends depends on a number of factors. The factors that come into play when a company establishes a dividend policy are discussed below:

Legal Rules

Certain legal rules and constraints falling into two categories may limit the amount of dividend. First, statutory restrictions may prevent a company from paying dividends. While specific limitations vary, generally a corporation may not pay a dividend (i) if the firm's liabilities exceed its assets, (ii) if the amount of the dividend exceeds the accumulated profits (retained earnings), and (iii) if the dividend is being paid from capital invested in the firm. The second type of legal restriction is unique to each firm and results from restrictions in debt and preferred stock contracts.

Liquidity Position

As a prime factor the liquidity of a company is to be considered in many dividend decisions. Although the firm may have adequate earnings to declare dividends, it may not have any sufficient cash to pay the dividends. As dividends represent a cash outflow, the greater the cash position and overall liquidity of a company, the greater its ability to pay the dividend. Profits held as retained earnings are generally invested in assets require for the conduct of the business; they are not held as cash. Indeed, a growing firm, even a very profitable one, typically has pressing need for funds. In such a situation the firm may not to pay cash dividends.

Access to the Capital Market

A company not having sufficiently liquid, can pay dividends if it is able to rise external financing on comparatively short notice. A firm, which is well established and has a record of profitability, will not find much difficulty in raising funds in the capital markets. The greater the ability of the firm to borrow, the greater its flexibility and the greater its ability to pay cash dividends.

Restrictions in Debt Contracts

Generally, lenders put restrictions on dividend payments to protect their interests when the firm is experiencing liquidity or profitability difficulties. Such restrictions, which are designed to protect the position of the leader, usually stating that future dividends can be paid only out of earnings generated after the signing of the loan agreement dividends cannot be paid when net working capital is below a specified amount. Similarly, preferred stock agreements generally state that no cash dividends can be paid on the common stock until all accrued preferred dividends have been paid

Availability of Profitable Investment Opportunities

The greater the availability of profitable investment opportunities, the greater the needs for financing assets remain expansion in the firm. The greater the future need for funds, the more likely to have retained earnings rather than paying them out. But during the periods when the profitable investment opportunities do not exist, the better is to pay dividends rather retaining the earnings. If the company retains earnings during such periods the retained funds would be either reinvested in short term securities yielding nominal returns or they will remain idle. This will have an impact of reducing the wealth of shareholders. Thus availability of investment opportunities can affect the dividend policy as during the periods of expansion harvesting is preferable and during non-harvest situations, payment of sizable dividend is preferable as itself.

Control

To control over the company by the existing management group or by the body of shareholder is another important variable affecting company's dividend policy. This policy is defended on the ground that raising funds by selling additional common stock diluted the control of the dominant group in the company., the payment of dividends may be withheld and earnings may be retained to finance the firm's investment opportunities.

Tax Position of Stockholders

The tax position of stockholders is the next variable affecting dividend policy. Corporations closely held by few owners in high tax brackets is likely to pay a relatively low dividend as the owners prefer taking their income in the form of capital gains rather than as dividends. However, the corporations owned by small investors tend toward higher dividend payout, as the owners prefer dividends.

2.5 Review of Related Studies in General

This section deals with the review of major previous studies relating dividend and stock price behaviour. Some of the major studies reviewed are as follows:

Gordon's Model (1962)

Actually investors are not indifferent between current dividends and retention of earnings with the prospect of future dividends, capital gains and both. The share price is reduced if the discount rate increases with the length of time in future in case dividend payment is lowered down. Myron J. Gordon concluded that dividend policy of a firm affects its value. The conclusion of his study is that investors value the present dividend more than future capital gain. His argument insisted that an increase in dividend payout ratio leads to increase in the stock price for the reason that investors consider the dividend yield (D_1/P_0) is less risky than the expected capital gain. Gordon's model is based on the following assumptions:

a. The corporation depends on equity financing
b. No external financing is available for the corporation and retained earnings would be used to finance expansion as well.
c. The internal rate of return (r) remains constant as it ignores diminishing marginal efficiency of capital.
d. The appropriate discounts rate (k) for the corporation remains constant by ignoring effect of a change in corporations' risk class and its effect on K.
e. There exist perpetual corporation with continuous stream of earnings.
f. The corporate taxes are ignored.

g. The retention ratio (b) is constant. Thus, the growth rate, g = b.r The discount rate (Ke) is greater than growth rate (g), i.e., K>b.r = g.

Based on the above assumptions, Gordon's Dividend Capitalization Model propounded that the market value of a share is equal to the present value of an infinite stream of dividends to be received on share. The Gordon's model can be symbolically expressed as:

$$P_0 = \frac{EPS\ (1-b)}{K-br}$$

Where,

P_0 = Price of a share.

EPS = Earning per share

b = Retention ratio

1-b = Dividend payout ratio

K = Capitalization rate or cost of capital

b.r = Growth rate

EPS (1-b) = Dividend per share

Gordon's views on effect of dividends can be concluded as follows:

In Case of Growth Firm (r>k)

Share price tends to decline in correspondence with increase in payout ratio i.e. , high dividends corresponding to earnings leads to decrease in share price. Therefore, dividends and stock process are negatively correlated with growth firm.

In Case of Normal Firm (r = k)

Normal firms are those firms where r = k. In such firms share prices remain constant regardless of changes in dividend policies. It means dividend and

stock prices are free from each other i.e. zero correlation between these two in normal firm.

In Case of Declining Firm (r < k)

In such firm share prices tends to rise in correspondence with rise in dividend payout ratio. It means dividend and stock prices are positively correlated with each other in declining firm.

Walter's Model (1963)

Professor Walter supports the relevancy of dividend policy that has to maximize the wealth position of stockholders. His model shows clearly the importance of the relationship between the firm's internal rate of return (r) and its cost of capital (K) in determining the dividend policy that will maximize the wealth of shareholders. The Walter model is based on number of assumptions as given below by Francis (1972).

a. In Corporations finance, all investment through retained earnings can be considered as debt or new equity, which is not issued.
b. Both the internal rate of return (r) and the cost of capital (k) are constant.
c. Corporations distribute all earnings as dividends or reinvest all earnings internally and immediately.
d. The corporate earnings at the beginning and the dividends are assumed to remain constant for any given values.
e. Corporations are assumed to have a very long or infinite life.

According to him, considering the above assumptions since, corporations operates on the wealth maximization criterion; the appropriate dividend payout in determining market price per share is based on following formula:

$$MPS = \frac{DPS + \frac{r}{k}(EPS - DPS)}{k}$$

Where,

MPS = Market price per share

r = Internal rate of return

k = Cost of capital or capitalization rate

EPS = Earning Per Share

DPS = Dividend per share

The above formula suggests that market price per share depends upon the relationship between market capitalization rate and internal rate of return. As well Walter referred different effects of dividend policy for different types of the firms as:

Growth Firms (r>k)

Growth firms are those firms, which expand rapidly because of toll investment opportunities yielding returns higher than the opportunity cost of capital. These firms will maximize the value per share if they follow a policy of retaining all earnings for internal investment. In such firms, correlation between dividend and stock price is negative and optimal payout ratio is zero.

Normal Firms (r=k)

The firms whose internal rate of return and cost of capital are same are said to be normal firms. After having exhausted profitable opportunities, firms begin to earn on their investment rate of return equal to the cost of capital, (r=k). For the normal firms with r=k, the dividend policy has no effect on the market value per share in Walter's model. There is zero correlation between

dividend and stock prices. Thus there is no unique optimum payout ratio for a normal firm.. The market value per share is not affected by the payout ratio when r=k.

Declining firms (r<k)

If the firms do not have any profitable investment opportunities to invest the earnings such firms can earn on their investment rate of return less than the minimum rate required by investors, r<k. Investors of such firms would like earnings to be distributed to them so that they may invest it elsewhere to get a rate higher than earned by the declining firms. Thus the market value per share of a declining firm with r<k will be maximum when it does not have retain earnings at all. Thus, the optimum payout ratio for declining firm is 100%. The market value per share increases as payout ratio increase when r<k, i.e. the correlation between dividends and stock prices is positive, i.e. increase in DPS yields increase in market price per share.

Friend and Puckett's Model

Friend and Puckett (1964) provided a study on the relationship between dividend 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 result 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 raise (1956) and a somewhat depressed year for the economy when stock prices, however, rose strongly (1958).

They used dividends, retained earnings and price earnings ratio as independent variables in their regression model of price function. They also used supply function, i.e. dividend function also. In their dividend function, earnings, last year's dividends and price earnings ratio were considered as independent variables. The study concluded that retained earnings effect is more than dividend given the investment opportunities.

The dividend supply function was developed by adding to the best type of relationship developed by Lintner (1956). Lintner (1956) had stressed that firms only increase dividends when management believes that earnings have permanently increased.

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

Where,

P_t = Per share price at time t

D_t = Dividends as time t

R_t = Retained earnings at time t

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

Dividend supply function:

$$D_t = e + fE_t + g\,D_{t-1} + h\,(E/P)_{t-1}$$

Where,

E_t = Earning per share at time t

D_{t-1} = Last year dividend

Their study was based on the following assumptions they are as Dividends do react to year to year fluctuations in earnings, Price doesn't contain

speculative components Earnings fluctuations may not sum zero over the sample.

Their regression results based on the equation of $P_t = a + bD_t + CR_t + d\ (E/P)_{t-1}$ showed the customary strong dividend and relatively weak retained earnings effects in three of the five industries, i.e. chemicals, foods and steels. Again they tested other regression equations by adding lagged earnings price ratio.

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

They also calculated dividend supply equation, i.e. $D_t = e + fE_t + g\ D_{t-1} + h\ (E/P)_{t-1}$ and the derived price equation for four industries groups in 1958. In their derived price equation it seems that there were significant changes from those obtained from the single equation approach. They argued that the stock prices or more accurately the price earnings ratio does not seem to 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 these results suggested price effect on dividend supply are probably not a serious source of bias in the customary derivation of dividend and retained earnings effects on stock prices, though such a bias might be marked if the disturbing effects of short run income movements are sufficiently great as well.

Further, they used 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 the most of the cases. The only exceptions were steel and foods in 1958. They considered chemicals, electronics and electric 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 food and steels, there were no significant systematic differences between the retained earnings and dividend coefficients.

Similarly, they tested the regression equation of $Pt = a + bD_t + CR_t + d\ (E/P)_{t-1}$ by using normalized earnings again. They obtained normalized retained earnings by subtracting dividends from normalized earnings. Those normalization procedures were based on the period 1950-1961. Again they added previous year's normalized earnings price variable and they compared the result. Comparing the result they found that there was not insignificant role of normalized earnings and retained earnings but effects of normalized price earnings ratio were 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 price somewhat by raising dividends in foods and steels industries.

Modigliani and Miller's Model (1961)

In favor of relevance of dividend policy many writers advocate that dividend policy does affect the value of a corporation. But Modigliani and Miller made a most comprehensive argument that dividend policy of a corporation

is irrelevant since it has nothing to do with the wealth of the shareholders. Given the investment decision of a corporation the dividend payout ratio has nothing to do with stock price. The value of corporation in a large measure is determined by the earning power on corporation's assets as its investment policy and the way how earnings stream is split between dividends and retained earnings without affecting value. There are five common assumptions as explained below.

a. There exist perfect capital market in which all investors behave rationally to the extent they have free access to information and there is complete absence of transaction costs, flotation costs, bankruptcy costs and management costs of decision etc. Securities are infinitely divisible and no investor is large enough to affect the market price of a share.
b. Taxes do not exist or corporations in a world of no taxes so that there are no differences in tax rates applicable to capital gains and dividends. It implies that investors value a rupee of dividend as much as a rupee of capital gains.
c. There is an absence of floatation costs on securities issued by the corporations.
d. The corporation has fixed and given investment policy, which is not subject to change.
e. Every investor expects perfect certainty as to future investments and profits of a corporation. Risk or uncertainly does not exist i.e. investors are able to forecast future prices and dividends with certainty and one discount rate is appropriate for all securities and all time periods.

Modigliani and Miller provided the proof in support of their argument in the following manner:

Step One

In the beginning of a period the market price of a share of the firm is defined as equal to the present value of dividend paid at the end of the period plus present value of the market price at the end of the period.

Symbolically,

$$P_0 = \frac{D_1 + P_1}{1 + K_e} \quad \text{---------- (I)}$$

Where,

P_0 = Current market price per share

K_e = Cost of equity capital (this is assumed to be constant through out the time)

D_1 = Dividend per share to be received at the end of the period.

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

Step Two

Multiplying both sides of equations (I) by the number of shares outstanding (n), we obtain the total value of the firm if no new financing exists:

$$np_0 = \frac{n(D_1 + P_1)}{1 + K_e} \quad \text{---------- (II)}$$

Step Three

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

$$np_0 = \frac{nD_1 + P_1(n + \Delta n) - \Delta nP_1}{1 + K_e} \quad \text{---------- (III)}$$

Step Four

If the investment proposals of a firm, in a given period of time, can be financed either by retained earnings or by the issuance of new shares or by both, the amount of new issue will be:

$$\Delta nP_1 = I - (E - nD_1)$$

$$\text{or, } nP_1 = I - E + nD_1 \quad \text{---------- (IV)}$$

Where,

I = Total new investments to be financed during the period.

E = Total earnings of the firm during the period.

ΔnP_1 = The amount obtained from the sale of new shares to finance investment opportunities.

$E - nD_1$ = Retained earnings.

Step Five

By substituting the value of ΔnP_1 from equation (IV) to equation (III) we get,

$$np_0 = \frac{nD_1 + P_1(n + \Delta n) - I + E - nD_1}{1 + K_e}$$

$$\text{or, } np_0 = \frac{P_1(n + \Delta n) - I + E}{1 + K_e}$$

Since dividend does not seem directly in expression and E, I, $(n + \Delta n)\ P_1$ and K_e are assumed to be independent of dividend, MM concluded that dividend policy has no effect in the value of the firm. Furthermore MM argued that the value of the firm is determined by the earning power of the firm's assets and the manner in which the earnings stream is split between dividends and retained earnings doesn't not affect this value.

Van Horne and McDonald's Model (1971)

Van Horne and McDonald conducted a more comprehensive study on dividend policy and new equity financing. The purpose of this study was to investigate the combined effect of dividend policy and new equity financing decision on the market value of the firm's common stocks. They explored some basic aspects of conceptual framework, and empirical tests were performed during year-end 1968, for two industries, using a well-known valuation model, i.e., a cross-section regression model. The required data were collected from 86 electric utility firms included on the COMPUSTAT utility data tape and 39 firms in the electronics and electric component industries as listed on the COMPUSTAT industrial data tape. They tested two regression models for the utilities industries.

First Model

$P_0/E_0 = a_0 + a_1 (g) + a_2 (D_0/E_0) + a_3 (Lev) + u$

Where,

P_0/E_0 = Closing market price in 1968 divided by average EPS for 1967 and 1968.

D_0/E_0 = Dividend payout, measured by cash dividend in 1968 divided by earnings in 1968.

Lev = Financial risk, measured by interest charges divided by the difference of operation revenues and operation expenses.

u = Error term.

g = Expected growth rate

Second Model

$$P_0/E_0 = a_0 + a_1(g) + a_2(D_0/E_0) + a_3(Lev) + a_4(F_a) + a_5(F_b) + a_6(F_c) + a_7(F_d) + u$$

Where,

F_a, F_b, F_c and F_d are dummy variables corresponding to "New issue ratio" (NIR) groups A through D.

It is notable that they had grouped the firms in five categories A, B, C, D and E by NIR. For each firm the values of dummy variables representing its NIR group are one and the values of remaining dummy variables are zero.

Again, they examined the following regression equation for electronics-electric components industry.

$$P_0/E_0 = a_0 + a_1(g) + a_2(D_0/E_0) + a_3(Lev) + a_4(OR) + u$$

Where,

Lev = Financial risk, measured by long-term debt plus preferred stock divided by net worth at the end of 1968.

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

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

electronics, electric-components industry, a significant relationship between new equity financing and value was not demonstrated.

Strong (Sept. 1997) studied by discussing the impact of dividends, debt, and investment on valuation Model, he used level model. The major financial UK companies to find a greater promise for discovering the linkage of accounting value or firm value that are valid rather the spurious. It also made framework to examine parameter estimation using econometric pit falls in Miller and Modigliani in 1966. This study found lowest equity capitalization group and the lowest return on equity group are more likely to be firms in financial distress. Along with this market expectation of these firms to survive dividend payments may simultaneously reflect the way of the firms. This paper resulted significantly on the strong value relevance of dividend comparing with retained earnings, is notable and novel.

By Joseph Finnerty (2005), his study was based to investigate the effect of dividend policy on equity valuation more specifically model was directly related with dividend yield and dividend growth to return and risk perception to be analyzed. This study resulted to confirm the beta as a measure of relative security risk is little affected by change in estimates of anticipated dividend yield performance. He further indicated that pay out policies might affect return performance.

An examination of the UK Dividend Payout Patterns: this study was propounded by Tse(2005), he tried to use dividend to signal or not along with this he tried to beat unanswered issue raising by Copeland and Weston (1992 p. 567) he used the data drawn from Extel Major UK Companies Handbook. All samples were selected from companies featured in the FTSE All Share Index. In his study, he was matching payout patterns to different

models of dividend policy where no. of firms classified in alternative dividend payout patterns like smooth, follow earnings, always increase , irregular, pay nothing along with this he used hypothesis test like T-test and Chi-Square test and he also examined to identify at the cash flow where,

Div= NOC + NS + D-I,

Where,

Div is dividend payout,

NOC is net operating cash flow,

D are new debts and

I is committed future investment

His study actually concluded to give some response to Copeland and Weston's puzzle (1992 p. 567) that "although dividend signaling models explain how an optimal dividend policy may arise, none of them can successfully explain cross sectional differences in dividend payout across firms." His analysis provided a partial solution to this puzzle. The answer is that not all firms are dividend signalers: some do, some do not. Exhibited patterns of the dividend payout are consistent with dividend signaling hypothesis actually all payout patterns are direct result of firms, ' dividend policy'.

By John R. M. Hand and Wayner R. Landsman studied on the Pricing of Dividends in Equity Valuation. His study employed Ohlson's (1995 and 2001) accounting based equity valuation model to structure tests of four explanations for the anomalously positive pricing of dividends reported by Rees (1997) and Fama and French (1998).

His empirical analysis was inconsistent with explanations that propose that dividends were simply a proxy for publicly available information that helped to predict future abnormal earnings, or signals of management’s private

information. What his results did appear to be consistent with is that proposition that dividends were positively priced because they were a proxy for mispricing by investors of current earnings and/or book equity. He left it to future research to resolve the anomaly have uncovered.

2.6 Review of Indian Studies

This section deals with the studies on relationship between dividend policy and stock prices, carried out in the context of Indian stock market.

Chawla and Srinivasan's Study (1987)

Chawala and Srinivasan studied the impact of dividend and retention on share price. They took 18 chemicals and 13 sugar companies and estimated cross section relationship for the year 1969 and 1973. The basic objectives of the study were to set a model to explain share price, dividend and retained earnings relationship to test the dividend, retained earnings hypothesis to examine the structural changes in estimated relations overtime.

To have these objectives, they used simultaneous equation model as developed by Friend and Puckett (1964). The model in its unspecified form was as follows:

I. *Price function*

$Pt = f[D_t, R_t, (P/E)_{t-1}]$

II. *Dividend Supply Function*

$Dt = f(E_t, D_{(t-1)}, (P/E)_{t-1}]$

III. *Identity*

$E_t = D_t + R_t$

Where,

P	=	Market price per share.
D	=	Dividend per share.
R	=	Retained earnings per share.
E	=	Earnings per share
P/E	=	Deviation from the sample average of price earnings ratio.
t	=	Subscript for time.

As per the financial theories they expected the coefficients of both dividend and retained earnings to be positive in the price equation. Similarly in the dividend supply function also they expected a positive sign for current earnings and previous dividend. They used two stage least square technique for estimation. They also used lagged earnings price ratio instead of lagged price earnings ration, i.e., $(P/E)_{t-1}$.

They found that in the case of chemical industry the estimated coefficients had the correct sign and the coefficient of determination of all the equations were very high. It implies that the stock price and dividend supply variation could be explained by their independent variables. But in the case of sugar industry they found that the sign for the retained earnings is negative in both years. So they left sugar industry for further analysis. For Chemical industry, they observed that the coefficient of dividend was very high as compared to retained earnings. They also found that coefficient of dividend was significant at one percent level in both years. Whereas the coefficient of retained earnings was significant at ten percent level in 1969 and at one percent level in 1973.

At the end they concluded that the dividend hypothesis holds well in the chemical industry. Both dividend and retained earnings significantly explain the variations in share price in chemical industry. They also stressed that the

impact of dividend is more pronounced than that of the retained earnings but the market has started shifting towards more weight for retained earnings.

Mahapatra and Sahu's Study

R.P. Mahapatra and P.K. Sahu did study on determinants of corporate dividend behavior in India. The objectives of their study were as follows: to examine the relative significance of some known dividend models in the Indian situation and to enquire into the determinants of corporate dividend behavior with the help of some known regression models.

Their study was based on a judgmental sample of 90 companies for the period 1977-78 to1988-89. They collected the data from various volumes of Bombay Stock Exchange official directory, covering a period of twelve years.

The known dividend models used to examine the relative significance in the Indian situation were as follows:

Lintner's Model

$$D_t = a_0 + a_1 p_t + a_2 D_{t-1} + u_t \quad \text{----------} \quad \text{(I)}$$

Brittain's Cash Flow Model

$$D_t = a_0 + a_1 c_t + a_2 D_{t-1} + U_t \quad \text{----------} \quad \text{(II)}$$

Brittain's Explicit Depreciation Model

$$D_t = a_0 + a_1 p_t + a_2 D_{t-1} + a_3 A_t + U_t \quad \text{----------} \quad \text{(III)}$$

Darling's Model

$$D_t = a_0 + a_1 p_t + a_2 p_{t-1} + a_3 A_t + a_4 \Delta S_{-2} + U_t \quad \text{----------} \quad \text{(IV)}$$

Where in all the equations:

D_t and D_{t-1} = Total equity dividend in period 't' and 't-1' respectively.

P_t and P_{t-1} = Net profit after tax in period 't' and 't-1' respectively.

C_t = Cash flow in period 't'.

A_t = Amount of depreciation in period 't'.

ΔS_{-2} = Change in sales in a year over the preceding two years.

U_t = Error term.

A comparative review of the various regression models used in their study revealed that Britain's cash flow model was the 'model of good fit' not only at the macro level, but also at the industry group level in the Indian situation. None of the other models provided as satisfactory and explanation of dividend behavior as Brittain's cash flow model. Based on this model, their study attempted to examine the impact of few more determinants of dividend behavior with the help of their sample data. Those determinants were Investment Demand (ID), Flow of Net Debt (FND), Interest (I), Liquidity (L), Behavior of Share Price (BSP) and changes in sales (ΔS_{-2}). They did it by including these determinants one by one in the Brittain's Cash Flow Model, which provided the model of good fit' in most of the samples classifications.

After using various regression equations, they found that dividend decision is primarily governed by cash flow, a measure of company's capacity to pay and dividend paid in the previous year, in majority of the sample companies. Among other determinants, investment demand has been found having significant impact on the dividend decision of electrical goods and chemical industries. The impact of flow of net debt on dividend decision found significant in case of new companies at the aggregate level and paper industry at the industry group level of their study. Similarly, they found that liquidity factor turns out to be a significant determinant of dividend payout in cotton and general engineering industries of their study. They found that determinants like interest payment; changes in sales and behavior of share prices in general do not have any significant bearing on the dividend decision of the sample companies.

Therefore researcher is justifiable to review some of the findings of the studies that are being carried out in Nepal. There are a few studies in Nepal, which have been prescribed below into corporate dividend behavior

2.7 Review of Literature in Nepalese Context

Pradhan's Study (2003)

Pradhan (2003) has conducted a study in the Nepalese context. In Nepalese stock market using pool cross section data of 29 companies from 1994 to 1999 with the total of 93 observations attempted to determine relative importance of dividends and retained earning in determining market price of the share. He pointed out that dividend payment is more important as compared to retained earnings in Nepal. Actually Pradhan used regression model either linear or log. His findings indicated that share value is affected by dividends payments. He used the model using data taken from financial statement of limited companies vol. III published by Nepal Stock Exchange using secondary data. He obtained the following results.

MPS=1709.62+4.57DPS-12.54RE

(2.41) (4.72*) (1.71)

Where,

R-bar square=0.43 F=7.6 SEE=225.9

The results showed the customary strong dividend effect, and very weak retained earnings effect, indicating attractiveness of dividends among Nepalese investors

The negative coefficient obtained for retained earnings is questionable and indicates the absence of its effect on share price. This finding contradicts with the findings of Friends and Puckett, etc.

It also can be said that Nepalese stock market has not started recognizing the impact of retained earnings as observed by Chawla and Srinivasan (1987) in Indian context.

Looking at the overall results, higher investor valuation may be placed on dividends than on retained earnings. Thus management might be able to increase share prices by raising dividends.

Manandhar's Study (1996)

Kamal Das Manandhar studied on dividend policy and value of the firm to identify some of significant financial variables that are significant to the value of the firm. The study was based on the secondary financial data of top ten companies of the year 2052/53 (1995/96) on the basis of traded amount. The data were related to the particular year 1994/95 data of the top ten companies. The source of the data was Trading Report 2052/53, Vol. 2 published by Nepal Stock Exchange Ltd. The ten sample companies selected for the study were as:

(a) Nepal Bank Ltd.
(b) Nepal Arab Bank Ltd.
(c) Bishal Bazar Co. Ltd.
(d) Nepal Grindlay's Bank Ltd.
(e) Harishidhi Brick and Tiles Factory
(f) Himalayan Bank Ltd.
(g) Nepal SBI Bank Ltd.
(h) Nepal Indosuez Bank Ltd.
(i) Soaltee Hotel Ltd.
(j) National Life and General Insurance co. Ltd.

In his study, Multiple Regression was employed to achieve the objective. The regression equation was expressed as:

$$y = f(x_1, x_2, x_3, x_4, x_5)$$

Where,

X_1 represents DPS = Equity dividend divided by number of equity shares.

X_2 represents EPS = Net income divided by number of equity shares.

X_3 represents P/E = Closing price divided by EPS.

X_4 represents ROE = EPS divided by paid up price multiplied by 100.

X5 represents D/P = DPS divided by closing market price.

Manandhar also insisted that lagged consecutive earning of the corporate firms in Nepal affected their dividend behavior and corporate firms do not increase the dividend rate unless change in earnings is found permanent.

Bhattarai's study(2002)

Bhattarai (2002) prepared MBS Thesis entitled "Dividend policy and its impact on market price of stock" with the data taken from two commercial banks and two insurance companies. He analyzed the data of five years from 1995 to 2000 using simple and multiple regression equations. The main objectives of the study are as follows:

- To study the prevailing practices and efforts made in dividend policy in the Nepalese firms with eh help of sample firms.
- To find out the impact of dividend policy on market price of stock
- To analyze if there is any uniformity among DPS, EPS, MPS and DPR in the sample firms.

Major findings of his study are as follows:

- There is not any consistency in dividend policy in the sample firms. It has indicated the need of dividend strategy as well as the need of proper analysis of the respective sector of the firms.
- Most of the Nepalese firm from the very pas t did not have profit planning investment strategy, which has imbalanced the whole position of the firms. It means there is no consistency even in the earnings.

- The MPS is affected by the financial position and the dividend paid by the firms, in this regards the MPS of the sample firms is seem to be fluctuated. It denotes that Nepalese investors are not treated fairly.
- The lack of financial knowledge and the market inefficiency has affected the market price of the share in all the firms.

Upadhya's Study(2003)

Upadhya (2003) research conducted on the topic of "Dividend policy and practice: comparative study between Nepal Arab Bank and Nepal Grindlays Bank Ltd. Main findings of his study are as follows:

The net profit and DPS are positively correlated in both the banks which means dividend decision of these banks depends of won net profit earned. So an increase in enterprises profit results in an increase in DPS and vice-versa. But computed growth rates of DPS have not bee followed by these banks. This indicates that both the banks have not adopted the table dividend policy.

An analysis of dividend pay out ratio indicates that both the banks had adopt conservative dividend policy; through NABIL is paying higher percentage of its earning as dividend as compared to NBL

Simple regression analysis of DPS on EPS shows that NABIL has been paying more dividends than NBL

Simple regression analysis of average stock price in DPS shows that beta coefficients are positive in both the banks but beta coefficient in NBL is higher than in NABIL, i.e. if one rupee of DPS is increased in both the banks. NBL's stock price will increase faster than that of NEBIL.

In both the banks; DPS, EPS and average stock price have been fluctuating, one of the reasons being issuance of bonus share. Bonus share seems to have been distributed arbitrarily ignoring its consequential impact.

To conclude neither government participation in NBL management nor the foreign participation in NABIL management has any significant different in the dividend policy of these Nepalese commercial Banks.

Based on the fining, the author has presented the above recommendation to improve upon the existing situation.

- There is no clear-cut legal provision concerning dividend payment. Through appropriate legal provision, the government should compel earning as dividend.
- Privately formed shareholder's association also is not able to protect shareholders' interest due to lack of government recognition. So, it is high time that government recognizes the association to enable it to function effectively.
- Dividend payment of the banks has been highly fluctuate this has no positive impact on the market due to the higher degree of risk. So, these banks are advised to follow either static or constantly growing dividend policy. Considering the shareholders' interest and reaction, the predetermined policies should be reviewed in the same context.
- Shareholders should be given an option to choose between stock dividend and cash dividend instead of declaring stock or cash dividend arbitrarily. For this, dividend declaration should be proposed to the annual general meeting of shareholders for approval.
- These net earning has been increasing over the years EPS and DPS have widely fluctuated due to the issue of bonus shares. So, the impact of bonus share issue of EPS and DPS should be pre-evaluated. Reasons of

fluctuation EPS and DPS should be communicated to the shareholders and potential investors.

- There is no consistently in the dividend payment in many cases, for example small amount of dividend has been paid despite sufficient earning without considering risk free rate of return. Further, the price of shares seems to have increase even in the years when dividend was not paid. This state of affairs is confusing in calculating the true implication of dividend payment. A management enterprise plays active role in determining dividend not the shareholders. Shareholders and investors ought to know how to evaluate the value of shares before investing on them. They should have adequate knowledge about their rights.
- Dividend payment practices of the existing commercial banks of Nepal are inconsistent and irregular. Due to severe competition among existing commercial banks, minor mistakes in dividend decision may land the bank into serious trouble. In other to avoid such situation, it is suggested that dividend decision should be based in facts and related variables. Further, it is to be noted that the optimum dividend policy must be based on the following criteria.
- Optimum retention for excellent expansion and modernization.
- Optimum dividend so that market value per share will increase rapidly i.e. not present value f shareholders' wealth can be maximized.
- Stable or consistency in the payment of dividend.

2.8 Concluding Remarks

The division of profit after tax earnings into dividend and retained earning can be referred as dividend policy. Procedure of its declaration date, holder of the recorded date, ex-dividend dates any payment date. Legal rules, liquidity position, need to pay debt, restrictions on debt contracts, rate of

assets expansion, profit rate, stability of earnings, access to the capital markets, and control and tax position of the shareholders may be considered as the factors affecting dividend policy.

If the company repurchases its own stock it should be treated as a dividend decision. If stock dividend gives to shareholders it will not be said as increase in MPS theoretically stock dividend and stock split both may work as an information or signally effect of dividend pattern.
The major aspect of dividend policy is whether dividends affect value of the firm. If dividends are irrelevant, as Modigliani and Miller believed the firm should have retained earnings required for undertaking investment project and if any thing is left that should be distributed to share holders with perfect capital markets and absence of taxes stock holders can manufacture home made dividends and make dividend payout irrelevant. With differential taxes on dividends and capital gains there seems a kind of biasness in favor of retention.

A majority of earlier studies conducted in USA mostly indicated the retained earnings effect is more than dividend effect given investment opportunities. A study of Indian evidence showed that their study market has also started recognizing the impact of retained earnings. Having related support in context of Nepal indicated customary strong dividend and very weak retained earnings effect on the MPS.

Actually the study showed predominant influence of the dividend and absence of retained earnings effect on share price. Dividends were found relatively more attractive among the investors, are not indifferent between dividends and retained earnings. The matter of paying substantial dividend is the primary puzzle in the economics of corporate finance (Feldstein and Green 1983). Miller and Modigliani suggest that dividend policy will have

no effect on the value of corporation without tax or transaction cost or other market imperfection in dividend policy dividend relevance include signaling and clientele effects. Friend and Puckett (1964) suggest dividends enhance value for non growth companies and reduce the value of growth companies. Pradhan and Adhikari (2002) found that dividends have positive impact on share price like paying more dividend can increase share price but the empirical work of Lintner (1956) found that the factors precipitates a change in dividend policy due to firms earnings. Further more he suggests time to time maintaining target pay out ratio make dividend policy influential

When firms need to retain a high percentage of earnings companies issue bonus share stock dividend can be regarded as the content of shareholders of the firm. The dominant motive for paying stock dividend is to maintain the firm's historical practice (Bakers and Phillips 1992). As McNichols and Dravid 1990, stock split is to move a firm's share price into an optimal trading range. In a popular capital market stock split is desired similarly firms are allowed to buy back share and to utilize unused cash nicely. As Black 2002 share re purchase and dividend can signal management's view of future profit and growth rates. As Pradhan's study (2002) most of the respondents from finance and non finance sector observed that dividend payment affects the price of a common stock.

As a break through in dividend theories there has not been any uniform development in dividend policy and factors affecting share price along with this optimal dividend policy could not be accompanied so vividly till. As we reviewed in American society we got people are interested to invest in new project rather than having cash dividend similarly India has just recognized the impact of retained earnings. In context of Nepal few but significant contributions have been made but as this dynamic world dividend practice

and its influencing factors are changing day per day. To find a stream in dividend policy to affect market price per share this study is expected to provide useful information for all those including financial scholars, economists, planners and managers at both micro and macro level.

CHAPTER III
RESEARCH METHODOLOGY

3.1 Introduction

This empirical study is carried out with the objective to measure the effect of dividends announcement to the stock prices in the context of Nepalese Companies. The relationship of dividend, retained earnings and lagged price-earning ratio with stock prices has been examined. During each research work, to accomplish the objectives effectively, specified methods and process should be followed called Research Methodology. Research Methodology refers to the various sequential steps (along with rational, of each such step) to be adopted by a researcher in studying a problem with certain objects in research views (Kothari,1994:19). The research describes research design, population and sample; sources of data, the model applied specification of variables and statistical tools which used are focused under research methodology.

Dividend policy and practice of a corporate firm reflect its management attitude of rewarding shareholders which can also affect investment policy in the short and long run expected growth in market value, capital structure pattern and liquidity due to such emphasis dividend policy changes the practice time to time to maximize the value of the firm so that dividend policy has become a matter of interest for shareholders as well as executives.

3.2 Research Design

Research Design is the plan, structure, and strategy of investigation conceived so as to obtain answers to research questions and to control variance in the different studies (Kerlinger, 1986). This study is an empirical study employing various historical secondary data for the analysis of the impact of dividend policy on stock prices. No variable in this study is

manipulated during the study period and the study rather looks like 'Ex post facto'. Research design in this study is analytical as well as descriptive.

3.3 Nature and Sources of Data

This study is based on data administered from company's dividend payout as secondary data provided by Nepal Stock Exchange Ltd. in its website entitled *'www.nepalstock.com.np'* and in its publication "Financial Statement of Listed Companies." The data from "Annual Reports to Shareholders" by concerned companies, from various newspapers and magazines are also collected as per research need. The data was also collected from 'SEBON'i. e. Security Boards, Nepal. In this empirical study, various historical data have been used of 41 Nepalese traded companies. Annual reports and other publications have been used if the research needs more than available sources in financial, economical and other related sectors.

3.4 Selection of Enterprises in Study

There exist so many companies in Nepal, categorized under various sectors such as Commercial Banks, Manufacturing and Processing, Insurance and Finance, Trading, Hotels etc., out of which 135 are listed in Nepal Stock Exchange Limited as its enlistments, for which data on various financial indicators are available. There are many companies whose shares are traded actively in Stock Market and have paid dividends for years. As our basic objective is to study the relationship between dividends announcement and market price of stock, these all companies are population of our study. But as it doesn't seem reasonable to study all of them, this study concentrates on those companies whose shares are traded and dividends are paid during the study period of 1995 to 2007, usable data could be obtained for various sectors are as indicated below in Table 3.1.

Table 3.1
Selection on Nepalese Companies

S.N.	Company Name	Sector	Selection of the study periods	Observations
1	Nabil Bank Ltd	Finance and Banking Sector	1998 to 2007	9
2	Bank of Ktm Ltd.		1998 to 2007	9
3	Std. chartered Bank Ltd.		1997 to 2007	10
4	Himalayan Bank Ltd.		1997 to 2007	10
5	Nepal SBI Bank Ltd.		1998 to 2007	9
6	Nepal Bangaladesh Bank Ltd.		1996 to 2004	8
7	Everest Bank Ltd.		1998to 2007	9
8	Nepal Investment Bank Ltd.		1998 to 2007	9
9	People's Finance Co. Ltd.		1995 to 2004	9
10	Katmandu Finance Ltd.		1997 to 2004	7
11	Nepal housing & Merchant Finance Ltd.		1998 to 2005	7
12	Narayani Finance Ltd.		1995 to 2003	8
13	Ace Finance Co. Ltd.		1998 to 2004	6
14	Samjhana Finance Co. Ltd.		1998 to 2004	6
15	Annapurna Finance Co. Ltd.		1996 to 2004	8
16	Development Credit Bank Ltd.		2003 to 2005	2
17	Nepal Housing Development Ltd.		1996 to 2005	9
18	Gorkha Finance Ltd.		2001 to 2004	3
19	Mahalaxmi Finance Ltd.		2000 to 2005	5
20	Pokhara Finance Co. Ltd.		2000 to 2005	5
21	Siddharth Finance Co. Ltd.		2001 to 2005	4
22	Nepal Merchant Banking and Finance Ltd.		2001 to 2005	4
23	United Insurance Co. Ltd.	Insurance	1996 to 2004	8
24	Alliance Insurance Co. Ltd		1997 to 2003	6
25	Premier Insurance Co. Ltd.		1996 to 2004	8
26	Everest Insurance Co. Ltd		1996 to 2004	8
27	Himalayan General Insurance Co. Ltd		1996 to 2004	8
28	National Life and General Insurance		1996 to 2002	6
29	NECO Insurance		1999 to 2002	3
30	Sagarmatha Insurance		2001 to 2003	2
31	Nepal Insurance Co. Ltd.		1998 to 2003	5
32	Bottler's Nepal Terai Ltd.	Manufacturing	1998 to 2004	6
33	Bottler's Nepal Ltd.		1997 to 2004	7
34	Jyoti Spinning Mills Ltd.		1996 to 2004	8
35	Nepal Lever Ltd.		1996 to 2005	9
36	Nepal Lube Oil Ltd.		1996 to 2003	7
37	Soaltee Hotel Ltd.	Hotel	1996to 2004	8
38	Yak and Yeti Hotel Ltd		1996 to 1999	3
39	Bishal Bazar Co. Ltd	Trading(Others)	1995 to 2005	10
40	Salt Trading Corporation		1996 to 2004	8
41	Nepal Trading Ltd.		1996 to 2001	5
	Total			274

3.5 The Method of Analysis

To study the relationship between dividends and stock prices, the theoretical statement of the model is that the price of stock would depend on Dividend Per Share, Retained Earnings Per Share and Price earnings of last year or Lagged Price earning ratio or lagged market price per share. The regression model (linear and log- linear) is employed to test and analyze the cause and effect relationship between dependent and independent variables, where Market Price Per Share (MPS) is dependent variable and Dividend Per Share (DPS), Retained Earnings Per Share (REPS) , Lagged Price earning ratio $(P/E)_{t-1}$ and lagged market per share$(MPS)_{t-1}$ are independent variables.

The theoretical statements framed above may be stated as:

$$Y = f(X_1, X_2, X_3)$$

Where,

Y = Market Price Per Share in time t (MPS)

X_1 = Dividend Per Share in time t (DPS)

X_2 = Retained Earnings Per Share in time t (REPS)

X_3 = Price earning ratio in time t-1 or Lagged Price earning ratio $(P/E)_{t-1}$ or,

or lagged market per share$((MPS)_{t-1}$

Mathematically, regression equation can be expressed as:

$$Y= a+b_1X_1+b_2 X_2 +b_3X_3+u$$

Where,

a = Intercept

b_1, b_2, b_3 = Coefficient of X variable (i.e. DPS, REPS, $(P/E)_{t-1}$ or $(MPS)_{t-1}$

u = Error term ,this model is brought from Friend and Puckett (1964)

Basically the model assumes the following priori hypothesis i.e. DPS>0 and REPS>0

As mentioned above multiple regression equation is used to test whether the variables of dividend per share, retained earnings per share, lagged price earning ratio and lagged market price per share are related to stock prices or not.

The data analysis has also been done using weighted mean, standard deviation and also other reliable statistical tools.

3.6 Statistical Tools Used

To analyze the relationship between the variables, following statistical tools have been used in this research work.

Standard Deviation (SD)

Since standard deviation is the most important and widely used measure of studying dispersion. Dispersion indicates the extent to which values of a variable differ from the mean. "Dispersion or spread is the degree of the scatter or variation of the variable about a central value."(Brroks and Dick) Standard deviation satisfies most of the properties of a good measure of dispersion. The greater the magnitude of the deviations of the values from their mean, the greater will be the standard deviation. Thus, a small standard deviation means a high degree of uniformity of the observation as well as homogeneity of a series; a large standard deviation means just the opposite. Here, in this research work, standard deviation is used to measure the dispersion for various dependent and independent variables.

Coefficient of Correlation (r)

The analysis of correlation is a statistical tool that measures the degree of relationship between the variables under consideration. The measure of correlation called the correlation coefficient and it refers to the techniques used in measuring the closeness of the relationship between the variable. Correlation can either be positive or it can be negative. If both variables are changing in the same direction, correlation said to be positive but when the variation in the two variables takes place in opposite direction, the correlation is termed as negative. In this research work, coefficient of correlation is calculated between market price per share and dividend per share, market price per share and retained earning per share, market price per share and lagged price earning ratio, earning per share and dividend per share, earning per share and retained earning per share, earning per share and lagged price earning ratio, dividend per share and retained earning per share, dividend per share and lagged price earning ratio, and retained earnings per share and lagged price earning ratio for all the sectors considered under study.

Coefficient of (Multiple) Determination (R^2)

The very convenient and useful way of interpreting the value of coefficient of correlation between two variables is to use square of coefficient, called coefficient of determination. Coefficient of determination measures the degree of liner association or correlation between dependent and independent variables. In other words it measures the total percentage variation in dependent variable explained by independent variables. The coefficient of determination can have value ranging from zero to one. For example an R^2 of 0.55 implies that 55%of the variation in the dependent variable can be explained by the independent variable. It means we are unable to account for

45% of the variation in the dependent variable. In this study, R^2 is calculated for the model prescribed above.

Adjusted R^2

Many regression packages produce a variant of the R^2 statistic, called the adjusted R^2 statistic:

$$\text{Adjusted } R^2 = 1 - \frac{(n-1)}{(n-k)} * (1 - R^2)$$

Where,

n = number of observation used to estimate the regression equation.

k = number of coefficient estimated by the regression equation.

The adjusted R^2 controls for the number of independent variables (including the constant term) used to estimate the regression equation. It provides a rough indication of whether adding additional independent variables has increased/ decreased the explanatory power of the model. The adjusted R^2 can decline when additional independent variables, without much explanatory power, are added to the regression equation.

Regression Analysis

Regression analysis studies the nature of the relationship between the variables. According to Yamane (1985), "One of the most frequently used techniques in economics and business research, to find a relation between two or more variables that are related causally, is regression analysis". Again, regression analysis is that statistical device with the help of which we can estimate the unknown values of one variable from known values of another variable. The closer the relationship between two variables, the greater the confidence that may be placed in the estimates. The variable, which is used to predict the variable of interest, is called the independent

variable and the variable we are trying to predict is called the dependent variable. ‘X’ denotes the independent variable and ‘Y’ denotes the dependent variable. There may be only one or more than one independent variable/s which influences the dependent variable. If there exists only one independent variable the regression analysis is called simple regression analysis and regression equation is formed as Y = a+bX. And if there are two or more independent variables the regression analysis is called multiple regression analysis and regression equation will be:

$$Y = a+b_1X_1+b_2X_2+b_3X_3+\ldots+b_nX_n$$

In above regression equations a, b_1, b_2 ……..b_n are coefficients, which are defined as follows:

Regression Constant (a)

The term 'a' shown in the above equation, which is the intercept of the model, is the component of dependent variable that does not vary with fluctuations in the independent variable/s. In other words, it indicates the average level of dependent variable when independent variable/s is/are zero.

Where b_1,b_2…b_n are regression coefficients of each independent variables which estimate the change in dependent variable from each unit change in that independent variable, holding constant the effect of all other independent variables in the regression model. In other words, the coefficients describe how changes in independent variables affect the values of dependent variable's estimate.

Standard Error of Estimate (SEE)

The standard error of estimate indicates how prices the prediction of dependent variable is, based on independent variable/s. With the help of regression equation perfect prediction is practically impossible or there might be inaccuracy in prediction. Standard error of estimate measures the accuracy of the estimated figures. The Standard Error of Estimate is the same concept as the standard deviation. The standard deviation measures the dispersion about an average, such as mean. The Standard error of estimate measures the dispersion about an average line, called the regression line. Thus, Standard Error of Estimate is the measure of the reliability of the estimating equation, indicating the variability of the observed points around the regression line, that is, the extent to which observed values differ from their predicted values on the regression line. The smaller the value of standard error of estimate, the closer will be the dots to the regression line and the better the estimates based on the equation for this line. If standard error of estimate is zero, then there is no variation about the line and correlation will be perfect. Thus with the help of standard error of estimate, it is possible for us to ascertain how well and representative the regression line is as a description of the average relationship between two series.

Durbin –Watson Statistic:

The most celebrated test for detecting autocorrelation is that developed by Durbin and Watson, popularly known as the Durbin –Watson Statistic. We can state that if a computed'd ' value is closer to zero, there is evidence of positive autocorrelation, but if it is closer to 4, there is evidence of negative autocorrelation. And the closer the 'd' value is to 2, the more the evidence is in favour of no auto correlation. Of course, these are broad limits and some definite guidelines for definite indication of autocorrelation.

3.7 Limitation of the Study

As acuteness of data in Nepal even the data source has been entertained due to Nepal stock exchange. Com and Securities Board, Nepal they are also confidential.

In order to study in dividend policy, annual data as company's policy has been used which has been extracted from annual report. This is compulsion due to study area. The study does not cover all the organizations, which exist in our country. This study basically desires to confirm in determination of share price of the firm depending upon different variables as explained. The study area covers from 1995 to 2007 A.D. (Stock traded companies)

3.8 Definition of the Variables Used

There are some variables and financial indicators used in this study which are defined as follows:

Market Price Per Share (MPS)

Market Price Per Share is average price of the stock on which the stock has been traded in Nepal Stock Exchange Ltd. during study periods. The average of market price is calculated as the average of opening market price, closing market price, high market price and low market price. In absence of full required data, closing stock price can only be used as market price per share. The lagged market price per share is the Last year's share price.

Dividend Per Share (DPS)

Dividend Per Share is the part of earnings distributed to the common shareholders holding one share. In other words, dividend per share is the net earnings distributed to common stock holders divided by number of ordinary shares outstanding.

Mathematically,

$$DPS = \frac{\text{Total amount of dividend distributed}}{\text{No. of ordinary shares outstanding}}$$

Dividend Per Share is one of the factors affecting the stock price. So, it acts as an independent variable in our research model to determine the stock prices.

Retained Earnings Per Share (REPS)

Out of total earnings by a company, a portion is distributed as dividend to the shareholders and remaining is retained to carryout further investment opportunities. The retained amounts of total earnings are called retained earnings, which affects the growth of company, which is directly related to share prices of the company. Retained earning per share (REPS) is calculated by dividing total amount of retained earnings by no. of shares outstanding or by subtracting dividend per share (DPS) from earning per share (EPS).

Mathematically,

$$REPS = \frac{\text{Total amount of retained earnings}}{\text{No. of ordinary shares outstanding}}$$

Or, REPS = Earning Per Share (EPS) – Dividend Per Share (DPS)

REPS also act as an independent variable in our research model to determine the stock price.

Lagged Price Earning Ratio (P/ E) $_{t-1}$

Price earning ratio examines the price of stock relative to earnings. In other words, the P/E ratio reflects the price currently being paid by the market for

each rupee of currently reported earnings per share. It also reflects investors' expectations about the growth in the firm's earnings, which affects the stock prices.

Here, lagged price earning ratio is used instead of the price earning ratio, has been calculated as follow:

$$\text{Lagged price earnings ratio } (PE)_{t-1} = \frac{\text{Last year market per share}}{\text{Last year earnings per share}}$$

The $(PE)_{t-1}$ also acts as an independent variable in our research model to determine the stock prices.

CHAPTER IV
PRESENTATION AND ANALYSIS OF DATA

This chapter presents the data analysis results obtained by applying the tests defined in chapter three – Research Methodology. The chapter has been divided into two sections. First section is concerned with analyzing the results of secondary data. Section two gives the concluding remarks on overall data analysis results.

4.1 Analysis of Secondary Data

This section is further divided into different sub-sections which deal with descriptive statistics, correlation analysis, regression estimates test results and concluding remarks.

Relationship between Dividend and Stock Prices

To establish the relationship among dividend, earnings and stock prices this study can play role of exhibiting the relationship among market price per share, dividend per share, retained earning price per share, lagged market price per share and lagged price earning ratio as well as further looking into relationship of dividend changes with operating net income and cash flow from operation. On the way of research, stock market reaction can also be seen with dividend announcement which has been considered for the main part of this study. In this way, the impact of divided policy on common stock price has been studied with pooled cross- sectional regression test.

Descriptive Statistics of Research Variables

To know the aggregate values and consistency of the research variables dividend per share, retained earning per share, lagged price earning ratio,

lagged market price per share and market price per share, following values have been computed as the table - 4.1

Table 4.1

Descriptive statistics of the dependent and independent variables

Sector		DPS	PELG	REPSS	MPSLG	MPS
Finance & Banking	Mean	22.66	84.50	19.85	462.70	463.52
	S.D.	24.86	908.32	23.28	447.95	446.32
	N	168	160	168	173	184
Insurance	Mean	11.41	15.54	13.93	269.12	265.10
	S.D.	9.34	22.94	11.71	165.21	161.53
	N	57	54	57	59	64
Manufacturing	Mean	24.57	9.14	11.30	598.53	632.00
	S.D	70.04	24.28	51.24	604.29	598.07
	N	35	30	35	30	32
Hotel &	Mean	25.63	21.96	20.61	818.99	834.65
	S.D.	22.67	30.56	57.72	865.79	867.17
	N	34	30	34	33	35
Trading	Mean	5.08	15.65	3.70	240.14	244.73
	S.D.	4.80	19.92	6.57	259.86	251.80
	N	13	12	13	11	13
Total	Mean	20.37	54.13	17.18	469.12	472.17
	S.D.	31.43	679.52	31.50	508.40	507.92
	N	307	286	307	306	328

DPS – dividend per share; PELG – lag price earning ratio; REPSS – retained earning per share; MPSLG – lagged market price per share; and MPS – market price per share

The above table shows that dividend per share is found the highest in finance and manufacturing sector and lowest in hotel sector. In retained earning per share, hotel sector has been highest and the hotel sector has been found lowest. Like this, lagged price earning ratio, lagged market price per share and market price per share are occupying highest in the finance and banking sector, trading sector and again in same sector respectively. In total sector, the mean value has been found highest in trading sector and lowest in manufacturing sector. To look into the variations in dividend per share, retained earning per share, lagged price earning ratio, lagged market price per share and market price per share the highest variations remain in manufacturing sector, trading sector, finance and banking sector, trading sector respectively. The lowest consistency remain as dividend per share, retained earning per share, lagged price earning ratio, lagged market price per share and market price per share in hotel sector, trading sector, same sector, insurance sector and same sector respectively. Out of total sectors, standard deviation has been found highest in the retained earning per share and lowest variation has been found in dividend per share.

Relationship among Variables

In the way of research, relationship of variables among earning per share (EPS), dividend per share (DPS), retained earning per share (REPS) price earning ratio(P/E), lag price earning ratio $(P/E)_{t-1}$,market price per share (MPS) and lag market price share $(MPS)_{t-1}$ have been observed. This kind of relationship helps to predict the explanation of variables to some extent. Correlation is a statistical tool, which measures the degree of relationship between the variables the measure of correlation is said to be correlation coefficient. The interpretations of correlation of coefficient limits in between -1 and +1($-1 \leq Corr(x,y) \leq 1$) i.e. from perfect negative correlation into positive correlation. The concept of association, represented by the

correlation coefficient (r) is fundamental to regression analysis by describing the relationship between two variables. Two variables are said to be correlated if changes in one variable are associated with changes in other variable. In this way, as one variable changes, we know how the other variable is changing. Even correlation is not considered as a full yardstick to interpret the results however the correlations among variables have been presented in table -4.2.

As table 4.2, the relation of EPS is strongly related with REPS as 0.656 and followed by DPS by 0 .654 and it is followed by MPS 0 .524 towards positive relationship and negatively related with lag price earning ratio as – 0.049 and price earning ratio as -0.054 respectively. The dividend per share is strongly related with Market price share i.e.0.525, which is significant at 1%level of significance after relating with EPS.

As objective of our research the relation of MPS with DPS is higher than others. MPS is more inclined toward lag of its value i.e.0.857. The relation of MPS with DPS is significant at 1% level of significance. The relationship of MPS is strongly related with DPS i.e. 0 .525 followed by REPS 0.145 then by PE -0.015 and by PE lag as -0.034 respectively. As Pearson Correlation analysis this kind of relationship has been predicted. Regression and correlation analyses are not only the panacea of research problem in fact it is just a part of the answer.

Table 4.2: Relationship among Variables (Correlation Matrix)

Variables	EPS	DPS	REPS	PE	$PE_{(t-1)}$	$MPS_{(t-1)}$	MPS
EPS	1						
DPS	.654**	1					
REPS	.656**	-.142*	1				
PE	-.054	-.039	-.034	1			
$PE_{(t-1)}$	-.049	-.042	-.022	-.004	1		
$MPS_{(t-1)}$	.430**	.456**	.098	-.009	-.016	1	
MPS	.524**	.525**	.145*	-.015	-.034	.857**	1

Note: The above table shows Pearson correlation coefficient significant at 1% level of significance (two tailed) i. e. denoted by asterisk**.but *shows 5% level of significance.

Co-linearity Diagnostic

Multicollinearity is one of the most misunderstood problems in multiple regressions. Frisch (1934) introduced this term originally. According to Kmenta(1986) multi-co linearity test can not be done generally but we can for particular sample.. Co-linearity (or multi-co-linearity) is the undesirable situation where the correlations among the independent variables are string. Eigenvalues provide an indication of how many distinct dimensions there are among the independent variables. When several eigenvalues are close to zero, the variables are highly interco-related and small changes in the data values may lead to large changes in the estimates of the coefficients. The condition indices are the square roots of the ratios of the largest eigenvalue to each successive eigenvalue. A condition index greater than 15 indicates a possible problem and an index greater than 30 suggests a serious problem with co-linearity.

Results of the Regression Estimates

Results of the regression estimates of four explanatory variables REPS, DPS, PELag, MPSLag, are presented in different tables with linear model and non linear i.e. logarithm model and analyzed in the following sub headings. The analysis of the results of total samples is presented sector wise in different models and the separate analysis of the whole sectors has been compared model wise. Basically, these secondary analyses take place in finance and banking sectors, insurance sector, manufacturing sector, hotels sectors and other sectors along with total sectors. The model empirically tested by pooled regression equation is based on the 301 observations for each dependent variable has been considered as market price per share. The model to be estimated in this paper is the one most commonly applied to cross section data such as the following (Friend and Puckett, 1964):

$$MPS = a + bDPS + cREPS + \mu \quad \text{.....1}$$

The problem of least squares bias can be handled by specifying a dividend supply function such as the following:

$$MPS = a + bDPS + cREPS + d\ PE\ lag + \mu \quad \text{.....2}$$

$$MPS = a + bDPS + cREPS + eMP\ lag + \mu \quad \text{.....3}$$

The above problem can be handled by Log model presenting like this.

$$LnMPS=a+bLnDPS+cLnREPS+ \mu \quad \text{.....4}$$

$$Ln.MPS=a+bLnDPS+cLnREPS+d\ LnPE\ lag+ \mu \quad \text{.....5}$$

$$LnMPS=a+bLnDPS+cLnREPS+eLn\ MP\ lag+ \mu \quad \text{.....6}$$

Where, ’a’ is considered as constant term, ’b’ is considered as the coefficient of dividend per share either in log or linear model both, ’c’ is considered as the coefficient of retained earning per share either in log or linear model both, like this the term ‘d’is considered as the coefficient of lagged price earning ratio and ‘e’ is considered as the coefficient of lagged market per share in both models.

In above model MPS is market price per share (dependent variable) in each model and DPS (Dividend per share) REPS (Retained earning per share), PE lag (lagged price earning ratio) and lagged variable of market per share itself (i.e. this study also takes into account a partial adjustment or flexible accelerator model.) have been considered as independent variables. In the determination of the variables explanatory power to a certain variable multiple regression models have been introduced here.

As our first introduced regression model (table 4.3), in banking and finance sector, the model predicts dividend per share if it increases by one rupee then around rupees11.6 increases in the stock price and around rupees 5 increases in stock price by REPS which is 2.3 times lesser. The value of R^2 is 53.2% i.e. market stock price variation which has been shown 53.2% have been described by independent variables. The model is significant where $p<0.05$. In this sector, 168 cases have been studied as well as all regression coefficients of variables are significant. In insurance co. of 55 cases, the strength of D>R i.e.10.031>5.659 in which the model is quite significant i.e. R^2 is 65.9%.

In manufacturing sector of 39 cases, the coefficient of dividend is greater than retained earnings, i.e. coefficient of D=7.197 and coefficient of REPS is 7.062. R^2 =46%, the model is also significant as well as all regression coefficients of independent variables are significant . In hotel sector of 13 cases, the coefficient of DPS is > REPS i.e. one rupee increase in DPS increases Rs.22.761 in stock price the model is significant but the regression coefficients of both independent variables retained earning per share and dividend per share are insignificant. Comparatively, the regression coefficient of DPS is less insignificant than coefficient of REPS (i.e. p=0.396<0.524). In other sectors the coefficient of DPS >coefficient of

REPS i. e. quite distinct where the coefficient of D =17.239 and the coefficient of R= -2.372. It is also significant model but the regression coefficient of dividend per share is significant but the regression coefficient of retained earning per share is not significance. In overall, total sector of 301 cases, the coefficient of dividend is 9.273 and retained earning per share is. 3.850, which show the strength of DPS>REPS. The model is significant and all independent variables are significant where R^2 is around 33%.

Table 4.3: Regression Equation: MPS=a+bDPS+cREPS+μ

The results are based on pooled cross-section data of 41 enterprises with 301 observations for the period of 1995 to 2007 by using linear regression model as above equation. The impact of dividend per share (DPS) and retained earning per share (REPS) on market price per share is presented as well.

Model Coefficients and indicators	a	b	c	F-value	Adjusted R^2	DW
Banking and finance sector (cases=168,sector=1)	108.430 (2.99*)	11.571 (11.7*)	5.013 (4.74*)	96.061	53.2	.879
Insurance sector(cases=55,sector=2)	61.369 (2.65*)	10.031 (6.67*)	5.659 (4.8*)	53.27	65.9	.990
Manufacturing sector(cases=39,sector=3)	313.034 (3.876*)	7.197 (5.799*)	7.062 (4.143*)	17.160	46	.712
Hotel sector(cases=13,sector=5)	83.448 (0.922)	22.761 (0.89)	12.366 (0.660)	5.971	45.3	1.181
Other sector(cases=26,sector=4)	541.49 (1.916)	17.239 (2.412*)	-2.372 (-.873)	3.494	16.6	.266
Total sector(cases=301)	220.912 (6.502*)	9.273 (11.69*)	3.850 (4.84*)	72.962	32.4	.608

Note: Other sector includes Salt Trading Ltd., Nepal Trading Ltd and Bishal Bazaar Co. ltd.'S' means significance and 'NS' means non-significance at 5% level of significance. a= constant, b=coefficient of dividend per share and c=coefficient of retained earnings per share and ' μ ' shows error term. The parentheses show t-value where * symbolizes significant at 5% level.

As table 4.4, further PE lag has been included as independent variable to predict the model significance. In sector 1 of cases 147, the coefficient of dividend is 11.590 where the coefficient of REPS is 4.469.It can be said even in this model the dividend factor dominates in explanatory variables. The coefficient of price earning lag has insignificance and it reveals negative sense to market price per share. In insurance sector of the cases 46, the same result predicted i.e. even dividend dominates retained earning and R^2=65.4%. The coefficient of PElag is insignificant. In manufacturing sector of 33 cases, that type of prediction has been found as in table (4.4) i.e. the coefficient of dividend is 7.219 and retain earning is 7.612 where the coefficient of D=The coefficient of R almost, but PElag is insignificant by 1.091. In hotel sector, the coefficient of D>coefficient of R i e. 24.788>3.068 but all independent variables are with t-values i.e. 1.96, 0.308 and 1.498 respectively in the sense of DPS, REPS and PElag respectively when the model is significant. But in other sector of 23 cases coefficient of PE lag covers a high scope i.e. its coefficient is 25.287 it is also significant individually, like this coefficient of dividend per share is significant but coefficient of retained earning per share is not significant whereas the model is significant. In overall of 260 cases, overall PE lag strength is negative by 0.006, this variable is insignificant itself at 5% level of significance. The market per share explains in REPS by 3.715 and DPS by 9.10 then R^2 is explained by 31.6% where the model is significant.

Table 4.4: Regression Equation: MPS=a+bDPS+cREPS+d PE lag+ μ

The results are based on pooled cross-section data of 41 enterprises with 260 observations for the period of 1995 to 2007 by using linear regression model as above equation. The impact of dividend per share (DPS) and retained earning per share (REPS) and lagged price earning ratio (PE lag) on market price per share is presented as well.

Model Coefficients and indicators	a	b	c	d	F-value	R^2	DW
Banking and finance sector(cases=147,sector=1)	133.860 (3.179*)	11.59 (10.84*)	4.469 (3.61*)	-.002 (-.075)	51.498	50.9	.941
Insurance sector(cases=46,sector=2)	30.209 (.920)	11.139 (6.327*)	6.237 (4.811*)	.254 (0.409)	29.395	65.4	1.318
Manufacturing sector(cases=33sector=3)	298.059 (2.954*)	7.219 (5.111*)	7.612 (3.745*)	3.526 (1.091)	9.763	45.1	.916
Hotel sector(cases=11,sector=5	34.252 (0.679)	24.788 (1.966)	3.068 (.308)	2.460 (1.49)	13.093	78.4	.455
Other sector(cases=23,sector=4	-199.837 (-1.113)	16.301 (4.396*)	.382 (0.270)	25.287 (7.9*)	29.239	79.4	1.424
Total sector(cases=260)	238.645 (6.147*)	9.10 (10.8*)	3.715 (4.25*)	-0.006 (-.146)	40.924	31.6	.745

Note: Other sector includes Salt Trading Ltd., Nepal Trading Ltd and Bishal Bazaar Co. Ltd. 'S' means significance and 'NS' means non-significance at 5% level of significance.(a = constant, b=coefficient of dividend per share and c=coefficient of retained earnings per share, d=coefficient of price earning lag and 'μ' shows error term. The parentheses show t-value where * symbolizes significant at 5% level.

As table 4.5, Dividend per share retained earning per share and lagged market price per share are regressed with market price per share. In total

sector of cases 278, describes strength of D>R i.e. 3.189>1.591. But the coefficient of MPS lag is 0.766. In this case one rupee of dividend can increase market per share by rupees almost 3 but by retained earning only rupees almost 2. Moreover, increase in DPS, increase in stock price per share vividly, the model is significant and regression coefficients of all independent variables are all significant. In this model, differentiating different sectors, DPS is highly explainable in hotel sector, followed by insurance sector and banking sector and less explainable in manufacturing and other sector but REPS is highly explainable in manufacturing sector but least in Salt Trading Ltd., Nepal Trading Ltd and Bishal Bazaar Co. Ltd. even in the other sector of 25 cases, the coefficient of dividend is more explanatory than coefficient of retained earning in dependant variable i.e. market price per share (D>R or 3.615>-0.344). Regarding MPS lag, it is highly sensitive for other sectors but less sensitive for insurance sector only. Even lagged price variable may serve as proxy for dividends. Since the coefficient of lag dependant variable is equal to one minus the adjustment coefficient i.e.0.234 in total sector of cases of 278, therefore the speed of adjustment between desired and actual share prices as implied by this value is slow. Examining the regression coefficients of independent variables, all are significant except retained earning per share of insurance sector, hotel sector and other sector as well as dividend per share of other sector but the models of all sectors are significant.

Table 4.5: Regression Equation: MPS=a+bDPS+cREPS+e MPS lag+ μ

The results are based on pooled cross-section data of 41 enterprises with 278 observations for the period of 1995 to 2007 by using linear regression model as above equation. The impact of dividend per share (DPS) retained earning per share (REPS) and lagged market price per share (MPS lag) on market price per share is presented as well.

Model coefficients and indicators	a	b	c	e	F-value	R^2	DW
Banking and finance sector(cases=158,sector=1)	26.287 (0.88)	6.687 (7.6*)	1.975 (2.3*)	0.567 (11.12*)	147.637	73.7	1.804
Insurance sector(cases=49,sector=2)	-1.382 (.064)	7.483 (5.44*)	2.014 (1.75)	0.546 (5.93*)	68.199	80.8	1.975
Manufacturing sector(cases=35,sector=3)	40.455 (0.648)	3.341 (3.62*)	4.863 (4.12*)	.726 (8.34*)	54.080	82.4	1.648
Hotel sector(cases=11,sector=5)	5.606 (0.358)	15.856 (4.02*)	-3.664 (-1.16)	.557 (9.28*)	155.645	97.9	1.371
Other sector(cases=25,sector=4)	19.118 (0.137)	3.615 (1.00)	-0.344 (.277)	.865 (9.105*)	39.342	82.7	1.395
Total sector(cases=278)	29.074 (1.29)	3.189 (5.99*)	1.591 (3.28*)	.766 (23.94*)	323.841.	77.8	1.939

Note: Other sector includes Salt Trading Ltd., Nepal Trading Ltd. and Bishal bazar co. ltd. 'S' means significance and 'NS' means non-significance at 5% level of significance. a= constant, b=coefficient of dividend per share and c=coefficient of retained earnings per share e=coefficient of market price lag and ' μ ' shows error term. The parentheses show t-value where * symbolizes significant at 5% level.

As table 4.6, in logarithm transformation of DPS and REPS, only considering independent variables in the total sector of cases 232, DPS is more sensitive than coefficient of REPS on affecting market price per share. The coefficient of determination i.e. adjusted R^2 is 51.5%.Concerning different sectors, other sectors keeps main strength of DPS rather than REPS in market price share of common stock. In finance and banking sector even coefficient of dividend per share is greater than retained earnings i.e. one rupee of dividend per share and retain earning per share explains market price per share by rupees 62.8% and 27.5% respectively. It enhances the payment of dividend to shareholders .In the manufacturing sector of cases 20, the strength to explain market price per share is being occurred by retained earning per share rather than dividend per share i.e. 1.637>-0.437. In this model, total sector even suggests to pay dividend because it increases market price per share i.e. by Rs.0 .654 while Rs. 1 of DPS distributes .In other sector, i.e. Nepal trading Ltd.,Salt Trading Ltd. and Bishal Bazaar Co. ltd., the coefficient of DPS is more than REPS i.e. it suggests not to invest in Co.'s for other investment opportunities before using profit share. Examining the regression coefficients of independent variables all are significant except 'REPS' of hotel sector and other sector as well as dividend per share of manufacturing sector but the models of all sectors are significant.

Table 4.6: Regression Equation: LnMPS = a+bLnDPS+cLnREPS+ μ

The results are based on pooled cross-section data of 41 enterprises with 232 observations for the period of 1995 to 2007 by using linear regression model as above equation. The impact of log dividend per share (DPS) and log retained earning per share (REPS) on log market price per share is presented as well.

Model Coefficients and indicators	a	b	c	F-value	R^2	DW
Banking and finance sector (cases=135,sector=1)	1.421 (17.12*)	.628 (9.10*)	.275 (6.11*)	104.344	60.7	1.051
Insurance sector (cases=44,sector=2)	1.615 (13.02*)	.320 (2.21*)	.373 (4.44*)	29.660	57.1	1.469
Manufacturing sector (cases=20,sector=3)	1.437 (7.15*)	-.437 (.897)	1.637 (2.95)	10.920	68.8	1.848
Hotel sector (cases=10,sector=5)	2.199 (12.49*)	.485 (3.91*)	.025 (0.2)	9.559	47.4	1.116
Other sector (cases=23,sector=4)	1.322 (.3.41*)	.971 (3.65*)	.119 (1.43)	7.087	35.6	0.457
Total sector(cases=232)	1.510 (22.21*)	.654 (11.47*)	.212 (5.3*)	123.675	51.5	0.745

Note: Other sector includes Salt Trading Ltd., Nepal Trading Ltd and Bishal Bazar co. ltd. 'S' means significance and 'NS' means non-significance at 5% level of significance. Where a= constant, b=coefficient of dividend per share and c=coefficient of retained earnings per share and ' μ ' shows error term. The parentheses show t-value where * symbolizes significant at 5% level.

As table 4.7, independent variables if PE lag is considered then the result shows the value of R^2 is 67.7% in total sector i.e. independent variables explain 68% variation in stock price. Since coefficient of DPS is 0 .645, REPS is 0 .272 and PE lag is 0 .512. It can further be predicted that

coefficient of dividend is higher than REPS.PE lag also occupies a relative rigor weight. Interpretation besides total sector, coefficient of D is the most in sector 1 i.e. banking and finance sector, followed by other sectors, followed by manufacturing sector, other and insurance and hotel sector consecutively. Concerning REPS, the coefficient of REPS is the most explainable i.e.0.875 in hotel sector, followed by insurance sector i.e. 0.666, followed by banking sector and other sector respectively. PE lag is more explainable in other sectors i.e. 0.816, followed by total sector i.e.0.512 and followed by banking sector, hotel sector, insurance and manufacturing sector respectively. In sector-wise interpretation, R^2 is high in other sectors, where DW statistics is almost 2, is significant. Examining the regression coefficients of independent variables, all are significant except 'REPS' of manufacturing sector and hotel sector as well as dividend per share of insurance sector and hotel sector like this coefficients of PElag is insignificant in the case of manufacturing sector and hotel sector but the models of all sectors are significant.

Table 4.7: Regression Equation: Ln.MPS=a+bLnDPS+cLnREPS+d LnPE lag+ μ

The results are based on pooled cross-section data of 41 enterprises with 202 observations for the period of 1995 to 2007 by using linear regression model as above equation. The impact of log dividend per share (DPS) and log retained earning per share (REPS) and log lagged price earning ratio(PE lag)on market price per share is presented as well.

Model Coefficients and indicators	a	b	c	d	F-value	R^2	DW
Banking and finance sector(cases=118,sector=1)	1.024 (9.06*)	.610 (9.24*)	.295 (6.41*)	.427 (5.69*)	79.407	66.8	1.605
Insurance sector (cases=39,sector=2)	1.273 (6.84*)	.141 (0.88)	.666 (6.47*)	.169 (2.04*)	28.949	68.8	1.837
Manufacturing sector (cases=18sector=3)	2.182 (4.88*)	.508 (3.50*)	.003 (0.018)	.015 (0.06)	5.006	41.4	0.920
Hotel sector (cases=8,sector=5	1.138 (1.61)	-.030 (.033)	.875 (0.629)	.415 (0.483)	7.992	75	1.258
Other sector (cases=19,sector=4	.930 (3.81*)	.445 (2.44*))	.260 (3.25*)	.816 (6.74*)	28.592	82.1	2.234
Total sector (cases=202)	.926 (11.02*)	.645 (13.10*)	.272 (7.56*)	.512 (10.04*)	141.207	67.7	1.499

Note: Other sector includes Salt Trading Ltd., Nepal Trading Ltd and Bishal Bazaar co. ltd. 'S' means significance and 'NS' means non-significance at 5% level of significance. a= constant, b=coefficient of dividend per share, c=coefficient of retained earning per share, d=coefficient of lag price earning ratio and 'μ' shows error term. The parentheses show t-value where * symbolizes significant at 5% level.

As table 4.8, from data analysis as our sample, the model is log model where dependent variable is log transformation of market price per share and

independent variables are log transformation of dividend per share retained earning per share and lag of market price per share itself. In total sector, R^2 is 85% which is quite high it explains the scope of selected independent variables which is quite predictable this is a significant model where total cases =220 and coefficient of dividend per share is Rs. 0.237 i.e. greater than retained earnings i.e. 0.111 but in total values MPS lag predicts the value of MPS with speed of adjustment between desires and actual share price is one minus 0.701 i.e. 0.299 which is not satisfactory i.e. slow. Considering the different sectors the coefficient of dividend is more sensitive in banking sector followed by other sector, insurance sector, hotel sector and manufacturing sector respectively. Interpretation about coefficient of REPS, insurance sector is more sensitive followed by, manufacturing sector, finance and banking sector, other sectors and hotel sector respectively. Out of the total independent variables, lag MPS variable is the most sensitive in other sector i.e. .887 followed by manufacturing sector, hotel sector, finance sector and insurance sector respectively i.e. the speed of adjustment between desired and actual share price is in descending order. The independent variables are highly explainable in other sectors and least explainable in insurance sector. Examining the regression coefficients of independent variables all are significant except 'REPS' of manufacturing sector, hotel sector and other sector as well as dividend per share of insurance sector, manufacturing sector, other sector and hotel sector like this coefficients of MPSlag is insignificant for hotel sector. All the models of all sectors are significant.

Table 4.8: Regression Equation: LnMPS=a+bLnDPS+cLnREPS+eLn MPS lag+ μ

The results are based on pooled cross-section data of 41 enterprises with 220 observations for the period of 1995 to 2007 by using linear regression model as above equation. The impact of log dividend per share (DPS),log retained earning per share (REPS) and log lagged market price per share (MPS lag)on market price per share is presented as well.

Model Coefficients and indicators	a	b	c	e	F-test	R^2	DW
Banking and finace sector (cases=128,sector=1)	.502 (5.46*)	.268 (4.96*)	.161 (5.19*)	.607 (12.92*)	204.997	82.8	1.758
Insurance sector (cases=42,sector=2)	.748 (4.35*)	.187 (1.64)	.268 (4.06*)	.475 (5.8*)	47.098	77.1	2.318
Manufacturing sector (cases=20,sector=3)	.317 (0.873)	.123 (1.218)	.163 (2.0375)	.765 (5.43*)	26.918	80.4	1.818
Hotel sector (cases=8,sector=5)	440 (0.878)	.178 (0.441)	-.034 (.04)	.756 (2.12*)	17.398	87.5	1.417
Other sector (cases=22,sector=4)	.039 (.206)	.205 (1.65)	-.015 (.27)	.887 (10.56*)	70.022	90.8	2.092
Total sector (cases=220)	.367 (5.56*)	.237 (6.24*)	.111 (4.83*)	.701 (21.24*)	407.551	85	1.784

Note: Other sector includes Salt Trading Ltd., Nepal Trading Ltd and Bishal bazaar co. ltd. 'S' means significance and 'NS' means non-significant at 5% level of significance. a= constant, b=coefficient of dividend per share and c=coefficient of retained earnings per share, e=coefficient of market price lag and **û** shows error term. The parentheses show t-value where * symbolizes significant at 5% level.

The elasticity of dividend with respect to share price is less than unity which shows the absence of economies of scale. The logarithm relations do reduce the problem of regression weighs (Friend and Puckett, 1964) however the linear regression and logarithm regression produced same results.

In total sector, in each model, following regression equation can be found.

MPS =220.912+9.273 DPS +3.850 REPS+ û.....(i)

(6.502*) (11.96*) (4.84*) R^2 =32.4, F-statistics=72.962, DW=.608

MPS = 238.645+9.10 DPS +3.715 REPS-.006PE lag+ û.....(ii)

(6.147*) (10.8*) (4.25*) (-.146) R^2 =31.6, F-statistics=40.924, DW=.745

MPS = 29.074 + 3.189 DPS + 1.591 REPS+o.766 MPSlag.+.. û.....(iii)

(1.29) (5.99*) (3.28*) (23.94*) R^2 =77.8, F-statistics=323.841, DW=1.939

MPS = 1.510 + .654 Ln DPS + .212 LnREPS+ û.....(iv)

(22.21*) (11.47*) (5.3*) R^2 =51.5, F-statistics=123.675, DW=.745

MPS =0.926 +0.645Ln Dps +.272 LnReps + .512 Ln PE lag+û…….....(v)

(11.02*) (13.10*) (7.56*) (10.04*) R^2 =67.7, F-statistics=141, DW =1.499

MPS = .367+0.237LnDPS +0 .111Ln REPS +0.701Ln MPS lag + û ……(vi)

(5.56*) (6.24*) (4.83*) (21.24*) F-Value = 407, DW =1.78, R^2 =85%,

If total sector is considered in the case of only DPS and REPS, the explanatory variables show the coefficient of DPS > REPS i.e. 9.273 and 3.850 the model is significant and coefficients of regression are also significant. If PElag is considered next independent variable the relation between dividend and retained earning is also consistent but PElag is negatively related i.e. Rs.1 increase in lag price earning ratio, MPS will reduce by Rs .006 in average market price per share as well as this variable is also insignificant(by p-value = 0.884). If we again consider MPSlag as independent variable even the relative weight of DPS is greater than REPS but MPSlag is also positively related with MPS, the model is significant with

individually too. In logarithm transform of model 1, dividend per share is greater than retained earning per share if LnDPS and Ln REPS are only independent variables but if logPElag is independent variable it is positively related and significant at 5 percent i.e. 0.512. If LnMPS lag is considered as independent variable the relative weight of DPS is customary strong than REPS i.e.0 .237 and 0.111 where MPSlag is highly co-related with MPS i.e. it explains more in average stock price variation of MPS i.e. 0.701 which seems only 0.30 percentages of the adjustment of actual to desired share price may be completed within a year.

4.2 Concluding Remarks

The term dividend relates to the distributed earnings to the shareholders of the firm in return to their investments where as the policy of a company on the division of its profit between dividend and retention is known as dividend policy. Generally the divided policy adopts a policy of paying out more cash dividend, the expected dividend will rise which tends to increase the price of stock. However if cash dividend are increased the money available for investment will be less which can lower the expected future growth rate and will depress the price of the stock. However the precise effect of dividend policy on market value of stock is not yet clear.

In Global financial history countless research work has been done concerning dividend and stock prices but finding are much controversial that is no consensus among the scholar regarding the influence of dividend policy on stock prices. On such a global scenario probably due to the short history of Nepalese stock market there are only few studies having, which looked into corporate dividend behavior. There is much to be done to generate some ideas regarding relevancy of divided policy in the context of developing capital market such as of our country Nepal. Under these circumstances the

research work has been carried out to contribute a bit to full the research gap with following objectives.

To find out trend of dividend policy in Nepalese corporations

a. Whether dividend or retain earning are more attractive among Nepalese stockholders.
b. To examine the impact to dividend policy on stock prices
c. To reflect the relationship between market price per share and other financial indicators

To meet the above objectives organizing the overall studies into five chapters has followed a sample research methodology. Various related books, journals, and previous research work have been reviewed to make the work more qualitative.

For any qualitative research adequate work reliable related data are most important the studies is basically based on secondary data provided by Nepal stock exchange (NEPSE Ltd) The studies area covers 41 companies with 274 observations using retained earning per share, divided per share, lag price earning ratio and lag market per share itself into linear and log form. As being the objectives to examine the impact to dividend policy on stock prices, to find out trend of dividend policy in Nepalese corporations, reflect the relationship between market price per share and other financial indicators and to confirm the attractiveness of either dividend or retained earning this study has given some bites.

To Overall, it is predicted that DPS is a motivating factor in Nepalese society which is also able to increase market price per share of the public shares in the area of finance sector, insurance sector, manufacturing sector, hotel sector and other sectors. Comparatively, it is also found that effect of

DPS>REPS>PELag in this study in the efficiency of market price per share. Lagged market price per share is an accelerator to increase or to catalyze market price per share in subsequent year. As this breakthrough, it is recommended that optimal dividend should be paid to shareholders on behalf of them as well as public companies.

CHAPTER V

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

The study mainly aims at examining the impact of dividend policy on common stock prices in Nepalese stock market in the finance and banking sector(Nabil Bank Ltd.; Bank of Kathmandu Ltd., Standard Chartered Bank Ltd., Himalayan Bank Lt., Nepal SBI Bank Ltd., Nepal Bangladesh Bank Ltd., Everest Bank Ltd., Annapurna Finance Ltd., People's Finance Co. Ltd., Kathmandu Finance Ltd., Nepal Housing and Merchant Finance Ltd., Narayani Finance Ltd., Samjhana Finance Co. Ltd., Nepal Investment Bank Ltd., Development Credit Bank Ltd., National Finance Co. Ltd., Nepal Housing Development Ltd., Mahalaxmi Finance Ltd., Pokhara Finance Co. Ltd., Siddhartha Finance Co. Ltd., Nepal Merchant Banking and Finance), in manufacturing sector (Nepal Lube Oil Ltd., Nepal Lever Ltd., Jyoti Spining Miles Co. Ltd., Bottler's Nepal Ltd., Bottler's Nepal Terai Ltd.), in insurance sector (Nepal Insurance Co. Ltd., United Insurance Co. Ltd., Alliance Insurance Co. Ltd., Premier Insurance Co. Ltd., Everest Insurance Co. Ltd., Himalayan General Insurance Co. Ltd.,Sagarmatha Insurance), in hotel sector (Soaltee Hotel Ltd., Yak and Yeti Co. Ltd.) and trading sector (Bishal Bazar Co. Ltd., Salt Trading Corporation, Nepal Trading Ltd.) respectively. Its specific objectives are to (i) examine dividend or retained earnings are more attractive among Nepalese shareholders, (ii) test the elasticity of retained earnings and dividends with market price per share, (iii) reflect the relationship between market price per share and some other financial indicators such as lagged price earning ratio and lagged market price per share.

For the purpose of the study, the necessary dividend and equity related data has been collected from the year 1995 to 2007. This study used econometric

model to accomplish the objectives by employing multiple regression model in order to examine the impact of dividend on common stock prices.

Findings of the Secondary Data Analysis

- In total sector market price per share of stock has been well explained by dividend than retain earning. Further, market price per share lag variable is realized that the speed of the adjustment between desired and actual share price is slow.
- In commercial banking and financial sector, insurance sector, manufacturing sector, hotel and other sectors the distribution of dividend was found more important than retain earning to explain and show the strength of market price per share.
- The coefficient of price earning ratio has relatively low effect upon market price per share rather than other independent variables i.e. dividend per share and retained earning per share.

Overall it can be concluded that the findings are consistent with Pradhan (2003) in context of Nepal and inconsistent with Friend and Puckett (1964) in context of western countries having developed and perfect market and same result recognized to be felt in context of India as the same study propounded by Chawla and Srinivasan (1987) but inconsistent with this study.

5.2 Conclusion

The conclusions of the study are as follows:

- Dividend payment is more important than retained earning in most of the sectors of Nepal and further, the elasticity of dividend with respect to share price is less than unity, which shows the economies of scale.

- In context of Nepal, this finding is consistent with the study of Pradhan (2003) but it is inconsistent with studies made by Friend and Puckett (1964) and an unavoidable consistence with Chawla and Srinivasan (1987). Therefore it is strongly concluded that there is the existence of net preference for current dividend as opposed to capital gains.

5.3 Recommendations

Based on findings of the study, and taking into considerations of the relevant issues, the appropriate recommendations have been gathered to ease the study useful to the recipients and the other concerned parties. This study basically concentrates on dividend policy and practice of corporate firms towards the development of dividend paying culture with certain strategy.

In Friend and Puckett model, the dependant variable as a market price per share (MPS) and independent variables dividend per share (DPS), retained earning per share (REPS), lagged price earning ratio(E/P t-1), lagged market price per share (MPS_{T-1})give the best valuable information. Dividend per share and lagged market price per share have significant influence upon the forth coming market per share of the companies but retained earning per share which is one of the key factors for a part of internal financing, it enables the companies to operate the business activities in low cost. In Nepalese market, dividend should be provided in stable and gradual policy because study has shown that such strategy promotes Nepalese financial market. In Nepalese market, dividend has been found more pronounced than retained earnings. So that if investors desire to increase the market price per share there should be distribution of dividend.

As a whole approach, only after having sustained earning it can provide stable dividend and it can cope confidence of prospective and existing shareholders. Target payout ratio should be of long range and there should be a balance in between dividend payment and retained earnings. Corporate firms should have an optimal dividend policy that would balance the current dividend with future growth and should be considered that they are agent of the shareholders and must act in the best interest of shareholders which can guarantee the return on shareholders fund and maximizing their wealth. Corporate management should determine the dividend policy in that manner which is the growth prospective of the companies. They should consider the dividend payment as an entrusted obligation. Corporate management of the public companies should not have only the attitude of paying dividends from earnings but also attitude of increasing earnings to pay higher dividend that can require investment and profit planning strategy of management and risk taking attitude. Dividend should always grow and its variability is related with growth and it always has information content where it should improve dividend policy in terms of cash dividend and retained earnings so that expected short run and long run return of shareholders are satisfied. Related act rules and regulations must be amended to constrain on cash dividend on ad-hoc decision basis and to ensure the practice of cash dividend per share consistent with overall corporate strategy and profit planning policy. There should be prompt attempt to increase the confidence of investors that stocks are priced reasonably and not over priced which requires the dissemination of relevant financial information regularly in the stock market having the positive impact on market share price per share. Corporate management should have the practice of giving true information that practice can lead to rationale behavior of the investors which is essential for the development of stock.

Corporate firms should develop a service center on behalf of shareholders to educate them and protect their interest. Corporate management should recognize the constructive suggestion of shareholders by improving corporate performance and in maintaining good relationship with them. Moreover, the empirical modality of dividend policy should emphasize on the management attitude and setting of the target dividend payout ratio relying on various factors resulting dividend yield and the value of stocks in order to maximize the value of the stocks to increase the confidence of the investors. There should be proper computer automation in fixing market price per share of the stock instead of crying floor.

Even there are only few studies in Nepal concerning corporate dividend policy, stock prices and its determinants but there are so many uncovered areas for research. One extension of this research work is only to add additional information to get further results that are more reliable. Secondly, the effect of cash dividend on common stock price can be seen in selected companies, which is also one reward for dividend policy. Further the future research may coincide the areas relating to the dividend with stock dividend, stock split and reverse stock split etc. on common stock prices. In this connection there may be interesting to conduct a similar studies at different points in time to ascertain whether the important of dividend or retain earning has increased over a period of time in different industries seems to be rewarding.

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Appendix 1
Selection on Nepalese Companies

S.N.	Company Name	Sector	Selection of the study periods	Observations
1	Nabil Bank Ltd	**Finance and Banking Sector**	1998 to 2007	9
2	Bank of Ktm Ltd.		1998 to 2007	9
3	Std. chartered Bank Ltd.		1997 to 2007	10
4	Himalayan Bank Ltd.		1997 to 2007	10
5	Nepal SBI Bank Ltd.		1998 to 2007	9
6	Nepal Bangaladesh Bank Ltd.		1996 to 2004	8
7	Everest Bank Ltd.		1998 to 2007	9
8	Nepal Investment Bank Ltd.		1998 to 2007	9
9	People's Finance Co. Ltd.		1995 to 2004	9
10	Katmandu Finance Ltd.		1997 to 2004	7
11	Nepal housing & Merchant Finance Ltd.		1998 to 2005	7
12	Narayani Finance Ltd.		1995 to 2003	8
13	Ace Finance Co. Ltd.		1998 to 2004	6
14	Samjhana Finance Co. Ltd.		1998 to 2004	6
15	Annapurna Finance Co. Ltd.		1996 to 2004	8
16	Development Credit Bank Ltd.		2003 to 2005	2
17	Nepal Housing Development Ltd.		1996 to 2005	9
18	Gorkha Finance Ltd.		2001 to 2004	3
19	Mahalaxmi Finance Ltd.		2000 to 2005	5
20	Pokhara Finance Co. Ltd.		2000 to 2005	5
21	Siddharth Finance Co. Ltd.		2001 to 2005	4
22	Nepal Merchant Banking and Finance Ltd.		2001 to 2005	4
23	United Insurance Co. Ltd.	**Insurance**	1996 to 2004	8
24	Alliance Insurance Co. Ltd		1997 to 2003	6
25	Premier Insurance Co. Ltd.		1996 to 2004	8
26	Everest Insurance Co. Ltd		1996 to 2004	8
27	Himalayan General Insurance Co. Ltd		1996 to 2004	8
28	National Life and General Insurance		1996 to 2002	6
29	NECO Insurance		1999 to 2002	3
30	Sagarmatha Insurance		2001 to 2003	2
31	Nepal Insurance Co. Ltd.		1998 to 2003	5
32	Bottler's Nepal Terai Ltd.	**Manufacturing**	1998 to 2004	6
33	Bottler's Nepal Ltd.		1997 to 2004	7
34	Jyoti Spinning Mills Ltd.		1996 to 2004	8
35	Nepal Lever Ltd.		1996 to 2005	9
36	Nepal Lube Oil Ltd.		1996 to 2003	7
37	Soaltee Hotel Ltd.	**Hotel**	1996to 2004	8
38	Yak and Yeti Hotel Ltd		1996 to 1999	3
39	Bishal Bazar Co. Ltd	**Trading (Others)**	1995 to 2005	10
40	Salt Trading Corporation		1996 to 2004	8
41	Nepal Trading Ltd.		1996 to 2001	5
	Total			274

Appendix 2

Descriptive statistics of the dependent and independent variables

Table 4.1

Descriptive statistics of the dependent and independent variables

Sector		DPS	PELG	REPSS	MPSLG	MPS
Finance & banking	Mean	22.66	84.50	19.85	462.70	463.52
	S.D.	24.86	908.32	23.28	447.95	446.32
	N	168	160	168	173	184
Insurance	Mean	11.41	15.54	13.93	269.12	265.10
	S.D.	9.34	22.94	11.71	165.21	161.53
	N	57	54	57	59	64
Manufacturing	Mean	24.57	9.14	11.30	598.53	632.00
	S.D	70.04	24.28	51.24	604.29	598.07
	N	35	30	35	30	32
Hotel &	Mean	25.63	21.96	20.61	818.99	834.65
	S.D.	22.67	30.56	57.72	865.79	867.17
	N	34	30	34	33	35
Trading	Mean	5.08	15.65	3.70	240.14	244.73
	S.D.	4.80	19.92	6.57	259.86	251.80
	N	13	12	13	11	13
Total	Mean	20.37	54.13	17.18	469.12	472.17
	S.D.	31.43	679.52	31.50	508.40	507.92
	N	307	286	307	306	328

DPS – dividend per share; PELG – lag price earning ratio; REPSS – retained earning per share; MPSLG – lagged market price per share; and MPS – market price per share

Appendix II

OUTPUTS OF SECONDARY DATA

Using the data file 'Statistical package for Social Science'(SPSS) following outputs have been obtained.

Regression

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	DPS, REPSS[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: MPS

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.733[a]	.538	.532	310.459717	.879

a. Predictors: (Constant), DPS, REPSS

b. Dependent Variable: MPS

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18517675	2	9258837.634	96.061	.000[a]
	Residual	15903564	165	96385.236		
	Total	34421239	167			

a. Predictors: (Constant), DPS, REPSS

b. Dependent Variable: MPS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	108.430	36.245		2.992	.003
	REPSS	5.013	1.057	.257	4.743	.000
	DPS	11.571	.990	.634	11.693	.000

a. Dependent Variable: MPS

Casewise Diagnostics[a]

Case Number	Std. Residual	MPS
51	4.342	1500.000

a. Dependent Variable: MPS

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-287.586	1643.801	470.1439	332.99291741	168
Residual	-699.109	1348.008	.00000000	308.59507719	168
Std. Predicted Value	-2.276	3.525	.000	1.000	168
Std. Residual	-2.252	4.342	.000	.994	168

a. Dependent Variable: MPS

Regression

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	DPS, REPSS[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: MPS

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.820[a]	.672	.659	94.71561279	.990

a. Predictors: (Constant), DPS, REPSS

b. Dependent Variable: MPS

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	955834.9	2	477917.461	53.273	.000[a]
	Residual	466494.5	52	8971.047		
	Total	1422329	54			

a. Predictors: (Constant), DPS, REPSS

b. Dependent Variable: MPS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	61.369	23.142		2.652	.011
	REPSS	5.659	1.180	.411	4.797	.000
	DPS	10.031	1.504	.571	6.667	.000

a. Dependent Variable: MPS

Casewise Diagnostics[a]

Case Number	Std. Residual	MPS
354	3.316	570.0000

a. Dependent Variable: MPS

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	66.06601	596.7701	260.1682	133.04377739	55
Residual	-173.770	314.0745	.00000000	92.94507138	55
Std. Predicted Value	-1.459	2.530	.000	1.000	55
Std. Residual	-1.835	3.316	.000	.981	55

a. Dependent Variable: MPS

Regression

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	REPSS, DPS[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: MPS

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.573[a]	.329	.324	429.189106	.608

a. Predictors: (Constant), REPSS, DPS

b. Dependent Variable: MPS

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	26879538	2	13439769.17	72.962	.000[a]
	Residual	54892580	298	184203.289		
	Total	81772118	300			

a. Predictors: (Constant), REPSS, DPS

b. Dependent Variable: MPS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	220.912	33.976		6.502	.000
	DPS	9.273	.794	.561	11.685	.000
	REPSS	3.850	.796	.232	4.838	.000

a. Dependent Variable: MPS

Casewise Diagnostics[a]

Case Number	Std. Residual	MPS
244	3.253	2200.000
248	-4.078	1431.000
259	3.900	2127.750
260	7.023	3450.000
261	5.423	2800.000
262	3.159	1850.000

a. Dependent Variable: MPS

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-83.2723	3181.300	481.7531	299.33002042	301
Residual	-1750.30	3014.206	.00000000	427.75608369	301
Std. Predicted Value	-1.888	9.019	.000	1.000	301
Std. Residual	-4.078	7.023	.000	.997	301

a. Dependent Variable: MPS

Regression

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	PELG, REPSS, DPS[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: MPS

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.569[a]	.324	.316	443.611318	.745

a. Predictors: (Constant), PELG, REPSS, DPS

b. Dependent Variable: MPS

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24160552	3	8053517.337	40.924	.000[a]
	Residual	50378496	256	196791.001		
	Total	74539048	259			

a. Predictors: (Constant), PELG, REPSS, DPS

b. Dependent Variable: MPS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	238.645	38.821		6.147	.000
	DPS	9.100	.840	.568	10.833	.000
	REPSS	3.715	.874	.223	4.251	.000
	PELG	-.006	.039	-.008	-.146	.884

a. Dependent Variable: MPS

Casewise Diagnostics[a]

Case Number	Std. Residual	MPS
244	3.135	2200.000
248	-3.888	1431.000
260	6.766	3450.000
261	5.219	2800.000
262	3.032	1850.000

a. Dependent Variable: MPS

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-54.8838	3155.828	510.9846	305.42426982	260
Residual	-1724.83	3001.407	.00000000	441.03465707	260
Std. Predicted Value	-1.853	8.660	.000	1.000	260
Std. Residual	-3.888	6.766	.000	.994	260

a. Dependent Variable: MPS

Regression

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	MPSLG, REPSS, DPS[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: MPS

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.883[a]	.780	.778	248.136991	1.939

a. Predictors: (Constant), MPSLG, REPSS, DPS

b. Dependent Variable: MPS

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	59818530	3	19939509.94	323.841	.000[a]
	Residual	16870719	274	61571.966		
	Total	76689249	277			

a. Predictors: (Constant), MPSLG, REPSS, DPS

b. Dependent Variable: MPS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	29.074	22.458		1.295	.197
	DPS	3.189	.532	.197	5.995	.000
	REPSS	1.591	.485	.097	3.282	.001
	MPSLG	.766	.032	.766	23.583	.000

a. Dependent Variable: MPS

Casewise Diagnostics[a]

Case Number	Std. Residual	MPS
28	3.320	1985.000
34	-5.029	646.6700
39	3.057	1700.000
51	4.137	1500.000
52	-3.195	401.0000
242	3.363	1501.000
243	3.073	2230.000
260	6.910	3450.000

a. Dependent Variable: MPS

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-27.6908	2760.500	496.5932	464.70568236	278
Residual	-1247.78	1714.613	.00000000	246.78963054	278
Std. Predicted Value	-1.128	4.872	.000	1.000	278
Std. Residual	-5.029	6.910	.000	.995	278

a. Dependent Variable: MPS

Regression

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	LNREPSS, LNDPS[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: LNMPS

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.721[a]	.519	.515	.64222	.745

a. Predictors: (Constant), LNREPSS, LNDPS

b. Dependent Variable: LNMPS

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	102.018	2	51.009	123.675	.000[a]
	Residual	94.450	229	.412		
	Total	196.467	231			

a. Predictors: (Constant), LNREPSS, LNDPS

b. Dependent Variable: LNMPS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.476	.157		22.114	.000
	LNDPS	.654	.057	.572	11.478	.000
	LNREPSS	.212	.040	.266	5.342	.000

a. Dependent Variable: LNMPS

Casewise Diagnostics[a]

Case Number	Std. Residual	LNMPS
260	3.550	8.15
261	3.129	7.94

a. Dependent Variable: LNMPS

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.6542	7.3534	5.8467	.66456	232
Residual	-1.34243	2.28007	.00000	.63943	232
Std. Predicted Value	-3.299	2.267	.000	1.000	232
Std. Residual	-2.090	3.550	.000	.996	232

a. Dependent Variable: LNMPS

Regression

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	lnpelg, LNDPS, LNREPSS[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: LNMPS

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.826[a]	.681	.677	.52516	1.499

a. Predictors: (Constant), lnpelg, LNDPS, LNREPSS

b. Dependent Variable: LNMPS

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	116.830	3	38.943	141.207	.000[a]
	Residual	54.606	198	.276		
	Total	171.436	201			

a. Predictors: (Constant), lnpelg, LNDPS, LNREPSS

b. Dependent Variable: LNMPS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.133	.194		11.013	.000
	LNDPS	.645	.049	.570	13.128	.000
	LNREPSS	.272	.036	.331	7.548	.000
	lnpelg	.512	.051	.407	10.028	.000

a. Dependent Variable: LNMPS

Casewise Diagnostics[a]

Case Number	Std. Residual	LNMPS
136	3.468	5.32

a. Dependent Variable: LNMPS

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.5017	7.5653	5.8989	.76239	202
Residual	-1.33294	1.82136	.00000	.52122	202
Std. Predicted Value	-3.144	2.186	.000	1.000	202
Std. Residual	-2.538	3.468	.000	.993	202

a. Dependent Variable: LNMPS

Regression

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	LNMPSLG, LNREPSS, LNDPS[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: LNMPS

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.922[a]	.850	.848	.35713	1.784

a. Predictors: (Constant), LNMPSLG, LNREPSS, LNDPS

b. Dependent Variable: LNMPS

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	155.939	3	51.980	407.551	.000[a]
	Residual	27.549	216	.128		
	Total	183.488	219			

a. Predictors: (Constant), LNMPSLG, LNREPSS, LNDPS

b. Dependent Variable: LNMPS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.845	.152		5.548	.000
	LNDPS	.237	.038	.209	6.301	.000
	LNREPSS	.111	.023	.142	4.844	.000
	LNMPSLG	.701	.033	.714	21.385	.000

a. Dependent Variable: LNMPS

Casewise Diagnostics[a]

Case Number	Std. Residual	LNMPS
314	-3.342	3.87

a. Dependent Variable: LNMPS

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.9065	7.7268	5.8640	.84383	220
Residual	-1.19351	1.07024	.00000	.35467	220
Std. Predicted Value	-2.320	2.208	.000	1.000	220
Std. Residual	-3.342	2.997	.000	.993	220

a. Dependent Variable: LNMPS

Other values can be computed as above in different sectors.