CHAPTER-I

1. 0 Introduction

1.1 Background of the study

Every firm after earning profit either retain the money for further investment or distribute it among the shareholders. The profits that are distributed to the shareholders are known as dividend and the profit that kept in the organization are known as retained earnings. Dividend policy determines the division of earning between payments to stockholders and reinvestment in the firm. Therefore, the decision regarding how much profit to distribute to the stockholders and how much to keep in the organization is the dividend policy.

Divided policy however is still a crucial as well as controversial area of managerial finance. It is more technical area of finance in the sense that it is complex on having numerous implications for the firm. Dividend policy may affect the area such as financial structure of the firm, funds flow, stock price, investor's satisfaction, growth of the firm etc like other major decisions of the firm i.e. investment and financing decision, the dividend decision has major role in any organization.

For the entire development of any country each and every sector should be strong and capable. Among the economic sector is one of the major governing sectors. Normally each and every measure of the level of development of a country depends on the economic development. For economic development, banks and other financial institutions are playing vital role. So, it there is insufficient economy and financial facilities. The growth of economy development becomes slow. The main objectives of the commercial banks are to earn profit by proper mobilization of resource. Especially commercial banks provide different facilities to the people engaged in trade, commerce and industry. Thence, they are being the means

for the uplift of society.

Commercial banks has many functions such as accepting deposits, providing interest culminates in the formation of capital, granting loans that helps remove deficiency of capital, performing agency functions which makes life easier and they also play an important role in credit creation. When economy is boom, commercial banks increase interest rate which reduces the probability of inflation and increase of depression. They reduce interest rate so the people are interested in investment. Since, the importance of banks is highly appreciated; it needs proper attention to run successfully. They should be established and conducted after analyzing the various factors. Normally, banks ply at a public money that is why people pay their attention whether their money is properly utilized or not and running at profit or loss. The existence of profit to any business firm is the basic factor. If there is no profit a business firms becomes unstable to provide its facilities in the long term. These profits that can be distribute among the owner as dividend as well.

One of the major reasons of public interest to invest money on the shares of bank or others financial institutions is dividend. It refers to the distributed earning to the ordinary shareholders of the firm in turn their investment. Normally, business running at profit is capable to pay it. The amount which is distributed as dividend should be adequate to meet the normal expectation of shareholders.

It is not necessary that all business organization follows the same dividend policy. Dividend policy of different organization may be same or different. But the policy followed by the firm should be suitable for both the shareholders as well as the firm itself. The dividend and retained earning have reciprocal relationship. If the dividend is paid earning decreases while

if the profit is retained, shareholders' wealth is minimized.

Nepal is a developing country with very low per capita income. A very small part of the population has spare money whereas a big part is under the line of poverty. Among the small part of population with spare money, only few people are interested to invest the money in business due to the fear of not getting back. So the people who invest money in the business expect return from the money they invest. So the most important thing to attract the people to business is dividend. People are encouraged to invest in the business is actually running in profit or not. So paying dividend is very important to attract the shareholders who are very important constituent of the business.

But satisfying the shareholders should not only be the objective of firm. Sometimes the firm may get the good investment opportunity in which retained earning is needed. In such a case firm should be involved in maximization of company's wealth. So the dividend policy followed by the firm should be able to satisfy the shareholders as well as maximize the company's wealth. The dividend policy also depends up on the objective of the firm. But the policy should be formulated considering the legal aspects of the country.

The dividend payment is the major decision of the firm which affects the running of the business. Once the company decides to pay dividend, they may establish somewhat permanent divided policy which pay in turn impact on the position of the company in the financial market. What they decide affects the investors and potential investors.

Banks play the very important role in the economic development of the country. Banks are the financial institutions which mobilizes idle saving of people into productive sectors.

Banks help to connect the savers and users through the monetary resources. The money is carried from savers to users by banks. The idle saving of the people is transferred to the industries, trades and commerce. The savers are benefited in the form of interest. At the same time, trade commerce and industrial are also benefited by money for business.

1.2 Focus of the study

Dividend is the major decision which affects the value of firm. So the study is based on dividend policy of the commercial banks in Nepal. There are more than seventeen commercial banks in Nepal but it is not possible to cover all the banks in the study. So the only three commercial banks are chosen which will represent all the commercial banks of Nepal. So the study will analysis the financial statement of the chosen banks and whether the dividend policy followed by them is relevant or not.

1.3 Statement of the Problem

Corporate dividend policy is not clearly understood by a large segment of the financial community dividend. The most inspiring factor the investment on shares of the company and similar to commercial banks. Dividend policy is not straight forward and simple aspect of corporate finance. It is more technical area of finance in the sense that it is a complex one having numerous implications for the firm. But Nepalese Commercial Bank has not satisfactory result about dividend decision. Different government rules and regulations are the main factors. But there is no limit to the identification of the problem about dividend policy that is visible in Nepalese Commercial Bank. While keeping this is mind, selected problems of commercial banks with regard to dividend policy are taken as follows:

    i)   Are the banks able to pay appropriate dividend?

    ii)   Is there any uniformity among the banks in dividend distribution?

    iii)   What is the relationship of dividend with earning per share market price per

share, net profit, net worth and book value per share?

iv)   Does the dividend policy affect the market price of the share differently in different companies?

1.4 Objectives of the Study

The aim of the study is basically to analysis and evaluate the application of dividend decision in the selected banks and the study focus on the prevalent dividend polices and to suggest the direction of future endeavor or share market in Nepal. Besides that the overall objectives of the study are as follows:

i)   To study whether the commercial banks are following the suitable dividend policy or not.

ii)   To compare the dividend policy followed by different commercial banks chooses.

iii)   To study the relationship of dividend policy with various financial indicators like EPS, DPS, MPS, DPR, net worth, net profit and book value of share.

iv)   To provide some fruitful suggestion to the sample banks chooses regarding their dividend policy, so that they can follow the better policy if the existing policy is not fruitful enough.

1.5 Importance of the Study

The study is not only helpful to the researcher but the final outcome of the study will prove to be a valuable tool for the following groups.

i)   Shareholders:- The shareholders will be able to know whether the dividend policy of the company where they invested their money is relevant or not. They will also be able to know the position of the company in the financial market.

ii)   Banks: The banks will know the dividend practices followed by other banks will be able to improve their dividend policy.

iii)   Finance companies: The finance companies will also be able to compare their own dividend practices with those of the banks chosen and find out whether they need to improve their dividend policy.

iv)   Students: Students will able to study about dividend policy and will be helpful as they can take it as reference if they are doing the research in the similar topics.

v)   Teachers: Teachers can use it as a tool in teaching.

vi)   Researchers: As mentioned above, researchers can use it as a reference for their research.

1.6 Limitations of the Study

The research is going to be done for the partial fulfillment of the requirement of masters in business studies programme. The study will be limited by the following factors:

i)   Most of the organization refuses to give their primary data for study. So the researchers are obliged to use some secondary data.

ii)   Only three commercial banks are chosen for the study although there are other organizations that are involved in distributing the dividend to the shareholders.

iii)   Only five fiscal years data are taken for the studies. (2002/2003-2006/2007).

1.7 Research Methodology

Research methodology is the method, which the researcher uses in the course of his research. This is the steps, guidelines and tools used in the research. In fact, it is the outline of the research which the researcher is going to do. It consists of research design, sources of

data, population & sample data collection procedure etc.

Research will based on primary as well as secondary data. The research will be analytical as well as descriptive in nature. Appropriate financial and statistical tools will be used. All the commercial banks are taken as the population whereas: there banks will be the sample which is listed as follows:-

1. Standard Chartered bank Nepal Ltd.

2. Nepal SBI bank Ltd.

3. Nepal Investment bank Ltd.

The financial tools are EPS, DPS, DPR, P/E ratio, Dividend yield, market value per share etc and the various statistical tools used are mean, standard deviation, coefficient of variation, coefficient of correlation, regression analysis etc.

1.8 Organization of the Study

The report will be presented in five chapters which are us as follows:

Chapters 1 Introduction

Chapters 2 Review of literature

Chapters 3 Research Methodology

Chapters 4 Presentation & Analysis of data

Chapters 5 Summary, conclusion and recommendation

The first chapter contains short introduction of the research. The outline of the research is presented in the chapter. The whole research will be based on the introduction chapter.

Chapter second deals with review of literature. It consists a discussion on the conceptual framework and review of various studies (i.e. various books, journals, other thesis etc) on

dividend policy.

In the third chapter, the methods used in the research to evaluate dividend practices of joint venture banks in Nepal are described. It consists of research design, sour5ce of data, population and sample, statistical and financial tools.

In the fourth chapter, the collected data are analyzed using various statistical and financial tools. This is the main part of the study.

In the last chapter, the major findings, summary, conclusion and recommendation of the study are included and it states suggestive frame work of the study.

CHAPTER – II

2.0 REVIEW OF LITERATURE

After selecting the topics of the research, researcher needs to review related literatures in the concerned area which will help to get a clear idea, opinion and other concepts." What others have said? What others have done? And what others have written?" these all and other related qualities are reviewed which has provided useful inputs in this research work.

The present research aims to analyze the dividend policy of Commercial Banks in Nepal. in this chapter conceptual framework given by different authors and intellectuals of this area, magazine, books, journals, research works , previous thesis etc related to dividend and dividend policy are reviewed. Moreover, rules and regulation regarding to dividend policy are reviewed and an attempt has been made to present them properly.

This chapter is divided into three parts:

2.1 Conceptual framework

2.2 Review of various studies

2.3 Research gaps

2.1 Conceptual Frameworks

2.1.1 Meaning of dividend and dividend policy

Company's total net income (especially earning available to equity shareholders) can be divided into two parts; earning to be distributed to the shareholders and earning to be kept in the organization. Earning that are distributed to the shareholders are known as dividend and earning that are kept in the organization are known as retained earnings. Dividend policy determines the division of earnings between payments to stockholders and reinvestment in

the firm. Therefore, the decision regarding how much profit to distribute to the shareholders and how much to keep in the organization is dividend policy.

Commercial banking in Nepal commenced in a formal manner in 1937 with the established of Nepal Bank Ltd. From that day forward banking in Nepal has taken many studies forward with a myriad of banks an multitude of financial products entering the market. The entry of joint venture banks in the country opened the doors to international standard banking services and with it heightened customer expectations.

2.1.2 Forms of Dividend

According to changing needs of corporations dividend is being distributed not only in the form of cash but also in several forms. Some of common forms of dividend are as follows:

i) **cash dividend**

cash dividend is the dividend which is distributed to the shareholders in cash out of the earning of the company. This is the most common form of dividend and most preferred by the shareholders. When cash dividend is distributed both total assets and net worth if the company decrease as cash and earning decrease. The market price of the share drops in most cases by the amount of cash dividend distributed.

ii) **Stock dividend**

Sometimes when there is good investment opportunity for the company and the whole portion of the profit of needed for reinvestment, the company prefers to retain the whole portion of the profit. But in order to satisfy the shareholders the company should also pay the dividend form of stock. Such dividend is called stock dividend. Under stock dividend, stockholders receive a additional share of

the company in lieu of cash dividends.

iii) Bond dividend

When the dividend is paid in the form of bond, it is called dividend. Bond dividends are always interest bearing. These are given when the company unable to take the burden of interest of loans. The bonds can be long term bonds.

iv) Script dividend

Sometimes certificates of dividends are given on which interest is big paid. They are called as script dividends are of short-term nature which are payable in the six months. This dividend is very helpful for the company when there is lack of cash in the company.

v) Interim dividend

Generally dividend is declared in the last of the financial year. This is called regular dividend. Many times directors can declare the dividend before the end of the financial year. This is called interim dividend.

vi) Property dividend

Instead of cash dividend can be given in the form of property. This method of paying dividend is rarely used.

vii) Special dividend

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

viii) Composite dividend

If the dividend is paid partly in the form of cash and partly in the form of property, then the dividend said to be composite dividend.

ix) Optional dividend

Instead of giving composite dividend company can give option to its shareholders to take the dividend in cash or in property.

x) Liquidating dividend

When the dividends are paid in the form of assets, it is called liquidating dividend. The shareholders are provided with assets other than cash. When the company is in the liquidity position, then this sort of dividends is paid.

2.1.3 Factors affecting dividend policy

There are various factors that affect dividend policy. Some factors have positive impact on dividend policy and some have negative impact. The various factors affecting dividend policy are as follows:

i) Legal rules

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

a) If the firms liabilities exceed its assets.

b) If the amount of the dividend exceeds the accumulated profits or retained earnings.

c) If the dividend is being paid from capital invested in the firm. The second type of legal restrictions is unique to each firm and results from restrictions in debt and preferred stock contracts.

ii) Liquidity position

The cash or liquidity portion of the firm influences its ability to pay dividends. When the retained earning of the company is invested in assets then the company will not be in the position to pay dividend. So the greater the overall liquidity of the company, the greater will be the ability to pay the dividend.

iii)   Desire of shareholders

In a closely held corporation with relatively few stockholders, management may be able to set dividends according to the preferences of its stockholders. For example, assume that the majority of a firm's stockholders are in high marginal tax brackets. They probably favor a policy of high earning retention, resulting in eventual price appreciation, over a high payment policy. But in a large corporation whose shares are widely held, it is nearly impossible for a financial manager to take individual shareholders' preferences into account when setting dividend policy.

iv)   Need to repay debt

When the company has to repay debt, then the company has to repay the debt, then the company can do nothing but retain the earning instead of paying the dividend. So in such a case, company cannot pay the dividend to the dividend to the shareholders.

v)   Restrictions in debt contracts

Restrictions in debt contracts may specify that dividends may be paid only out of earnings generated after signing the loans agreement and only when net working capital is above a specified precedence over common stock dividend.

vi)   Rate if asset expansion

When the firm is growing very rapidly, there is the need if expansion of fixed assets for which fund is required. In such a case the firm prefers to retain earning rather then

paying the growing firm need large amount of further then paying the dividend. So growth firms have low payout rations.

vii) Profit rate

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

viii) Stability of earning

The firm which has stable earning is able to pay higher rate of dividend then those firms which do not have stable earning. The firm with stable earning has approximately the same earning next year too. So they can have high payout ratio. But other firms are nit able to predict the next year's earning so they prefer to have low payout ratio and retain more amount for coming year.

ix) Tax position of stockholders

The tax position of stockholders also affects dividend policy. Corporations owned by largely taxpayers in high income tax brackets tend toward lower dividend payout where as corporations owned by small investors tend higher dividend payout.

x) Control

The existing controlling group wanting to continue their position wants to retain more profit paying fewer dividends. If the company raises additional fund selling new common stock, the chances of diluting the control position will increase. Similarly on the other sides increasing loan amount also increase the risk of existing shareholders because of these a company can retain more profit paying less as dividend.

xi) Access to the capital market

2.1.4 Dividend payout schemes

Dividend payout schemes refer to the payment system followed by the companies. Some companies have a policy of paying stable dividend per share whereas some have constant payout and some have a regular plus extra dividend.

Stability or regularity of dividends is considered as a desirable policy by the management of companies. Most of the shareholders also prefer stable dividends because all other things being the same, stable dividends have a positive impact on the market price of the share. By stability , we mean maintaining its position in relation to a trend live Preferably one that is upward sloping. Three of the commonly used dividend policy are:

i) Constant dividend per share

According to this from of dividend, the company follows the policy of paying certain fixed amount per share as dividend . The fixed amount is paid as the dividend irrespective of the firm's earnings. The dividend payment is not affected even if the earning is fluctuated. By following this policy, the company has to pay the dividend even if there is loss. The dividend per share is increased over the years when the earning of the firm increase and it is expected that the new level of earning is maintained.

.ii) Constant pay out ratio

According to this form, constant percentage of earning is paid as dividend by the company to the shareholders since earnings fluctuate . Following this policy necessarily means that the rupee amount of dividends will fluctuate . It ensures that dividends are paid when profits are earned and avoided when it incurs losses.

iii) Low regular dividends plus extras

The policy of paying a low regular dividend plus extras is a compromise between a stable dividend and a constant payout rate . Under this policy ,a firm usually pays a fixed dividend to the shareholders and in years of market prosperity , additional dividend is paid over and above the regular dividend .As soon as the normal condition returns ,the firm cuts extra dividend and pays the normal dividend per share.

2.1.5   Dividend Payment Procedure

Firms usually pay dividends on a quarterly basis in accordance with the following payment procedures.

i)   Declaration date

This is the day on which the board of directors declares the dividend. At this time they set the amount of the dividend to be paid, the holder - of-record date and the payment date.

ii)   Holder-of –record date

This is the date the company opens the ownership books to the determine who will receive the dividend ; the stockholders of record on this date receive the dividend.

iii)   Ex-dividend date

This date is four days prior to the record date. Shares purchased after the ex-dividend date are not entitled to the dividend.

iv) Payment date

This is the day when dividend cheques are actually mailed to the holders of record.

1.6   Legal Rules and Restriction Regarding Dividend Policy in Nepal

Company ordinance 2005 has made some legal provision for dividend payment ; these provision are as follows :

Section 179: (1) Bonus shares may be issued by a company to its shareholders out of the amount available for the distribution of dividend after adopting a special resolution to this effect in the general meeting .

Sub-Section (2) : The Company shall inform the office before issuing bonus shares under subsection (1).

Sub-Section 182: Dividends and Subsection of this section are as follows:

Section (1) except in the following circumstances, the dividend shall be disbursed to the shareholders with in 45 days from the date of resolution approving the payment of dividend.

(a)   If any law has prohibited the disbursement of dividends .

(b)   If the right to receive the dividends is subject to any dispute .

(c)   If the dividends cannot be disbursed within the said period due to any event Beyond the control of the company or any other reason.

Sub-Section (2): A Company wholly or partly owned by Government of Nepal shall distribute dividend only with prior approval of Government of Nepal and Government of Nepal may issue necessary directives in relation to distribution of such dividend.

Sub-Section (3): If dividend is not paid within the period stipulated in sub section (1) the same shall be paid together with the interest at the rate as prescribed.

Sub-Section (4) :The shareholder in whose name the share is registered in the shareholder register at the time of declaration of the dividend or his successor shall be entitled for the payment of the dividend.

Sub-Section (5): A Company shall not pay or distribute dividend except from profits

allocated for the purpose.

Sub-Section(6) : A company shall eliminate pre- incorporation expenses, deduct the amount of deprecation as per the accounting standard prescribed by the competent authority under the law in force and eliminate the accumulated loss in the preceding years before the payment or distribution of dividend out of the profit in a particular year. Provided that a company which is required to transfer any amount out of the profit to certain reserve fund under law in force dividend shall not be distributed unless such amount is transferred to reserve fund.

Sub-Section(7): Subject to the provisions made in this section the board of directors of company may distribute interim dividend out of the profit of previous year in the following conditions.

a.   If there is provision in the articles of association on the distribution of interim dividend.

b.   If the board of directors has approved the annual financial statement certified by the auditor for the relevant financial year on which interim dividend shall be distributed out of the profit.

Sub-Section (8) : A company shall not make payment or distribute any benefit in cash or kind to its shareholders except in the form of dividend approved by the general meeting.

Sub-Section (9): The dividend which remains unclaimed for more than five years after its declaration shall be transferred to Investors protection fund established under section 183.

Sub-Section (10) : A company shall , while depositing unclaimed dividend pursuant to sub –

section (9). In the fund established under section 183.publish a notice in a national daily newspaper giving at least one month notice to collect the unclaimed dividend at least one month prior to the expiry of period as mentioned in sub-section(9).

Sub-Section (11): A company shall create a separate account for depositing the amount of dividend within forty five days of its declaration and shall distribute the dividend from such account and shall not utilize such amount for any other purpose.

2.2   Review of Various Studies

In this section, an attempt has been made to review of the major studies concerning dividends and stock prices and management views on dividend policy. This study draws heavily from these studies to carry it out.

Review of Journals

1.   Walter's Study

James E. Walter conducted a study on dividend and stock prices in 1966 . He proposed a model for share valuation . According to him, the dividend policy of the firm affects the value of the shares .So, the dividends are relevant. He argues that the choice of dividend policies always affect the value of enterprises.

His study shows clearly the importance of the relationship between internal rate of return(R) and its cost of capital (K) in determining the dividend policy.

The assumptions of the Walter's model are as follows:

The firm finances all investment through retained earning. The external funds (i.e. debt, new equity) are not used for new investment.

All earning on the firm's investment (R) and the cost of capital (K) are constant.

All earnings are either distributed as dividend or reinvested internally .

The values of EPS and DPS are assumed to remain constant forever in determining a given value.

The firm has a perpetual or infinite life.

Based on these above assumptions, Walter has given following formula of valuation of equity share.

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

$$or, \quad P = \frac{DPS + r/ke \ (EPS - DPS)}{ke}$$

Where,

    P   =   market value of an equity share

                   (market price per share)

    DPS   =   Dividend Per Share

    EPS   =   Earning Per Share

    r   =   The rate of return on the firm's investment

    ke   =   cost of capital/ capitalization rate

       According to Walter model, the optimum dividend policy depends on the relationship between the firm's internal rate of return (r) and its cost of capital (k).Walter referred different dividend policy for different types of the firm which can be summarized as follows.

Growth Firm (r > k)

Growth firm are those firms, which expand rapidly, Because of ample investment opportunities yielding return(r) is higher than the opportunity cost of capital (k). So, firm's having r>k are referred as growth firms which are able to reinvest earnings at a rate which is higher than the rate expected by shareholders. They will maximize the value per share if they follow a policy of retaining all earnings for internal investment. Thus the correlation between dividend and stock price is negative , and the optimum payout ratio for a growth firm is zero. The market value per share (p) , increases , as payout ratio declines when r>k.

Normal Firm (r =k)

If the internal rate of retain is equal to cost of capital, the dividend payout does not affect the value of share, i.e.dividends are indifferent from stock prices. Such as firm can be called as a normal firm . Whether the earnings are retained or distributed as dividend, it is a matter of indifference for a normal firm. The market price of share will remain constant for different dividend payout ratio from zero to 100. Thus there is no unique optimum payout ratio for a normal firm. One dividend policy is good as other and the market value per share is not affected by the payout ratio when r = k.

Declining Firm (r < k)

If the internal rate of return (R) is less than cost of capital (k), it indicates that the shareholders can earn a higher return by investing elsewhere. In such a case for maximizing the value of shares, dividends also should be maximized. By distributing the entire earning as dividend, the value of share will be at optimum value. In other words, the market value per share of a declining firm with r<k will be maximum when it does not retain earnings at all. The relation between dividends and stock price is positive. The optimum payout ratio for a declining firm is 100 percent and the market value per share increases as

payout ratio increases when r< k .

Criticism of Walter's Model :

No external financing :

This model is based on assumption that the investment opportunities of the firm are financed by retained earnings finance the investment opportunities of the firm only no external financing i.e. debt or equity is used for the purpose. When such a situation exists either the firm's investment or its dividend policy or both will be sub – optimum.

Constant rate of return (R) and opportunity cost of capital (K)

This model assumes that rate of return (R) and opportunity cost of capital or discount rate (k) is constant . In fact ,rate of return (R) changes with increase and decrease of investment . i.e., R decreases as more investment occurs and cost of capital (k) changes directly with the risk borne by the firms.

2. Gordon's Study:

Myron Gordon has developed another popular and important model relating the stock valuation using the dividend capitalization approach. Gordon concludes that dividend policy does affect the value of shares even when the return on investment and required rate of return are equal. He explains that investors that investors are not indifferent between current dividend and retention of earnings with the prospect of future dividends, capital gain and both. The conclusion of this study is that investors have a strong preference for present dividends to future capital gains under the condition of uncertainty. It is assumed that current dividend is less risk than the expected capital gain. His argument stresses than an increases in dividend payout ratio leads to increases in the stock price for the reason that

investors consider the dividend yield (D1/P0) is less risky than the expected capital gain.

Gordon's model is also described as **"a bird in hand argument".** It supports the arguments which is popularly known as a bird in hand is worth two in the bush. What is available at present is preferable than what may be available in the future. That is to say current dividends are considered certain and riskless. So it is preferred by rational investors as compared to deferred dividend in future. The future is uncertain. The investors would naturally like to avoid uncertainly. So the current dividends are given more weight than expected future dividend by the investors. So the value per share increases if dividend payout ratio is increasing. This means there exists positive relationship between the amount of dividend and stock prices.

Basic assumptions of this model are as follows.

The firm uses equity capital only.

Internal rate of return (r) and cost of capital (ke) are constant.

The firm and its stream of earnings are perpetual.

There is no taxes on corporate income.

The relation ratio (b) once decided upon is constant. Thus the growth rate, (g=br) is constant forever.

'Ke' must be greater than (g=br) to get meaningful value.

The source of financing fro new investment is only retained earning. No external financing is available.

Gordon's model is also known as GROWTH MODEL. The formula for finding out the market per share proposed, by Gordon is given below.

$$P = \frac{E(l\text{-}b)}{ke\text{ -}br} = \frac{E(l\text{-}b)}{ke\text{-}g}$$

Where,

P= Price of share/ market value per share

E= Earning per share

b= Retention ratio/ percentage of retained earning

l-b= Dividend payout ratio(i.e. percentage of earning distributed as dividend)

ke= Capitalization rate / cost of capital

br= g or growth rate in r, (i.e., rate of return on investment of an all equity firm)

1st case: Growth Firms (r>k)

In the case of growth firm, the value of a share will increase as the retention ratio (b) increases and the value of a share decrease as the retention ratio (b) decreases. i.e. high dividend corresponding to earnings leads to decreases in share prices and low dividend corresponding to earning leads to increase in share prices. So, dividends and stocks prices are negatively correlated in growth firm i.e., r>k firm.

2nd Case: Normal firms: (r=k)

Dividend payout ratio does not affect the value of share in normal firm. In other words. Share value remains constant regardless of change in dividend policies. It means dividend and stock price are free from each other in normal firm i.e., r=k firm.

3 rd Case: Decline Firms: (r<k)

In case of declining firms, share price tends to enhance with increase in payout ratio, l-b, or

decrease in retention ratio, b. so, dividends and stock prices are positively correlated with each other in decline firm i.e., r<k firm.

3. Modigliani and Miller Study:

The most comprehensive arguments supporting the irrelevance of dividend is propounded by Modigliani and Miller in 1961. This is popularly known as MM approach. It is sometimes termed as Dividend Irrelevance Model.

According to MM, dividend policy of a firm is irrelevant as it does not   affect the wealth of the shareholders. They argue that the value of the firm depends on the earning power of the firm's assets or its investment policy. Thus, when the investment policy is given the dividend decision-splitting the earning into packages retentions and dividends does not influence the value of equity shares. In other words the division of earning between dividend and retained earnings is irrelevant from shareholders viewpoint.

In general, the argument supporting the irrelevance of dividend valuation is that dividend policy of the firm is a part of the financing decision of the firm, the dividend policy of the firm is a residual decision and dividends are passive residual.

The MM approach of irrelevance dividend is based on the following critical assumptions:
The firms operate in prefect capital market where all investors are rational. Information is freely available to all. Securities are infinitely divisible and no investor is large enough to influence the market price of securities.
There are no flotation costs. The securities can be purchased and sold without   payment of any commission or brokerage etc.
Taxes do not exist.

The firm has a definite (fixed) investment policy, which is not subject to change.

Risk of uncertainty does not exit. Investors are also able to forecast future prices and dividends with certainty, and one discount rate is appropriate for all securities and all time periods. Thus **r=k=kt** for all time.

M-M provide the proof in support of their argument in the following manner.

Step-one,

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

Symbolically,

$$P_o = \frac{D_1 + P_1}{1 + K_e} \quad \text{.............................(1)}$$

Where,

P_o = Current market price of a share (market price at the beginning or at the zero period.)

K_e = The cost of equity capital (Assumed constant)

D_1 = The dividend per share to received at the end of the period one.

P_1 = The market price of the share at the end of the period one.

Step-two,

Multiply both sides of equation (1) by the number of shares outstanding (n) to obtain the total value of the firm if no new financing exists.

$$np_o = \frac{n(D_1 + P_1)}{1 + k_e} \quad \text{...............................(2)}$$

Where,

n = no. of outstanding shares at zero period.

Step- three

If the firm issues (sells) number of new shares (m) to finance the new investment needs of the fund at a price of P_1, the value of the firm at time zero will be:

$$np_o = \frac{n(D_1+P_1)+(mp_1+mp_1)}{1+k_e}$$

$$np_o = \frac{nD_1+P_1+mp_1 - mp_1}{1+k_e} \quad ....(3)$$

Where,

n= no. of shares at the beginning (no. of outstanding shares at zero period.)

m= no. of equity shares issued at the end of the period.

Step-four,

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

$Mp_1 = 1-(E-nD_1)$

Or, $mp_1 = I - E + nD_1$............. (4)

Where,

I = Investment needs

E = Earning available

Step-five

By substituting the value of mp_1 from equation (4) to equation (3), we get,

$$np_o = \frac{nD_1 + (n+m)p_1 - I + E - nD_1}{1+k_e}$$

$$\text{or, } np_o = \frac{nD_1 + nP_1 + mp_1 - I + E - nD_1}{1+k_e}$$

$$\text{or, } np_o = \frac{p_1(n+m) - I + E}{1+k_e} \quad \text{........................(5)}$$

Step-six

Conclusions: Since dividend does not appear directly in expression and E, I, $(n+m)p_1$ and k_e are assumed to be independent of dividend.

In other words, MM conclude that dividend policy is irrelevant and dividend policy has no effect in the value of the firm. A firm that pays dividends will have to raise funds externally to finance its investment plans. MM hold that when the firm pays dividends, external financing offsets its advantage.

It does not seem so relevant to apply MM approach in Nepalese Context because when we apply this approach, the assumptions supposed by MM are significantly deviated. In Nepal, we are unable to find the rational investors as well as perfect capital market, which are considered by MM. It does not seem so sound to neglect the flotation cost, transaction cost and tax effect on capital gain as neglected by MM. Arbitrage arguments as explained by MM applies only when there are very sensitive investors and which are lacking in Nepal. A conscious investor always finds different between dividend and retained earning, and generally, Nepalese investor also prefer dividends more than retained earnings, when dividend is distributed. Thus, MM proposition is not relevant in the cause of Nepal.

4. Deepak, Chawala and G. Srinivasan Study

The studied the impact of dividend and retention on share price. They selected 18 chemicals and 13 sugar companies and estimated cross-sectional relationship for the years 1969 and 1973. They collected the required data from the official directory of Bombay stock exchange. They used two stages least square technique for estimation. They also used lagged, earnings price ration instead of lagged price earnings ratio, i.e. $P/E_{(t-1)}$.

The followings were the prime objectives of their study.

To test hypothesis of dividend and retained earnings.

To estimate a model to explain share price, dividend and retained earnings relationship.

To examine the structural changes in estimated relations over time.

In order to achieve (attain) these objectives, they used simultaneous equation model as developed by Friend and Puckett (1964). The following was the model in its unspecified from.

Price function,

$$P_t = f\left[D_t, R_t, P/E_{(t-1)}\right]$$

Dividend supply function,

$$D_t = f\left[E_t, D_{(t-1)}, P/E_{(t-1)}\right]$$

Identity,

$$E_t = D_t + R_t$$

Where,

P = market price per share.

D = Dividend per share

R = Retained earning per share

E = Earning per share (D+R)

P/E = Deviation from the sample,

(Average of price earning ratio)

t = subscript of time.

It was found, from the result of their two stages least square estimation, that the estimated coefficients had the correct sign and the coefficients of determination of all the equations were very high in case of chemical industry. It implies that the stock price and dividend supply variation can be explained by their independent variables. But in case of sugar industry, they found that the sign for retained earnings in negative in both years and left for further analysis of sugar industry.

In was observed that the coefficient of dividend was very high as compared to retained earnings for chemical industry. The also found that coefficient of dividend was significant at one percent level in both years whereas coefficient of retained earnings was significant at ten percent level in 1969 and one percent level in 1973.

Finally, they concluded that dividend hypothesis holds good in the chemical industry. Both dividend and retained earnings significantly explain the variation in share price in chemical industry. They also stressed that the impact of dividend is more pronounced than that of the retained but the market has started shifting towards more weight for retained earnings.

5. Linter's Study:

Linter made an important study on corporate dividend policy in the American context in 1956. He investigated a partial adjustment model as he tested the dividend patterns of 28 companies. According to John Linter's study, dividends are 'sticky' in the sense that they are

slow to change and lay behind sifts in earnings by one, or more periods. According to J. Linter, dividend is a function of earnings of that year, existing dividend rate, target payout ratio and speed of adjustment. The followings were the basis objectives of the study.

To identify occasions when a change in dividends might well have been under active consideration even though no change was made.

To determine the factors which existed most actively into dividends.

He concluded that a major portion of a firm's dividend could be expressed in the following manner.

$$DIV_t^* = PEPS_t \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(1)$$

$$\text{and } DIV_t - DIV_{t-1} = a + b \ (DIV_t^* - DIV_{t-1}) + e_t \ \dots\dots\dots\dots\dots\dots\dots(2)$$

Adding DIV_{t-1} on both sides of equation (2)

$$DIV_t = a + b \ DIV_t^* + (1-b) DIV_{t-1}) + e_t \ \dots\dots\dots\dots\dots\dots\dots\dots\dots(3)$$

Where,

DIV_t^* = Firm's desired payment

EPS_t = earnings

P = Targeted payout ratio

a = constant relating to dividend growth

b = adjustment factor relating to the previous period's dividend and new desired level desired level of dividends where, b<1.

The major findings of this study were as follows:

Firms generally think in terms of proportion of earnings to be paid out.

In order to modify the pattern of dividend, investment opportunities. Liquidity position, funds flows are not considered.

Firms generally have target pay out ratios in view while determining change in dividend rate or dividend per share.

6. Van Horne and Mc-Donald's Study

Van Horne and Mc-Donald conducted a most 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.

Empirical rests are performed with year end 1968 cross sectors for two industries, using a well-known valuation model. For there investigation, they employed two samples of firms viz. the 86 electric utilities in the continental U.S. which are included on the COMPUSTAT utility data tape; and 39 companies in the electronics and electric component industries as listed on the COMPUSTAT industrial data tape in 1968.

They performed empirical study by testing two regressions for the electric utilities and one regression model for electronics and electronic companies industry.

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 earnings.

They also indicated that the "Cost" disadvantages of new equity issues relatives to retained earnings widens as relatively large amounts of new equity are raised, so that the payment of

dividends through excessive equity financing reduces share prices. For forms in the electronics- electronic component industry, a significant relationship between new equity financing and value was not demonstrated.

R. Michaely, Richard H. Thaler & Kent L. Womack Study

A study regarding 'Price Reactions to Dividend Initiations & Omissions' was conducted by R. Michaely, Richard H. Thaler & Kent L. Womack in 1995. They investigated the immediate and long-term effects of dividend initiation & omission announcements. They found that the short-run price impact of dividend omissions was negative and that of initiations was positive. Initiation reactions were about one-half the magnitude of the market reaction to omission announcements. They change in yield, however, was about seven times larger for the omission announcements. They saw that the market reaction to a dividend omission announcements was no greater than to an initiation for a given change yield.

Friend and Puckett's Study

Irwin Friend and Marshall Puckett have conducted a study about the relationship between dividends and stock prices. They used the regression analysis on the data of 110 firms from five industry samples, viz., chemicals (n=20), electronics (n=20), electric utilities (n=25), foods (n=25) and steels (n=20), in each of two years 1956 and 1958. The industries were selected to permit a distinction to be made between the results for growth and non-growth industries and to provide a basis for comparison with results by other authors for earlier years. Both cyclical and non cyclical industries were covered. The periods covered included a boom year for the economy when stock prices leveled off after a substantial rise (1956) and a somewhat depressed year for the economy when stock prices, however, rose strongly (1958).

They used two-regression model of price function and dividend supply function. In price function, dividends, retained earnings & price earnings ratio are independent variables, whereas earnings, last year's dividends and price earnings ratio are independent variables in dividend supply function. Symbolically, their price function and dividend supply function can be written as:

Price function; $P_t = a + b\,D_t + cR_t + d\,(E/P)_{t-1}$

Where,

P_t = Per share price at time t

D_t = Dividends at time t

R_t = Retained earnings at time t

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

And, dividend supply function;

$D_t = e + f\,E_t + gD_{t-1} + h(E/P)_{t-1}$

Where,

E_t = Earnings per share at time t

P_{t-1} = last year dividend

The followings were the basic assumptions of their study.

Dividends do react to year-to-year fluctuations of their study.

Price does not contain speculative components.

Earnings fluctuations may not sum zero over the sample.

The regression $P_t = a + b\,D_t + cR_t$ presents the usual simple linear relationships between average prices and dividends and retained earnings to show with the data. They found the customary strong dividend and relatively weak retained earnings effect in three of five

industries .i.e., chemicals, foods and steels.

By adding lagged earnings price ratio to the above equation, they got the following results.

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

They tested this equation and found the following results.

Dividends have a predominant influence on stock prices in the same three out of five industries bur the differences between the dividends and retained earnings coefficients were not quite so market as in the first set of regressions. The dividends and retained earnings coefficients were closer to each other for the industries in both years expect for steels in 1956 and the correlations are higher, again expect for steels. The also calculated the dividend supply equation, i.e.,

$D_t = e+f\ E_t + gD_{t-1} + h(E/P)_{t-1}$ and derived price equation for four industry groups in 1958. The derived price equation show no significant changes from those obtained from the single equation approach as explained above, reflecting the fact that stock price, 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, in three of the four cases tested, the retained earnings effect is increased relatively. Moreover, their result suggested that price effects on dividend supply are probably not a serious source of bias in the customary derivation of dividend and retained earnings on stock prices, through such a bias might be masked if the distributing effects of short run income movements are sufficiently great.

Further, they used lagged price as a variable instead of lagged earnings price ratio. They found that retained earnings received greater relative weight than dividends in the majority of the cases. The only exceptions were steels and foods in 1958. Chemicals, electronics and

utilities were considered as growth industries and the retained earnings effect was larger than the dividend effect for both years covered. For the other two industries (steels and foods) there no longer seems to be any significant systematic differences between the retained earnings and dividend coefficients.

Similarly, they tested the regression of $P_t = a + b\,D_t + cR_t$ by using normalized earnings again. They obtained normalized retained earnings by subtracting dividends from normalized earnings. That normalization procedure was based on the period 1950-61. Again, they added prior year's normalization earnings price variable and they compared the result. Comparing the result, they found that there was significant role of normalized earnings and retained earnings but later equation, they found that the difference between dividend and retained earnings coefficients disappeared. Lastly, they come to know a conclusion that management might be able to increase prices somewhat by raising dividends in foods and steel industries.

At last, Friend and Puckett found a conclusion that, it is possible that management might be able, at least in some measure, to increase stock prices in non growth industries by raising dividends, and in growth industries by greater retention i.e. smaller (lower) dividends.

2.2.2 Review of Articles

Dr. Radhe Shyam Pradhan's Study

Dr. R.S. Pradhan has conducted a study on Small Market Behaviour in A Small Capital Market: A case of Nepal in 1993. It is pertinent to put forth here because he has analyzed various ratios related to dividend and market price of shares. The study was based on the pooled-cross sectional data of 17 enterprises covering the year between 1986 to 1990.

The objectives of this study were as follows.

To assess the stock market behaviour in Nepal.

To examine the relationship of market equity, market-value to book-value, price-earning, and dividends with liquidity, profitability, leverage, assets turn over and interest coverages.

The following model was employed.

$$V = b_0 + b_1 \text{LIQ} + b_2 \text{LEV} + b_3 \text{EARN} + b_4 \text{TURN} + b_5 \text{COV} + U_i \ldots\ldots\ldots$$

The dependent variable, V chosen for the study has been are specified as under:

Market equity, number of shares multiplied by market price of share (ME).

Market value of equity to its book value (MV/BV)

Price-earning ratio (PE)

Dividend per share to market price per share (DPS/MPS)

Dividend per share to earning per share (DPS/EPS)

The independent variables are specified as:

LIQ= Current ratio (CR) or Quick or Acid-test ratio (QR)

LEV= Long-term debt to total assets (LTD/TA) or long-term debt to total capitalization (LTD/TC). Total capitalization is specified as long-term debt plus net worth.

EARN= Return on assets, that is earnings before tax to total (ROA) or return on net worth, that is earnings before tax to net worth (RONW).

COV= Interest coverage ratio, that is earnings before tax to interest.

TURN= Fixed assets turnover, that is sales to average fixed assets (S/FA) or total assets turnover, that is sales to average total assets (S/TA).

U= Error term

Some findings of his study, among others were as follows:

Stocks with larger ratio of dividend per share to market price per share have higher liquidity. Liquidity position of stocks paying lower dividends is also more variable as compared to stocks paying higher dividends.

Stocks with larger ratio of dividend per share to market price per share have lower leverage ratios. So, leverage ratios of stocks paying smaller dividends are also more variable as compared to stocks higher dividends.

Stocks with larger ratio of dividend per share to market price per share also have higher earnings. But these earnings ratios of stocks paying larger dividends are also more variable as compared to stocks paying smaller dividends.

Positive relationship is observed between the ratio of dividend per share to market price per share and turnover ratios. Stocks with larger ratio of dividend per share to market price per share also have higher turnover ratios. Turnover ratios of stocks paying larger dividends are also more variable than that of stocks paying smaller dividends.

There is also a positive relationship between the ratio of dividend per share to market price per share and interest coverage. Stocks with higher ratio of dividend per share to market price per share also have higher interest coverage. Interest coverage of stocks paying larger dividends are also more variable as compared to stocks paying smaller dividends.

So, in conclusion, it indicates positive relationship of dividend per share to market price per share with liquidity, profitability, assets turnover and interest coverage; and negative relationship with leverage.

Also Dr R.S. Shrestha has conducted a study on **financial Management Practices in Nepal in 1994.**

The main objectives of the study were:

To survey financial management practice concerning finance function, sources and types of financing debt ratios and debt limits, financing preferences at the margin, tax and distress effects, relationship of enterprise with the banks and dividend policy.

To examine stock market behavior in Nepal by analyzing the relationship of market equity, market value to book value of equity, price earning and dividends with liquidity, leverage, profitability turnover and interest coverage.

To find out the degree of consensus among decision makers on the use of selected financial ratios for predicting financial distress.

To determine the major causes, signals and symptoms of financial distress including measures to be adopted to rehabilitation industries under financial distress.

Some conclusions of the study among others were as follows:

Non traded sector has a higher dividend, price earning ratio as compared to traded sector. One of the important reasons to retain earnings for the traded sector is that company doesn't want to dilute control from selling stocks to outsiders while non-traded sector enterprises retain as the find it hard to convince outsiders about the profitability of investments.

Larger stocks have price earnings ratios, larger ratios of market value to book value of equity and smaller dividends. However, price earning ratios and dividends ratios are more variable for smaller stocks whereas market value to book value of equity is more variable for larger stocks.

Smaller dividends, lower profitabilities , lower assets turnover and lower interest coverage

for larger stocks may be attributed to the fact that most of larger stocks are at their initial stage of operation.

Stocks with larger market value to book value of equity have larger price earnings ratios are more variable for stocks with larger market value to book value ratios and dividend ratios are more variable for stocks with smaller market value to book value.

Stocks paying higher dividends have higher liquidity, lower leverage, higher earnings, higher turnover and higher interest coverage. However, liquidity and leverage ratios are more variable for the stocks paying lower dividends while earnings, assets turnover, and interest coverage are more variable for the stocks paying higher dividends.

Dr. Manohar Krishna Shrestha's Study

Dr. M.K. Shrestha has written an articles about **'Public Enterprises: Have They Dividend Paying Ability?** Which was published in the book 'PRASHASAN (30th issue) in march 1981. It gives short glimpse of the dividend performance of some public enterprises of that time in Nepal. Dr. Shrestha has highlighted (focused) the following issues in the article.

GON wants two things from the public enterprises:

They should be in a position to pay minimum dividend & Public enterprises should be self-supporting in financial matters in future years to come.

But these both objectives are not achieved by public enterprises.

One reason for this inefficiency is caused by excessive government interference over daily affairs even though there is provision of government interference only for policy matters. On the other hand, high-ranking officials of GON appointed as directors of board do nothing but simply show their bureaucratic personalities, Bureaucracy has been the enemy of

efficiency and thus led corporation to face losses. Losing corporations are, therefore not in a position of pay dividends to government.

The another reason of this is the lack of self-criticism and self-consciousness. Esman [12] has pointed out that lack of favourable leadership is one of the biggest constraints to institution building. Moreover corporate leadership come, as managers are not ready to have self-criticisms. In fact, all so called managers of corporations have not been able to identify themselves regarding what they can contribute as managers of corporations. So GON must be in a position to develop a financial target on corporate investment by imposing financial obligation on corporations.

The article points out the irony of government biasness that government has not allowed banks to adopt an independent dividend policy and GON is found to have pressurized on dividend payment in case of Nepal Bank Limited regardless of profit. But, it has allowed Rastriya Banijya Bank to be relieved from dividend obligation despite considerable profit.

The improvement suggested by authors are:

Adopt-a criteria- guided policy to drain resources from corporations through the medium of dividend payment.

Realization by managers about the cost of equity capital and dividend obligation.

If GON wants to tap resources through dividend, the following criteria should be followed.

Proper evaluation of public enterprises interns of capability of paying dividend through corporation coordination committee.

Imposition of fixed rate of dividend by government on financially sound public enterprises.

Circulating the information about minimum rate of dividend to all public enterprises.

 Specifying performance targets in terms of profit, priorities on timings and plans and development of strategic plans that bridges the gap between aspiration and reality.

Identification of corporation objectives in Corporations Act, Company Act or special charters so as to clarify public enterprise managers regarding their financial obligation to pay dividend to GON.

Shareholder's Democracy and Annual General Meeting Feedback' by Dr. M.K. Shrestha is one of the most important book that deal with the policies and financial performance of some financial companies.

In this book, a paper presented by Dr. Shrestha on the occasion of 5th annual general meeting of Nepal Arab bank Limited (NABIL) is also contained. He opines, on his paper, that the shareholders have common views on the problems and constraints of the shareholders.

Although it is not directly related to my sample banks, I think it is pertinent to review and present this paper in this study. Among the joint venture banks in Nepal, it is found that NABIL seems to be more conscious for protecting shareholders' interest as evidenced by the annual general meeting report. In the 5th annual general meeting of NABIL, the management presented the following points on the problems and constraints of shareholders.

The cost-push inflation at exorbitant rate has made. The shareholders to expect higher return from their investment.

Multiple decrease in the purchasing power of the Nepalese currency to the extent that higher return by way of dividend is just a natural economic consequence of it.

Erosion in the purchasing power of the income has made it clear that dividend payment

must be directed to enhance shareholders' purchasing power by raising dividend payout ratio on the basis of both earnings and cost theory.

Indo-Nepal trade and transit deadlock has become a sort of economic warfare putting rise in the cost of living index to a considerable extent. This is one of the reasons, which made shareholders to expect higher demand for satisfactory dividend.

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

One way to encourage risk-taking ability and preference is to have proper risk-return trade off by bank's management board in a way that higher return must be the investment rule for higher risk-takers that comprise bank's shareholders.

In the years 1992, the bank had paid 60% (40% stock dividend and 20% cash dividend) of its profit as dividend to the shareholders to satisfy their needs and 40% of earnings was retained to retain to refinance for the internal growth of the bank. However, dividend growth rate is not equal to the growth rate of earnings.

Kamal Das Manandhar's Study:

Kamal Das Manandhar Study has carried out latest study on the topic of "Bonus share and dividend changes empirical analysis in Nepalese context" based on the data collected for the years from 1987/88 to 1997/98. The analysis covers 35 observations per bonus divided rate and 29 samples of the Nepalese corporate firms selected from the listed corporate firms in NEPSE. The sample corporate firms include 5 from banking, 3 from insurance and finance company and 4 from manufacturing, trading and airlines.

The study is made to analyze the actual dividends behavior of Nepalese corporate firms after

an issue of bonus share. Moreover, there some specific research questions.

Is quantum of the dividends increase directly related to ratio of bonus issue?

Is there may any association between dividend rate and bonus issue?

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

The announcement of bonus share issue has a significant impact in market price of share which ultimately the wealth of the stockholders.

In over all, corporate management have not found considering its effect on dividend distribution in future as reflected by absence of the systematic playing practice before and after bonus share issue.

There is no systematic policy of dividend distribution after the issue.

There is diversity in the increase in dividend rate and the total dividend payment after bonus issue. Which means dividend increase doesn't follow the bonus share issues in Nepalese corporate firm's dividend behavior.

The relationship between existing dividend and various ranges of bonus share issue ratio is not found significant in Nepalese corporate firms.

2.2.3 Review of Thesis

1. Rishi Raj Gautam's Study:

Rishi Raj Gautam has conducted a research on " Dividend policy of Commercial Bank. A comparative study of NGBL, NIBL and NABIL" in 1998. The study is based on secondary data.

The main objectives op his research are :

To identify what type of dividend policy is being followed and find out whether the policy

followed is appropriate or not.

To study the impact of dividend on stock price.

To study the relationship between DPS and other financial indicators.

To known if there is any uniformity among DPS, EPS and DPR of the three commercial banks sampled.

Major Findings are:

No commercial banks sampled seem to be guided by clearly define dividend strategy inspite of the good earnings and potential.

Shares of the financial instution are actively traded.

Commercial banks represent a robust body or perfect earnings organization in comparosions to the other sectors such as manufacturing, trading etc.

There is significant relationship perceives between earning and dividend of expansion program.

Prerana Laxmi Raj bhandari's study

Prerana Laxmi Raj Bhandari has conducted a study on dividend policy in 2001 taking three commercial banks and three insurance companies through data collected from 1994/99.

The main objectives of her research are:

To examine the relationship between dividend and market price of the stock.

To analyze the relation between dividend policy decision of the bank and insurance companies.

To identify the appropriate dividend policy followed by the banks and insurance companies.

Major findings are:

The average DPS of the sample banks except NABIL and EPS are satisfactory.

The analysis of dividend payout ratio shows that none of the banks or insurance companies

have constant payout ratio each year. It is fluctuating from year to year.

The analysis of coefficient of variation shows that there is the largest fluctuation in EPS and DPS. Other companies seem to be relatively more consistent.

3. Pujan Dhungel:

Pujan Dhungel has conducted a thesis on " Dividend Policy of the Commercial Banks in Nepal" on september 2004.

The main objectives of his research are:

To study whether the commercial banks are following the suitable dividend policy or not.

To study whether the dividend policy affects the value of the firm or not.

To compare the dividend policy followed by different commercial banks chosen.

To study the relationship of dividend policy with various financial indicators like EPS, DPS, MPS, DPR, Net worth, Net profit and book value of share.

Major findings are:

None of the sample banks are following suitable dividend policy except SCBNL.

The regression analysis of DPS on MPS shows that increase in MPS leads to decrease in DPS in all the sample banks except SCBNL.

There is positive relationship between EPS and MPS in all the banks except in case of SBIBC.

Change in dividend per share affects the value of share differently in different banks.

4. Kishori Budathoki.

Kishori Budathoki carried out a research on " Dividend Policy of the Commercial Banks In Nepal." On may 2006. The main objectives of her research are:

To highlight the dividend practices of commercial banks.

To compare the dividend policy followed by different commercial banks chosen.

Major findings are:

There is not fixed consistency between financial variable i.e. EPS, MPS, DPS, DPR, P/E Ratio, EY and DY.

Dividend practices of all sample banks are neither stable nor constantly growing. Haphazard way of distribution in growing trend is observed.

Changes in DPS affect the market price per share differently in different banks.

5. Rabindra Shrestha

Rabindra Shrestha has researched with the title " Effect of dividend policy on market price of the stock of Nepalese commercial banks" on July 2006. Taking data through 2057-2061. The main objectives are:

To find out the impact of dividend policy on market price of stock.

To analyze the variables such as profit, retained earning, growth rate and other relevant variables to show relationship between the value and other ingredients affecting it.

To analyze if there is any uniformity among DPS, EPS, MPS and DPR in the sample firms and the relation between them.

Major findings are:

Market price per share of every financial institution has fluctuating nature as indicated by

standard deviation.

There is positive relationship between MPS and DPS and MPS and EPS in case of NSBIL, SCBL, HBL, NBBL, NBL and BOKL.

Most of the financial institutions stock prices are highly depend in fluctuations of EPS.

The customary strong EPS and relatively week lagged DPS effect in DPS in all firms.

There is greater influence of DPS rather than EPS to MPS in all the sample firms observed.

6. Saraswati Kharel

Saraswati Kharel conducted her studies on "Dividend Policy of Commercial Banks with respect to Nepal Arab Bank Ltd., Himalayan Bank Ltd and Bank of Ktm. Ltd." Base on the data collected for the years from 2000/01 to 2004/05.

The main objectives are:

To analyze the prevailing dividend practices of sample banks.

To analyze and evaluate the application of dividend decision in the selected banks.

To analyze the relationship of dividend with earning per share, net worth, net profit, market price and book value per share.

Major findings are:

DPS of the commercial banks in average shows that there is no regularity in dividend payment.

Banks should pay proper attention to enhance their percent of cash dividend on paid up value.

From the regression analysis it can be conclude that a chance in DPS affects the share price differently in different banks.

Payment ratio affects stock price differently in different banks.

.

2.3 Research Gaps

In this study, I have taken new journals and articles from different journalists which are related to dividend policy that helps to know about dividend decision and its effect on financial indicators, relationship among them and shows a glance of actual dividend behavior in Nepal. Furthermore, the study has taken up five years latest data with due consideration of EPS, DPS, DPR, MPS etc. and data are different from those of previous in term of time and space. So, it has been believed that this study will be different and comprehensive compared to previous study.

CHAPTER - III

3.0 RESEARCH METHODOLOGY

3.1 Introduction

Research methodology is a way to solve the research problem systematically .This is the steps , guidelines ,and tools used in the research by the researcher. It considers the logic behind the methods used in the context of research study and explains why particular method or technique is used.

Really ,it is one of the most important part of the research which provides outlines of the research and also present method and process of entire research . It highlights about how the research problem has been defined, what data have been collected , what particular method has been adopted , why the hypothesis has been formulated etc .

3.2 Research Design

The research design is more descriptive because secondary data have been used to analysis the using variables which is related to dividend policy of the commercial banks.

The annual reports published by the relative banks and statements of the banks published by NEPSE are used in this research. So the research is both analytical and descriptive. The data are analyzed by using financial and statistical tools.

3.3 Sources of Data Collection

The researcher can used two method of data collection ie. Primary and Secondary data . Secondary data are used for the study .

The required data for the analysis are collected annual report provided by the concerned banks . Supplementary data and information are collected from number of institution and authorities i.e. Security Exchange Board of Nepal , Nepal Stock Exchange Limited ,Central Library T.U, Shanker Dev Campus Library . Various data and information are also collected from the journals , periodical bulletions , magazines , newspapers and internet .

3.4 Populations and Sampling

There are many banks whose shares are traded actively in stock market , hence it is not possible to study all of them regarding the study topic . Therefore , sampling will be done selecting from population . The populations are as follows:

Nepal Bank Ltd.

Rastriya Banijya Bank

NABIL Bank Ltd.

Nepal Investment Bank Ltd.

Standard Chatered Bank Nepal Ltd.

Himalayan Bank Ltd.

Nepal SBI Bank Ltd.

Nepal Bangaladesh Bank Ltd.

Everest Bank Ltd.

Bank of Kathmandu Ltd.

Nepal Credit and Commerce Bank Ltd.

Lumbini Bank Ltd.

Nepal Industrial and Commercial Bank Ltd.

Machhapuchhre Bank Ltd.

Kumari Bank Ltd.

Laxmi Bank Ltd.

Siddhartha Bank Ltd.

Agriculture Development Bank Ltd.

Global Bank Ltd.

Citizens Bank International Ltd.

Prime Commercial Bank Ltd.

Bank of Asia Nepal Ltd.

Sunrise Bank Ltd.

The selected samples are as follows;

Nepal Investment Bank Ltd.

Standard Chatered Bank Nepal Ltd. and

Nepal SBI Bank Ltd.

3.5 Method of Analysis

Various statistical and financial tools are used in this study. Wide varieties of methodology have been applied according to the reliability and consistency of data. Before using the analytical tools to compare the result, the data containing in the financial statements have been grouped and rearranged so as to make comparison easy. For the purpose of analysis the data of five years were taken as sample from 2002 to 2007.

Analysis of Financial Indicators and Variables

Divided per Share (DPS)

DPS indicates the portion of earning distributed to the shareholders on per share basis and calculated by dividing the total divided to the total divided to equity shareholders by the total no of equity share outstanding.

$$DPS = \frac{Total\ Dividend\ to\ ordinary\ shareholders}{No.\ of\ common\ stock\ outstanding}$$

Dividend in percent

The ratio of dividend per share to the paid up price ordinary share is called divided percent.

$$Divided\ percent = \frac{Divided\ per\ share\ (DPS)}{Paid\ up\ price\ per\ share}$$

Dividend Payout Ratio (DPR)

It is the percentage of the profit on share that is distributed as dividend. This ratio indicates what percentage of profit is distributed as dividend and what percentage of profit is retained

for the growth of the company. It is calculated as;

$$DPR = \frac{Dividend\,Per\,Share,\,DPS}{Earning\,Per\,Share}$$

And,

Retention ratio = 1- DPR

Earning Per Share (EPS)

EPS is the ratio of net profit after taxes to number of equity shares outstanding. It measures the return on each equity shareholders. It is calculated to determine the earning capacity of the company. It is calculated as:

$$EPS = \frac{Net\,profit\,after\,taxes}{No\,of\,common\,stock\,outstanding}$$

Price Earning Ratio (PE Ratio)

P/E ratio is the ratio between market price per share and earning per share. It reflects the price currently paid by the market for each rupees of currently reported earning per share. It is calculating by dividing the market value per share by earning per share.

$$P/E\,ratio = \frac{Market\,value\,per\,share\,(MVPS)}{Earning\,value\,per\,share\,(EPS)}$$

Earning Yield and Dividend Yield

Earning Yield and dividend yield both are expressed in terms of market value per share. Earning yield and dividend yield are two important profitability ratios from the point of view of the ordinary shareholders. Earning yield can be calculated as the ratio of earning per share to the market value per ordinary share.

$$Earning\,yield = \frac{Earning\,Per\,Share}{Market\,Value\,Per\,Share}$$

Similarly the dividend yield indicates the relationship between dividend per share and market value per share. It is calculated as:

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

Market price per share (MPS)

MPS refers to the rupees value of one share that is being transaction in the NEPSE. This is affected by DPS of the firm .The capital market determines MPS.

Statistical Tools

Mean or Average (x)

Mean or average is the set of observations that represent the entire data. Generally the average value lies somewhere in between the two extremes. For this reason mean is frequently referred to as a measure of central tendency.

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

Where,

ΣX = sum of the sizes of the items.

N = number of items.

Standard Deviation

The measurement of the scatter ness of the mass of figures in a series about an average is known as dispersion. The standard deviation measures the absolute dispersion of a distribution. The greater the amount of dispersion, greater the standard deviation. A small standard deviation indicates high degree of uniformity of the observation as well as homogeneity of a series and a large standard deviation indicates low degree of uniformity. It is calculated for selected dependent and independent variables specified in the analysis

model. It is usually denoted by the Greek Letter σ (sigma)

$$\text{Standard deviation } (\sigma) = \sqrt{\frac{\Sigma (x-\bar{x})^2}{N}}$$

Where,

N = number of items in the series

$\bar{x}$ = mean

x = variable

Coefficient of Variation

The coefficient of variation is the relative measure of dispersion, comparable across which is defined as the ratios of the standard deviation to the mean expressed percentage.

Co-efficient of Correlation

Co-efficient correlation may be defined as the degree of linear relationship existing between two or more variables. From the theory of correlation, the analysis is can study the comparative changes occurring in two related phenomena and their cause effect relation can be examined. In this study, the data related to dividend over the different years will be tabulated and their relationship between them will be drawn out with the help of Co-efficient of correlation. The equation for the coefficient of correlation is as follows:

$$\rho_{xy} = \frac{Cov\,(x,y)}{\sigma x\, \sigma y}$$

where,

$$\rho_{xy} = \pm 1$$

$$cov\,(x,y) = \frac{1}{n}\ \Sigma_{t=1}^{n}(X-\bar{x})\,(Y-\bar{Y})$$

$$\sigma x = \sqrt{\frac{1}{n}\sum_{t=1}^{n}(X-\bar{x})^2}$$

square root$(1/n \Sigma$ t=1 to n(y-y^{-2})

$$\sigma y \;=\; \sqrt{\frac{1}{n}\sum_{t=1}^{n}(Y-\overline{Y})^{2}}$$

ϱ_{xy} = value of coefficient of correlation between X and Y set of variable.

Cov (x, y) =covariance between two set of variables 'x' and 'y'

σ_x = standard deviation of set of variable x.

σ_y = standard deviation of set of variable y.

Multiple co-efficient of correlation are the study on degree of relationship between a single dependent variables in combination. If we have a taken three variables x, x_2 and x_3 we have the following multiple correlation coefficient.

$R_1.23$ =multiple correlation coefficient between dependent variables x_2 andx_3 on x_1.

$R_2.13$ = Multiple correlation coefficient between dependent variable x_2 and joint effect of the independent x_1 and x_3 on x_2.

$R_3.12$ = Multiple correlation coefficient between variable x_3 and joint effect of the independent variables x_1 and x_2 on x_3.

The multiple correlations co-efficient listed above are computed by using the following

formula: $R_{1.23} = \sqrt{\dfrac{r_{12}^{2}+r_{23}^{2}-2\,r_{12}\,r_{13}r_{23}}{1-r_{23}^{2}}}$

$R_{2.13} = \sqrt{\dfrac{r_{12}^{2}+r_{23}^{2}-2\,r_{12}\,r_{23}r_{13}}{1-r_{13}^{2}}}$

$R_{3.12} = \sqrt{\dfrac{r_{13}^{2}+r_{23}^{2}-2\,r_{12}\,r_{23}r_{13}}{1-r_{12}^{2}}}$

Coefficient of Determination (r^2)

The coefficient of determination is a measure of the degree of linear association or correlation between two variable one of which happens to be independent and other being dependent variable. In other word r measures the percentage total variation in dependent variables. The coefficient of determination value can have ranging from zero to one. A value or one can occur only if the unexpected variation is zero which simply means that all the data point in the scatters diagram fall exactly on the regression line.

Regression Analysis

Regression analysis is a mathematical measure of the average relationship between two or more variables in terms of original units of data. There are two types of variable in regression analysis. The variable whose value is to be predicted is called dependent variable and whereas the variable which is used for prediction is called independent variable. For the study, simple regression analysis will be used.

Market value per share on earning per share

This analysis enables us to known whether EPS is the influencing factor of market value per share or not. At what extent the EPS affects the MV Ps.

$$y = a + bx$$

Where,

y= market value per share

a=Regression constant

b=Regression coefficient

x=Earning per share

Market Value Per Share on Dividend per Share

This analysis tests the dependency of market per share on dividend per share.

Y=a +bx

Where,

Y= Market value Per share

a= Regression constant

b=Regression coefficient

x=Dividend per share

Multiple Regression Analysis

Multiple regression analysis consists of the measurement of the relationship between the dependent variable and two or more independent variables. The variable 'dividend' depends up on more than two variables and thus the multiple regression analysis explains it. The variable 'dividend' depends up on more than two variables and thus, the multiple regression analysis explains it. Here for this study the model has been formulated as model.

$DIV= a +b_1 EPS +b_2 MVPS +b_3 NWPS$

a= some constant

b= Regression coefficient of the variable

EPS= Earning per share

MVPS=Market value per share

NWPS=Net worth per share

The above model has been formulated considering earning per share, market value per share and net worth per share as basic factors. Since dividend is high if company has reasonable earning, market value per share and net worth per share.

Similarly market price of the stock is also influenced by several factors like dividend per

share and earning per share. Thus multiple regression models of MVPS dependent up on DPS and EPS formulated as:

MVPS = a + b_1DPS + b_2 EPS

Where,

MVPS = Market value per share

DPS = Dividend per share

EPS = Earning per share

Standard Error of Estimate (SEE)

The standard error of estimate measures the variability around the line of regression. It also measures the accuracy of the estimated figures. The lesser the value of SEE of estimate the better is the model fitted. If standard error of estimate is Zero then there is no variation about the line and the correlation will be perfect.

Regression Constant (a)

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

Regression coefficient (b)

The regression coefficient of each independent variable indicates the marginal relationship between the variable and value of dependent variable, holding constant the effect of all other independent variables in the regression model. In other words the coefficient describes how

change in independent variables affects the values of dependent variables estimative.

t- statistics

To test the validity of our assumption, if sample size is less than or equal to 30 't' test is used. For applying 't' test in the context of small sample ,first 't' value is calculated and compared with the table value of 't' at a certain level of significant for given degree of freedom . If the calculated value of 't' exceeds the table value we know that the difference is significant at 5% level. But if 't' value is less than the concerning table value of the 't' the different is not treated as significant.

Formula

$$t = \frac{x_1 - x_2}{s} \times \sqrt{\frac{n_1 \, n_2}{n_1 - n_2}}$$

Where,

X_1 = Mean of the first sample

X_2 = Mean of the second sample

n_1 = number of observation in the first sample

n_2 = number of observation in the second sample.

s = combined standard deviation.

F- Test

It is also called variance ratio test. To test for the significant of the different between more than two sample variance, F- Test can use. The difference between two or more sample variables at the same time, ANOVA is used. In this study, one way ANOVA is used to examine the equality between sample variables.

Formula,

$$F = \frac{\text{Variance between Sample}}{\text{Variance within sample}}$$

$$F = \frac{\text{Sum of square due to row or between banks}}{\text{Sum of square due to error or within banks}}$$

Test of Hypothesis

Followings are some of the hypothesis that should be tested for the study,

First hypothesis

Null hypothesis (H_0) : There is no significance difference in DPS of sample commercial banks.

Alternative hypothesis (H_1) : There is significance difference in DPS of sample commercial banks.

Second Hypothesis

Null hypothesis (H_0) : There is no significance difference in EPS of sample commercial banks.

Alternative hypothesis (H_1) : There is significance difference in EPS of sample commercial banks.

Third Hypothesis

Null hypothesis (H_0) : There is no significance difference in DPR of sample commercial banks.

Alternative hypothesis (H_1) : There is significance difference in DPR of sample commercial banks.

CHAPTER IV

4. Data Presentation and Analysis

After the collection of research data various sources related to the topic, they are processed, presented and analyzed to get certain result which helps to fulfill the objectives of the study. In the previous chapters objectives of the study and the review of different literature of different researchers relating to the topic of the study have been discussed. Now, in this chapter secondary data of three commercial banks are taken for the analysis of dividend policy. Also different statistical and financial tools are used for the purpose of analysis of data.

4.1 Financial Analysis

Under this topic various financial ratios has been tried to find out which are related to the study. The comparison of commercial banks are done.

Table 1. Dividend per share of three commercial banks from 2002 to 2007

Year	NIBL	SCBL	NSBI
2002/03	20	110	8
2003/04	15	110	0
2004/05	12.50	120	0
2005/06	20	130	5
2006/07	5	80	12.59
Average	14.50	110	5.118
Standard Deviation (S. D.)	5.57	16.73	5.01
Coefficient of Variance (C.V.)	38.41	15.20	97.89

From the above table we can know the impact of dividends on the share price of the above mentioned banks during the period of five years i. e. from 2002 to 2007.

Among the three banks, NSBI does not pay the regular dividend. The average dividend pays by SCBL(Rs.110) is the highest. The minimum dividend was paid by NIBL (Rs. 5) in the year 2006/07 and NSBI (Rs. 5) in 2005/06 and the miximum dividend was paid by SCBL (Rs. 130) in 2005/06.

By observing the C.V. of above commercial banks, we can arrange the above banks in the following descending orders of their consistency SCBL>NIBL>NSBI. It means there is least fluctuations in dividend payment of SCBL while dividend paid by NSBI have vast fluctuations. In other word, the dividend paid by NSBI is more variable than other banks while SCBL is less variable among them.

Table 2. Earning per share of three commercial banks from 2002 to 2007

Year	NIBL	SCBL	NSBI
2002/03	39.56	149.30	11.47
2003/04	51.70	143.55	14.26
2004/05	39.50	143.14	13.29
2005/06	59.35	175.84	18.27
2006/07	62.57	167.37	39.35
Average	50.54	155.84	19.33

	9.66	13.33	10.26
Standard Deviation (S. D.)	9.66	13.33	10.26
Coefficient of Variance (C.V.)	19.11	8.55	53.08

Above table shows that earning per share of the three commercial banks from the year 2002 to 2007. It shows that all the banks have earned form their investment and it's the earning which shows the strength of the firm. Among the three banks, the maximum earning was made by SCBL (Rs. 175.84) in the year 2005/06 and minimum earning was made by NSBI (Rs. 11.47) in the year 2002/03.

On average, the EPS of SCBL (Rs. 155.84) is the highest followed by NIBL (Rs. 50.54) and NSBI (Rs. 19.33). S.D. measures for uniformity and homogeneity, so the small the S.D. (Rs. 9.66) of NIBL shows the high uniformity in the earning while high S.D. (Rs. 13.33) of SCBL shows the lack of uniformity in the earnings.

By observing, the C.V. of above three commercial banks we can arrange the above banks in the following descending order of their consistency SCBL > NIBL > NIBL. It means there are no more fluctuations in earning of SCBL while earning on NSBI shows vast fluctuations. In other word, the dividend paid by NSBI is more variable while SCBL is less variable among them.

Table 3. Price Earning Ratio of three commercial banks from 2002 to 2007

Year	**NIBL**	**SCBL**	**NSBI**
2002/03	20.10	10.98	22.24
2003/04	18.18	12.16	21.54
2004/05	20.25	16.38	25.21
2005/06	21.23	21.47	33.49
2006/07	27.63	35.25	29.89
Average	21.48	19.25	26.47
Standard Deviation (S. D.)	3.23	8.81	4.58
Coefficient of Variance (C.V.)	15.04	45.75	17.29

Since PE Ratio is the relationship between the earning and market value per share, PE ratio reflects the price currently paid by the market for each rupee of currently resorted earning per share.

From the above table, it can be seen that the PE ratio of commercial banks were found to be normal. The average PE ratio os the banks can be set in the decreasing order as NSBI > NIBL >SCBL, it means the PE ratio of NSBI is the greatest and SCBL is lowest among the three banks.

The C.V. anlysis shows that C.V. of SCBL (45.75), NSBI (17.29) and NIBL (15.04) which means NIBL is most consistent in PE ratio among other banks.

Table 4. Dividends Payout Ratio of three commercial banks from 2002 to 2007

Year	**NIBL**	**SCBL**	**NSBI**
2002/03	50.56	73.68	69.76
2003/04	29.01	76.63	0.00
2004/05	31.65	83.83	0.00
2005/06	33.70	73.93	27.37
2006/07	7.99	47.80	32.00
Average	36.23	71.17	43.04
Standard Deviation (S. D.)	8.44	12.25	18.99
Coefficient of Variance (C.V.)	23.29	17.21	44.12

From above table, it can be observed the DP ratio of different three commercial banks from year 2002 to 2007. we can categorized the above banks as per the following assumptions.
Conservative Dividend Policy: DP ratio < 20%
Moderate Dividend Policy: DP ratio from 20% to 50%
Aggressive Dividend Policy: DP ratio > 50%

In the year 2002/03 all the banks paid dividend. NIBL has DP ratio 56.56%, SCBL has DP ratio 69.76%. In this year all the three banks had followed aggressive dividend policy.

In the year 2003/04 and 2004/05 NSBI was only the bank which has not paid any dividend and NIBL have followed the moderate dividend policy and paid 29.01 and 31.65 dividend respectively. SCBL have followed aggressive dividend policy and paid 76.63 and 83.83 dividend respectively.

In the year 2005/06, NIBL and NSBI paid 33.70 and 27.37 dividend respectively and had followed moderate dividend policy. SCBL has paid 73.93 dividends, as it has followed aggressive dividend policy.

In the year 206/07, NIBL has followed conservative dividend policy as it has DP ratio of 7.99% and SCBL and NSBI has followed moderate dividend policy and paid 47.80 and 32 dividend respectively.

In average NIBL (36.23) and NSBI (43.04) followed moderate dividend policy while SCBL (71.57) followed aggressive dividend policy. the most DP ratio was in the year 2004/05 of SCBL (83.83%) and the least DP was of NIBL (7.99%) in the year 2006/07.

By observing the C.V., we can conclude that NIBL (23.29%) and NSBI (17.21%) have the consistent DP ratio and NSBI (44.12%) have large fluctuation on the DP and said to be not consistent.

Table 5. Dividend Yield of three commercial banks from 2002 to 2007

Year	NIBL	SCBL	NSBI
2002/03	2.52	6.71	3.14
2003/04	1.60	6.30	0.00
2004/05	1.56	5.12	0.00
2005/06	1.59	3.44	0.82
2006/07	0.29	1.36	1.07
Average	1.51	4.59	1.68
Standard Deviation (S. D.)	0.71	1.97	1.04
Coefficient of Variance (C.V.)	47.02	42.92	61.90

Dividend yield highly influences the market value per share as change in dividend per share can be effective change in the market value of share. The above table shows the dividend yield analysis of three commercial banks from 2002 to 2007.

In the year 2002/03, SCBL acquired the most (6.71%) dividend yield while NIBL (2.52%) acquired the least and NSBI acquired 3.14% dividend yield. in the year 2003/04 and 2004/05 NSBI did not acquired less dividend yield, NIBL and SCBL acquired less dividend yield from previous year.

In the year 2005/06 and 2006/07, all the banks acquired dividend yield but NIBL and SCBL acquired less and NSBI acquired more dividend yield from the previous year.

From the analysis of five years average dividend yield, SCBL (4.59) have the highest dividend yield. The coefficient of variance analysis shows that the dividends yield of SCBL (42.92%) is the most consistent followed by NIBL (47.02%). By the C.V. of NSBI (61.90%) seems to be more fluctuating.

Table 6. Market Value Per Share of three commercial banks from 2002 to 2007

Year	NIBL	SCBL	NSBI
2002/03	795	1640	255
2003/04	940	1745	307
2004/05	800	2345	335
2005/06	1260	3775	612
2006/07	1729	5900	1176
Average	1104.80	3081	537
Standard Deviation (S. D.)	354.89	1601.97	342.69
Coefficient of Variance (C.V.)	32.12	52	63.82

Market value per share evaluates value of shares in the market. in the yare 2006/07, SCBL MPS was the highest of all i.e. 5900 and least MPS was 255 of NSBI in the year 2002/03. The average MPS of NSBI was least (537) and highest of SCBL (3081). The highest MPS was of SCBL in every year from 2002 to 2007.

The above banks can be arranged in the descending order of consistency as NIBL (32.12%), SCBL (52%) and NSBI (63.82%). the above C.V. shows that NIBL is more consistent and NSBI more fluctuating.

4.2 correlation analysis

Table 7. Correlation Between DPS And MPS of three commercial banks

Bank	Coefficient of correlation (r)	Relationship	r^2	Probable Error
NIBL	-0.6329	Negative	0.4001	0.181
SCBL	-0.582	Negative	0.338	0.199
NSBI	0.745	Positive	0.555	0.134

Above table shows the relationship between DPS and MPS of three commercial banks respectively from the period of five years starting from 2002 to 2007. Among the three banks, two banks i.e. NIBL and SCBL are negatively correlated. Although coefficient of correlation (r) of NSBI (0.745) is greater than its P.E. (0.134), it is not significant as its r < 6P.E.

From the above relations, it can be said that increase and decrease in dividend per share does not lead to increase and decrease in the stock price.

Table 8 . Correlation Between EPS And MPS of three commercial banks

Bank	Coefficient of correlation (r)	Relationship	r^2	Probable Error
NIBL	**0.902	Positive	0.8133	0.0562
SCBL	*0.764	Positive	0.5839	0.1256
NSBI	**0.985	Positive	0.9711	0.0090

* Correlation is significant at 0.05 level (1-tailed)
** Correlation is significant at 0.01 level (1- tailed)

The above table shows the relationship between EPS and MPS of NIBL, SCBL and NSBI respectively. Positive correlations have existed in all the three banks NIBL (0.902), SCBL (0.764) and NSBI (0.985). the correlation between PE ratio and MPS of SCBL (0.764) is significant at 0.05 level (1-tailed) and NIBL (0.902) and NSBI (0.985) is significant at 0.01 level (1-tailed). From the above table, all the three banks shows the higher degree of

relationship, where r > 6PE in all. Therefore, it can be concluded that stock price is highly affected by their earning per share.

Table 9 . Correlation Between PE ratio And MPS of three commercial banks

Bank	Coefficient of correlation (r)	Relationship	r^2	Probable Error
NIBL	*0.898	Positive	0.8057	0.0584
SCBL	**0.994	Positive	0.9888	0.0036
NSBI	0.675	Positive	0.4555	0.1642

* Correlation is significant at 0.05 level (1-tailed)
** Correlation is significant at 0.01 level (1- tailed)
From above table it can be seen the relationship between PE ratio and MPS of the three different banks. Positive correlation occurs between all the banks. Although NBSI's coefficient of correlation (r) is greater than PE, it is not significant as its r < 6PE while that of NIBL and SCBL's r > 6PE. That's why NIBL is significant at 0.05 level (1-tailed) and SCBL is significant at the 0.01 level (1-tailed). It shows that PE ratio has positive effect in the stock price.

Table 10 . Correlation Between DP ratio And MPS of three commercial banks

Bank	Coefficient of correlation (r)	Relationship	r^2	Probable Error
NIBL	*-0.8244	Negative	0.6796	0.0966
SCBL	*-0.8603	Negative	0.7401	0.0784
NSBI	0.0642	Positive	0.0041	0.3004

* Correlation is significant at 0.05 level (1-tailed)

Above table shows the relationship between DP ratio and MPS of three banks in the time period from 2002 to 2007. NIBL and SCBL show the negative relationship and have the correlation coefficient of -0.8244 and 0.8603 respectively and NSBI is positively correlated as correlation coefficient is 0.064.

High degree of negative relation exists in NIBL and SCBL which is significant at 0.05 leve (1-tailed). from above relationship between DP and MPS of banks in more case it shows negative relation so it can be said that DP affect on stock price negatively.

Table 11 . Correlation Between DY And MPS of three commercial banks

Bank	Coefficient of correlation (r)	Relationship	r^2	Probable Error
NIBL	*-0.867	Negative	0.7517	0.0749
SCBL	**-0.989	Negative	0.9788	0.0064
NSBI	-0.070	Negative	0.0050	0.3001

* Correlation is significant at 0.05 level (1-tailed)
** Correlation is significant at 0.01 level (1- tailed)

The above table shows relationship between DY and MPS. it shows negative relationship between DY and MPS in all the three banks NIBL (-0.867), SCBL (-0.989) and NSBI (-0.070). Among three banks NIBL and SCBL exist high degree of negative relation which is

significant at 0.05 level (1-tailed) and at 0.01 level (1-tailed) respectively. It means DY affect on stock price negatively of the above two banks.

4.3 Regression Analysis

Table 12. Regression between MPS and EPS of three commercial banks

Banks	Constant, a	Regression Coefficient, b	Standard error	R2	SEE	t-value
NIBL	-570.451	33.150	9.1676	0.8134	197.9283	3.616
SCBL	-1234.092	91.858	44.7633	0.5840	1333.9528	2.052
NSBI	-99.413	32.927	3.2836	0.9710	75.3012	10.028

The above table shows the simple regression analysis between market price per share and earning per share of the three commercial banks.

From the table, it can be seen that the regression coefficient (b) of NIBl (33.150), SCBL (91.858) and NSBI (32.927) is positive which shows the positive which shows the positive correlation between MPS and EPS of concerned banks, which implies one rupee increase in EPS leads to an average of about Rs. 33.150 increase in MPS of NIBL, Rs.91.858 in SCBL and Rs. 32.927 in NIBI respectively holding other variable constant which can effect on MPS.

The coefficient of determination (R2) of NIBL (0.8134), SCBL (0.5840) and NSBI (0.9710) indication 81.34%, 58.40% and 97.10% of stock variation is explained by variation in EPS of NIBL, SCBL and NSBI respectively.

Table 13. Regression between MPS and DPS of three commercial banks

Banks	Constant, a	Regression Coefficient, b	Standard error	R2	SEE
NIBL	1689.758	-40.342	28.4923	0.4006	354.7265
SCBL	9213.500	-55.750	44.9343	0.3391	1681.2875
NSBI	266.30	52.8930	27.3303	0.5553	295.0391

The above table shows the simple regression analysis between market price per share and dividend per share of the three commercial banks.

From the above table, we can see the regression coefficient (b) of NSBI (52.893) is positive which shows the positive correlation between MPS and DPS of NSBL, which implies one rupee increase in DPS leads to an average of about Rs. 52.893 increase in MPS of NIBI holding other variables constant which can effect on the MPS.

The regression coefficient (b) is negative in NIBL (-40.342) abd SCBL (-55.750) which indicates the negative correlation an implies one rupee increase in DPS leads to an average

decrease on Rs. 40.342 in NIBL and Rs. 55.750 in SCBL. NIBL and SCBL shows that these banks' MPS does not depends on DPS.

Similarly, the coefficient of determination (R^2) of NIBL (0.4006), SCBL (0.3391) and NSBI (0.5553) indicates 40.06%, 33.91% and 55.53% stock variation is explained by variation in DPS of NIBL, SCBL and NSBI respectively.

4.4 Test of Hypothesis
4.4.1 First Hypothesis

Null Hypothesis (H_0) : $\mu1 = \mu2 = \mu3$ i.e. There is no significant difference in DPS of sample banks.
Alternative Hypothesis (H_1) : $\mu1 =/ \mu2 =/ \mu3$ i.e. There is significant difference in DPS of sample banks.

Dividend Per Share

Year∴Bank	NIBL	SCBL	NSBI
2002/03	20.00	110	8.00
2003/04	15.00	110	0.00
2004/05	12.50	120	0.00
2005/06	20.00	130	5.00
2006/07	5.00	80	12.59

F- test statistic
Correction Factor (C.F.) = 28001.38
Total Sum of Squares (TSS) = 35352.39
Sum of Square due to Row or Between Banks (SSR) = 33680.84
Sum of Square due to error or within Banks (SSE) = 1671.54

Table 14. One-Way ANOVA table for DPS

Sources of variation	Sum of Squares	Degree of Freedom (d.f.= n-1)	Mean Sum of Square (MS)	F-ratio
Between Banks	33680.84	2 (3-1)	16840.42	120.89
Within Banks	1671.54	12 (15-3)	139.30	
Total	35352.38	14 (15-1)		

Critical Value: The tabulated value of F at 5% level of significance for 2 and 12 d.f. is 3.89
Decision: Since the calculated F is greater than the tabulated value of F, the null hypothesis (H_0) is rejected and hence the alternative hypothesis (H_1) is accepted. Therefore, we can conclude that there is significant difference in DPS of sample banks.

4.4.2 Second Hypothesis
Null Hypothesis (H_0) : $\mu1 = \mu2 = \mu3$ i.e. There is no significant difference in DPS of sample banks.
Alternative Hypothesis (H_1) : $\mu1 =/ \mu2 =/ \mu3$ i.e. There is significant difference in DPS of sample banks.

Earning Per Share

Year∴Banks	NIBL	SCBL	NSBI
2002/03	39.56	149.30	11.47
2003/04	51.70	143.55	14.26
2004/05	39.50	143.14	18.27
2005/06	59.35	175.84	39.35
2006/07	62.57	167.37	39.35

F- test statistic
Correction Factor (C.F.) = 84903.83
Total Sum of Squares (TSS) = 53044.04
Sum of Square due to Row or Between Banks (SSR) = 51164
Sum of Square due to error or within Banks (SSE) = 1880.06

Table 15. One-Way ANOVA table for EPS

Sources of variation	Sum of Squares	Degree of Freedom (d.f.= n-1)	Mean Sum of Square (MS)	F-ratio
Between Banks	5114.00	2 (3-1)	25582.00	163.29
Within Banks	1880.06	12 (15-3)	156.67	
Total	53044.06	14 (15-1)		

Critical Value: The tabulated value of F at 5% level of significance for 2 and 12 d.f. is 3.89
Decision: Since the calculated F is greater than the tabulated value of F, the null hypothesis (H_0) is rejected and hence the alternative hypothesis (H_1) is accepted. Therefore, we can conclude that there is significant difference in EPS of sample banks.

4.4.3 Third Hypothesis

Null Hypothesis (H_0) : $\mu1 = \mu2 = \mu3$ i.e. There is no significant difference in DPS of sample banks.
Alternative Hypothesis (H_1) : $\mu1 =/ \mu2 =/ \mu3$ i.e. There is significant difference in DPS of sample banks.

Dividend Payout Ratio (DPR)

Year∴Banks	NIBL	SCBL	NSBI
2002/03	50.56	73.68	69.76
2003/04	29.01	76.63	0.00
2004/05	31.65	83.83	0.00
2005/06	33.70	73.93	27.37
2006/07	7.99	47.80	32.00

F- test statistic
Correction Factor (C.F.) = 27128.61
Total Sum of Squares (TSS) = 11188.96
Sum of Square due to Row or Between Banks (SSR) = 6211.29

Sum of Square due to error or within Banks (SSE) = 4977.68

Table 16. One-Way ANOVA table for DPR

Sources of variation	Sum of Squares	Degree of Freedom (d.f.= n-1)	Mean Sum of Square (MS)	F-ratio
Between Banks	6211.29	2 (3-1)	3105.65	7.49
Within Banks	4977.68	12 (15-3)	414.81	
Total	1118.97	14 (15-1)		

Critical Value: The tabulated value of F at 5% level of significance for 2 and 12 d.f. is 3.89
Decision: Since the calculated F is greater than the tabulated value of F, the null hypothesis (H_0) is rejected and hence the alternative hypothesis (H_1) is accepted. Therefore, we can conclude that there is significant difference in EPS of sample banks.

4.5 Major Findings
The major findings of the study are stated as follows;

1. The average dividend per share (DPS) shows that there is no regularity in dividend payment. The SCBL has the highest DPS Rs. 130 to the shareholders. The C.V. of the DPS is 15.20%. NIBL and NSBI pay the lowest DPS Rs. 5 and highest fluctuation C.V. 97.89%.

2. By observing the data of three commercial banks (NIBL, SCBL, NSBI) earning per share, the coefficient of variation indicates that there is no consistency of EPS. The C.V. is 8.55% of SCBL and that of NIBL is 19.11% and NSBI is 53.08%. SCBL has the highest average EPS Rs. 155.84 and NSBI has the least average EPS is 19.33.

3. The average price-earning ratio (P/E) of NSBI is 26.47% and SCBL's P/E ratio is 19.25%. NSBL has highest P/E ratio. P/E ratio of SCBL is more unstable than others. Higher the P/E ratio indicates the favorable condition of the banks, so NSBI has favorable performance during the research period.

4. The analysis of DPR shows that in an average SCBL has the highest DPR 71.17% and least fluctuation. NIBL and NSBI's DPR is more fluctuating.

5. The average dividend yield of the banks under the study indicates that the dividend yield is quite low. SCBL has average dividend yield 4.59% and NSBI 1.68% and NIBL 1.51%.

6. The average market value per share (MVPS) shows that there is quite high level of fluctuation. SCBL has higher average MVPS Rs. 3081 but average MVPS of NSBI os Rs. 537 which is lowest in comparison to SCBL.

7. The DPS of SCBL is positively correlated with EPS, MPS and PE ratio. But the correlation between DPS and MPS, DPR and MPS and DY and MPS of this bank is negative.

8. The relationship between DPS of NIBL with EPS, MPS and PE ratio is positively correlated and relation between DPS & MPS, DPR & MPS and DY & MPS is negative.

9. The DPS of NSBI is positively correlated with EPS, PE ratio, DPR, DY and MPS.

10. The regression between MPS and EPS indicates that the regression coefficient (b) is positive in all the three banks NIBL, SCBL and NSBI.

11. The regression of MPS and DPS shows that regression coefficient (b) is positive in NSBI and negative in two banks NIBL and SCBL.

12. The first hypothesis between DPS of NIBL, SCBL and NSBI is greater than the tabulated value at 5% level of significance. So, null hypothesis (H0) is rejected and alternative hypothesis (H1) is accepted which is significance.

13. The second hypothesis between EPS of three commercial banks is greater than the tabulated value at 5% level of significance. So, null hypothesis (H0) is rejected and alternative hypothesis (H1) is accepted which is significance.

14. The third hypothesis between DPR of three commercial banks is greater than the tabulated value at at 5% level of significance. So, null hypothesis (H0) is rejected and alternative hypothesis (H1) is accepted which is significance.

Chapter V

Summary, Conclusion and Recommendation

In this chapter, three major aspects of the study are discussed; at the beginning all the findings have been summarized and some conclusions have been drawn up based on findings. The gaps found and factors to cause those gaps are also presented. this chapter is very important in the sense that ;

a) it shows a glance of the study what was observed during research.

b) it concludes the findings in an understandable form and

c) it provide some suggestion to the concerned authority as well as practitioner and academicians.

The recommendation is presented in this chapter considering major findings and gaps found there too.

5.1 Summary

Dividend refers to that portion of firm's net earning which is paid out to the shareholders. Dividend servers as simple, comprehensive signal of management's interpretation of the firm's record performance and its future prospects. The improved corporate dividend practices is thus essential means to solve the problem of asymmetric information between companies and Nepalese's investors who have poured their fund there in.

This study attempts to analyze the dividend policy of commercial banks. The study is based on secondary data for a period of 2002/03 to 2006/07. To analyze the dividend payment practices of banks, different financial ratios have been calculated and interpreted.

To assess the impact of dividend on MPS, available information from different sectors were reviewed and analyzed. Simple regression analyses have been done to make the research more reliable. At least, testing of hypothesis has been done.

It is found from the study that banks are paying dividend but there is instability of dividend and inconsistent payout ratio is the most applied phenomenon of Nepalese dividend

distribution practices. The study shows that none of the banks have well defined and appropriate dividend policy. They don't seem to follow the optimum dividend policy of paying regular dividend as per the shareholders expectation. It might cause uncertainty among shareholder. A change in dividend per share and payout ratio affects the share price differently in different banks.

In Nepal, only a few listed companies have paying regular dividend to their shareholder. Further companies have not been following stable dividend policy. on the other hand, the dividend payout ratio of listed companies in Nepal has not been able to distribute fair dividends. The theoretical statement of this study is to study the dividend practices of sampled bank therefore, it is concluded that more or less the dividend policy depends on the earning per share of a company: the earning per share and dividend per share having the positive relation may also impact on market price of share. For this argument, there were two multiple regression formed.

The theoretical statement of this paper is to study the dividend practices of sampled banks therefore, it is concluded that more or less the dividend policy depends on the earning per share of a company. The earing per share and dividend per share may also impact on market price of share. For this argument two simple regressions were formed. The first simple regression was formed to assess the impact of EPS on market price of share. It concludes the fact that earning per share has positive impact on MPS where as the second simple regression was formed to assess the impact of DPS on MPS. From the analysis, it is found that the DPS has positive and negative impact on MPS. From the regression analysis, it can be concluded that a change in dividend per share affects the share price differently in differently in different banks.

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

Paying dividend to shareholders in an effective way to lure new investors to invest in shares. Due to the division of earning of a company (between dividend payout and retention of earrings) its effect on the market price of shares is a crucial question. It is therefore, necessary that a wise policy should be maintained to balance between shareholders interest with that of corporate growth from internally generated funds. Since, shareholders have investment opportunities to employ of investment opportunities could not be used due to lack of investment opportunities could not be used due to lack of investment opportunities should be better paid as dividends. So in conclusion it can be said that the dividend policy should be optimal which balances the opposing forces and maximizes stock price.

5.2 Conclusion

In this section, the gaps perceived in this study are presented as conclusions. The issues related to dividend and other relevant factors found while analyzing the variables are also presented here. Then possible causes to perceive this gap will be scrutinized as far as possible.

1. There is lack of rules and regulations that bind companies to pay dividend every year. Not only the companies do not have dividend policy but also the government does not have any clear policy towards dividend.

2. There seems instability of dividend and inconsistency in dividend payout ratio of the banks.

3. Every year EPS and MPS highly fluctuation. The CV of EPS has ranged from 8.55 to 53.08 percent. Similarly market prices per share are also fluctuating. This short of fluctuation causes not to win public faith.

4. The average dividend yield of banks has ranged from 1.051 percent to 4.59 percent. The highest percent of 4.59 % is also cannot b considered so encouraging figure.

5. Shareholders in Nepal are not conscious. Taking the advantage of unconscious shareholders, the company management does not show the

commitment promised in prospectors while raising capital. Promoter lures investors mentioning to pay attractive dividends, when company makes profit. However in reality, most of the companied are deviated from their statement as promise in prospectus.

6.   Government does not have any clear policy towards dividend and to improve the efficiency of the companies. The number of companies can not earn enough profit and bureaucrats accused the cause of inefficiency to managers which is not sound.

5.3 Suggestion and Recommendation

considering the major findings and issues found in course of this study, some recommendations are presented as follows;

1.   Banks are paying dividend without adopting any appropriate policy. Companies should have their clearly defined dividend policy. Clearly defined dividend policy helps to determined specific policy i.e. stables dividend or constant pays out or low regular plus extras. What should be the long run dividend payout policies or smoothed dividend policy. This helps to investor in deciding whether to buy or not the share of particular company and to build good image, stock market.

2.   There is lack of rules binding companies to pay dividend. The legal rule for the treatment of dividend is most for smooth growth of the enterprises as well as national economy. Some regulating acts are silent on these matters. Some companies are in position to pay dividend. But some companies are suffering from lose and there are efforts to minimize loss rather than payment of dividend. For this purpose, GON, NEPSE,

SCBON and concerned parties should do work together in favor of investors and bind their companies by separate rules.

3.   Shareholders should be given an option to choose between stock dividend and cash divided instead of declaring stock or cash dividend arbitrarily. For this, dividend declaration should be proposed to the annual general meeting of shareholders for approval.

4.   Payment of dividend is neither static nor constantly growing. It is highly fluctuating; such way of paying dividend could not impress the market positively. So, these banks are advised to follow either static or constantly growing dividend policy. It would be better to fix the amount of dividend in the general annual meeting. This is important not only from the point of view of adequate return to shareholders but also to generate stable and increasing market value per share, long run survival of banks, efficient management and socially acceptable distribution of income.

5.   Banks are advice to have target rate of earning and target payout ratio that will help companies to build good image in stock market and investors will be ease on making investment decision.

6.   The legal rules and regulations must be in favor of investors to excise the dividend practice and to protect the shareholders rights.

7.   Each and every company should provide the information regarding their activities and performance so that investors can analyze the situation and invest their money in the best company.

8.   Although the payout ratio of the sample banks is fluctuating from year to year, there is no rational approach in deciding the payout. All the banks should analyze the internal rate of return and the cost of capital in deciding DPR which helps to maximize the shareholders' wealth.

9.   The government should encourage for the establishment of organization to promote and protect activities in favor of investors. There are not any other organizations fully devoted to protect investors' interest.

Bibliography

Atias R. K. (1985). "**Pre-disclosure information, Firm Capitalization & Security Price behavior around earning announcement**." Journal of Accounting Research.

Basu, A. K. (1982). "Fundamentals **of Banking Theory and Practices**." Calcutta: A. K. MukherJee Publication

Bhattarai, Rabindra. "**Capital Structure Management**" (Theory and Practice). Dhulagiri Books and Stationery, kathmandu.

Budathoki, Kishori (2006) "**The Study of dividend policy of the commercial banks in Nepal**." An unpublished MBS Thesis (SDC, TU).

Cotter, R., and Smith, G. (1976). "**Commercial Banking. New Jersey**." Prentice Hall Inc.

Dhungel, Pujan (Sept. 2004). "**Dividend Policy of the Commercial Banks in Nepal**." An unpublished MBS Thesis (SDC, TU).

Fama, E. F (1991) "**Efficient Capital Market**": II, Jounal of Finance, 46, September.

Fama, E. F. and K. French, (1992). The cross section of expected stock returns, The journal of Finance.

Francis, J. C. (1972), " **Investments: Analysis & Management**." MC Graw Hill.

Gitmen, Lawrence J. (1988) "**Principle of managerial Finance**." (7th Edition) New York. Harper Collins Collage Publisher.

Gordon, M. J. (1972). "**The Investment, Financing & Valuation of Corporation**." Home Wood III, Richard D. Irwin.

Jack Clark (1990) " **Investment**" New York: McGraw Hill, International Edition

Joshi, P.R. "**Research Methodology**" (Second Edition) Budda Academic Publishers and Distributors Pvt. Ltd., Kathmandu.

Khan, M.Y. and Jain, P.K. (1992)."**Dividend Policy Decision. Financial Management text and problems**," (2nd Ed.). New Delhi: Tata Mc Graw- Hill Publishing Company Limited.

Kharel, Sarawati (2006) "**Dividend Policy of commercial Banks (with respect to NABL, HBL and BOK)."** An unpublished MBS Thesis (SDC, TU).

Kothari, C.R. (1978) "**Quantitative Techniques**." New Delhi: Vikash Publishing House Pvt. Ltd.

Kuikel, Kush Prasad (Dec. 2007). "**Dividend Policy and Practices in Commercial Banks' in Nepal**." An unpublished MBS Thesis (SDC, TU).

Linter, J., (1956), "**Distributions of incomes of corporations among dividends, retained earnings and taxes**," American Economic Review, 46 (1).

Manandhar, K.D. (2001). "**Bonus Share & Dividend changes Empirical Analysis in Nepalese Context. Management Dynamics**": A Journal of Management (Vol. II No. 1) Shanker Dev Campus.

Miller, M.H. and Rock K. (1985). "**Dividend Policy under asymmetric information**," Journal of Finance, 40, September.

Modigliani, F. & Miller, M.H. (June 1966). "**Some Estimate of the cost of Capital to the Electric Utility Industry**", 1954-57, American Economic Review.

New Encyclopedia. (1986) Encyclopedia Britannica.

Pandey, I.M. (1995) "**Financial Management**." New Delhi: Vikash Publishing House Pvt.Ltd.

Prasai, Sarawati (Jan 2007)."**Impact of Dividend Decision on Market Price of Share**" An unpublished MBS Thesis (SDC, TU).

Schall, L.D. & Haley, C.W. (n.d.) op.cit.

Shrestha, Rabindra (July 2006). "**Effect of Dividend Policy on Market Price of the Stock of Nepalese Commercial Banks**." An unpublished MBS Thesis (SDC, TU).

Sthapit, Ajay B., Gautam, Hiranya, Joshi Pushpa R. and Dongol, Prakash. "**Statistical Methods**." (Third Edition) Buddha Academic Publishers and Distributors Pvt. Ltd., Kathmandu.

Tandukar, Shambhu. (June, 2007) "**Dividend Policy: A comparative study of joint ventures banks (Listed) of Nepal**". An unpublished MBS Thesis (SDC, TU).

Thapa, Kiran and Gautam, Rishi Raj. "**Capital Structure Management**" Asmita Books Publishers & Distributors, Kathmandu.

Van Horne, James C. (2000), "**Financial Management and Policy**." Prentice Hall, New Delhi.

Walter, James E. (1996), "**Dividend Policy and Common Stock Price**" Journal of finance, American finance association.

Wolf, Howard K and Pant. Prem R. (1999), "**Social Science Research and Thesis Writing**" Kathmandu: Buddha Academic Enterprises.

Appendix 1

Related to Table 4.1

Mean/Average, Standard Deviation and Coefficient of Variation of Dividend Per Share (DPS)

(A) Nepal Investment Bank Ltd. (NIBL)

Year	X	$(X - \overline{X})$	$(X - \overline{X})^2$
2002/03	20.00	5.50	30.25
2003/04	15.00	0.50	0.25
2004/05	12.50	-2.00	4.00
2005/06	20.00	5.50	30.25
2006/07	5.00	-9.50	90.25
	72.50	**0.00**	**155.00**

N = 5 $\qquad \sum X = 72.50 \qquad \sum (X - \overline{X})^2 = 155.00$

Note:

Value of X represents dividend per share; DPS

Mean

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

$= 14.50$

Standard Deviation (SD) $= \sqrt{\dfrac{\sum (X - \overline{X})^2}{N}}$

$= 5.57$

Coefficient of Variation (CV) $= \dfrac{\dagger}{\overline{X}}$

$= 38.40$

(B) STANDARD CHARTERED Bank Ltd. (SCBL)

Year	X	$(X - \overline{X})$	$(X - \overline{X})^2$
2002/03	110.00	0.00	0.00
2003/04	110.00	0.00	0.00
2004/05	120.00	10.00	100.00
2005/06	130.00	20.00	400.00
2006/07	80.00	-30.00	900.00
	550.00	**0.00**	**1400.00**

N = 5 $\qquad \sum X = 550 \qquad \sum (X - \overline{X})^2 = 1400$

Note:

Value of X represents dividend per share; DPS

Mean

$$\overline{X} = \frac{\sum X}{N}$$
$$= 110$$

Standard Deviation (SD) $= \sqrt{\dfrac{\sum (X - \overline{X})^2}{N}}$

$$= 16.73$$

Coefficient of Variation (CV) $= \dfrac{\dagger}{\overline{X}}$

$$= 15.21$$

(C) NEPAL STATE BANK OF INDIA (NSBL)

Year	X	$(X - \overline{X})$	$(X - \overline{X})^2$
2002/03	8.00	2.88	8.31
2003/04	0.00	-5.12	26.19
2004/05	0.00	-5.12	26.19
2005/06	5.00	-0.12	0.01
2006/07	12.59	7.47	55.83
	25.59	**0.00**	**116.54**

$N = 5 \qquad \sum X = 25.59 \qquad \sum (X - \overline{X})^2 = 116.54$

Note:

Value of X represents dividend per share; DPS

Mean

$$\overline{X} = \frac{\sum X}{N}$$
$$= 5.118$$

Standard Deviation (SD) $= \sqrt{\dfrac{\sum (X - \overline{X})^2}{N}}$

$$= 4.83$$

Coefficient of Variation (CV) $= \dfrac{\dagger}{\overline{X}}$

$$= 94.33$$

Note: By using the above formula Average, SD and CV of EPS, PE Ratio, DP Ratio, DY and MPS of three sample banks related to Table 4.2, 4.3, 4.4, 4.5 and 4.6 calculated.

Appendix 2

Correlation between Dividend Per Share (DPS) and Market Price Per Share (MPS)

(A) Nepal Investment Bank Ltd. (NIBL)

Year	X	Y	$(X-\bar{X})$	$(X-\bar{X})2$	$(Y-\bar{Y})$	$(Y-\bar{Y})2$	$(X-\bar{X})(Y-\bar{Y})$
2002/03	20.00	795.00	5.50	30.25	-309.80	95976.04	-1703.90
2003/04	15.00	940.00	0.50	0.25	-164.80	27159.04	-82.40
2004/05	12.50	800.00	-2.00	4.00	-304.80	92903.04	609.60
2005/06	20.00	1260.00	5.50	30.25	155.20	24087.04	853.60
2006/07	5.00	1729.00	-9.50	90.25	624.20	389625.64	-5929.90
	72.50	**5524.00**	**0.00**	**155.00**	**0.00**	**629750.80**	**-6253.00**

$n = 5 \quad \sum X = 72.50 \quad \sum Y = 5524 \quad \sum(X-\bar{X}) = 0 \quad \sum(X-\bar{X})^2 = 155 \quad \sum(Y-\bar{Y}) = 0$

$\sum(Y-\bar{Y})^2 = 629750.80 \quad \sum(X-\bar{X})(Y-\bar{Y}) = \text{-6253}$

Note:

Value of X represents dividend per share; DPS

Value of Y represents market price per share; MPS

Mean

$$\bar{X} = \frac{\sum X}{N} = 14.50$$

$$\bar{Y} = \frac{\sum Y}{N} = 1104.80$$

Covariance (X, Y) = $\dfrac{\sum(X-\bar{X})(Y-\bar{Y})}{N}$ = -1250.60

Standard Deviation of X ($\dagger_X$) = $\sqrt{\dfrac{\sum(X-\bar{X})^2}{N}}$ = 5.57

Standard Deviation of Y ($\dagger_Y$) = $\sqrt{\dfrac{\sum(Y-\bar{Y})^2}{N}}$ = 354.89

Coefficient of Correlation (r) = Covariance (X, Y)/ $\dagger_X \dagger_Y$ = -0.633

Coefficient of Correlation (r^2) = 0.4006

Probable error of correlation coefficient, P.E.(r) = $0.6745*(1-r^2)/\sqrt{n}$ = .1808

(B) Standard Chartered Bank Ltd. (SCBL)

Year	X	Y	$\left(X - \overline{X}\right)$	$\left(X - \overline{X}\right)^2$	$(Y - \overline{Y})$	$(Y - \overline{Y})^2$	$\left(X - \overline{X}\right)\left(Y - \overline{Y}\right)$
2002/03	110.00	1640.00	0.00	0.00	-1441.00	2076481.00	0.00
2003/04	110.00	1745.00	0.00	0.00	-1336.00	1784896.00	0.00
2004/05	120.00	2345.00	10.00	100.00	-736.00	541696.00	-7360.00
2005/06	130.00	3775.00	20.00	400.00	694.00	481636.00	13880.00
2006/07	80.00	5900.00	-30.00	900.00	2819.00	7946761.00	-84570.00
	550.00	15405.00	0.00	1400.00	0.00	12831470.00	-78050.00

$n = 5 \quad \sum X = 550 \quad \sum Y = 15405 \quad \sum \left(X - \overline{X}\right) = 0 \quad \sum \left(X - \overline{X}\right)^2 = 1400 \quad \sum \left(Y - \overline{Y}\right) = 0$

$\sum \left(Y - \overline{Y}\right)^2 = 12831470 \quad \sum \left(X - \overline{X}\right)\left(Y - \overline{Y}\right) = \text{-78050}$

Note:
Value of X represents dividend per share; DPS
Value of Y represents Market Price per share; MPS

Mean

$$\overline{X} = \frac{\sum X}{N} = 110$$

$$\overline{Y} = \frac{\sum Y}{N} = 3081$$

Covariance (X, Y) = $\dfrac{\sum (X - \overline{X})(Y - \overline{Y})}{N}$ = -15610

Standard Deviation of X ($\dagger_X$) = $\sqrt{\dfrac{\sum (X - \overline{X})^2}{N}}$ = 16.73

Standard Deviation of Y ($\dagger_Y$) = $\sqrt{\dfrac{\sum (Y - \overline{Y})^2}{N}}$ = 1601.97

Coefficient of Correlation (r) = Covariance (X, Y)/ $\dagger_X \dagger_Y$ = -.582

Coefficient of Correlation (r^2) = .3391

Probable error of correlation coefficient, P.E.(r) = $0.6745*(1-r^2)/ \sqrt{n}$ = .1994

(C) Nepal State Bank of India (NSBI)

Year	X	Y	$(X-\overline{X})$	$(X-\overline{X})^2$	$(Y-\overline{Y})$	$(Y-\overline{Y})^2$	$(X-\overline{X})(Y-\overline{Y})$
2002/03	8.00	255.00	2.88	8.31	-282.00	79524.00	-812.72
2003/04	0.00	307.00	-5.12	26.19	-230.00	52900.00	1177.14
2004/05	0.00	335.00	-5.12	26.19	-202.00	40804.00	1033.84
2005/06	5.00	612.00	-0.12	0.01	75.00	5625.00	-8.85
2006/07	12.59	1176.00	7.47	55.83	639.00	408321.00	4774.61
	25.59	2685.00	0.00	116.54	0.00	587174.00	6164.01

$$n = 5 \quad \sum X = 25.59 \quad \sum Y = 2685 \quad \sum(X-\overline{X}) = 0 \quad \sum(X-\overline{X})^2 = 116.54 \quad \sum(Y-\overline{Y}) = 0$$
$$\sum(Y-\overline{Y})^2 = 587174 \quad \sum (X-\overline{X})(Y-\overline{Y}) = 6164.01$$

Note:
Value of X represents dividend per share; DPS
Value of Y represents Market Price per share; MPS

Mean

$$\overline{X} = \frac{\sum X}{N} = 5.12$$

$$\overline{Y} = \frac{\sum Y}{N} = 537$$

Covariance (X, Y) = $\dfrac{\sum(X-\overline{X})(Y-\overline{Y})}{N}$ = 1232.8

Standard Deviation of X $(\dagger_X)$ = $\sqrt{\dfrac{\sum(X-\overline{X})^2}{N}}$ = 4.83

Standard Deviation of Y $(\dagger_Y)$ = $\sqrt{\dfrac{\sum(Y-\overline{Y})^2}{N}}$ = 342.69

Coefficient of Correlation (r) = Covariance (X, Y)/ $\dagger_X \dagger_Y$ = 0.745

Coefficient of Correlation (r^2) = 0.5553

Probable error of correlation coefficient, P.E.(r) = $0.6745*(1-r^2)/\sqrt{n}$ = .1342

Appendix 3

Related to Table 4.8

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

(A) Nepal Investment Bank Ltd. (NIBL)

Year	X	Y	$(X-\bar{X})$	$(X-\bar{X})^2$	$(Y-\bar{Y})$	$(Y-\bar{Y})^2$	$(X-\bar{X})(Y-\bar{Y})$
2002/03	39.56	795.00	-10.98	120.47	-309.80	95976.04	3400.36
2003/04	51.70	940.00	1.16	1.35	-164.80	27159.04	-191.83
2004/05	39.50	800.00	-11.04	121.79	-304.80	92903.04	3363.77
2005/06	59.35	1260.00	8.81	77.69	155.20	24087.04	1367.93
2006/07	62.57	1729.00	12.03	144.82	624.20	389625.64	7511.62
	252.68	5524.00	0.00	466.12	0.00	629750.80	15451.87

$n = 5$ $\sum X = 252.68$ $\sum Y = 5524$ $\sum (X-\bar{X}) = 0$ $\sum (X-\bar{X})^2 = 466.12$ $\sum (Y-\bar{Y}) = 0$

$\sum (Y-\bar{Y})^2 = 629750.80$ $\sum (X-\bar{X})(Y-\bar{Y}) = 15451.87$

Note:
Value of X represents dividend per share; DPS
Value of Y represents Market Price per share; MPS

Mean

$$\bar{X} = \frac{\sum X}{N} = 50.54$$

$$\bar{Y} = \frac{\sum Y}{N} = 1104.80$$

Covariance $(X, Y) = \dfrac{\sum (X-\bar{X})(Y-\bar{Y})}{N} = 3090.37$

Standard Deviation of X $(\dagger_X) = \sqrt{\dfrac{\sum (X-\bar{X})^2}{N}} = 9.66$

Standard Deviation of Y $(\dagger_Y) = \sqrt{\dfrac{\sum (Y-\bar{Y})^2}{N}} = 354.89$

Coefficient of Correlation (r) = Covariance (X, Y)/ $\dagger_X \dagger_Y = 0.902$

Coefficient of Correlation $(r^2) = 0.8134$

Probable error of correlation coefficient, P.E.(r) = 0.6745*(1-r^2)/ $\sqrt{n}$ = 0.0563

(B) Standard Chartered Bank Ltd. (SCBL)

Year	X	Y	$\left(X-\overline{X}\right)$	$\left(X-\overline{X}\right)^2$	$(Y-\overline{Y})$	$(Y-\overline{Y})^2$	$\left(X-\overline{X}\right)\left(Y-\overline{Y}\right)$
2002/03	149.30	1640.00	-6.54	42.77	-1441.00	2076481.00	9424.14
2003/04	143.55	1745.00	-12.29	151.04	-1336.00	1784896.00	16419.44
2004/05	143.14	2345.00	-12.70	161.29	-736.00	541696.00	9347.20
2005/06	175.84	3775.00	20.00	400.00	694.00	481636.00	13880.00
2006/07	167.37	5900.00	11.53	132.94	2819.00	7946761.00	32503.07
	779.20	15405.00	0.00	888.05	0.00	12831470.00	81573.85

n = 5 $\sum X = 779.20$ $\sum Y = 15405$ $\sum \left(X-\overline{X}\right) = 0$ $\sum \left(X-\overline{X}\right)^2 = 885.05$ $\sum \left(Y-\overline{Y}\right) = 0$

$\sum \left(Y-\overline{Y}\right)^2 = 12831470$ $\sum \left(X-\overline{X}\right)\left(Y-\overline{Y}\right) = 81573.85$

Note:
Value of X represents dividend per share; DPS
Value of Y represents Market Price per share; MPS

Mean

$$\overline{X} = \frac{\sum X}{N} = 155.84$$

$$\overline{Y} = \frac{\sum Y}{N} = 3081$$

Covariance (X, Y) = $\dfrac{\sum (X-\overline{X})(Y-\overline{Y})}{N}$ = 16314.77

Standard Deviation of X ($\dagger_X$) = $\sqrt{\dfrac{\sum (X-\overline{X})^2}{N}}$ = 13.33

Standard Deviation of Y ($\dagger_Y$) = $\sqrt{\dfrac{\sum (Y-\overline{Y})^2}{N}}$ = 1601.97

Coefficient of Correlation (r) = Covariance (X, Y)/ $\dagger_X \dagger_Y$ = 0.764

Coefficient of Correlation (r^2) = 0.5840

Probable error of correlation coefficient, P.E.(r) = 0.6745*(1-r^2)/ $\sqrt{n}$ = 0.1255

(C) Nepal State Bank of India (NSBI)

Year	X	Y	$(X-\bar{X})$	$(X-\bar{X})^2$	$(Y-\bar{Y})$	$(Y-\bar{Y})^2$	$(X-\bar{X})(Y-\bar{Y})$
2002/03	11.47	255.00	-7.86	61.75	-282.00	79524.00	2215.96
2003/04	14.26	307.00	-5.07	25.68	-230.00	52900.00	1165.64
2004/05	13.29	335.00	-6.04	36.46	-202.00	40804.00	1219.68
2005/06	18.27	612.00	-1.06	1.12	75.00	5625.00	-79.35
2006/07	39.35	1176.00	20.02	400.88	639.00	408321.00	12794.06
	96.64	2685.00	0.00	525.89	0.00	587174.00	17315.98

$n = 5$ $\sum X = 96.64$ $\sum Y = 2685$ $\sum(X-\bar{X}) = 0$ $\sum(X-\bar{X})^2 = 525.89$ $\sum(Y-\bar{Y}) = 0$

$\sum(Y-\bar{Y})^2 = 587174$ $\sum(X-\bar{X})(Y-\bar{Y}) = 17315.98$

Note:
Value of X represents dividend per share; DPS
Value of Y represents Market Price per share; MPS

Mean

$$\bar{X} = \frac{\sum X}{N} = 19.33$$

$$\bar{Y} = \frac{\sum Y}{N} = 537.00$$

Covariance $(X, Y) = \dfrac{\sum(X-\bar{X})(Y-\bar{Y})}{N} = 3463.20$

Standard Deviation of X $(\dagger_X) = \sqrt{\dfrac{\sum(X-\bar{X})^2}{N}} = 10.26$

Standard Deviation of Y $(\dagger_Y) = \sqrt{\dfrac{\sum(Y-\bar{Y})^2}{N}} = 342.69$

Coefficient of Correlation (r) = Covariance (X, Y)/ $\dagger_X \dagger_Y = 0.985$

Coefficient of Correlation (r^2) = 0.9710

Probable error of correlation coefficient, P.E.(r) = $0.6745*(1-r^2)/\sqrt{n} = 0.0087$

Appendix 4

Related to Table 4.9

Correlation between Earning Price Earning (PE) ratio and Market Price Per Share (MPS)

(A) Nepal Investment Bank Ltd. (NIBL)

Year	X	Y	$(X-\overline{X})$	$(X-\overline{X})^2$	$(Y-\overline{Y})$	$(Y-\overline{Y})^2$	$(X-\overline{X})(Y-\overline{Y})$
2002/03	20.10	795.00	-1.38	1.90	-309.80	95976.04	426.90
2003/04	18.18	940.00	-3.30	10.88	-164.80	27159.04	543.51
2004/05	20.25	800.00	-1.23	1.51	-304.80	92903.04	374.29
2005/06	21.23	1260.00	-0.25	0.06	155.20	24087.04	-38.49
2006/07	27.63	1729.00	6.15	37.85	624.20	389625.64	3840.08
	107.39	5524.00	0.00	52.19	0.00	629750.80	5146.30

$$n = 5 \quad \sum X = 107.39 \quad \sum Y = 5524 \quad \sum(X-\overline{X}) = 0 \quad \sum(X-\overline{X})^2 = 52.19 \quad \sum(Y-\overline{Y}) = 0$$

$$\sum(Y-\overline{Y})^2 = 629750.80 \quad \sum(X-\overline{X})(Y-\overline{Y}) = 5146.30$$

Note:
Value of X represents Price Earning Ratio ; PE
Value of Y represents Market Price per share; MPS

Mean

$$\overline{X} = \frac{\sum X}{N} = 21.48$$

$$\overline{Y} = \frac{\sum Y}{N} = 1104.80$$

$$\text{Covariance (X, Y)} = \frac{\sum(X-\overline{X})(Y-\overline{Y})}{N} = 1029.26$$

$$\text{Standard Deviation of X } (\dagger_X) = \sqrt{\frac{\sum(X-\overline{X})^2}{N}} = 3.23$$

$$\text{Standard Deviation of Y } (\dagger_Y) = \sqrt{\frac{\sum(Y-\overline{Y})^2}{N}} = 354.89$$

Coefficient of Correlation (r) = Covariance (X, Y)/ $\dagger_X \dagger_Y$ = 0.898

Coefficient of Correlation (r^2) = 0.8058
Probable error of correlation coefficient, P.E.(r) = $0.6745*(1-r^2)/\sqrt{n}$ = 0.0586

(B) Standard Chartered Bank Ltd. (SCBL)

Year	X	Y	$(X-\overline{X})$	$(X-\overline{X})^2$	$(Y-\overline{Y})$	$(Y-\overline{Y})^2$	$(X-\overline{X})(Y-\overline{Y})$
2002/03	10.98	1640.00	-8.27	68.36	-1441.00	2076481.00	11914.19
2003/04	12.16	1745.00	-7.09	50.24	-1336.00	1784896.00	9469.57
2004/05	16.38	2345.00	-2.87	8.23	-736.00	541696.00	2110.85
2005/06	21.47	3775.00	2.22	4.94	694.00	481636.00	1542.07
2006/07	35.25	5900.00	16.00	256.06	2819.00	7946761.00	45109.64
	96.24	15405.00	0.00	387.83	0.00	12831470.00	70146.31

$n = 5$ $\sum X = 96.24$ $\sum Y = 15405$ $\sum(X-\overline{X}) = 0$ $\sum(X-\overline{X})^2 = 387.83$ $\sum(Y-\overline{Y}) = 0$

$\sum(Y-\overline{Y})^2 = 12831470$ $\sum (X-\overline{X})(Y-\overline{Y}) = 70146.31$

Note:
Value of X represents Price Earning Ratio ; PE
Value of Y represents Market Price per share; MPS

Mean

$$\overline{X} = \frac{\sum X}{N} = 19.25$$

$$\overline{Y} = \frac{\sum Y}{N} = 3081$$

Covariance (X, Y) = $\dfrac{\sum(X-\overline{X})(Y-\overline{Y})}{N} = 14029.26$

Standard Deviation of X ($\dagger_X$) = $\sqrt{\dfrac{\sum(X-\overline{X})^2}{N}} = 8.81$

Standard Deviation of Y ($\dagger_Y$) = $\sqrt{\dfrac{\sum(Y-\overline{Y})^2}{N}} = 1601.97$

Coefficient of Correlation (r) = Covariance (X, Y)/ $\dagger_X \dagger_Y = 0.994$

Coefficient of Correlation (r^2) = 0.9888

Probable error of correlation coefficient, P.E.(r) = $0.6745*(1-r^2)/\sqrt{n} = 0.0034$

(C) Nepal State Bank of India (NSBI)

Year	X	Y	$\left(X - \overline{X}\right)$	$\left(X - \overline{X}\right)^2$	$(Y - \overline{Y})$	$(Y - \overline{Y})^2$	$\left(X - \overline{X}\right)(Y - \overline{Y})$
2002/03	22.24	255.00	-4.23	17.93	-282.00	79524.00	1193.99
2003/04	21.54	307.00	-4.93	24.34	-230.00	52900.00	1134.82
2004/05	25.21	335.00	-1.26	1.60	-202.00	40804.00	255.33
2005/06	33.49	612.00	7.02	49.22	75.00	5625.00	526.20
2006/07	29.89	1176.00	3.42	11.67	639.00	408321.00	2182.82
	132.37	2685.00	0.00	104.76	0.00	587174.00	5293.16

$n = 5 \; \sum X = 132.37 \; \sum Y = 2685 \sum\left(X - \overline{X}\right) = 0 \; \sum\left(X - \overline{X}\right)^2 = 104.76 \sum\left(Y - \overline{Y}\right) = 0$

$\sum\left(Y - \overline{Y}\right)^2 = 587174 \; \sum \left(X - \overline{X}\right)(Y - \overline{Y}) = 5293.16$

Note:
Value of X represents Price Earning Ratio ; PE
Value of Y represents Market Price per share; MPS

Mean

$\overline{X} = \dfrac{\sum X}{N} = 26.47$

$\overline{Y} = \dfrac{\sum Y}{N} = 537$

Covariance (X, Y) $= \dfrac{\sum (X - \overline{X})(Y - \overline{Y})}{N} = 1058.63$

Standard Deviation of X $(\dagger_X) = \sqrt{\dfrac{\sum (X - \overline{X})^2}{N}} = 4.58$

Standard Deviation of Y $(\dagger_Y) = \sqrt{\dfrac{\sum (Y - \overline{Y})^2}{N}} = 342.69$

Coefficient of Correlation (r) = Covariance (X, Y)/ $\dagger_X \dagger_Y = 0.675$
Coefficient of Correlation $(r^2) = 0.4555$

Probable error of correlation coefficient, P.E.(r) = $0.6745*(1-r^2)/ \sqrt{n} = 0.1643$

Appendix 5

Correlation between Dividend Payout (DP) ratio and Market Price Per Share (MPS)

(A) Nepal Investment Bank Ltd. (NIBL)

Year	X	Y	$(X-\overline{X})$	$(X-\overline{X})^2$	$(Y-\overline{Y})$	$(Y-\overline{Y})^2$	$(X-\overline{X})(Y-\overline{Y})$
2002/03	50.56	795.00	19.98	399.12	-309.80	95976.04	-6189.18
2003/04	29.01	940.00	-1.57	2.47	-164.80	27159.04	259.07
2004/05	31.65	800.00	1.07	1.14	-304.80	92903.04	-325.53
2005/06	33.70	1260.00	3.12	9.72	155.20	24087.04	483.91
2006/07	7.99	1729.00	-22.59	510.40	624.20	389625.64	-14101.93
	152.91	5524.00	0.00	922.85	0.00	629750.80	-19873.66

$n = 5$ $\sum X = 152.91$ $\sum Y = 5524$ $\sum (X - \overline{X}) = 0$ $\sum (X - \overline{X})^2 = 922.85$ $\sum (Y - \overline{Y}) = 0$

$\sum (Y - \overline{Y})^2 = 629750.80$ $\sum (X - \overline{X})(Y - \overline{Y}) = -19873.66$

Note:
Value of X represents Dividend Payout ratio; DP
Value of Y represents Market Price per share; MPS

Mean

$\overline{X} = \dfrac{\sum X}{N} = 30.58$

$\overline{Y} = \dfrac{\sum Y}{N} = 1104.80$

Covariance $(X, Y) = \dfrac{\sum (X - \overline{X})(Y - \overline{Y})}{N} = -3974.73$

Standard Deviation of X $(\dagger_X) = \sqrt{\dfrac{\sum (X - \overline{X})^2}{N}} = 13.59$

Standard Deviation of Y $(\dagger_Y) = \sqrt{\dfrac{\sum (Y - \overline{Y})^2}{N}} = 354.89$

Coefficient of Correlation (r) = Covariance $(X, Y)/ \dagger_X \dagger_Y = -0.824$

Coefficient of Correlation $(r^2) = 0.6796$

Probable error of correlation coefficient, P.E.(r) = $0.6745*(1-r^2)/ \sqrt{n} = 0.0966$

(B) Standard Chartered Bank Ltd. (SCBL)

Year	X	Y	$(X - \bar{X})$	$(X - \bar{X})^2$	$(Y - \bar{Y})$	$(Y - \bar{Y})^2$	$(X - \bar{X})(Y - \bar{Y})$
2002/03	73.68	1640.00	2.51	6.28	-1441.00	2076481.00	-3611.15
2003/04	76.63	1745.00	5.46	29.77	-1336.00	1784896.00	-7289.22
2004/05	83.83	2345.00	12.66	160.17	-736.00	541696.00	-9314.82
2005/06	73.93	3775.00	2.76	7.60	694.00	481636.00	1912.66
2006/07	47.80	5900.00	-23.37	546.34	2819.00	7946761.00	-65891.31
	355.87	15405.00	0.00	750.16	0.00	12831470.00	-84193.82

$n = 5$ $\sum X = 355.87$ $\sum Y = 15405$ $\sum (X - \bar{X}) = 0$ $\sum (X - \bar{X})^2 = 750.16$ $\sum (Y - \bar{Y}) = 0$

$\sum (Y - \bar{Y})^2 = 12831470$ $\sum (X - \bar{X})(Y - \bar{Y}) = -84193.82$

Note:
Value of X represents Dividend Payout ratio; DP
Value of Y represents Market Price per share; MPS

Mean

$$\bar{X} = \frac{\sum X}{N} = 71.17$$

$$\bar{Y} = \frac{\sum Y}{N} = 3081$$

Covariance (X, Y) = $\dfrac{\sum (X - \bar{X})(Y - \bar{Y})}{N}$ = -16838.76

Standard Deviation of X $(\dagger_X)$ = $\sqrt{\dfrac{\sum (X - \bar{X})^2}{N}}$ = 12.25

Standard Deviation of Y $(\dagger_Y)$ = $\sqrt{\dfrac{\sum (Y - \bar{Y})^2}{N}}$ = 1601.97

Coefficient of Correlation (r) = Covariance (X, Y)/ $\dagger_X \dagger_Y$ = -0.858

Coefficient of Correlation (r^2) = 0.7364

Probable error of correlation coefficient, P.E.(r) = 0.6745*(1-r^2)/ $\sqrt{n}$ = 0.0795

(C) Nepal State Bank of India (NSBI)

Year	X	Y	$(X - \bar{X})$	$(X - \bar{X})^2$	$(Y - \bar{Y})$	$(Y - \bar{Y})^2$	$(X - \bar{X})(Y - \bar{Y})$
2002/03	69.76	255.00	43.93	1930.20	-282.00	79524.00	-12389.39
2003/04	0.00	307.00	-25.83	666.98	-230.00	52900.00	5939.98
2004/05	0.00	335.00	-25.83	666.98	-202.00	40804.00	5216.85
2005/06	27.37	612.00	1.54	2.38	75.00	5625.00	115.80
2006/07	32.00	1176.00	6.17	38.12	639.00	408321.00	3945.19
	129.13	2685.00	0.00	3304.66	0.00	587174.00	2828.43

$$n = 5 \quad \sum X = 129.13 \quad \sum Y = 2685 \quad \sum (X - \bar{X}) = 0 \quad \sum (X - \bar{X})^2 = 3304.66 \quad \sum (Y - \bar{Y}) = 0$$
$$\sum (Y - \bar{Y})^2 = 587174 \quad \sum (X - \bar{X})(Y - \bar{Y}) = 2828.43$$

Note:
Value of X represents Dividend Payout ratio; DP
Value of Y represents Market Price per share; MPS

Mean
$$\bar{X} = \frac{\sum X}{N} = 25.83$$
$$\bar{Y} = \frac{\sum Y}{N} = 537$$

Covariance (X, Y) = $\dfrac{\sum (X - \bar{X})(Y - \bar{Y})}{N}$ = 565.69

Standard Deviation of X ($\dagger_X$) = $\sqrt{\dfrac{\sum (X - \bar{X})^2}{N}}$ = 25.71

Standard Deviation of Y ($\dagger_Y$) = $\sqrt{\dfrac{\sum (Y - \bar{Y})^2}{N}}$ = 342.69

Coefficient of Correlation (r) = Covariance (X, Y)/ $\dagger_X \dagger_Y$ = 0.064

Coefficient of Correlation (r^2) = 0.0041

Probable error of correlation coefficient, P.E.(r) = $0.6745*(1-r^2)/ \sqrt{n}$ = 0.3004

Appendix 6

Correlation between Dividend Yield (DY) and Market Price Per Share (MPS)

(A) Nepal Investment Bank Ltd. (NIBL)

Year	X	Y	$(X-\bar{X})$	$(X-\bar{X})^2$	$(Y-\bar{Y})$	$(Y-\bar{Y})^2$	$(X-\bar{X})(Y-\bar{Y})$
2002/03	2.52	795.00	1.01	1.02	-309.80	95976.04	-312.28
2003/04	1.60	940.00	0.09	0.01	-164.80	27159.04	-14.50
2004/05	1.56	800.00	0.05	0.00	-304.80	92903.04	-14.63
2005/06	1.59	1260.00	0.08	0.01	155.20	24087.04	12.11
2006/07	0.29	1729.00	-1.22	1.49	624.20	389625.64	-762.77
	7.56	5524.00	0.00	2.53	0.00	629750.80	-1092.08

$n = 5$ $\sum X = 7.56$ $\sum Y = 5524$ $\sum (X-\bar{X}) = 0$ $\sum (X-\bar{X})^2 = 2.53$ $\sum (Y-\bar{Y}) = 0$

$\sum (Y-\bar{Y})^2 = 629750.80$ $\sum (X-\bar{X})(Y-\bar{Y}) = -1092.08$

Note:
Value of X represents Dividend Yield; DY
Value of Y represents Market Price per share; MPS

Mean

$$\bar{X} = \frac{\sum X}{N} = 1.51$$

$$\bar{Y} = \frac{\sum Y}{N} = 1104.80$$

Covariance (X, Y) = $\dfrac{\sum (X-\bar{X})(Y-\bar{Y})}{N} = -218.42$

Standard Deviation of X ($\dagger_X$) = $\sqrt{\dfrac{\sum (X-\bar{X})^2}{N}} = 0.71$

Standard Deviation of Y ($\dagger_Y$) = $\sqrt{\dfrac{\sum (Y-\bar{Y})^2}{N}} = 354.89$

Coefficient of Correlation (r) = Covariance (X, Y)/ $\dagger_X \dagger_Y$ = -0.866

Coefficient of Correlation (r^2) = 0.7499
Probable error of correlation coefficient, P.E.(r) = $0.6745*(1-r^2)/ \sqrt{n} = 0.0754$

(B) Standard Chartered Bank Ltd. (SCBL)

Year	X	Y	$\left(X-\overline{X}\right)$	$\left(X-\overline{X}\right)^2$	$(Y-\overline{Y})$	$(Y-\overline{Y})^2$	$\left(X-\overline{X}\right)(Y-\overline{Y})$
2002/03	6.71	1640.00	2.12	4.51	-1441.00	2076481.00	-3060.68
2003/04	6.30	1745.00	1.71	2.94	-1336.00	1784896.00	-2289.90
2004/05	5.12	2345.00	0.53	0.29	-736.00	541696.00	-393.02
2005/06	3.44	3775.00	-1.15	1.31	694.00	481636.00	-795.32
2006/07	1.36	5900.00	-3.23	10.41	2819.00	7946761.00	-9094.09
	22.93	15405.00	0.00	19.45	0.00	12831470.00	-15633.03

$n = 5 \ \sum X = 22.93 \ \sum Y = 15405 \ \sum\left(X-\overline{X}\right) = 0 \ \sum\left(X-\overline{X}\right)^2 = 19.45 \ \sum\left(Y-\overline{Y}\right) = 0$

$\sum\left(Y-\overline{Y}\right)^2 = 12831470 \ \sum\left(X-\overline{X}\right)(Y-\overline{Y}) = -15633.03$

Note:
Value of X represents Dividend Yield; DY
Value of Y represents Market Price per share; MPS

Mean

$$\overline{X} = \frac{\sum X}{N} = 4.59$$

$$\overline{Y} = \frac{\sum Y}{N} = 3081$$

$$\text{Covariance (X, Y)} = \frac{\sum(X-\overline{X})(Y-\overline{Y})}{N} = -3126.61$$

$$\text{Standard Deviation of X } (\dagger_X) = \sqrt{\frac{\sum(X-\overline{X})^2}{N}} = 1.97$$

$$\text{Standard Deviation of Y } (\dagger_Y) = \sqrt{\frac{\sum(Y-\overline{Y})^2}{N}} = 1601.97$$

Coefficient of Correlation (r) = Covariance (X, Y)/ $\dagger_X \dagger_Y$ = -0.989

Coefficient of Correlation (r^2) = 0.9790

Probable error of correlation coefficient, P.E.(r) = $0.6745*(1-r^2)/ \sqrt{n} = 0.0063$

(C) Nepal State Bank of India (NSBI)

Year	X	Y	$\left(X-\bar{X}\right)$	$\left(X-\bar{X}\right)^2$	$(Y-\bar{Y})$	$(Y-\bar{Y})^2$	$\left(X-\bar{X}\right)(Y-\bar{Y})$
2002/03	3.14	255.00	2.13	4.55	-282.00	79524.00	-601.79
2003/04	0.00	307.00	-1.01	1.01	-230.00	52900.00	231.38
2004/05	0.00	335.00	-1.01	1.01	-202.00	40804.00	203.21
2005/06	0.82	612.00	-0.19	0.03	75.00	5625.00	-13.95
2006/07	1.07	1176.00	0.06	0.00	639.00	408321.00	40.90
	5.03	2685.00	0.00	6.62	0.00	587174.00	-140.25

$$n = 5 \quad \sum X = 5.03 \quad \sum Y = 2685 \quad \sum\left(X-\bar{X}\right) = 0 \quad \sum\left(X-\bar{X}\right)^2 = 6.62 \quad \sum\left(Y-\bar{Y}\right) = 0$$

$$\sum\left(Y-\bar{Y}\right)^2 = 587174 \quad \sum\left(X-\bar{X}\right)(Y-\bar{Y}) = -140.25$$

Note:
Value of X represents Dividend Yield; DY
Value of Y represents Market Price per share; MPS

Mean

$$\bar{X} = \frac{\sum X}{N} = 1.01$$

$$\bar{Y} = \frac{\sum Y}{N} = 537$$

Covariance (X, Y) = $\dfrac{\sum(X-\bar{X})(Y-\bar{Y})}{N}$ = -28.05

Standard Deviation of X ($\dagger_x$) = $\sqrt{\dfrac{\sum(X-\bar{X})^2}{N}}$ = 1.15

Standard Deviation of Y ($\dagger_y$) = $\sqrt{\dfrac{\sum(Y-\bar{Y})^2}{N}}$ = 342.69

Coefficient of Correlation (r) = Covariance (X, Y)/ $\dagger_x \dagger_y$ = -0.071

Coefficient of Correlation (r^2) = 0.0051

Probable error of correlation coefficient, P.E.(r) = $0.6745*(1-r^2)/ \sqrt{n}$ = 0.3001

Appendix 7

Related to Table 4.12
Regression analysis between Marker Price Per Share (MPS) and Earnig Price Per Share (EPS)

(A) Nepal Investment Bank Ltd. (NIBL)

Year	X	Y	XY	X^2	Y^2	$(X - \overline{X})$	$(X - \overline{X})^2$
2002/03	39.56	795.00	31450.20	1564.99	632025.00	-10.98	120.47
2003/04	51.70	940.00	48598.00	2672.89	883600.00	1.16	1.35
2004/05	39.50	800.00	31600.00	1560.25	640000.00	-11.04	121.79
2005/06	59.35	1260.00	74781.00	3522.42	1587600.00	8.81	77.69
2006/07	62.57	1729.00	108183.53	3915.00	2989441.00	12.03	144.82
	252.68	5524.00	294612.73	13235.56	6732666.00	0.00	466.12

$$n = 5 \quad \sum X = 252.68 \quad \sum Y = 5524.00 \quad \sum XY = 294612.73 \quad \sum X^2 = 13235.56$$

$$\sum Y^2 = 6732666.00 \quad \sum (X - \overline{X})^2 = 466.12$$

Note:
Value of X represents Dividend per share; DPS
Value of Y represents Market Price per share; MPS

Mean

$$\overline{X} = \frac{\sum X}{N} = 50.536$$

$$\overline{Y} = \frac{\sum Y}{N} = 1104.8$$

Coefficient of Correlation (r) = $\dfrac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - \left(\sum X\right)^2}\sqrt{n\sum Y^2 - \left(\sum Y\right)^2}} = 0.9019$

Coefficient of Correlation (r^2) = 0.8134

Regression equation of Y on X
Y = a + bX
Where,
a = Regression Constant
b = Regression Coefficient (Slope of the Regression Line)
According to the principle of least squares, two normal equations for estimation for
estimating two numerical constants a and b are given by

$$\sum Y = na + b\sum X$$

$$\sum Y = a\sum Y + b\sum X^2$$

Solving these two normal equations, we get,

$$b = \frac{n\sum XY - \sum X \sum Y}{n\sum X^2 - \left(\sum X\right)^2} = 33.1497$$

$$a = \overline{Y} - b\overline{X} = -570.4509$$

Standard error of the estimate (S.Ee) = $\sqrt{\dfrac{\sum Y^2 - a\sum Y - b\sum XY}{n-2}}$ = 197.9283

Standard error of Regression coefficient (Sb) = $\dfrac{S.Ee}{\sqrt{\sum\left(X - \overline{X}\right)^2}}$ = 9.1676

(B) Standard chartered Bank Ltd. (SCBL)

Year	X	Y	XY	X²	Y²	$\left(X - \overline{X}\right)$	$\left(X - \overline{X}\right)^2$
2002/03	149.30	1640.00	244852.00	22290.49	2689600.00	-6.54	42.77
2003/04	143.55	1745.00	250494.75	20606.60	3045025.00	-12.29	151.04
2004/05	143.14	2345.00	335663.30	20489.06	5499025.00	-12.70	161.29
2005/06	175.84	3775.00	663796.00	30919.71	14250625.00	20.00	400.00
2006/07	167.37	5900.00	987483.00	28012.72	34810000.00	11.53	132.94
	779.20	15405.00	2482289.05	122318.57	60294275.00	0.00	888.05

$$n = 5 \quad \sum X = 779.20 \quad \sum Y = 15405 \quad \sum XY = 2482289.05 \quad \sum X^2 = 122318.57$$

$$\sum Y^2 = 60294275 \quad \sum\left(X - \overline{X}\right)^2 = 888.05$$

Note:
Value of X represents Dividend per share; DPS
Value of Y represents Market Price per share; MPS

Mean

$$\overline{X} = \frac{\sum X}{N} = 155.84$$

$$\overline{Y} = \frac{\sum Y}{N} = 3081$$

Coefficient of Correlation (r) = $\dfrac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2}\ \sqrt{n\sum Y^2 - (\sum Y)^2}}$ = 0.7642

Coefficient of Correlation (r^2) = 0.5840

Regression equation of Y on X
Y = a + bX
Where,
a = Regression Constant
b = Regression Coefficient (Slope of the Regression Line)
According to the principle of least squares, two normal equations for estimation for estimating two numerical constants a and b are given by

$$\sum Y = na + b\sum X$$

$$\sum Y = a\sum Y + b\sum X^2$$

Solving these two normal equations, we get,

$$b = \dfrac{n\sum XY - \sum X \sum Y}{n\sum X^2 - (\sum X)^2} = 91.8576$$

$$a = \overline{Y} - b\overline{X} = \text{-11234.0920}$$

Standard error of the estimate (S.Ee) = $\sqrt{\dfrac{\sum Y^2 - a\sum Y - b\sum XY}{n-2}}$ = 1333.9528

Standard error of Regression coefficient (Sb) = $\dfrac{S.Ee}{\sqrt{\sum (X - \overline{X})^2}}$ = 44.7633

(C) NEPAL STATE BANK OF INDIA (NSBI)

Year	X	Y	XY	X^2	Y^2	$\left(X-\overline{X}\right)$	$\left(X-\overline{X}\right)^2$
2002/03	11.47	255.00	2924.85	131.56	65025.00	-7.86	61.75
2003/04	14.26	307.00	4377.82	203.35	94249.00	-5.07	25.68
2004/05	13.29	335.00	4452.15	176.62	112225.00	-6.04	36.46
2005/06	18.27	612.00	11181.24	333.79	374544.00	-1.06	1.12
2006/07	39.35	1176.00	46275.60	1548.42	1382976.00	20.02	400.88
	96.64	2685.00	69211.66	2393.75	2029019.00	0.00	525.89

$$n = 5 \quad \sum X = 96.64 \quad \sum Y = 2685 \quad \sum XY = 69211.66 \quad \sum X^2 = 2393.75$$

$$\sum Y^2 = 2029019 \quad \sum \left(X-\overline{X}\right)^2 = 525.89$$

Note:
Value of X represents Dividend per share; DPS
Value of Y represents Market Price per share; MPS

Mean

$$\overline{X} = \frac{\sum X}{N} = 19.328$$

$$\overline{Y} = \frac{\sum Y}{N} = 537$$

Coefficient of Correlation (r) = $\dfrac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - \left(\sum X\right)^2}\sqrt{n\sum Y^2 - \left(\sum Y\right)^2}} = 0.9854$

Coefficient of Correlation (r^2) = 0.9710

Regression equation of Y on X
Y = a + bX
Where,
a = Regression Constant
b = Regression Coefficient (Slope of the Regression Line)
According to the principle of least squares, two normal equations for estimation for estimating two numerical constants a and b are given by

$$\sum Y = na + b\sum X$$

$$\sum Y = a\sum Y + b\sum X^2$$

Solving these two normal equations, we get,

$$b = \frac{n\sum XY - \sum X \sum Y}{n\sum X^2 - \left(\sum X\right)^2} = 32.9270$$

$$a = \overline{Y} - b\overline{X} = -99.41$$

Standard error of the estimate (S.Ee) = $\sqrt{\dfrac{\sum Y^2 - a\sum Y - b\sum XY}{n-2}} = 75.3012$

Standard error of Regression coefficient (Sb) = $\dfrac{S.Ee}{\sqrt{\sum\left(X - \overline{X}\right)^2}} = 3.2836$

Appendix 8

Related to Table 4.13
Regression analysis between Marker Price Per Share (MPS) and Dividend Per Share (DPS)

(A) Nepal Investment Bank Ltd. (NIBL)

Year	X	Y	XY	X^2	Y^2	$\left(X - \overline{X}\right)$	$\left(X - \overline{X}\right)2$
2002/03	20.00	795.00	15900.00	400.00	632025.00	5.50	30.25
2003/04	15.00	940.00	14100.00	225.00	883600.00	0.50	0.25
2004/05	12.50	800.00	10000.00	156.25	640000.00	-2.00	4.00
2005/06	20.00	1260.00	25200.00	400.00	1587600.00	5.50	30.25
2006/07	5.00	1729.00	8645.00	25.00	2989441.00	-9.50	90.25
	72.50	5524.00	73845.00	1206.25	6732666.00	0.00	155.00

$n = 5$ $\sum X = 72.50$ $\sum Y = 5524.00$ $\sum XY = 73845$ $\sum X^2 = 1206.25$

$\sum Y^2 = 6732666.00$ $\sum\left(X - \overline{X}\right)^2 = 155.00$

Note:
Value of X represents Dividend per share; DPS
Value of Y represents Market Price per share; MPS

Mean

$$\overline{X} = \frac{\sum X}{N} = 14.50$$

$$\overline{Y} = \frac{\sum Y}{N} = 1104.8$$

Coefficient of Correlation (r) = $\dfrac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - \left(\sum X\right)^2}\sqrt{n\sum Y^2 - \left(\sum Y\right)^2}}$ = -0.6329

Coefficient of Correlation (r^2) = 0.4006

Regression equation of Y on X
Y = a + bX
Where,
a = Regression Constant
b = Regression Coefficient (Slope of the Regression Line)
According to the principle of least squares, two normal equations for estimation for estimating two numerical constants a and b are given by

$$\sum Y = na + b\sum X$$

$$\sum Y = a\sum Y + b\sum X^2$$

Solving these two normal equations, we get,

$$b = \dfrac{n\sum XY - \sum X \sum Y}{n\sum X^2 - \left(\sum X\right)^2} = \text{-40.3419}$$

$$a = \overline{Y} - b\overline{X} = 1689.7581$$

Standard error of the estimate (S.Ee) = $\sqrt{\dfrac{\sum Y^2 - a\sum Y - b\sum XY}{n-2}}$ = 354.7265

Standard error of Regression coefficient (Sb) = $\dfrac{S.Ee}{\sqrt{\sum \left(X - \overline{X}\right)^2}}$ = 28.4923

(B) Standard chartered Bank Ltd. (SCBL)

Year	X	Y	XY	X^2	Y^2	$(X - \overline{X})$	$(X - \overline{X})2$
2002/03	110.00	1640.00	180400.00	12100.00	2689600.00	0.00	0.00
2003/04	110.00	1745.00	191950.00	12100.00	3045025.00	0.00	0.00
2004/05	120.00	2345.00	281400.00	14400.00	5499025.00	10.00	100.00
2005/06	130.00	3775.00	490750.00	16900.00	14250625.00	20.00	400.00
2006/07	80.00	5900.00	472000.00	6400.00	34810000.00	-30.00	900.00
	550.00	15405.00	1616500.00	61900.00	60294275.00	0.00	1400.00

$$n = 5 \quad \sum X = 550 \quad \sum Y = 15405.00 \quad \sum XY = 1616500.00 \quad \sum X^2 = 61900.00$$

$$\sum Y^2 = 60294275.00 \quad \sum (X - \overline{X})^2 = 1400.00$$

Note:
Value of X represents Dividend per share; DPS
Value of Y represents Market Price per share; MPS

Mean

$$\overline{X} = \frac{\sum X}{N} = 110$$

$$\overline{Y} = \frac{\sum Y}{N} = 3081$$

Coefficient of Correlation (r) = $\dfrac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2}\sqrt{n\sum Y^2 - (\sum Y)^2}}$ = -0.5823

Coefficient of Correlation (r^2) = 0.3391

Regression equation of Y on X
Y = a + bX
Where,
a = Regression Constant
b = Regression Coefficient (Slope of the Regression Line)
According to the principle of least squares, two normal equations for estimation for estimating two numerical constants a and b are given by

$$\sum Y = na + b\sum X$$

$$\sum Y = a\sum Y + b\sum X^2$$

Solving these two normal equations, we get,

$$b = \frac{n\sum XY - \sum X \sum Y}{n\sum X^2 - \left(\sum X\right)^2} = -55.7500$$

$$a = \overline{Y} - b\overline{X} = 9213.5000$$

Standard error of the estimate (S.Ee) = $\sqrt{\dfrac{\sum Y^2 - a\sum Y - b\sum XY}{n-2}}$ = 1681.2875

Standard error of Regression coefficient (Sb) = $\dfrac{S.Ee}{\sqrt{\sum\left(X - \overline{X}\right)^2}}$ = 44.9343

(C) NEPAL STATE BANK OF INDIA (NSBI)

Year	X	Y	XY	X²	Y²	$\left(X - \overline{X}\right)$	$\left(X - \overline{X}\right)2$
2002/03	8.00	255.00	2040.00	64.00	65025.00	2.88	8.31
2003/04	0.00	307.00	0.00	0.00	94249.00	-5.12	26.19
2004/05	0.00	335.00	0.00	0.00	112225.00	-5.12	26.19
2005/06	5.00	612.00	3060.00	25.00	374544.00	-0.12	0.01
2006/07	12.59	1176.00	14805.84	158.51	1382976.00	7.47	55.83
	25.59	2685.00	19905.84	247.51	2029019.00	0.00	116.54

$n = 5$ $\sum X = 25.59$ $\sum Y = 2685.00$ $\sum XY = 19905.84$ $\sum X^2 = 247.51$

$\sum Y^2 = 2029019.00$ $\sum\left(X - \overline{X}\right)^2 = 116.54$

Note:
Value of X represents Dividend per share; DPS
Value of Y represents Market Price per share; MPS

Mean

$$\overline{X} = \frac{\sum X}{N} = 5.118$$

$$\overline{Y} = \frac{\sum Y}{N} = 537$$

Coefficient of Correlation (r) = $\dfrac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - \left(\sum X\right)^2}\sqrt{n\sum Y^2 - \left(\sum Y\right)^2}}$ = 0.7452

Coefficient of Correlation $(r^2) = 0.5553$

Regression equation of Y on X
Y = a + bX
Where,
a = Regression Constant
b = Regression Coefficient (Slope of the Regression Line)
According to the principle of least squares, two normal equations for estimation for estimating two numerical constants a and b are given by

$$\sum Y = na + b\sum X$$

$$\sum Y = a\sum Y + b\sum X^2$$

Solving these two normal equations, we get,

$$b = \frac{n\sum XY - \sum X \sum Y}{n\sum X^2 - \left(\sum X\right)^2} = 52.8925$$

$$a = \overline{Y} - b\overline{X} = 266.30$$

Standard error of the estimate (S.Ee = $\sqrt{\dfrac{\sum Y^2 - a\sum Y - b\sum XY}{n-2}} = 295.0391$

Standard error of Regression coefficient (Sb) = $\dfrac{S.Ee}{\sqrt{\sum \left(X - \overline{X}\right)^2}} = 27.3303$

Appendix 9

Related to Table 4.14
(A) One-Way analysis of Variance (ANOVA) for Dividend Per Share (DPS)

Year	NIBL (X_1)	SCBL (X_2)	NSBI (X_3)	X_1^2	X_2^2	X_3^2
2002/03	20.00	110.00	8.00	400.00	12100.00	64.00
2003/04	15.00	110.00	0.00	225.00	12100.00	0.00
2004/05	12.50	120.00	0.00	156.25	14400.00	0.00
2005/06	20.00	130.00	5.00	400.00	16900.00	25.00
2006/07	5.00	80.00	12.59	25.00	6400.00	158.51
	72.50	550.00	25.59	1206.25	61900.00	247.51

$$\sum X_1 = 72.50 \quad \sum X_2 = 550.00 \quad \sum X_3 = 25.59 \quad \sum X_1^2 = 1206.25 \quad \sum X_2^2 = 61900.00$$
$$\sum X_3^2 = 247.51$$

Note:

Value of X_1, X_2 and X_3 represents dividend per share (DPS) of NIBL, SCBL and NSBI respectively.

Grand Total (T) = $\sum X_1 + \sum X_2 + \sum X_3 = 648.09$

Correction Factor (CF) = $T^2/n = 28001.38$

Total sum of Squares (TSS) = $\sum X_1^2 + \sum X_2^2 + \sum X_3^2$ - CF = 35352.38

Sum of Squares due to row or between banks (SSR)

= $\sum X_1^2/n1 + \sum X_2^2/n2 + \sum X_3^2/n3$ – CF = 33680.84

Sum of Square due to error or within banks (SSE) = TSS – SSR = 1671.54

(B) One-Way analysis of Variance (ANOVA) for Earning Per Share (EPS)

Year	NIBL (X_1)	SCBL (X_2)	NSBI (X_3)	X_1^2	X_2^2	X_3^2
2002/03	39.56	149.30	11.47	1564.99	22290.49	131.56
2003/04	51.70	143.55	14.26	2672.89	20606.60	203.35
2004/05	39.50	143.14	13.29	1560.25	20489.06	176.62
2005/06	59.35	175.84	18.27	3522.42	30919.71	333.79
2006/07	62.57	167.37	39.35	3915.00	28012.72	1548.42
	252.68	779.20	96.64	13235.56	122318.57	2393.75

$\sum X_1 = 252.68$ $\sum X_2 = 779.20$ $\sum X_3 = 96.64$ $\sum X_1^2 = 13235.56$ $\sum X_2^2 = 122318.57$ $\sum X_3^2 = 2393.75$

Note:
Value of X_1, X_2 and X_3 represents dividend per share (DPS) of NIBL, SCBL and NSBI respectively.

Grand Total (T) = $\sum X_1 + \sum X_2 + \sum X_3 = 1128.52$

Correction Factor (CF) = $T^2/n = 84903.83$

Total sum of Squares (TSS) = $\sum X_1^2 + \sum X_2^2 + \sum X_3^2$ - CF = 53044.06

Sum of Squares due to row or between banks (SSR)

= $\sum X_1^2/n1 + \sum X_2^2/n2 + \sum X_3^2/n3$ – CF = 51164.00

Sum of Square due to error or within banks (SSE) = TSS – SSR = 1880.06

(C) One-Way analysis of Variance (ANOVA) for DIvidend Payout Ratio (DPR)

Year	NIBL (X_1)	SCBL (X_2)	NSBI (X_3)	X_1^2	X_2^2	X_3^2
2002/03	50.56	73.68	69.76	2556.31	5428.74	4866.46
2003/04	29.01	76.63	0.00	841.58	5872.16	0.00
2004/05	31.65	83.83	0.00	1001.72	7027.47	0.00
2005/06	33.70	73.93	27.37	1135.69	5465.64	749.12
2006/07	7.99	47.80	32.00	63.84	2284.84	1024.00
	152.91	355.87	129.13	5599.15	26078.85	6639.57

$\sum X_1 = 152.91$ $\sum X_2 = 355.87$ $\sum X_3 = 129.13$ $\sum X_1^2 = 5599.15$ $\sum X_2^2 = 26078.85$ $\sum X_3^2 = 6639.57$

Note:
Value of X_1, X_2 and X_3 represents dividend per share (DPS) of NIBL, SCBL and NSBI respectively.

Grand Total (T) = $\sum X_1 + \sum X_2 + \sum X_3 = 637.91$

Correction Factor (CF) = $T^2/n = 27128.61$

Total sum of Squares (TSS) = $\sum X_1^2 + \sum X_2^2 + \sum X_3^2$ - CF = 11188.96

Sum of Squares due to row or between banks (SSR)

= $\sum X_1^2/n1 + \sum X_2^2/n2 + \sum X_3^2/n3$ – CF = 6211.29

Sum of Square due to error or within banks (SSE) = TSS – SSR = 4977.68