CHAPTER-I
INTRODUCTION

1.1 Background of the study

Banking sector plays an important role in the economic development of the country. Commercial Banks are the one of the vital aspects of the sector, which deals in the process of channelizing the available resources in the needed sector. It is the intermediary between the defect and surplus of financial resource. Financial system contains two component vis., depository financial institutions and non-depository financial institution. Commercial Banks and financial companies (in Nepalese context) are the examples of depository financial institution whereas Employee Providence Fund, Development Banks, Insurance Companies etc, are the example of non depository financial institution. As the economic activities are directly or indirectly channeled through these banks, people keep their surplus money as deposits in the banks and hence banks can provide such funds to finance the industrial activities in the form of loan and advances.

Bank came into existence mainly with the objectives of collecting the idle funds, mobilizing them into productive sector and causing an overall economic development. The bankers have the responsibility of safeguarding the interest of the depositors, the shareholders and the society they are serving. *KFA (Research and Training Center)*

Nepal being a developing country bears the characteristic of having low corporate growth and per capita income. People here are unaware of modern form of commerce and so they still follow the traditional way of business and commerce. Nepal implemented liberal economic policy only after the restoration of democracy in 1990, universal echo of liberalization. As a consequence many companies were established in the various sectors for the economic development of the country.

(Shrestha;2005:1). Among the different sectors of the development, financial sector plays vital role because for the development of any sector finance is required for the investment. Finance can be generated from the contribution from donor countries or from the loans from bank.

Bank is an institution which deals with money by accepting various types of deposit, disbursing loan and rendering other financial services. As banks are providing services to general public in various ways, they have become an important part of modern society. In the same way, in the modern economy a well developed banking system plays a vital role, because the economic development of a country largely depends on its banking system. Besides providing financial resources for the growth of industrialization, banks can also influence the direction in which these resources are to be utilized. In a modern economy, banks are to be considered not only as dealers in money but also as the leaders in development.

The contribution of bank has been very substantial in increasing production and employment by motivating people to save and in collecting the scattered saving in the form of deposits.

Banks are institutions whose debts, usually referred to as "bank deposits", are commonly accepted in final settlement of other people's debt. Bank is also defined as an institution for the keeping, lending and exchanging etc. of money. Thus a bank is an institution, which accepts deposits from the public and in turn advances loan by creating credit. It is different from other financial institutions in the sense that they cannot create credit though they may be accepting deposits and making advances.

Banking system occupies an important place in a nation's economy. A banking institution is indispensable in a modern society. It plays a pivotal role in the economic development of a country and forms the core of the money market in an advanced country. It has played an immensely valuable role in the economic life of every country big or small. The special interests of economists in the activities of banks are due to the monitory nature of the deposit liabilities of the banks. Like any other

business undertaking the activities of banks are of direct personal interest to the people who use them and to the people who works in them.

Various types of banking institutions are performing different functions. There is for instance, the central bank, which controls the entire currency and credit of the country. It is the organ of government that undertakes the major financial operations of the government and by its conduct of these operations and by other means influences the behaviors of financial institutions so as to support the economic policy of the government. Similarly commercial banks also perform different functions by accepting deposits and advancing loans etc.

But in modern times, commercial banks are concentrated in their activities of fulfilling the financial needs of their customer. The nature of the commercial bank is distinguished by different set up like Merchant Bank, Development Banks, and Business Banks etc. All these commercial banks perform almost same functions. So they have become the heart of financial system as they hold the deposits of people, government and business units and make fund available through their lending and investing activities to individuals, business firm and government. *(Shrestha, 2005:5)*

Nepal is endowed with limited resources especially the capital constraint. It is regarded as one of the obstacles for its economic development. In this connection Nepalese economy has witnessed several changes in the financial systems as a result of which several foreign joint venture banks evolved in the last decade.

The concept of banking system was introduced In the year 1934 AD, the establishment of Nepal bank Ltd, with the imperial Bank of India came into existence under "Nepal Bank Act, 1937" as the first commercial bank of Nepal, inaugurated by this Majesty King Tribhuwan on November 1937. Rastrya Banijya Bank, the second commercial bank was established in the year 1965.RBB being the largest commercial bank plays a major role in the economy. That is the reason why these banks still exist in spite their bad position.

Thus we can say that modern banking practices began only before the Second World War with the established of the first banking institute, Nepal Bank Limits, which was establishment as a joint venture of government and private individuals.

Earlier banks were different from modern commercial banks in many respects. The banks, which operated in the past, combined central banking functions such as issue of currency, with commercial banking operations like accepting deposits and financing business. In course of time this practice was abandoned and specialized institutions for the central banking functions were created. Now, a central bank can be easily distinguished from a commercial bank due to their objectives and unique functions.

On the long run commercial Bank Act was felt, accordingly it was established in 1974 AD. According to Commercial Bank Act 1974, the commercial banks are the heart of the economic system. They hold the deposits of millions of persons, government and business units. It exchanges money, accepts deposit, grants loan and operates commercial transaction. They make fund available through their lending and investing activities to borrowers, individuals, business firms and government. Thus their task is to provide a collecting point for saving of relatively small average amount from large number of individual sources and invests them into a productive and needed sector of the country, so as to develop the nation. In the developing country like Nepal, there always lack of financial resource not only because of its real absence but because of the available resources are not properly mobilized and fully utilized for the productive purpose, in this course the commercial banks are financial institute rather than banking institute.

In modern time commercial banks, which are facilitated, regulated and supervised by the central bank, confined them and concentrated in their activities of fulfilling the financial needs of their customers.

Commercial banks are the major component in the financial system. They work as the intermediary between depositors and lenders and facilitate in overall development of the economy, with major thrust in industrial development.

Commercial bank came into existence mainly with the objectives of collecting the idle funds, mobilizing them into productive sector and causing an overall economic development. The bankers have the responsibility of safeguarding the interest of the development; the bankers have the responsibility of safeguarding the interest of the depositors, the shareholders and the society they are serving. A sound banking system is important because of the key roles it plats in the economy, intermediation, maturity transformation, facilitating payments flows, credit allocation and maintaining financial discipline among borrowers, banks are the gathers of savings, the allocators of resources and providers of liquidity and payment services.

With the opening of NABIL bank is 1985 the door of opening commercial banks was opened to the private sector. Then whole lot of commercial banks was opened in Nepal. Today all the Banks except Nepal Bank Ltd, and Rastriya Banijya Bank are making profit. The commercial banks of Nepal can be categorized into two types Public Sector and Private Sector. Public sector banks include the old banks NBL and RBB. The inefficiency of these two public sector banks has lead to the success of other we got 30 commercial banks in operation.

1.2 Brief Profile of Samples

In this study, due to time consistency and reliability of the data available, only seven companies are selected as sample among enlisted commercial banks of NEPSE. Following are the brief introduction of them.

1.2.1 Standard Chartered Bank Nepal Limited (SCBNL)

Nepal Grindlays Bank, second joint venture bank was established with 50% equity share with foreign partner ANZ Grindlays Bank PLC, 33.341% of Nepal Bank Ltd and 16.659% of Nepali public in 1987. Its initial paid up capital was Rs. 30 Million.

The bank is known presently as Standard Chartered Bank. Today the Bank is an integral part of Standard Chartered Group who has 75% ownership in the company with 25% shares owned by the general public. The paid up capital is Rs.62 Million at present. Nepal Rastra Bank erased entry restriction with an amendment to the commercial Bank Act in 1980 and Government adopted liberal and market oriented economic policy after the restoration of Democracy in 1990. Joint venture banks are attracted to open commercial banks in the country.

1.2.2   Himalayan Bank Ltd

Himalayan Bank Ltd. is a joint venture bank with Habib Bank Ltd. of Pakistan which was established in 18 June 1993 under the company act 1994. This is the first joint venture bank holding with maximum share by Nepalese private sectors. Its ownership is composed of financial institutions of Nepal by 66.29%, Habib Bank Ltd. of Pakistan by 20% and general public of Nepal by 13.58%. Currently bank has Rs 1000 million of authorized capital and Rs 600million of issued. The fast growth of the banks has been made possible through the strategic approach they undertaken and the years of hard work and perseverance on the part of the Board, top management and qualified human resources. Any business opportunities that have come along has been thoroughly evaluated and tapped when ever found feasible. This has put info use all available forms of resourced to grab the opportunities available in the banking sectors.

1.2.3   Everest Bank Limited

Everest Bank Ltd. is a joint venture bank with Punjab national bank of India was Established in 18th Oct 1994. This bank is established with 50 % of the shares are owned by the local promoters 20% by our joint venture partner Punjab National Bank India and 30% of the shares are owned by the general .It has Rs 600 million authorized capital, Rs 466.8 million of issued capital and Rs 455 million of paid-up capital. It has an objective of extending professionalized and efficient banking services to various segments of the society. The bank had an initial paid up capital of Rs 3 Corer. Today the bank has grown to become one of the leading banks in Nepal. We at EBL believe that the long term development of an organization depends on

how we build trust among our stakeholders. Our values are focused on the ethics at work place and outside. Thus we need to be as transparent as possible through proper corporate governance. We have built a code of conduct where by all employees working, needs to follow it stringently. The bank has been conferred with „Bank of the Year 2006, Nepal‰ by the banker, a publication of financial times, London. The bank was bestowed with the NICCI Excellence award twice in 1999 and 2003 by Nepal India chamber of commerce for its spectacular performance under finance sector.

1.3 Focus of The Study

Dividend policy is regarded as the major financial decision in any organization because it affects the value of the firm. It is very important for an investor to have the knowledge of the firm and its dividend policy before investing in that organization. But in the context of Nepal most of the investors are investing in stock without knowledge of company's performance. It is due to the lack of availability of research about these companies performance. In this study, it is tried to find out the appropriate dividend policies of banks and effect of the dividend policy in the market price per share (MPS).

The main focus of the study is to examine the practice made by the Nepalese firm in regards to the dividend policy. But for whole these purpose different other studies are going to be done i.e. comparison of earning per share(EPS),dividend per share(DPS),market price per share(MPS) and others as per the requirement with respect to the selected commercial banks. They study will be more focusing on the dividend policy and MPS; however other qualitative discussion will be submitted including the Nepalese practices. The relationship between different variables(s) will be individually and combine analyzed in order to state the particular suggestion. In the same way, the study will be exactly determining the relation of dividend and market price of shares of the selected commercial banks made in past five years.

1.4 Statement of the Problem:

Dividend policy itself is not well-known subject. It is still a fundamental as well as controversial area of managerial finance even today. Form the past many years it has been tried to see the relevant and practicable dividend policy in the firms all over the world. In context of Nepal, investors are investing in new companies without having the perspective analysis of those companies. In Nepal when the firms earn big earnings they retain more and when they do not have good figure of earnings, company announces high dividend to protect their image in the capital market.

Shareholders make investment in equity capital or share of the company with the expectation of making earning. Dividend is a kind of earning that the shareholders expect from their investment. Thus, dividend policy is a major decision to be taken by the firm and it is a fundamental as well as controversial area of the managerial finance. It has always been a subject matter of argument that, what would be the effect of dividend policy on the market price per share (MPS), but, still there is no single conclusive result regarding the relationship between the dividend payment and market price per share (MPS).

In this research, it is tried to get the answers on the following questions:

1. What is the impact of dividend policy on the market price of the share?
2. What are the prevailing dividend policies and practices of the sample banks?
3. Is there any consistency in the earning per share (EPS), dividend per share (DPS), market price per share (MPS) and dividend payout ratio (DPR) of the sample banks?
4. What is the elasticity of dividend or retain earnings with respect to the MPS?

1.5 Objective of the Study:

The major objective of this study is to find out the impact of dividend policy on market price of the share. Other objectives can be listed as follows:

1. To find out whether there is any consistency in dividend per share (DPS), earning per share (EPS), market price per share (MPS) and dividend payout ratio (DPR) of the sample banks.
2. To study prevailing practices and efforts made in dividend policy in Nepalese Commercial Banks with the help of sample banks.
3. To identify the factors that affects the dividend and valuation of market price per share (MPS) of the sample banks.

1.6 Significance of the Study:

Due to excess liquidity and lack of investment opportunities in the capital market, nowadays people are very much interested and attracted to invest in shares for getting higher returns. When any new company issues (floats) shares through capital markets, very big congregation gathers to apply for owner's certificate. It reveals that people have expectation on higher return for investing in shares. So the dividend decision is one of the most important decisions of financial management. It is an effective tool (way) to attract new investors, maintain present investors and controlling position of the firm.

The study helps to the management and policy maker in setting and making a suitable dividend policy. The manager of the bank under this study will be benefited in the sense that he can formulate the appropriate dividend policy so as to meet the shareholders expectation and to maximize value of the bank.

To raise public awareness about dividend policy and market price of share relation in order to help them for rational decision of their investment. From the sample banks a general concept about the co-relation between dividend declaration and market price

of share can be developed. Concerned body and policy maker may use this research as a reference to make the necessary provisions regarding dividend.

Having lack of adequate knowledge, the people are haphazardly investing in shares. It shows that there is an extreme necessity to establish clear conception about the return that yields from investing in securities.

In the Nepalese perspective, we find that there exist almost none of the companies adopting consistent dividend policy. There may be many reasons behind it, but there is not sufficient study conducted in this regard. Therefore, considering all these facts, the study is undertaken which will help to meet deficiency of the literature relating to dividend decision, factors affecting the dividend policy and its effect on the Market Price of the Stock.

1.7 Limitations of the Study:

The study will have the following limitations:

) The study is concentrated only on five years period from F/Y 2061/62 to 2065/66.
) Most of the data used in the research are based on secondary data provided by the respective banks.
) Among the different determinants of the market price of stock, only the dividend policy has been selected and only cash dividend is taken for the analysis.
) Since the study is limited to only three commercial banks, the findings of this study may not be applicable to other commercial banks of Nepal.

1.8   Chapter Scheme:

This study has been comprised into five chapters:

Chapter I: Introduction

It deals with the introductory part of the study, which includes background of the study, focus of the study, statement of the problem, objective of the study and significance of the study.

Chapter II: Review of Literature

It deals with review of the different literature in regards to the theoretical analysis and review of the books, articles and thesis related to the study field. Therefore, it includes conceptual framework and other related studies.

Chapter III: Research Methodology

It deals with the research methodology used to carry out the research. It includes research design, sources of data, data processing procedures, population and sample, period of the study, method of analysis and financial and statistical tools.

Chapter IV: Presentation and Analysis of Data

It is concerned with analytical framework. It includes the analysis of financial indicators; analysis of mean, standard deviation, coefficient of variation, correlation coefficient and regression analysis.

Chapter V: Summary, Conclusion and Recommendations

It is concerned with the suggestive framework that consists with the overall findings, issues and gaps, conclusions and recommendations of the study.

The bibliography and appendixes are incorporated at the end of the study.

CHAPTER-II
REVIEW OF LITERATURE

The present research aims to analyze the impact of dividend policy on market price of the share of joint venture commercial banks, which are Standard Chartered Bank Nepal Ltd., Himalayan Bank Ltd. and Everest Bank Ltd. For this purpose, it needs to review related literatures in this concerned area which will help researcher to get the clear cut ideas, opinions and other concepts. What others have done? And what other has written? These all and other related questions are reviewed which had provided useful inputs in these research work. This chapter emphasizes about the literatures which are concerned in this connections. Therefore, in this chapter conceptual frameworks given by different authors and intellectuals of this area, books, journals, research works, and previous thesis related to dividend and dividend policy and practices are reviewed. Moreover, rules regarding to dividend policy are reviewed and an attempt has been made to present them properly.

2.1 Conceptual Framework:

2.1.1 Meaning of Dividend:

People invest their hard earned money for the satisfactory and expected return in the shares of the banks and other companies, to their objectives, those companies distribute their earning to the shareholders. Once the company makes profit, it has to be decided in advance that how to utilize those profit, they can either continue to retain the profit within the company which is essential for the growth of the company or they can distribute the profit to the shareholders of the company in the form of dividend and dividend can be distributed in two forms, as cash dividend or as stock dividend.

Dividend refers to the portion of the earning made to by firm, distributed to shareholders as return to their investment in shares of the firm. It is not possible for any organization to pay dividend without earning profit, in other words, dividend can be known as the portion of profit distributed to shareholders after deducting the retained amount in business. It has always been a matter of controversy in most of the

organizations that how much should be distributed as dividend and in which form (cash/stock) and how much should be retained in the business for its growth.

"Dividend decision is an integral part of financial management decision. It is in the sense that the firm has to choose between distributing the profits to the shareholders and reinvesting it to finance the business. The important aspect of dividend policy is to determine the amount of earnings to be distributed to shareholders in return to their investment and the amount to be retained in the firm. It affects the financial structure, the flow of funds, corporate liquidity and investor's attitudes. It is relevant for all surrounding that mobilizes funds in terms of return and investment. Thus, it is one of the central decision area related to policies seeking to maximize the value of firm's common stock". *(Achary; 2001: 9)*

"Dividends refer to that portion of retained earnings that is paid to stockholders while dividend policy refers to the policy or guidelines that management use in establishing the portion of retained earnings that is to be paid in dividends". *(Mathur; 1979: 297)*

"Dividend policy can be define as percentage of dividend (D/P ratio), should be one, which maximize the wealth of its owners in the "long run" Dividend police becomes a problem especially on public limited companies. A firm dividend policy has the effect of dividend, its net earnings in to two parts retained earnings and dividend. The retained earning provides funds to finance the firm's long-term growth. It is one of the most significant sources of financing for the firm in terms of raising funds to undertake investment. On the other hand, dividends are desirable from the shareholders point of view, as attends to increase their current wealth. Dividends are generally paid in cash. Therefore, the percentage of earnings is paid in cash to stockholders. Dividend payout of course reduces the amount of earnings retained in the firm and affects the firm is internal financing". *(Sharma; 2001:334)*

The policy of a company in the division of its profits between distribution of shareholders as dividend and retention for its investment is known as dividend policy. All aspects and questions related to payment of dividend are contained in a dividend policy. Generally, dividends are paid in the form of cash, which reduces the cash balance of the company. There is a reciprocal relationship between retained earnings

and cash dividends. If retained earnings is kept more by the company, less will be dividend and vice - versa. The decision depends upon the objective of the management for wealth maximization.

"What and how much it is desirable to pay dividend is always a matter of dispute because shareholders expect higher dividend from corporation, as it tends to increase their current wealth whereas retention of earning is desirable for the growth of firm. These two objectives of the dividend policy are always in conflict. There is not yet consensus on whether the firms should follow certain pattern to distribute dividend and retained earnings. However, there are different decision models, developed to analyze the situation and reach decision. These decision models are conflicting and consider the different aspects of the firm. One school of thought argues that dividend payment has no impact on valuation of a firm whereas other theories of dividend decision argues dividend to be active variable in valuation of the firm.

Market price of stock (MPS) is the trading price of the stock listed in the authorized or legal stock exchange. In context of Nepal, MPS is the price that is coated for purchasing or selling under Nepal Stock Exchange Act or related laws and regulations, on the stock exchange floor." *(Bhattarai; 2002: 1).*

2.1.2   Theories of Dividend:

The various concepts of dividend defined in various books of finance are discussed below:

(a) Residual Theory

Under residual theory of dividends retained earnings are determined first then amount of dividend then amount of payment is determined automatically. "One school of thought, the residual theory of dividend, suggests that the dividend paid by a form should be viewed as a residual amount left after all acceptable investment opportunities have been undertaken."(*Gitman; 1994: 9.5)* Thus, according to this theory, dividend policy is a residual form investment policy. It is residue since shareholders get dividends only when their exists balance after paying fixed obligations and investing is profitable sector or expansion. If the firm has return earning left over after financing all acceptable investment

opportunities, these earnings, then, will be distributed to stockholders in the form of each dividend. If not, there will be not dividend due to flotation costs; it assumes that the internally generated funds are comparatively cheaper than the funds obtained from the external sources. The theory is based on the premise that investor prefers to have the firm retain and reinvest earnings exceeds the rate of return the investor could, himself, obtain on other investment of comparable risk. The dividend under a residual dividend policy equals the amount left over from earnings after equity investment. If equity investment equals earnings, then no dividend are paid and new share are sold to cover any equal investment not covered by earnings are distributed to shareholders. Dividend is therefore merely a residual remaining after all equity investment need are fulfilled.

Thus under this policy, dividend policy is influenced by:

-) The company's investment opportunities

-) The availability internally generated capital where dividends are paid only all acceptable investment opportunities have been financed.

Hence, according to this concept, dividend policy is totally passive in nature."When we treat dividend policy as strictly a financing decision, the payment of cash dividend is a passive residual". *(Van Horne; 199: 327)*

(b) Wealth Maximization Theory:

Under wealth maximization theory, large dividends are announced and distributed to shareholders in order to (or in hope with) maximize the wealth of the stockholders. Basically, it is beneficial for those companies which are just established and to those companies it will be beneficial whose financial are in decreasing trends. The main purpose of the wealth maximization theory of dividend is to make assure to the stockholder that they are interesting in the firm, when has not better market value.

2.1.3 Types of Dividend:

Though cash dividend is assumed as the most popular form of dividend, there are other various types of dividend that corporations need to follow in view of the objectives and policies, which they implement. According to changing needs of corporations, dividend is being distributed in several forms viz. cash dividend, stock dividend (bonus share issue), scrip dividend, property dividend, optional dividend and bond dividend. But in Nepal and India only two types of dividend namely cash dividend and stock dividend are being practiced.

a. Cash Dividend:

"Cash dividend is simply the dividend paid in cash or the proportion of net earnings which are distributed to shareholders as cash in proportion to their shares of company is known as cash dividend". *(Hasting; 1966: 620)* After the payment of dividend to the shareholders both the total assets and net worth of the company decreased by the amount equal to the cash dividend .For the payment of dividend, company should sustain adequate balance of cash. In case of insufficiency in cash balance for the payment of dividend, fund to be borrowed for this purpose are different. Thus, a company should regularly perform cash planning for maintaining a stable dividend policy. In context of Nepal, cash dividend is the most popular form of dividend and is mostly adopted by many companies / firm /financial institutions. However it can be said that the volume of cash dividend depends on the earning of the organization, attitude of management, situation of the market, cost of external financing etc.

The objectives of Cash Dividends are as follows:

- To distribute the earning to shareholder, as they held the proportion of the share.
- To build on image in the capital market as to create favorable condition to raise the fund at the needs.
- To make easy distribution and to account easily.

b. Stock Dividend / Bonus Share:

Stock dividend refers to the payment of additional stock to the shareholders. "A stock dividend is paid in additional shares of the stock instead of in cash and simply involves a book-keeping transfer from retained earnings to the capital stock account." (*Western & Copeland; 1990: 680*) A stock dividend represents a distribution of share in addition to the cash dividend to the existing shareholders. This has the effect of increasing the number of outstanding share of the company .The declarations of the bonus share will increase to paid up shares capital and reduce the reserve and surplus of the company. The total net worth is not affected by the bonus issue .In fact, if represents nothing more re- capitalization of the owner's equity portion i.e. the reserve and surplus it is simply and accounting transfer from retained earnings to capital stock.

There are number of reasons why company declares stock dividend as follows:

- To increase share capital.
- To provide tax benefit to the shareholders. Receipts of stock dividend are not a taxable income but cash dividend is taxable income.
- To conserve cash in the organization. A company having less liquidity pay stock dividend to conserve cash.
- To provide psychological value to the shareholders.
- To decrease the share price at taxable range.

c. Scrip Dividend:

A scrip dividend is issued when company has been suffering from the cash problem and does not permit the cash dividend, but has earned profit. A dividend paid in promissory notes is called a scrip dividend. Scrip is a form of promissory notes promising to pay the holder at specified later date. Under this form of dividend, company issues and distributes transferable promissory notes to shareholders, which may be interest bearing or non - interest bearing. The use of scrip dividends is desirable only when corporations have really earned profit and have only to wait for the conversion of other current assets into cash. Therefore, in order to overcome the temporary shortage of cash, sometimes company uses scrip dividends.

d. Property Dividend:

It is also known by the name of liquidating dividends. It involves a payment of assets / property in any form other than cash. Such form of dividend may be followed whenever there are assets that are no longer necessary in the operation of the business or in extra ordinary circumstances.

e. Optional Dividend:

The optional dividend is, in fact, not a kind of dividend but simply a choice of dividend given to the shareholders to accept either cash or stock dividend. But the shareholders consider the comparative value of stock dividend with the amount of optional cash."If the two are very nearly the same, as it often the case, the cash option may be a convenience to selling either whole or fraction of share he does not wish to keep."*(Warning; 1931: 404)* If the cash dividend is subject to income taxes over and above the limit he prefers to have stock dividend.

f. Bond Dividend:

This type of dividend is distributed to the shareholders in the form of bond. It helps to postpone the payment of cash. In other words, company declares dividend in the form of its own bond with a view to avoid cash outflows. They are issued rarely. They are long term enough to fall beyond the current liability group. The stockholders become secured creditors if the bond carries lien on assets. But none of these types except cash and stock dividend have been practiced in Nepalese corporations although they have ample scope for application. So far in this study, the term dividend generally refers to cash dividend.

2.1.4 Dividend Policy:

Dividend, in simple term, is the part of earning which is announced to be distributed among shareholders, and policy is the crucial decision made for growth of the company. So, dividend policy refers to the decision about how much earning should be retained or distributed among the shareholders and in which form. Dividend policy is regarded as the most important decision of any organization since it affects the financial structure of the organization.

Dividend policy determines the division of earnings between payments to shareholders and reinvestment in the firm. Retained earnings are one of the most significant sources of fund for financing corporate group, but dividends constitute the cash flow that accrues to shareholders *(Weston & Copeland; 1991: 657).*

Dividend policy is the third major decision of a firm, which aims at maximization of shareholders wealth. Dividend payout reduces the amount of the earnings retained in the firm and affects the total amount of internal financing. The dividend policy refers to the issue of how much of the total profit a firm should pay to its shareholders and how much to retain for investment so that the combined present and future benefits maximize the wealth of shareholders.

2.1.5 Types of Dividend Policy:

There are three commonly used dividend policy as below:

a) Constant Dividend Per Share:

According to this form of stable dividend policy, a company follows a policy of paying a certain fixed amount per share as dividend. The fixed dividend amount would be paid year after year, irrespective fluctuation in the earnings. In other words, fluctuations in earnings would not affect the dividend payment. In fact, when a company follows such a dividend policy it will pay dividends to the shareholders even when it suffers losses. It should be clearly noted that this policy does not imply that the dividend per share or dividend rate will never be increase. The dividends per share are increased over the years when the company reaches new levels of earnings and expects to maintain it. Of course, if the increase is expected to be temporary, the annual dividend per share is not changed and remains at the existing level.

It is easy to follow this policy when earnings are stable. If the earnings pattern of a company shows wide fluctuations, it is difficult to maintain such a policy. Investors who have dividends as the only source of their income prefer the constant dividend policy.

b) Constant Payout Ratio:

Constant / target payout ratio is another form of stable dividend policy followed by some companies. The term payout ratio refers to the ratio of dividend to earnings or the

percentage share of earnings used to pay dividend. With constant / target payout ratio, a firm pays a constant percentage of net earnings as dividend to the shareholders. In other words, a stable dividend payout ratio implies that the percentage of earnings paid out each year is fixed. Accordingly, amount of dividend will fluctuate in direct proportion to earnings and are likely to be highly volatile in the wake of wide fluctuations in the earrings of the company.

This policy is related to a company's ability to pay dividends. If the company incurs losses, no dividends shall be paid regardless of the desires of shareholders. Internal financing with retained earnings is automatic when this policy is followed. At any given payout ratio the amount of dividends and the additions to retained earnings increase with increasing earnings and decrease with decreasing earnings. This policy simplifies the dividend decision, and has the advantage of protecting a company against over and under payment of dividend. It ensures that dividends are paid when profits are earned, and avoided when it incurs losses.

c) Low Regular Dividend Plus Extras:

A policy of paying a low regular dividend plus a year end extra in good years is a compromise between the previous two policies. Under this policy, a firm usually pays fixed dividend to the shareholders and in years of marked prosperity additional or extra dividend is paid over and above the regular dividend. As soon as normal conditions return, the firm cuts the extra dividend and pays the normal dividend per share.

It gives the firm flexibility, but it leaves investors somewhat uncertain about what their dividend income will be. If a firm's earnings and cash flows are quite volatile, however, this policy may well be its best choice.

2.1.6   Factors Influencing Dividend Policy:

Dividend policy, one of the major decisions of managerial finance, determines that what percentage of the earnings of the firm is distributed to its shareholders and what percentage of the earnings is retained in the firm which is desirous for the growth of the firm. Dividends are desirable to its shareholders because it tends to increase their current wealth whereas retained earnings are desirable for the firm to exploit investment opportunities as the internal source of financing. So, in order to develop a long term

dividend policy, the directors should aim at bringing a balance between the desire of shareholders and the needs of the company. The firm's decision regarding the amount of earnings to be distributed as dividends depends on a number of factors.

The factors which restrict the firm's ability to declare and pay dividends are discussed below:

a)   Legal Restrictions:

  i.   The Surplus Rule:

   According to surplus rule, dividend should be paid only out of surplus. If there is no surplus or profits, dividend can't be legally declared.

  ii.   The Insolvency Rule:

   The insolvency rule states that dividends can't be paid if company is insolvent or if a payment would result in insolvency. (i.e., when liabilities exceed assets)

  iii.   Capital Impairment Rule:

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

b)   Bond Indenture:

Debt contracts generally restrict dividend payments to earning generated after the loan was granted. Also, debt contracts often stipulate that no dividends can be paid unless the current ratio, the times interest-earned ratio and other safety ratios exceed stated minimums.

c)   Alternative Sources of Capital:

  i.   Cost of Selling New Stock:

   If a firm needs to finance a given level of investment, it can obtain equity by retaining earnings or by selling new common stock. If flotation costs are high, making it much better to finance through retention than through sale of new common stock. On the other hand, if these costs are low, dividend policy will be less important. Flotation costs differ among firms. For example, they are generally

higher for small firms. Hence, the importance of these costs, and consequently, the degree of flexibility in setting a dividend policy, varies among firms.

ii. **Ability to Substitute Debt for Equity:**

A firm can finance a given level of investment with either debt or equity. As we have seen, if flotation costs are low, a more flexible dividend policy may be followed because equity can be raised by retaining earnings or by selling new stock. A similar situation holds for debt policy. If the firm is willing to adjust its debt ratio, it can maintain a constant dollar amount of dividend by using a variable debt ratio.

d) **Need to Repay Debt:**

When a firm has sold debt to finance expansion or to substitute for other forms of financing, it is faced with two alternatives. It can refund the debt at maturity by replacing it with another form of security, or it can make provisions for paying off the debt. If the decision is to retire the debt, this will generally require for retention of earnings. *(Western & Copeland; 1990: 659)*

e) **Access to the Capital Market:**

All the firms do not have equal access to capital markets. A firm which has not sufficient liquidity can pay dividends, if it is able to raise debt or equity in the capital market. A firm which is larger, well established and has a record of profitability will not find much difficulty in rising of funds in the capital market. Easy accessibility to the capital market provides flexibility to the management in paying dividends as well as in meeting the corporate obligations.

f) **Rate of Assets Expansion:**

The more rapid the rate at which the firm is growing, the greater is need for financing assets expansion. The greater the future need for funds, the more likely the firm is to retain earnings rather than pay them out. If a firm seeks to raise funds externally, natural sources are the present shareholders, who already know the company. But if earnings are paid out as dividend and are subjected to high personal income tax rates, only a portion of them will be available for reinvestment.

g)   Internal Investment Opportunity:

It is apparent that opportunities to invest are a major consideration in setting dividend policy. Other considerations aside, when the firm has opportunities to earn returns greater than those available to shareholders outside the firm, retention and reinvestment are appropriate.

h)   Financial Needs of the Company:

It is another consideration which also influences on the establishment of an appropriate dividend policy. Mature companies that have few investment opportunities may generally have high payout ratios. On the other hand, growth companies may have low payout ratios. They are continuously in need of funds to finance their fast growing fixed assets. The distribution of earnings will reduce the funds of the company.

i)   Profit Rate:

The rate of return on assets determines the relative attractiveness of paying out earnings in the form of dividends to stockholders (who will use them elsewhere) or using them in the present enterprise.

j)   Tax Position of the Corporations:

It is another factor which affects the firm's dividend decision. Possible penalties for excess accumulation of retained earnings may induce higher payout ratios.

k)   Stockholders' Expectations:

In case of widely-held company, the number of shareholders is very large and they may have conflicting interests and diverse desires regarding dividends and capital gains. Therefore, it is not easy to reconcile these conflicting interests of the various shareholders group by adopting a dividend policy which equally satisfies all shareholders.

Generally, the company should adopt a dividend policy which serves the purpose of the dominating group. But, it does not totally neglect the desires of other groups.

In a closely- held company, the body of shareholders is small and homogeneous group, so management usually knows the expectations of its shareholders and may adopt a dividend policy, which satisfies all shareholders. If most of the stockholders are in high tax brackets and have a preference for capital gains to current dividend incomes the company

can establish a low dividend payout or no dividends and retains the earnings within the company.

l)   Tax of Stockholders:

The tax position of the corporation's owners greatly influences the desire for dividends. For example, a corporation closely held by a few taxpayers in high income tax brackets is likely to pay a relatively low dividend. The owners are interested in taking their income in the form of capital gains rather than as dividends which are subject to higher personal income tax rates. However, the stockholders of a large widely held corporation may be interested in a high dividend payout.

m)   Stability of Earnings:

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

n)   Control:

The objective of maintaining control over the company by the existing management group or the body of shareholders can be an important variable in influencing the company's dividend policy. When a company pays large dividends, its cash position is affected. As a result, the company will have to issue new shares to raise funds to finance its investment programs. The control of the existing shareholders will be diluted if they don't want or can't buy additional shares. Under these circumstances, the payment of dividends may be withheld and earnings may be retained to finance the firm's investment opportunities.

o)   Liquidity:

The liquidity of a company is a prime consideration in many dividends decision. Although a firm may have sufficient retained earnings to declare dividend, but if they are invested in physical assets cash may not available to make dividend payments. Thus the company must have adequate cash available as well as retained earning to pay dividends.

As dividends represent cash outflow, the greater the cash position and overall liquidity of a company, the greater its ability to pay a dividend and vice-versa. A company that is growing and profitable may not be liquid, for its funds may go into fixed assets and permanent current assets.

p)   Inflation:

In an indirect way inflation costs act as a constraint paying dividends. Our accounting system is based on historical costs. Depreciation is charged on the basis of original costs at which assets were acquired. As a result, with raising prices funds saved on account of depreciation may be inadequate to replace obsolete equipment. Those firms have to rely upon retained earnings as a source of funds to make up the shortfall. This aspect becomes all the more important if the assets are to be replaced in the near future. Consequently, their dividend payout tends to be low during periods of inflation.

2.1.7   Review of International 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.

Walter's Study (1963)

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

This 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.

$$P \ \text{X} \frac{DPS}{ke} \ \Gamma \ \frac{r/ke(EPS \ \text{Z} DPS)}{ke}$$

$$or, P \ \text{X} \frac{DPS \ \Gamma \ r/ke(EPS \ \text{Z} DPS)}{ke}$$

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's 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 firms are those firms, which expand rapidly. Because of ample investment opportunities yielding return (r) is higher than the opportunity cost of capital (k). So, firms 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 return is equal to cost of capital, the dividend payout does not affect the value of share, i.e. dividends are indifferent from stock prices. In other words, there is no role of dividends on stock prices. Such a 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, dividend 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 $r < k$.

Gordon's Study (1962)

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. Gordon explains 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 risky than the expected capital gain. This argument stresses that an increase in dividend payout ratio leads to increase in the stock price for the reason that investors consider the dividend yield (D1/Po) 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 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 risk less. 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 uncertainty. 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 exist positive relationship between the amount of dividend and stock prices.

Gordon's model is based on the following assumptions: *(Pandey; 1995:745-746)*

    a. The firm is an all-equity firm with the new investment proposals being financed solely by the retained earnings.

    b. No external financing is available consequently; retained earnings would be used to finance any expansion.

    c. The internal rate of return (r) of the firm is constant. This ignores the diminishing marginal efficiency of investment.

    d. The appropriate discount rate (k) for the firm remains constant. Thus Gordon's model also ignores the effect of a change in the firms risk class and its effect on k.

    e. The firm and its stream of earnings are perpetual.

    f. The corporate taxes do not exist.

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

h. K > br =g. If this condition is not fulfilled, we cannot get meaning value for the share

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

$$p \; X \frac{E(1\,Zb)}{ke\,Zbr} \; X \frac{E(1\,Zb)}{ke\,Z\,g}$$

Where,

P = Price of share / market value per share

E = Earning per share

b = Retention ratio / percentage of retained earning

1-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 will decrease as the retention ratio (b) decreases i.e. high dividend corresponding to earnings leads to decrease in share prices and low dividend corresponding to earning leads to increase in share prices. So, dividends and stock 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 changes in dividend policies. It means dividend and stock price are free from each other in normal firm i.e., r = k firm.

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

In case of declining firms, share price tends to enhance with increase in payout ratio, 1-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.

Modigliani and Miller Study (1961)

The most comprehensive arguments supporting the irrelevance of dividend are 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. MM 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 earnings into packages of retentions and dividends does not influence the value of equity shares. In other words, the division of earnings between dividend and retained earning 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 its financing decisions. As 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 perfect 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 exist. 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-1,**

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,

$$P_0 = \frac{D_1 + P_1}{1 + Ke} \quad \text{.........................(1)}$$

Where,

P0 = Current market price of a share (market price at the beginning or at the zero period.)

Ke = the cost of equity capital (Assumed constant)

D1 = the dividend per share to be received at the end of the period one.

P1 = the market price of the share at the end of the period one.

) **Step-2,**

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.

$$nP_0 = \frac{n(D_1 + P_1)}{1 + Ke} \quad \text{...........................(2)}$$

Where,

n = no. of outstanding shares at zero period.

) **Step-3,**

If the firm issues (sells) number of new shares (m) to finance the new investment needs of the fund at a price of P1, the value of the firm at time zero will be:

$$nP_0 = \frac{n(D_1 + P_1) + m(P_1 - P_1)}{1 + Ke}$$

$$nP_0 = \frac{nD_1 + nP_1 + mP_1 - mP_1}{1 + Ke} \quad\text{........................(3)}$$

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-4,

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

$$mP_1 = I - (E - nD_1)$$

$$or,\ mP_1 = I - E + nD_1 \quad\text{........................(4)}$$

Where,

I = Investment needs

E = Earning available.

Step-5,

By substituting the value of mP1 from equation (4) to equation (3), we get.

$$nP_0 = \frac{nD_1 + (n+m)P_1 - I + E - nD_1}{1 + ke}$$

$$or,\ nP_0 = \frac{nD_1 + nP_1 + mP_1 - I + E - nD_1}{1 + ke}$$

$$or,\ nP_0 = \frac{P_1(n+m) - I + E}{1 + ke} \quad\text{........................(5)}$$

Step-6,

Conclusions: Since dividend does not appear directly in expression and E, I, (n+m) P1 and ke are assumed to be independent of dividend.

In other words, MM concludes 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 earnings, and generally, Nepalese investor also prefer dividends more than retained earnings, when dividend is distributed. Thus, MM proposition is not relevant in the case of Nepal.

Linter's Study (1956):

Linter made an important study on corporate dividend policy in the American context in 1956. Linter investigated a partial adjustment model as by testing the dividend patterns of 28 companies. According to Linter's study, dividends are 'sticky' in the sense that they are slow to change and lay behind shifts in earnings by one or more periods. According to Linter, dividend is a function of earnings of that year, existing dividend rate, target payout ratio and speed of adjustment. The followings were the basic 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 this existed most actively into dividends.

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

$$DIV_t * X P \mid EPS_t ....(1)$$

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$$and, DIV_t \, \mathbb{Z} DIV_{tZ1} \, \mathbb{X} a \, \Gamma b (DIV_t * \mathbb{Z} DIV_{tZ1}) \, \Gamma e_t ....(2)$$

Adding, DIVt-1 on both sides of equation (2)

$$DIV_t \, \mathbb{X} a \, \Gamma b DIV_t * (1 \, \mathbb{Z} b) DIV_{tZ1} \, \Gamma e_t ....(3)$$

Where,

DIVt*= Firm's desired payment

EPSt= earnings

P= Targeted payout ratio

a = constant relating to dividend growth

b = adjustment factor relating to the previous period's divided and new 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 payout ratios in view while determining change in divided rate or dividend per share.

Van Horne and Mc-Donald's Study (1971)

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 tests are performed with yearend 1968 cross sections for two industries, using a well-known valuation model. For the investigation, 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 were employed.

Van Horne and Mc-Donald performed empirical study by testing two regressions for the electric utilities and one regression model for electronics and electronic components industry.

The study 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.

The study also indicated that the 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 firms in the electronics-electronic component industry, a significant relationship between new equity financing and value was not demonstrated.

2.2 Review of NRB Directives:

NRB Directives is on the major things for any financial organization. This Unified Directives published in 2067. NRB Directives issued by Nepal Rastra Bank. All the financial institution must follow according to mentioned in directives. Following are the some important directive which is concerning for this study.

Directive No. 4/066:

Provision regarding Accounting policy and the format of financial particulars.

Different directive regarding accounting policy and formats of financial particulars have been promulgated for the institutions licensed by this bank, using the authority conferred by section 79 of Nepal Rastra Bank Act, 2058.

Directives No.4/(4):

Short description of Balance Sheet items .

(2) (c) Dividend assimilation fund:

In case of profit gained and making uniformity among dividend; a sum of it can be distributed after expending for the approval of the proposal of Board of Director and General meeting.

(7) Proposed and dues dividend:

The proposed dividend and the due dividend passed by General meeting can be included in it.

9 (5) Investments:

(a) Licensed organizations should show investments in three categories.

) Held for Trade

) Available for sale and

) Held in Maturity.

(b) The bonus share obtained from investment should be increased and without changing the prime cot, it should be mentioned.

(c) The particulars invested in the share capital of the organization, should be shown in the title of schedule 4.12(a).

) Company name

) Types of share (ordinary share, or preference share), in preference share, dividend rate should be mentioned.

) Obtained shares (including bonus share)

) Face value of each share.

) The cost of licensed organizations is shown in prime cost.

) The updated listed price of balance sheet, if share is enlisted in stock exchange.

) Any company, in which a licensed organization has inverted share, has not declared any dividend for 3 years or more than that should be mentioned.

Directive No.16 (3):

To enforce by making the processes or regulation regarding payment and fund collection.

(3) if a shareholder or his /her dose not claims for the dividend within five years of the announcement of the dividend by the licensed organization, the details of

such shareholders must be submitted to this bank within the first month of each facial year.

(4)Unclaimed dividends, deposits or undistributed dividends according to the sub-sections (1) or (2) should be published at least once in a national level newspaper within a month at the end of mentioned time limit. Such cash should be deposited in the account directed by this bank if that cash remains unpaid even after the notice publication in newspaper.

Directive No. 16 :

(8) Provision Regarding Public Offering:

Licensed banks and financial institutions must have sold or distributed the shares allocated for general public within 2 years of incorporation.

Directive No. 16 (10):

Sub ordinate term debt and redeemable non- convertible preference share can be issued.

(10) The time limit when the investors will be paid their interest gained from debenture payable fixed preference share should be mentioned clearly inside the "Interest/preferred dividend payment timing "clause.

2.3   Review of Journals and Articles:

Very few articles relating directly or indirectly with dividend and stock price are published in Nepal. Some of them, which are significant in this study, have drawn in this section.

Shrestha, (1981) has published an article on *'Public Enterprises*': *"Have They Dividend Paying Ability?"* It gives short glimpse of the dividend performance of some public enterprises of that time in Nepal. Shrestha has highlighted (focused) the following issues in the article.

His Majesty's Government (HMG) 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.

1. One reason for this inefficiency is caused by excessive governmental interference over daily affairs even though there is provision of government interference only for policy matters. On the other hand, high-ranking officials of HMG 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.

2. The article points out the irony of government biasness that government has not allowed banks to adopt an independent dividend policy and HMG 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 is:

⟩ 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 HMG 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 HMG.

Shrestha, (1992) has published article, *"Shareholder's Democracy and Annual Meeting Feedback".* This article deals with the policies and financial performance of some financial companies in Nepal. Shrestha presented a paper on fifth annual meeting of Nepal Arab Bank Ltd. He opined that the shareholder's have common views on the problems and constraints of the shareholders, which are as follows:

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

) Multiple decreases in 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 based on 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 live 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 report of the earlier annual general meeting.

) One way to encourage risk - taking ability and performance 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.

Regarding these difficulties, he requested the bank management board to rethink the matters relating to the payment of dividend. At the end of his paper, Shrestha opined that the bank is trying its best to satisfy both he shareholders and employees. As Shrestha, report shows (Third general meeting of NGBL) some of the shareholders thought that bonus way Rs. 2.85 million bonuses was paid to nearly 50 employees, but Rs. 3 million dividend to more than 500 shareholders which is not socially justified from income sharing perspective. On sixth annual meeting Dr. Shrestha's, report bitterly criticized management board for neglecting shareholder's interest. He expressed that the dividend
payout ratio is relatively lower than the seven years average growth rate of earnings.

Pradhan, (1993) has conducted a study on *"Stock Market Behavior in a Small Capital Market":* It is pertinent to put forth here because the study 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 behavior in Nepal.

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

The following model was employed.

$$V \ X b_0 \ \Gamma b_1 \ | \ LIQ \ \Gamma b_2 \ | \ LEV \ \Gamma b_3 \ | \ EARN \ \Gamma b_4 \ | \ TURN \ \Gamma b_5 \ | \ COV \ \Gamma Ui......$$

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

- Market equity, number of shares multiplied by market price of shares (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 assets (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 this 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 paying higher dividends.

꜄ Stocks with larger ratio of dividend per share to market price per share also have higher earnings. But these earning 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 is 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.

2.4   Review of Thesis:

In last few years, prior to this study, many Master's thesis have been found conducting on dividend and dividend policy of commercial banks and other firms. Some of them which are supposed to be relevant have been reviewed and presented in this section.

Rajbhandari, (2001) conducted a study on *"Dividend Policy: A Comparative Between Banks and Insurance Companies."*

The main objectives of the studies are:

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

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

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

Following are the findings of this research:

⟩ All the sample banks and insurance companies have satisfactory EPS but none of them has followed constant payout ratio.

⟩ As per the study, the sample institutions don't have a clearly defined and appropriate dividend policy, and concludes that the sample institutions don't seem to follow and practice the dividend policy as established and developed in the context of Nepal.

⟩ The financial indicators don't seem to reflect the capital market properly due to which the stock market is imperfect and inefficient. It has created confusion among shareholders, due to which shareholders are in dilemma about making capital investment.

Bhattrai, (2002) conducted a study on *"Dividend Policy and Its Impact on Market Price of Stock"* with the data taken from two commercial banks and two insurance companies in 2002 A.D. To study the prevailing practices and efforts made in dividend policy in the Nepalese firms with the help of sample firms.
The main objectives of the studies are:

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

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

Following are the findings of this research:

⟩ There is not any consistency in dividend policy in the sample firms. It has indicated the need of dividend strategy as well as the need of proper analysis of the respective sectors of the firm.

⟩ Most of the Nepalese firms do not have profit planning and investment strategy, which has imbalanced the whole position of the firms. It means there is no consistency even in the earnings.

⟩ The MPS is affected by the financial position of the dividend paid by the firms. In this regard the MPS of the sample firms is seemed to be fluctuated. It denotes that Nepalese investors are not treated fairly.

⟩ The lack of financial knowledge and the market inefficiency has affected the market price of the shares of all the sample firms.

Ghimere, (2002) conducted a study on *"Dividend Policy of Listed Companies with ref. to Banks, Finance and Insurance Companies."*

The main objectives of this study are:

⟩ To identify the dividend policy of different sample companies.

⟩ To identify the regularity of divided distribution of different listed companies.

⟩ To identified the relationship between dividend policy and other financial indicators.

⟩ To find out the weather dividend policy affects the value of the firm or not.

⟩ To analyzed the relationship between DPS and MPS.

⟩ To provide suggestion for the improvement of Sample Company's dividend policy based on findings.

Following are the findings of this research:

⟩ The average dividend per share of the banks is satisfactory compared to finance and insurance companies.

⟩ The average earning per share of the bank is also more satisfactory than finance and insurance companies.

⟩ DPS of the finance companies are more fluctuating in comparison to banks among them HBL has more fluctuation and NGBL being consistent.

⟩ Dividend yield of the finance and insurance are higher than banks and more consistent too.

⟩ Banks are following aggressive dividend policy due to higher DPR whereas finance and insurance companies implemented moderate dividend policy.

Thapa, (2003) conducted a study on *"Dividend Policy and Practices, a Comparative Study Between Banks and Insurance Companies in Nepal."* The data are collected from 1996 /97 to 2000 /01 of three Banks (NIBL, companies (united insurance company, Everest insurance company and premier insurance company),

The main objectives of this study are:
-) To study the current practices of dividend policy in joint venture commercial banks and insurance companies.
-) To examine the relationship between dividend and mark price of the stock.
-) To analyzed the relationship of financial indicators e.g. DPS, EPS, DPR and P/E ratio.
-) To analyze the relationship between dividend policy decision of banks and insurance companies.

Following are the findings of this research:
-) Amount the major decision of finance, then majority of respond ants give the first importance in investing decision, second in financing and finally gave least importance for dividend decision.
-) With respect to factors affecting dividend policy of banks and insurance companies of Nepal, most of the respond ants gave first priority to current earning, second priority to liquidity and last priority to past dividend.
-) The banks and insurance companies are adopting not a fixed and single policy.
-) Majority of the company paid the cash dividend.

Gurung, (2003) conducted a study on *"Dividend Policy of Nepalese Listed Companies: with Reference to Commercial Banks."* The data are analyzed from 1996/97 to 2000/01 of four joint ventures banks i.e. Standard Chartered Bank Ltd, Himalayan Bank Ltd, Nepal Bangladesh Bank Ltd and Nabil Bank Ltd.

The main objectives of this study are:

) To assess prevailing dividend policy adopted by listed companies under the study.

) To study whether or not dividend influences the liquidity position and stock prices of selective companies.

) To examine whether there is significant difference between DPS, EPS and DPR of the selected Companies.

) To identified the relationship between dividend policy and other financial indicators.

Following are the findings of this research:

) The rules and regulations that bind the companies to pay dividend is lacking. This has caused inconsistency and random walk of dividend payment, which is seen in case of NBBL.

) Out of three Banks, only HBL have paid dividend regularly and consistently whereas, NBBL and EBL have not paid dividend regularly.

) The dividend payment trend of these banks is highly fluctuating.

Shrestha, (2004) conducted a study on *"Dividend Policy and its Impact on Stock Price, an Empirical Analysis on Joint Venture Banks of Nepal".* The data are collect for the year 1996/1997 to 2000/2001 in case of Nabil Bank, Standard Charted Bank Nepal Ltd, Himalayan Bank Ltd and Nepal Investment Bank Ltd.

The main objectives of which are as under:

) To examine and evaluate the dividend policy and its impact on stock price of joint venture banks of Nepal.

) To study dividend procedure followed by the joint venture banks in the contest of Nepal.

) To find out the relationship of dividend with EPS, MPS, P/E ratio, D/P ratio of sample firm.

Following are the findings of this research:

) There is not any consistency in dividend policy in the sample banks.

) The MPS is affected by the financial position and the dividend paid by the bank. In this regard, the MPS of the sample banks are seen if be fluctuated.

) Most of the Nepalese banks from the very past have not profit planning and investment strategy which was imbalanced the whole position of the banks.

) All the D/P ratio of the sample banks in many years are founds more than the popular practice.

Bhandari, (2005) conducted a study on *"Dividend Policy and its Impact on Shareholder's Return & Stock price in Nepal"* which has covered the period of 1998 to 2003 with the total observation of three banks and three finance companies.

The main objectives of study are:

) To study the current practices of dividend policy in joint venture commercial banks and insurance companies.

) To examine the degree of relationship between the individual securities returns and market return.

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

) To provide some suggestions for the improvement of Sample Company's dividend policy based on finding.

Following are the findings of this research:

) All the insurance companies have same range of dividend per share during the study period. Moreover, they had not paid dividend for the year ended 2002/03

because of the direction received from Insurance committee about their extended paid up capital.

⟩ The trends of dividend distribution performance of all selected companies have been decreasing.

⟩ There is a volatile practice about distribution of dividend in Nepalese listed companies. They are not adopting a fixed or defined dividend policy.

⟩ Earning position positively related to the dividend decision.

⟩ Liquidity position does not have same impact on dividend decision for all companies.

⟩ The relationship between individual securities return and market return is positive but nominal in Banking and Insurance.

Dongol, (2006) conducted a study on *"Impact of Dividend Policy on Market price of Stock."*

The main objectives of his study are:

⟩ To find out the impact of dividend policy on market prices of stocks.

⟩ To find out if there is any uniformity in DPS, MPS, EPS and DPR of the sample firms.

⟩ To study the prevailing policies and practices regarding dividend in Nepalese firms with reference to the sample firms.

⟩ To find the major factors affective dividend policy of the firm.

Following are the findings of this research:

⟩ EPS of all the sample banks are fluctuating form year to year.

⟩ None of the sample firms have exactly increasing or decreasing trend of MPS throughout the study period.

⟩ The concern about maintaining or increasing the stock price 0 level also influences the dividend policy of the firm and hence that may make impact upon market price of stock.

Shrestha, (2007) conducted a study on *"An Analytical Study of Dividend Policy and Practices of Major Joint Venture Banks in Nepal"* the data are collected for the year 2055/056 to 2061/062.

The main objectives of this study are:

- To highlight dividend practices of the joint venture banks.
- To analyze the relationship between dividends per share, other financial indicators such as earning per share, P/E ratio, market price of stock and net worth etc.
- To examine whether or not dividend influences share price of the three joint venture commercial banks.

Following are the findings of this research:

- There is no individual relationship exit between dividends per share to stock price.
- The correlation between them is also weak and dividend does not direct influence the market price.
- It is expected that the performance of the banking sector will be grow further in further due to low interest on the deposits.

Khatiwada,(2008) conducted a study on *"A Comparative Study of Dividend Policy in Nepal Investment Bank Ltd. and Standard Chartered Bank Ltd."*

The main objectives of this study are:

- To identified the dividend policy in SCBNL and NIBL.
- To examined the relationship between earning and dividend distribution.
- To evaluated the impact of dividend on share price.
- To examined the relationship of DPS with other financial indicators.

Following are the findings of this research:

⎞ The shareholders of SCBNL received comparatively very high DPS than the shareholders of NIBL. On average, SCBNL paid Rs.110DPS, whereas NIBL paid Rs.14.50 DPS.

⎞ SCBNL remained more successful than NIBL in generating earning per share. On average, SCBNL earned Rs.155.84 per share, while NIBL earned only Rs.50.54.

⎞ The DPR of SCBNL is also very high compared to that of NIBL. The average DPR of SCBNL is 70.59% and that of NIBL is 28.69%.

⎞ DPS has high influence on the price rise/fall of share. Both MPS and BPS are highly dependent on the DPS of corresponding banks.

⎞ The prime objective to invest in bank is to earn dividend. About 78% of the respondents stated that dividend is the most alluring factor in share investment.

⎞ There exists high correlation between DPS and EPS, DPS and MPS and DPS and BPS of both banks.

Maharjan, (2008) conducted a study on *"Dividend Policy of Listed Commercial Banks"* was presented by Marharjan's with the data taken from commercial banks in 2008.
This study analyzed the data of five years and concluded as:

⎞ Almost all banks have increasing EPS except NBBL and SCBNL has the highest average EPS and lowest variation in EPS during review period.

⎞ SCBNL have the highest amount of dividend paid per share while NBBL have paid the least amount. NABIL bank has continuously paid the dividend in the five-year study period while in the case of other banks, irregularity in paying dividends.

Raya, (2008) conducted a study on *"The Study of Dividend Policy of the Commercial Banks in Nepal"*.

The main objectives of the study are:

- To study whether, the commercial banks are following the suitable dividend policy or not.
- To compare the dividend policy followed by different commercial banks chooses.
- 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.
- 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.

Following are the findings of this research:

- 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.
- There seems instability of dividend and inconsistency in dividend payout ratio of the banks.
- Every year EPS and MPS are 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.
- 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 be considered so encouraging figure.
- 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.
- Government does not have any clear policies towards dividend and to improve the efficiency of the companies. The number of companies cannot earn enough profit

and bureaucrats accused the cause of inefficiency to managers, which is not sound.

Dhungel,(2009) conducted a study on *"A Study on Dividend Policy of Everest Bank Limited and Bank of Kathmandu Limited"* with the data taken from commercial banks in 2009.

The main objectives of this study are:

- ʃ To identify what type of dividend policy is being followed and whether or not the followed policy is appropriate in Bank of Kathmandu and Everest Bank Limited

- ʃ To highlight dividend practices of the Bank of Kathmandu and Everest Bank Limited.

- ʃ To analyze the relationship between dividend per share with various important variables such as earning per share, net profit, net worth and stock prices.

- ʃ To provide a practical suggestion and possible guidelines to overcome various issues and gapes based on the findings of the analysis.

Following are the findings of this research:

- ʃ EBL has higher earning capacity than BOK and paying more dividends in Rupees than that of BOK.

- ʃ On the basis of DPR, it can be considered that BOK is paying higher portion of its earning as dividend since the average DPR of BOK is higher than that of EBL.

- ʃ Average dividend yield indicates that BOK is providing more percentage of its market value per share than EBL.

- ʃ Average earning yield ratio of BOK is greater than that of EBL, which means BOK is more efficient to generate earning on the basis of market price.

- ʃ Average market value per share to book value per share of EBL is greater than that of EBL. Therefore, there is greater chance of higher capital gain to the shareholders of EBL.

- EBL remained more successful than BOK in satisfying its shareholder through distributing cash and bonus share dividend, generating higher amount of earning per share, maintaining higher market value of its share

- BOK remained more generous in distributing dividend by providing high dividend payout ratio and keeping good relationship between DPS, EPS and MPS.

Kafle, (2009) conducted a study on *"Dividend Policy of Commercial Banks in Nepal with Special Reference to HBL, EBL and NIBL"*.

The main objectives of this study are:

- To study dividend procedure followed by the sample banks.

- To identify whether, DPS affected by EPS per share in sample banks.

- To identify price Earning ratio, market value per share to book value per share, Dividend yield ratio of sample banks.

- To analyze the relationship between dividend per share with various important variables such as, earning per share, net profit, net worth and Book value per shares.

- To analysis significant difference in EPS, DPS, PM and NW of HBL, EBL and NIBL.

Following are the findings of this research:

- In HBL DPS trend is increasing even in fiscal year 2004/05, when EPS is decreased, In EBL EPS is in increasing trend, DPS is also in increasing trend expect fiscal year 2004/05.

- In NIBL EPS and DPS both trend is fluctuating. The implications of fluctuating earning per share and dividend per share could not make clear to the public.

- MPS is much higher that net worth per share in the case of EBL. This indicates that the investors either have a very optimistic view on the future performance of the companies or that they are not investigating the performance indicators of the companies in which they are investing properly.

) Dividend per share is positively correlated with earning per share, net profit, market price per share and net worth in case of HBL, EBL and NIBL. It means higher the earning per share, net profit, market price per share and net worth, higher will be the dividend per share and vice versa.

) The test of hypothesis carried out shows out that there is no significant difference between DPS, EPS, MPS and NW of all three commercial banks.

Research Gap:

There have been many national and international studies in the field of dividend policy to date. Not all concepts and practices of foreign authors' model about dividend practices are use in our Nepalese dividend policy. Those studies have tried to find out the relationship between dividend policy and market price of the stock. However, as the Nepalese capital market is in the early stage of development, the conclusion made by the international studies may not be relevant in the Nepalese context. So it is recommended to devote some efforts and think foreign model dividend practices in Nepalese dividend Policy.

So far the Nepalese studies are concerned some studies like Pradhan's, Manandhar is which can be considered as landmark in the field of dividend policy. But many more changes have taken place in Nepalese capital market in last few years. Therefore, it is necessary to carry out a fresh study related to dividend policy of commercial banks of Nepal. This is distinct study form previous studies in terms of sample size, nature of the sample firms and methodology used. This study has covered only five commercial banks. Latest five years data have been analyzed with due consideration of EPS, DPS, DPR, MPS, and DY. Taking in mind for more elaborate and extensive analysis has been made. In order to assess the impact of dividend on market price of share available information from concerned banks were reviewed and analyzed. Regression analysis has been done assuming market price of share as dependent variable and other variables like DPS and EPS as independent variable. At last testing of hypothesis has been done. Therefore, it is believed that this study is quite different.

CHAPTER III

RESEARCH METHODOLOGY

This chapter highlights about the methodology adopted in the process of present study. It also focuses about sources and limitations of the data, which are used in the present study.

Research methodology can be defined as, "Research methodology refers to the various sequential steps to be adopted by a researcher in studying a problem with certain objects in view" *(Kothari, 1994: 19).* In other words, Research Methodology indicated the methods and processes employed in the entire aspects of the study. So, it is the methods, steps, and guidelines, which are to be followed in analysis, and it is a way presenting the collected data with meaningful analysis.

3.1   Research Design:

Research design is the plan, structure and strategy of investigation conceived so as to obtain answer to research questions and to control variances *(Kerlinger, 1978: 300).* The research design is basically a comparative study of dividend policy of the sample banks and its effect on the market price of the shares. Analytical and descriptive approaches are used to evaluate the dividend policy of the sample banks. For this purpose secondary data (financial statements) of the sample banks for the period of 5 years (2061/62 to 2065/66) are being used.

3.2   Population and Sample:

There are thirty one commercial banks in Nepal that have share traded successfully in the stock market. Due to time and resource constraint, only three commercial banks are covered in this study i.e. Standard Chartered Bank Nepal Ltd., Himalayan Bank Ltd., and Everest Bank Ltd. The list of currently operated commercial banks in Nepal is as follows:

List of Commercial Banks

S.No.	Names	Operation Date (A.D)	Head Office
1	Nepal Bank Limited	15/11/1937	Kathmantu
2	Rastriya Banijya Bank	23/1/1966	Kathmantu
3	Agriculture Development Bank Ltd.	19/10/1968	Kathmantu
4	NABIL Bank Limited	12/7/1984	Kathmantu
5	Nepal Bangaladesh Bank Limited	27/2/1986	Kathmantu
6	Standard Chartered Bank Nepal	30/1/1987	Kathmantu
7	Himalayan Bank Limited	18/1/1993	Kathmantu
8	Nepal SBI Bank Limited	7/7/1993	Kathmantu
9	Nepal Bangaldesh Bank Limited	5/6/1993	Kathmantu
10	Everest Bank Limited	18/10/1994	Kathmantu
11	Bank of Kathmandu Limited	12/3/1995	Kathmantu
12	Nepal Credit and Commerese Bank	14/10/1996	Siddrathnagar
13	NMB Bank Limited	26/11/1996	Babarmahal,Ktm
14	Lumbini Bank Limited	17/7/1998	Narayangadh
15	Nepal Industrial & Commercial Bank	21/7/1998	Biratnagar
16	Machhapuchhre Bank Limited	3/10/2000	Pokhara
17	Development Credit Bank Ltd.	23/1/2001	Kamaladi,Ktm.
18	Kumari Bank Limited	3/4/2001	Kathmantu
19	Laxmi Bank Limited	3/4/2002	Birgunj
20	Siddharth Bank Limited	24/12/2002	Kathmantu
21	Global Bank Limited	2/1/2007	Birgunj. Parsa
22	Citizens Bank International Ltd.	21/6/2007	Kathmantu
23	Prim Commercial Bank Limited	24/9/2007	Kathmantu
24	Sunrise Bank Limited	12/10/2007	Kathmantu
25	Bank of Asia Nepal Ltd.	12/10/2007	Kathmantu
26	Kist Bank Limited	7/5/2009	Anamnagar,Ktm.
27	Janta Bank Ltd.	4/5/2010	Sankhamul,Kathmandu
28	Megha Bank Ltd.	9/17/2010	Kathmantu
29	Commerce and Trust Bank Ltd.	9/20/2010	Kathmantu
30	Civil Bank Ltd.	10/15/2010	Kathmantu
31	Century Commercial Bank Ltd.	10/03/2011	Kathmantu

3.3 Sources and Technique of Data Collection:

The study is mainly based on the secondary data collected from the sample banks. The data includes the Annual Reports of the sample banks, Financial Reports published by the Nepal Stock Exchange (NEPSE), financial and other relevant data regarding the dividend policies of the concerned banks.

The data used in this study are collected from different sources i.e. Nepal Stock Exchange, websites such as www.nepalstock.com, www.google.com, www.standardchartered.com.np, www.himalayanbank.com, www.ebl.com.np and the central offices of the sample banks.

3.4 Data Analysis Tools:

For the purpose of the analysis, following tools are used:

- Financial tool
- Statistical tool

3.4.1   Financial Tools:

The following financial tools are used in the present study.

a) Earning Per Share (EPS):

Earning Per Share refers the rupee amount earned per share of common stock outstanding. It measures the return of each equity shareholders. It is also identified to measure the profitableness of the shareholders investment. The earning per share simply shows the profitability of the banks on a per share basis. The higher earning indicates the better achievements of the profitability of the banks by mobilizing their funds and vice versa. In other words, higher earning per share denotes the strength and lower earning per share indicates the weakness of the banks.

EPS is computed to know the earnings capacity and to make comparison between concerned banks. This ratio can be computed by dividing the earning available to common shareholders by the total number of common stock outstanding of banks.

Thus,

$$EPS \ X \frac{Earning \ available \ to \ common \ stock \ holders}{Number \ of \ common \ stock \ outstanding}$$

b) Dividend Per Share (DPS):

Dividend Per Share indicates the rupee earnings actually distributed to common stockholders per share held by them. It measures the dividend distribution to each equity shareholders.

The DPS simply shows the portion of earning distribution to the shareholders on per share basis. Generally, the higher DPS creates positive attitude of the shareholders toward the bank, which consequently helps to increase the market value of the shares. And it also works as the indicator of better performance of the bank management.

It is defined as the result received by dividing the total dividend distributed to equity shareholders by the total number of equity shares outstanding. Thus,

$$DPS \ X \frac{Total \ amount \ of \ divdend \ paid \ to \ ordinary \ shareholders}{Number \ of \ orinary \ shares \ outstanding}$$

c) Dividend Payout Ratio (DPR):

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

There is a reciprocal relationship between dividends and retained earnings, the higher the dividend payout ratio, the lower will be the retained earnings and hence the capacity of internal financing of the firm is checked.

It is calculated to indicate the percentage of the profit that is distributed as dividend. This ratio is calculated by dividing dividend per share by the earning per share.

Thus,

$$DPR \; X \frac{Divdend \; per \; share}{Earning \; per \; share}$$

d) Market Price Per Share (MPS):

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

e) Dividend Yield (DY):

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

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

$$DYRatio \; X \frac{Divdend \; per \; share}{Market \; price \; per \; share}$$

3.4.2 Statistical Tools:

The following statistical tools are used in the present study.

a) Arithmetic Mean or Average ($\overline{X}$):

An average is a single value that represents a group of values. It depicts the characteristic of the whole group. It is a representative of the entire mass of homogeneous data, its

value lies somewhere in between the two extremes, i.e. the largest and the smallest items. It is obtained by dividing the sum of the quantities by the number of items. Thus,

$$Mean(\overline{X}) \text{X} \frac{X_1 \ulcorner X_2 \ulcorner X_3 \ulcorner \dots \dots \ulcorner X_n}{N}$$

$$or, \overline{X} \text{ X} \frac{X}{N}$$

Where,

> X = sum of the sizes of the items
>
> N= number of items

b) Standard Deviation: (S.D.):

The concept of standard deviation was first introduced by Karl Pearson in 1983. "It is the most usual measure of dispersion and it represents the square root of the variance of a group of numbers, i.e., the square root of the sum of the squared differences between a group of numbers and their arithmetic mean" (Abrol; 1993: 236). In other words, standard deviation is the positive square root of the arithmetic average of the squares of all the deviations measured from the arithmetic average of the series. It is independent of the position of the origin. Generally, it is denoted by small Greek letter ∃ (read as sigma) and is obtained as follows.

$$\text{Standard Deviation}\,(\,\exists\,)\,\text{X}\sqrt{\frac{(X \text{ Z} \overline{X})^2}{N}}$$

Where,

> N= Number of items in the series.
>
> $\overline{X}$ = mean
>
> X = Variable

The standard deviation measures the absolute dispersion or variability of a distribution; the greater the amount of dispersion or variability the greater the standard derivation, for the greater will be the magnitude of the deviations of the values from their mean. A small standard deviation means a high degree of uniformity of the observation as well as homogeneity of a series.

c) Coefficient of Variation (C.V.):

Karl Pearson developed this measurement to measure the relative dispersion. It is used in such problems where we want to compare the variability of two or more series. The series (or group) for which the coefficient of variation is greater is said to be more variable or conversely less consistent, less uniform, less stable or less homogeneous. On the contrary, that series (or group) for which the coefficient of variation is less is said to be less variable or more consistent, more uniform, more stable or more homogeneous. It is denoted by C.V. and is obtained by dividing the arithmetic mean to standard deviation. Thus,

$$\text{Coefficient of Variation} (C.V.) \; X \frac{S.D. \mid 100}{Mean} \; X \frac{\exists \mid 100}{\overline{X}}$$

Where,

$\exists$ = Standard Deviation

$\overline{X}$ = Mean

d) Coefficient of Correlation (r):

According to Richard I. Levin, "correlation analysis is the statistical tools that we can use to describe the degree to which one variable is linearly related to another."

 (Levin & Rubin; 1994: 613)

The correlation analysis refers to the techniques used in measuring the closeness of the relationship between the variables. It helps us in determining the degree of relationship between two or more variables. It doesn't tell us anything about cause and effect relationship. It describes the magnitude of correlation as well as its direction. The coefficient of correlation is a number, which indicates to what extent two things (variables) are related to what extent variations in one go with the variations in the other.

The value of coefficient of correlation as obtained shall always lie between +1, a value of –1 indicating a perfect negative relationship between the variables, of +1 a perfect positive relationship, and of no relationship when correlation coefficient is zero .The zero correlation coefficient means the variables are uncorrected.

Similarly, a high correlation coefficient reveals that two variables move together but doesn't indicate cause and effect. In other words, the closer r is to +1 or –1, the closer the relationship between the variables and closer r is to zero (o), the less close relationship. The algebraic sign of the correlation coefficient indicates only the direction of the relationship between two variables, whether direct or inverse, while the numerical value of the coefficient is concerned with the strength, or closeness of the relationship between two variables.

Thus, in this study, the degree of relationship between dividend and other relevant financial indicators such as earning per share, market price per share, current ratio, net profit & net worth is measured by the correlation coefficient, which is denoted by r or rx or ryx (of x and y are two sets). It is defined by Karl Pearson as:

$$r \; X \frac{Cov(\,X,Y\,)}{\exists_x \exists_y}$$

$$or, r \; X \frac{(\,X\;Z\overline{X}\,)(\,Y\;Z\overline{Y}\,)}{N\exists_x \exists_y}$$

$$or, r \; X \frac{N \quad XY\;Z \quad X \quad Y\,)}{\sqrt{N \quad X^2\;Z(\quad X\,)^2}\sqrt{N \quad Y^2\;Z(\quad Y\,)^2}}$$

Where,

$\exists X$, $\exists Y$ are the standard deviation of the distributions of X and Y values respectively.

$$Cov(X,Y)\;X\;covariance\;of\;X,Y\;value\;X \frac{(X\;Z\overline{X}\,)(Y\;Z\overline{Y}\,)}{N}$$

e) Coefficient of Determination (R2):

The coefficient of determination is the primary way. We can measure the extent, or strength, of the association that exists between two variables, x and y. "R2 measures only the strength of a linear relationship between two variables" (Richard I. Levin and David S Rubin, 1994, p. 613). It refers to a measure of the total variance in a dependent variable that is explained by its linear relationship to an independent variable. The coefficient of determination equals R2 and the value of R2 laid between zero and unity, the closer to unity, the greater the explanatory power. A value of one can occur only if the

unexplained variation is zero, which simply means that all the data points in the scatter diagram fall exactly on the regression line. The R2 is always a positive number. It can't tell whether the relationship between the two variables is positive or negative. The R2 is defined as the ratio of explained variance to the total variance. Thus,

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

$$or, R^2 \text{ X1 Z}\frac{\text{Unexplained variance}}{\text{Total variance}}$$

f) Regression Analysis:

Regression refers to an analysis which is involving the fitting of an equation to a set of data points, generally by the method of least square. In other words the regression is a statistical method for investing relationships between the variables by the establishment of an approximate functional relationship between them. It is considered as a useful tool for determining the strength of relationship between two (Simple Regression) or more (Multiple regression) variables. It helps to predict or estimate the value of one variable when the value of other variables is known. The analysis, which is used to explain the average relationship between two variables, is known as simple linear regression analysis. In this study, the following Simple Regressions are analyzed.

(i)   Dividend Per Share on Earning Per Share

Y= a+bX

Where,

Y = Dividend Per Share

a = Regression Constant

b = Regression Coefficient

X = Earning Per Share

This model has been constructed to examine the relationship between Dividend per share (dependent variable) and Earning per share (independent variable).

(ii)   Market Price Per Share on Earning Per Share

$$Y = a + bX$$

Where,

Y = Market Price Per Share

a = Regression Constant

b = Regression Coefficient

X = Earning Per Share

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

(iii)   Market Price Per Share on Dividend Per Share

$$Y = a + bX$$

Where,

Y = Market Price Per Share

a = Regression Constant

b = Regression Coefficient

X = Dividend Per Share

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

(iv)   Market Price Per Share on Dividend Payout Ratio

$$Y = a + bX$$

Where,

Y = Market Price Per Share

a = Regression Constant

b = Regression Coefficient

X = Dividend Payout Ratio

This model has been constructed to examine the relationship between Market Price per Share (dependent variable) and Dividend Payout Ratio (independent variable).

(v) **Market Price Per Share on Dividend Yield**

$Y = a + bX$

Where,

Y = Market Price per Share

a = Regression Constant

b = Regression Coefficient

X = Dividend Yield

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

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

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

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

Where,

Y = Market Price Per Share

a = Regression Constant

b = Regression Coefficient

X = Dividend Yield

n = Number of observations in the sample

In the same way following multiple regressions are analyzed:

(i) **Regression Equation no. 1**

X1 = a1 + b1.X2 + b2.X3

Where,

X1 = Market Price Per Share (dependent variable)

X2 = Earning Per Share (independent variable)

X3 = Dividend Per Share (independent variable)

a1 = Regression Constant

b1 and b2 = Coefficient of Net Regression

(ii) **Regression Equation no. 2**

$X1 = a1 + b1.X2 + b2.X3$

Where,

X1 = Market Price Per Share (dependent variable)

X2 = Dividend Payout Ratio (independent variable)

X3 = Dividend Per Share (independent variable)

a1 = Regression Constant

b1 and b2 = Coefficient of Net Regression

Regression Constant (a):

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

Regression Coefficient (b):

The regression coefficient of each independent variable shows the relationship between that variable and value of dependent variable, holding constant the effect of all other independent variables in regression model. In other words, the coefficients explain how changes in independent variables affect the values of dependent variables estimate.

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

Practically, the perfect prediction is not possible with the help of regression equation. To measure the reliability of the estimating equation, statisticians have developed the standard error of estimate. It measures the variability, or scatter of the observed values around the regression line. It also measures the reliability of the estimating equation, indicating the variability of the observed values differ from their predicated values on the regression line.

The larger the value of S.E.E., the greater the scattering or dispersion of points around the regression line, conversely, if S.E.E. is equals to zero, then, there is no variation about the line and the correlation will be perfect. So, we expect the estimating equation to be a 'perfect' estimator of the dependent variable. In that case, all the data points would lie directly on the regression line and no points would be scattered around it. Similarly, the smaller the S.E.E., the closer will be the dots to the regression line and the better the estimates based on the equation for this line. Thus, with the help of standard error of estimate, it is possible for ascertaining how well and representative the regression line is as a description of the average relationship between two series.

Probable Error - P.E. (r)

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

$$P.E. \, X0.6745 \frac{1 \, Z \, r^2}{\sqrt{n}}$$

Where,

r= Coefficient of Correlation

n= Number of years

g) F– Statistics:

To test the validity of the assumption, f- test is used. To examine the significance of the differences between more than two sample means at one time, F- test is used. F-test, i.e. the technique of analyzing variance enables to test the significance of difference between more than two sample means. Using this technique, one will be able to make inferences about whether regression equation provides statistically significant result or not.

CHAPTER IV

DATA PRESENTATION AND ANALYSIS

This chapter consists presentation and analysis of secondary data related with different variables using both financial and statistical tools explained in third chapter, Research Methodology. The prime (basic) motive of this chapter is to achieve the objectives, which are set in first chapter (Introduction chapter). In order to achieve these objectives, the gathered data are presented, compared and analyzed with the help of different tools. So it is the focal part of this study, which helps to analyze the comparative dividend decision of joint venture banks and the management's attitudes towards the optimum dividend decision.

4.1   Analysis of Financial Indicators:

Earning per share, dividend per share, market price per share, dividend yield and dividend payout ratio are some of the most important financial indicators of any firms. These indicators are analyzed with their mean, standard deviation and coefficient of variation as below:

4.1.1   Earning Per Share (EPS):

Earning per Share (EPS) is one of the most important financial indicators, which measures the earning capacity of a firm. It is also identified to measure the profitableness of the shareholders investment. It can be computed by dividing the earning available to common shareholders by the total number of common stock outstanding of banks. Table no. 1 shows the comparative EPS of the sample banks.

Table no. 1

Analysis of EPS

Year	SCBNL	HBL	EBL	Yearly average
2061/062	143.14	47.91	54.22	81.75
2062/063	175.84	59.24	62.78	99.28
2063/064	167.37	60.66	78.42	102.15
2064/065	131.92	62.74	91.82	95.49
2065/066	109.99	61.9	99.99	90.62
Mean $(\bar{X})$	145.65	58.49	77.44	93.86
SD(σ)	26.69	5.42	17.14	16.41
CV (%)	18.33	9.27	22.13	16.57

(Source: Annual reports of the concerned banks)

(Appendix 1)

As per table no. 1, Standard Chartered Bank Nepal Ltd. is successful to have average EPS of Rs.145.65 within the range from 175.84 to 109.99. The other EPS amounts are varied from the mean (145.65) by the standard deviation of 26.69. The average fluctuation in EPS within the 5 years by 18.33%.

The average EPS of Himalayan Bank Ltd (HBL), during this period of study, is Rs.58.49 It stays within the range of Rs.62.74 to 47.91. The standard deviation of EPS is 5.42 where as the co-efficient of variation 9.27. The CV indicates a moderate fluctuation in the EPS of the Bank.

Similarly, Everest Bank Ltd. (EBL) has the average EPS of Rs.77.44 within the ranges from 99.99 to 54.22 along with the standard deviation of 17.14. The average annual fluctuation is 22.13% in EPS of this bank.

Table-1 shows EPS of sampled commercial banks in Nepal seems to be positive. The average EPS of SCBNL is the highest and that of HBL is the lowest. The EPS range of the banks under study during this period is between Rs.167.37 to Rs.47.91. Similarly, the standard deviation of SCBNL is the highest and HBL is the lowest. The coefficient of

variation of these banks shows that there is fluctuation in the EPS. If we compare the entire banks, HBL has the most consistent EPS among the entire sample bank.

Figure No. 1

Analysis of EPS
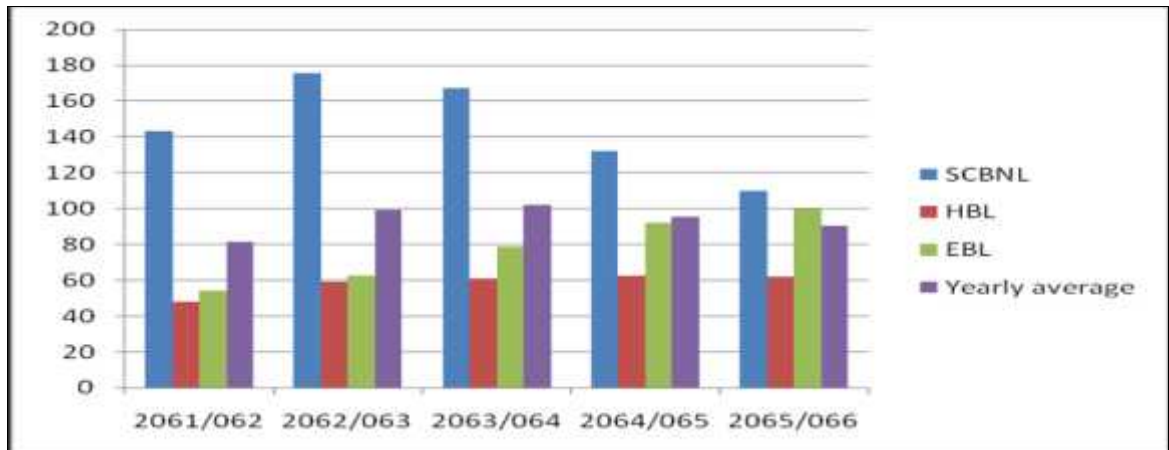
4.1.2 Dividend Per Share (DPS):

Dividend Per Share (DPS) is another important financial indicator, which measures the dividend distributed to each equity shareholders. It is calculated by dividing total dividend distributed to equity shareholders by the total no. of shareholders outstanding. Table no. 2 shows the comparative DPS of the sample banks.

Table no. 2

Analysis of DPS

Year	SCBNL	HBL	EBL	Yearly average
2061/062	120	11.58	0	43.86
2062/063	130	30	25	61.66
2063/064	80	15	10	35
2064/065	80	25	20	41.66
2065/066	50	12	30	30.66
Mean $(\bar{X})$	92	18.72	17	42.57
SD (σ)	32.71	7.45	10.72	16.96
CV (%)	35.56	39.8	63.35	46.23

(Source: Annual reports of the concerned banks)

(Appendix 1)

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In table no. 2, Mean DPS of Standard Chartered Bank Nepal Ltd. (SCBNL) is Rs.92 with the standard deviation of 32.71. The highest and lowest DPS are Rs.130 and 50 respectively. The coefficient of variation is 35.56%, this indicates that there is moderate fluctuation in the DPS of SCBNL during the period of the study.

Himalayan bank ltd. (HBL) has low average DPS of Rs.18.72 remaining in the range of RS.30 to Rs.11.58. The other DPS of this bank are varied of 7.45 as seemed as standard deviation. The coefficient of variance explains that this bank has faced very high fluctuation of 39.80 in 5 years. It has less steady in DPS trend.

EBL has average DPS of Rs. 17. EBL did not paid cash dividend in the year 2004/05. The higher and lowest DPS of bank is 30 to 10 in the period of study. The S.D of DPS is 10.72. The C.V of DPS of the bank is 63.35. It indicates that there is a very high fluctuation in the DPS of bank in the period of the study

From above analysis it can be seen that the DPS of the sample banks are not consistent. Average DPS of SCBNL is highest among the sample banks with Rs. 92 and EBL has lowest DPS of Rs. 17. From the study of CV it can be seen that all the sample banks have greater degree of inconsistency in the DPS. EBL has highest CV of 63.35% followed by HBL with 39.80% and lastly SCBNL with 35.56%. There is greater fluctuation in the DPS in the sample banks.

 Figure no. 2 shows the comparative DPS of the sample banks.

Figure No. 2

Analysis of DPS
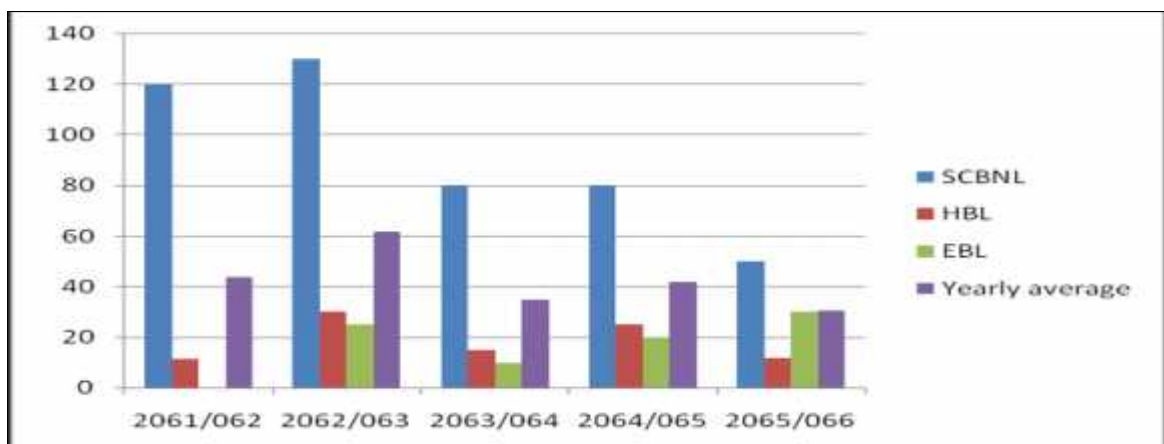
4.1.3 Market Price Per Share (MPS):

Market Price Per Share (MPS) is the traded value of the share in the market. It is another important financial indicator of a firm. MPS is affected by dividend per share of the firm. If the earning per share and dividend per share are high, the market value of the share will also be high. Table no. 3 presents the comparative MPS of the sample banks.

Table no.3

Analysis of MPS

Year	SCBNL	HBL	EBL	Yearly Average
2061/062	2343	920	870	1377.66
2062/063	3775	1100	1379	2284.66
2063/064	5900	1740	2430	3356.66
2064/065	6830	1980	3132	3980.66
2065/066	6010	1760	2455	3408.33
Mean ($\bar{X}$)	4971.6	1500	2053	2841.53
SD (σ)	1853.05	461.52	815.07	1043.21
CV (%)	37.27	30.77	39.7	35.91

(Source: Annual reports of the concerned banks)

(Appendix 1)

As seen on table no. 3, the average of closing MPS of Standard Chartered Bank Nepal Ltd. during the period of study is Rs.4971.6 with a standard deviation of 1853.05 and a coefficient of variation of 37.27%. This shows that there is moderate fluctuation in the MPS of SCBNL.

Rs.1500 is the average MPPS of Himalayan Bank Ltd. staying in the range of RS.1980 and Rs.920 with the standard deviation of 461.52. The C.V. of 30.77% shows the lower fluctuation trend in MPPS of this bank.

The MPS of EBL is in increasing trend in the fiscal years 2061/62, 2062/63, 2063/64 as Rs. 870.00, Rs. 1379.00, Rs. 2430.00, Rs. 3132.00 respectively. In the fiscal year 2065/66 MPS of EBL decreases from Rs. 2455.00 It has mean MPS of Rs. 2053.20 and 39.70% as CV.

Finally, the average MPPS of SCBNL is higher than other banks. So this bank is in good position but the average MPPS of all sample commercial banks are considered to be encouraging. Almost all banks' MPPS is in increasing trend up to financial year 2007/09 then in decreasing trend. There is less fluctuation in the MPPS of SCBNL and HBL they have lower coefficient of variation. The MPPS of sample banks have fluctuated in range of 30.77% to 39.7% as indicated by respective C.V of the different sample banks.

Figure No. 3

Analysis of MPS
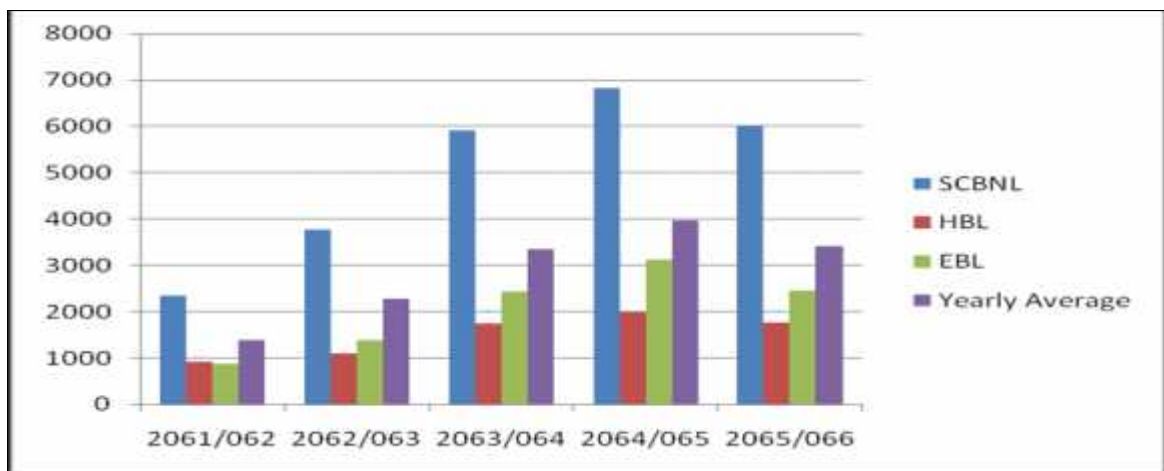
4.1.4   Dividend Payout Ratio (DPR):

Dividend Payout Ratio (DPR) is another important financial indicator. It is the earnings paid to the equity holders from the earnings of a firm in a particular year. This ratio is calculated by dividing dividend per share by the earning per share. Table no. 5 shows the comparative DPR of the sample banks.

Table no. 4

Analysis of DPR

Year	SCBNL	HBL	EBL	Yearly Average
2061/062	83.83	24.17	0	36
2062/063	73.93	50.64	39.82	54.79
2063/064	47.8	24.72	12.75	28.42
2064/065	60.64	39.84	21.78	40.75
2065/066	45.46	19.38	30	31.61
Mean ($\overline{X}$)	62.33	31.75	20.87	38.31
SD (σ)	16.55	11.68	13.74	13.99
CV (%)	26.55	36.78	65.86	43.06

(Source: Annual reports of the concerned banks & www.nepalstock.com)

(Appendix 1)

As seen on table no 4, The average DPR of Standard Chartered Bank Nepal Ltd. (SCBNL) is 62.33%. It means that SCBNL generally pays 62.33% of its total earning as dividend to its shareholders. The standard deviation of DPR is 16.65. The coefficient of variation is 26.55%, which indicates that there is only about 26.55% fluctuation in DPR of the bank over the years.

Likewise, Himalayan Bank Ltd. had distributed 31.75% of the total earning as annual average dividend payout ratio. Its standard deviation is 11.68 with the coefficient of variance 36.78 which indicates the high fluctuation in DPR of this bank.

Similarly, Everest Bank Ltd. has average DPR of 20.87%, it means around 20.87% of the total earning has been distributed to the shareholders as the annual average dividend. The standard deviation (13.74) describes that DPR of the 5 years are varied from the mean by 13.74.

The above calculation shows that SCBNL has the highest mean DPR and it also has the lower CV on DPR. It shows that SCBNL has the uniform dividend payments trend. On the other hand the CV of HBL is high which indicates high oscillation in their DPR.

Figure no. 4 shows the comparative DPR of the sample banks.

Figure No. 4

Analysis of DPR
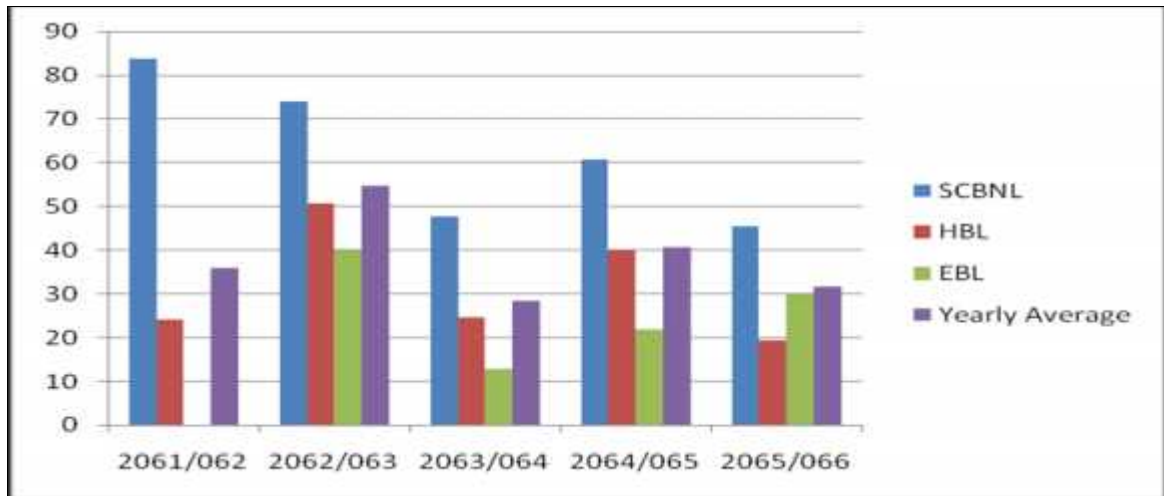
4.1.5 Dividend Yield (DY):

Dividend Yield (DY) is a percentage of dividends per share on market price per share. It shows that how much is the dividend per share on market price per share. This ratio is calculated by dividing dividend per share by market price of the stock. Table no. 4 presents the comparative DY of the sample banks.

Table no. 5

Analysis of DY

Year	SCBNL	HBL	EBL	Yearly
2061/062	5.12	1.26	0.00	3.18
2062/063	3.44	2.73	1.81	2.70
2063/064	1.36	0.86	0.41	1.04
2064/065	1.17	1.26	0.64	1.05
2065/066	0.83	0.68	1.22	0.90
Mean $(\bar{X})$	2.38	1.35	0.81	1.51
SD (σ)	1.84	0.71	0.62	1.05
CV (%)	77.19	53.23	76.54	68.98

(Source: Annual reports of the concerned banks)

(Appendix 1)

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As seen on table no. 4, The DY of Standard Chartered Bank Nepal Ltd. ranges between 5.12% and 0.83% during the period of study. During this period, the average DY is 2.38%. The standard deviation DY of SCBNL under the period of study is 1.84. The C.V. of 77.19% indicates that the fluctuation of DY of SCBNL is the high.

Likewise, the average DY of Himalayan Bank Ltd. is 1.35% staying in the rage of 1.22% and 0.68% with the standard deviation of 0.71. The coefficient of 53.23% shows the very high fluctuation in dividend yield of this bank in 5 years.

EBL has 0.00% dividend yield in the fiscal years 2061/062. In the fiscal year 2062/063 dividend yield is 1.81% which decreases in the following year 2063/64 to 0.41%. In the fiscal year 2064/065 and 2065/066 it is 0.64% and 1.22 respectively. Average DY of EBL is 0.81% with 76.54% CV.

From above analysis is can be seen that there is greater amount of inconsistency in the dividend yield of the sample banks. SCBNL has greater average DY among the sample banks 1.84% and 76.54% CV which is highest among the sample banks

Figure no. 5 shows the comparative DY of the sample banks.

Figure No. 5

Analysis of DY
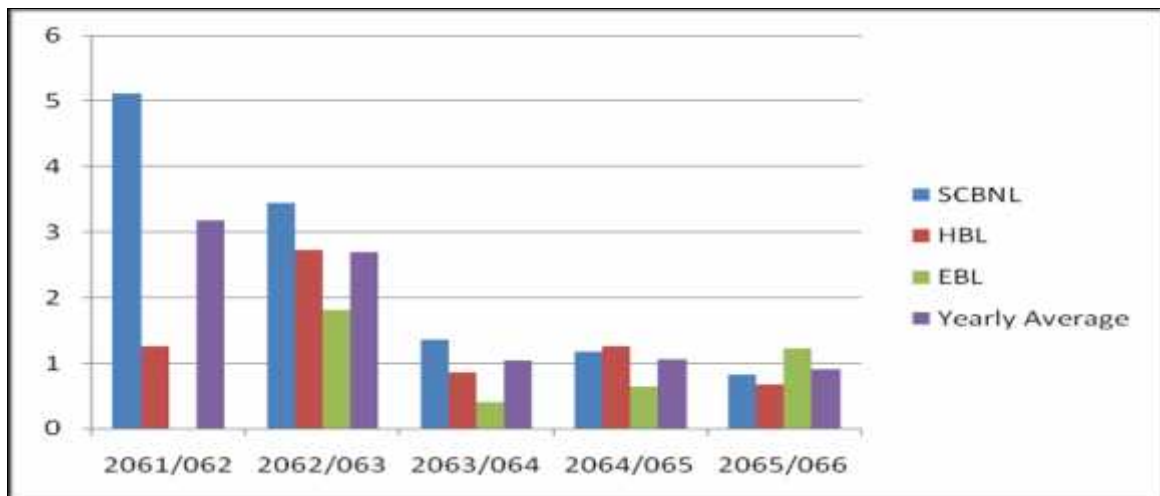
4.2   Analysis of Statistical Indicators:

4.2.1   Correlation Between Financial Variables and Their Interpretation:

The correlation analysis is generally used to describe the degree to which one variables is related to another variable .It helps to determine whether a positive or negative relationship exists. The positive correlation indicates that increase in value of one variable leads to increase in value of one variable leads to decrease in value of other variable, means opposite direction between two variables. The correlation coefficient lies between +1 to -1, +1 correlation coefficient indicates that the variables are perfectly positive correlated and -1 coefficient indicates the variable are perfectly negatively correlated. And if the correlation is 0, it means the variables are not related to each other. The number indicates the degree of correlation between the variables. For the first and second objective of the study, the relationship between the dividends with earnings, market price of share and net worth and impact of dividend policy presented with the help of correlation coefficient and regression analysis.

Correlation coefficient between financial variables of Slandered Chartered Bank Nepal Limited

Correlation coefficient between different variable of SCBNL are presented in table as below:

Table No: 6

Correlations Coefficient Between Financial Variables Of SCBNL

Variables	EPS	DPS	DPR	DY	MPS
EPS	1				
DPS	0.71	1			
DPR	0.343	0.899	1		
DY	-0.049	0.482	0.729	1	
MPS	-0.363	-0.809	-0.852	-0.796	1

(Source: Appendix- 2)

Table no 6, exhibits the direction and magnitude of correlation between various financial variables of the SCBNL bank. Basically, the degree of relationship of MPS with other variables is seen in the table. It is seen that MPS is negatively correlated with EPS, DPS, DPR, and DY at 5% significant level. This means as MPS tends to increase EPS, DPS, DPR and DY tends to decrease or as MPS tends to decrease EPS, DPS, DPR and DY tends to increase. Negative correlation shows the negative direction of movement end relation of the variables. It means both variables move on the opposite direction at the degree of correlation value.

Correlation between MPS with EPS, DPS, DPR and DY is -0.363, -0.809, -0.852 and -0.796 respectively also their significant value at 5% is 0.548, 0.97, 0.67 and 0.108 (2 tailed). Respectively, which shows that their relationship is negative and inverse or association between them is negative.

Correlation coefficient between financial variables of Himalayan Ban Limited

Correlation coefficient between different variable of HBL are presented in table as below:

Table No: 7

Correlations Coefficient Between Financial Variables Of HBL

Variables	EPS	DPS	DPR	DY	MPS
EPS	1				
DPS	.395	1			
DPR	.225	.984	1		
DY	-.090	.818	.895	1	
MPS	.830	.000	-.173	-.560	1

(Source: Appendix- 2)

Table no. 7, exhibits the direction and magnitude of correlation between various financial variables of the HBL bank. Basically, the degree of relationship of MPS with other variables is seen in the table. It is seen that MPS is positively correlated with EPS. It means as MPS tends to increase EPS also tends to increase or if MPS tend to decrease,

the EPS tends to decrease. Positive correlation shows the positive direction of movement end relation of the variables. It means both variables move on the same direction at the degree of correlation value at 5% significant level. There is no correlation with DPS at 5% significant level.

MPS negatively correlated with DPR, and DY at different significant level which means as MPS tends to increase DPR and DY tends to decrease or as MPS tends to decrease DPR and DY tends to increase. Negative correlation shows the negative direction of movement end relation of the variables. It means both variables move on the opposite direction at the degree of correlation value.

Correlation between MPS with EPS is 0.830, DPS is .0000, DPR is -0.173 and DY is -0.560 respectively also their significant value at 5% is 0.82, 1.000, 0.780 and 0.326 (2 tailed). Respectively, which shows that their relationship is positive with EPS ,no correlated with DPS and negative with DPR & DY.

Correlation coefficient between financial variables of Everest Bank Limited

Correlation coefficient between different variable of EBL are presented in table as below:

Table No: 8

Correlations Coefficient Between Financial Variables Of EBL

Variables	EPS	DPS	DPR	DY	MPS
EPS	1				
DPS	.659	1			
DPR	.356	.925	1		
DY	.196	.860	.979	1	
MPS	.891	.468	.241	.044	1

(Source: Appendix- 2)

Table no. 8, exhibits the direction and magnitude of correlation between various financial variables of the EBL bank. Basically, the degree of relationship of MPS with other variables is seen in the table. It is seen that MPS is positively correlated with EPS, DPS,

DPR and DY. It means as MPS tends to increase EPS,DPS ,DPR and DY also tends to increase or if MPS tend to decrease, the EPS, DPS,DPR & DY tends to decrease. Positive correlation indicates that variable's values are deviated in same direction at the degree of correlation value at 5% significant level.

Correlation between MPS with EPS is 0.891which shows MPS is highly positively correlated with EPS, but slightly positive correlated with DY with value 0.241.Similarly correlation between MPS with DPS, DPR is 0.468,0.241 respectively, also their significant value at 5% is 0.42, 0.427 ,0.698, 0.943 (2 tailed) respectively, which shows that their relationship is positive or association between them is positive.

Correlation coefficient between financial variables of Yearly Average

Correlation coefficient between different variable of Yearly Average are presented in table as below:

Table No: 9

Correlations Coefficient Between Financial Variables Of Yearly Average

Variables	EPS	DPS	DPR	DY	MPS
EPS	1				
DPS	.163	1			
DPR	.184	.945	1		
DY	-.204	.898	.785	1	
MPS(r)	.569	-.489	-.277	-.809	1

(Source: Appendix- 2)

Table no 9, exhibits the direction and magnitude of correlation between various financial variables of the Yearly average. Basically, the degree of relationship of MPS with other variables is seen in the table. It is seen that MPS is positively correlate with EPS. It means as MPS tends to increase EPS also tends to increase or if MPS tend to decrease, the EPS tends to decrease. Positive correlation shows the positive direction of movement end relation of the variables. It means both variables move on the same direction at the degree of correlation value at 5% significant level

MPS negatively correlated with DPS, DPR, and DY at different significant level which means as MPS tends to increase DPS, DPR and DY tends to decrease or as MPS tends to decrease DPS, DPR and DY tends to increase. Negative correlation shows the negative direction of movement end relation of the variables. It means both variables move on the opposite direction at the degree of correlation value.

Correlation between MPS with EPS is 0.569, DPS is -0.489, DPR is -0.277 and DY is -0.809 respectively. Their significant value at 5% is 0.317, 0.403, 0.651 and 0.97(2 tailed) which shows that their relationship is positive with EPS and negative with DPS, DPR & DY.

4.2.2. Simple Correlation and Regression Equation and Their Interpretation

1. Simple Correlation and Regression Analysis between EPS and DPS :

Following model has been used to analyze correlation between dependent variable DPS and the independent variable EPS.

Table No. 10

Simple Correlation and Regression Analysis between EPS and DPS

Banks	a	b	SEe	r	r^2	S.E.(r)	P.E.(r)
SCBNL	-34.69	0.870	26.60	0.710	0.504	0.2218	0.1496
HBL	-13.02	0.5426	8.82	0.3955	0.1564	0.3782	0.2551
EBL	-15.06	0.414	10.46	0.659	0.434	0.2531	0.1707
Yearly average	19.93	0.24	13.55	0.163	0.26	0.3309	0.2232

(Source: Appendix- 3)

Table no. 10 represents the different indicators (appendix 3) helpful to analyze the simple correlation and regression between EPS and DPS of the sample 3 commercial banks along with their yearly average, where EPS is independent variable and DPS is the dependent variable. With the help of these indicators, it can be concluded as follows:

SCBNL:

The regression constant or intercept coefficient (a) is -34.69, which shows that the average DPS would be Rs. -34.69 if the EPS were zero. The result shows that the slope of

the regression line (b) is 0.870, which indicates that positive correlation exists between EPS and DPS of SCBNL. One rupee increase in EPS causes Rs. 0.870 increase in the dividend per share distributed by the bank. The coefficient of determination (r^2) is 0.504, which indicates that 50.4% of the variation in DPS is affected or determined by the explanatory variable EPS. The simple correlation (r) between EPS and DPS is 0.710, which indicates highly positive relationship between EPS and DPS of SCBNL. Here, since r is greater than P.E. (r) the correlation is considered to be neither significant nor insignificant.

HBL:

The regression constant or intercept coefficient (a) is -13.02, which shows that the average DPS would be Rs. -13.02 if the EPS were zero. The result shows that the slope of the regression line (b) is 0.5426, which indicates that positive correlation exists between EPS and DPS of HBL. One rupee increase in EPS causes Rs 0.5426 increase in the dividend per share distributed by the bank. The coefficient of determination (r^2) is 0.1564, which indicates that 15.64% of the variation in DPS is affected or determined by the explanatory variable EPS. The simple correlation (r) between EPS and DPS is 0.395, which indicates low positive relationship between EPS and DPS of HBL. Here, since r is greater than P.E.(r) the correlation is considered to be neither significant nor insignificant.

.EBL:

The regression constant or intercept coefficient (a) is -15.06, which shows that the average DPS would be Rs. -15.06, if the EPS were zero. The result shows that the slope of the regression line (b) is 0.414, which indicates that positive correlation exists between EPS and DPS of EBL. One rupee increase in EPS causes Rs. 0.414 increase in the dividend per share distributed by the bank. The coefficient of determination (r^2) is 0.4317, which indicates that of 43.17% the variation in DPS is affected or determined by the explanatory variable EPS. The simple correlation (r) between EPS and DPS is 0.659, which indicates moderate positive relationship between EPS and DPS of EBL. Here, since (r) is greater than P.E.(r), the correlation is considered to be neither significant or Insignificant.

Yearly average:

The regression constant or intercept coefficient (a) is 19.93, which shows that the average DPS would be Rs 19.93 if the EPS were zero. The result shows that the slope of the regression line (b) is 0.24, which indicates that positive correlation exists between EPS and DPS of observed banks in average. One rupee increase in EPS causes Rs. 0.24 increase in the dividend per share distributed by the observed sample banks in average. The coefficient of determination (r^2) is 0.26, which indicates that 26% of the variation in DPS is affected or determined by the explanatory variable EPS. The simple correlation (r) between EPS and DPS is 0.163, which indicates low positive relationship between EPS and DPS of sample banks in average. Here, since (r) is greater than P.E(r), the correlation can be considered to be neither significant nor insignificant.

2.   Simple Correlation and Regression analysis between EPS and MPS:

Following model has been used to analyze correlation between dependent variable MPS and the independent variable EPS.

Table No. 11

Simple Correlation and Regression Analysis between EPS and MPS

Banks	a	b	SEe	r	r^2	S.E.(r)	P.E.(r)
SCBNL	8646.98	-25.23	1993.38	0.363	0.132	0.3882	0.2818
HBL	-2196.47	63.199	297.36	0.830	0.689	0.1391	0.0938
EBL	-1231.78	42.40	476.91	0.8914	0.795	0.0916	0.0618
Yearly	-4033.06	73.67	988.17	0.569	0.323	0.3027	0.2042

(Source: Appendix- 4)

Table no. 11, represents the different indicators (appendix 4) helpful to analyze the simple correlation and regression between EPS and MPS of the sample 3 commercial banks along with their yearly average, where EPS is independent variable and MPS is the dependent variable. With the help of these indicators, it can be concluded as follows:

SCBNL:

The regression constant or intercept coefficient (a) is 8646.98, which shows that the average MPS would be Rs. 8646.98 if the EPS were zero. The result shows that the slope of the regression line (b) is -25.23, which indicates that negative correlation exists between EPS and MPS of SCBNL. One rupee increase in EPS causes Rs.25.23 decrease in the market price per share of the bank. The coefficient of determination (r^2) is 0.132, which indicates that 13.2% of the variation in MPS is affected or determined by the explanatory variable EPS. The simple correlation (r) between EPS and DPS is 0.363, which indicates low positive relationship between EPS and MPS of SCBNL. Here, since (r) is greater than. P.E. (r), the correlation is considered to be neither significant nor insignificant

HBL:

The regression constant or intercept coefficient (a) is -2196.47, which shows that the average MPS would be Rs. -2196.47 if the EPS were zero. The result shows that the slope of the regression line (b) is 63.199, which indicates that positive correlation exists between EPS and MPS of HBL. One rupee increase in EPS causes Rs 63.199 increase in the market price per share of the bank. The coefficient of determination (r^2) is 0.689, which indicates that 68.9% of the variation in MPS is affected or determined by the explanatory variable EPS. The simple correlation (r) between EPS and MPS is 0.830, which indicates strong positive relationship between EPS and MPS of HBL. Here, since r is greater than 6.P.E. (r) (0.5628), the correlation is considered to be significant.

EBL:

The regression constant or intercept coefficient (a) is -1231.78, which shows that the average MPS would be Rs. -1231.78if the EPS were zero. The result shows that the slope of the regression line (b) is 42.40, which indicates that positive correlation exists between EPS and MPS of EBL. One rupee increase in EPS causes Rs. 42.40 increase in the market price per share of the bank. The coefficient of determination (r^2) is 0.795, which indicates that 79.5% of the variation in MPS is affected or determined by the explanatory variable EPS. The simple correlation (r) between EPS and MPS is 0.8914, which

indicates strong positive relationship between EPS and MPS of EBL. Here, since r is greater than 6.P.E.(r) (0.5628), the correlation is considered to be significant.

Yearly average:

The regression constant or intercept coefficient (a) is -4033.06, which shows that the average MPS would be Rs -4033.06 if the EPS were zero. The result shows that the slope of the regression line (b) is 73.67, which indicates that positive correlation exists between EPS and MPS of observed banks in average. One rupee increase in EPS causes Rs. 73.67 increase in the market price per share of the bank. The coefficient of determination (r^2) is 0.323, which indicates that 32.3% of the variation in MPS is affected or determined by the explanatory variable EPS. The simple correlation (r) between EPS and MPS is 0.569, which indicates moderate   positive relationship between EPS and MPS of sample banks in average. Here, since r is greater than P.E., the correlation is considered to be significant.

3.   Simple Correlation and Regression Analysis between DPS and MPS:

Following model has been used to analyze correlation between dependent variable MPS and the independent variable DPS.

Table No. 12:

Simple Correlation and Regression Analysis between DPS and MPS

Banks	a	b	SEe	r	r^2	S.E.(r)	P.E.(r)
SCBNL	9187.39	-45.82	1258.04	0.809	0.654	0.1547	0.1043
HBL	1499.75	0.13	532.92	0	0	0.4472	03016
EBL	1451.07	35.42	929.89	0.4680	0.2190	0.3492	0.2357
Yearly Average	4701.80	-42.76	1047.88	0.489	0.239	0.3403	0.2295

(Source: Appendix- 5)

 Table no. 12, represents the different indicators (appendix 5) helpful to analyze the simple correlation and regression between DPS and MPS of the sample 3 commercial banks along with their yearly average, where DPS is independent variable and MPS is the dependent variable. With the help of these indicators, it can be concluded as follows:

SCBNL:

The regression constant or intercept coefficient (a) is 9187.39, which shows that the average MPS would be Rs. 9187.39 if the DPS were zero. The result shows that the slope of the regression line (b) is -45.82, which indicates that constant correlation exists between DPS and MPS of NBBL. One rupee increase in DPS causes Rs.45.82 decrease in the market price per share of the bank. The coefficient of determination (r^2) is 0.654, which indicates that 65.4% of the variation in MPS is affected or determined by the explanatory variable DPS. The simple correlation (r) between EPS and MPS is 0.809, which indicates high positive relationship between DPS and MPS of SCBNL. Here, since (r) is greater than 6P.E. (r) (0.6258) the correlation can be considered to be significant.

HBL:

The regression constant or intercept coefficient (a) is 1499.75, which shows that the average MPS would be Rs. 1499.75 if the DPS were zero. The result shows that the slope of the regression line (b) is 0.13, which indicates that positive correlation exists between DPS and MPS of HBL. One rupee increase in DPS causes Rs. 0.13 increase in the market price per share of the bank. The coefficient of determination (r^2) is 0, which indicates that 0% of the variation in MPS is affected or determined by the explanatory variable DPS. The simple correlation (r) between DPS and MPS is 0, which indicates there is no relationship between DPS and MPS of HBL. Here, since r is less than P.E.(r), the correlation is considered to be insignificant.

EBL:

The regression constant or intercept coefficient (a) is 1451.07, which shows that the average MPS would be Rs. 1451.07 if the DPS were zero. The result shows that the slope of the regression line (b) is 35.42, which indicates that positive correlation exists between DPS and MPS of EBL. One rupee increase in DPS causes Rs. 35.42 increase in the market price per share of the bank. The coefficient of determination (r^2) is 0.2190, which indicates that 21.90% of the variation in MPS is affected or determined by the explanatory variable DPS. The simple correlation (r) between DPS and MPS is 0.4680, which indicates low positive relationship between DPS and MPS of EBL. Here, since (r)

is greater than P.E. (r), the correlation is considered to be neither significant nor insignificant.

Yearly average:

The regression constant or intercept coefficient (a) is 4701.80, which shows that the average MPS would be Rs. 4701.80 if the DPS were zero. The result shows that the slope of the regression line (b) is -42.76, which indicates that positive correlation exists between DPS and MPS of sample banks in average. One rupee increase in DPS causes Rs. 42.76 decrease in the market price per share of the sample bank in average. The coefficient of determination (r^2) is 0.239, which indicates that 23.9% of the variation in MPS is affected or determined by the explanatory variable DPS. The simple correlation (r) between DPS and MPS is 0.489, which indicates low positive relationship between DPS and MPS of sample banks in average. Here, since (r) is greater than P.E. and less than 6.P.E. (r) (1.377), the correlation can be considered to be neither significant nor insignificant.

4.   Simple Correlation and Regression Analysis between DPR and MPS:

Following model has been used to analyze correlation between dependent variable MPS and the independent variable DPR.

Table No. 13:

Simple Correlation and Regression Analysis between DPR and MPS

Banks	a	b	SEe	r	r^2	S.E.(r)	P.E.(r)
SCBNL	10920.57	-95.44	1119.16	0.852	0.726	0.1225	0.0826
HBL	1694.53	-6.127	524.84	0.173	0.30	0.3130	0.211
EBL	1754.81	14.29	1021.21	0.2411	0.0581	0.4242	0.2861
Yearly Average	3953.74	-27.98	1154.11	0.277	0.77	0.1028	0.0693

(Source: Appendix- 6)

Table no.13 represents the different indicators (appendix 6) helpful to analyze the simple correlation and regression between DPR and MPS of the sample 3 commercial banks

along with their yearly average, where DPR is independent variable and MPS is the dependent variable. With the help of these indicators, it can be concluded as follows:

SCBNL:

The regression constant or intercept coefficient (a) is 10920.57, which shows that the average MPS would be Rs. 10920.57 if the DPR were zero. The result shows that the slope of the regression line (b) is -95.44, which indicates that negative correlation exists between DPR and MPS of SCBNL. One percent increase in DPR causes Rs. 95.44 decrease in the market price per share of the bank. The coefficient of determination (r^2) is 0.726, which indicates that 72.6% of the variation in MPS is affected or determined by the explanatory variable DPR. The simple correlation (r) between DPR and MPS is 0.852, which indicates high degree of positive relationship between DPR and MPS of SCBNL. Here, since (r) is greater than 6P.E. (r) (0.4956), the correlation is considered to be significant.

HBL:

The regression constant or intercept coefficient (a) is 1694.53, which shows that the average MPS would be Rs. 1694.53 if the DPR were zero. The result shows that the slope of the regression line (b) is -6.127, which indicates that positive correlation exists between DPR and MPS of HBL. One percent increase in DPR causes Rs.6.127 decrease in the market price per share of the bank. The coefficient of determination (r^2) is 0.30, which indicates that 30% of the variation in MPS is affected or determined by the explanatory variable DPR. The simple correlation (r) between DPR and MPS is 0.173, which indicates low positive relationship between DPR and MPS of HBL. Here, since r is less than P.E. (r), the correlation is considered to be insignificant.

EBL:

The regression constant or intercept coefficient (a) is 1754.81, which shows that the average MPS would be Rs. 1754.81 if the DPR were zero. The result shows that the slope of the regression line (b) is 14.29, which indicates that negative correlation exists between DPR and MPS of EBL. One percent increase in DPR causes Rs. 14.29 increase in the market price per share of the bank. The coefficient of determination (r^2) is 0.0581,

which indicates that 5.81% of the variation in MPS is affected or determined by the explanatory variable DPR. The simple correlation (r) between DPR and MPS is 0.2411, which indicates low degree of positive relationship between DPR and MPS of EBL. Here, since (r) is less than P.E. (r), the correlation is considered to be insignificant.

Yearly average:

The regression constant or intercept coefficient (a) is 3953.74, which shows that the average MPS would be Rs. 3953.74 if the DPR were zero. The result shows that the slope of the regression line (b) is -27.98, which indicates that negative correlation exists between DPR and MPS of average of the sample banks. One percent increase in DPR causes Rs. 27.98 increase in the market price per share of the sample banks. The coefficient of determination (r^2) is 0.77, which indicates that 77% of the variation in MPS is affected or determined by the explanatory variable DPR. The simple correlation (r) between DPR and MPS is 0.277, which indicates low positive relationship between DPR and MPS of sample banks in average. Here, since. (r) is greater than 6P.E.(r) (0.4158) , the correlation is considered to be significant.

5. Simple Correlation and Regression Analysis between DY and MPS:

Following model has been used to analyze correlation between dependent variable MPS and the independent variable DY.

Table No. 14:

Simple Correlation and Regression Analysis between DY and MPS

Banks	a	b	SEe	r	r^2	S.E.(r)	P.E.(r)
SCBNL	5641.81	-0.6459	1298.56	0.796	0.633	0.1641	0.1106
HBL	1936.33	-3021.77	441.46	0.560	0.314	0.3067	0.2069
EBL	2006.65	57.04	1051.21	0.044	0.002	0.4463	0.3010
Yearly Average	4438.06	-1028.05	706.01	0.809	0.655	0.1543	0.1041

(Source: Appendix- 7)

Table no. 14, represents the different indicators (appendix 7) helpful to analyze the simple correlation and regression between DY and MPS of the sample 3 commercial

banks along with their yearly average, where DY is independent variable and MPS is the dependent variable. With the help of these indicators, it can be concluded as follows:

SCBNL:

The regression constant or intercept coefficient (a) is 5641.81, which shows that the average MPS would be Rs. 5641.81 if the DY were zero. The result shows that the slope of the regression line (b) is -0.6459, which indicates that there is no correlation exists between DY and MPS of SCBNL. One percent increases in DY causes Rs 0.6459 decrease in the market price per share of the bank. The coefficient of determination (r^2) is 0.633, which indicates that 63.3% of the variation in MPS is affected or determined by the explanatory variable DY. The simple correlation (r) between DY and MPS is 0.796, which indicates high positive relationship between DY and MPS of SCBNL. Here, since (r) is greater than 6P.E. (r) (0.6636), the correlation is considered to be significant.

HBL:

The regression constant or intercept coefficient (a) is 1936.33, which shows that the average MPS would be Rs. 1936.33 if the DY were zero. The result shows that the slope of the regression line (b) is -3021.77, which indicates that positive correlation exists between DY and MPS of HBL. One percent increase in DY causes Rs. 3021.77 decrease in the market price per share of the bank. The coefficient of determination (r^2) is 0.314, which indicates that 31.4% of the variation in MPS is affected or determined by the explanatory variable DY. The simple correlation (r) between DY and MPS is 0.5360, which indicates moderate positive relationship between DY and MPS of HBL. Here, since r is greater than P.E. (r) the correlation is considered to be neither significant nor insignificant.

EBL:

The regression constant or intercept coefficient (a) is 2006.65, which shows that the average MPS would be Rs. 2006.65 if the DY were zero. The result shows that the slope of the regression line (b) is 57.04, which indicates that positive correlation exists between DY and MPS of EBL. One percent increase in DY causes Rs. 57.04 increase in the market price per share of the bank. The coefficient of determination (r^2) is 0.002, which

indicates that 0.2% of the variation in MPS is affected or determined by the explanatory variable DY. The simple correlation (r) between DY and MPS is 0.044, which indicates low positive relationship between DY and MPS of EBL. Here, since (r) is less than P.E. (r), the correlation is considered to be insignificant.

Yearly average:

The regression constant or intercept coefficient (a) is 4438.06, which shows that the average MPS would be Rs. 4438.06 if the DY were zero. The result shows that the slope of the regression line (b) is -1028.05, which indicates that negative correlation exists between DY and MPS of observed sample banks in average. One percent increases in DY causes Rs 1028.05 decrease in the market price per share of the sample bank in average. The coefficient of determination (r^2) is 0.655, which indicates that 65.5% of the variation in MPS is affected or determined by the explanatory variable DY. The simple correlation (r) between DY and MPS is 0.809, which indicates strong positive relationship between DY and MPS of sample banks in average. Here, since (r) is greater than 6P.E. (r) (0.6246), the correlation is consider to be significant.

4.2.3 Multiple Regression and Correlation of Determination Analysis

The market price of stock depends on more than one variable. So, the result of simple regression analysis are not reliable as far, the multiple regression eliminates all the limitations of simple regression analysis. This part of the study is designed to examine the relationship between two independent variables and one dependent variable. In this study, yearly average data of the observed banks are used for multiple and coefficient of determination analysis.

Multiple Regression Analysis between MPS on EPS and DPS:

Following model has been used to analyze correlation between dependent variable MPS and the independent variables EPS and DPS.

$$X_1 = a_1 + b_1.X_2 + b_2.X_3$$

Where,

X_1 = Market Price Per Share (dependent variable)

X_2 = Earning Per Share (independent variable)

X_3 = Dividend Per Share (independent variable)

a_1 = Regression Constant

b_1 and b_2 = Coefficient of Net Regression

The following results have been obtained from the multiple regression models (Appendix 8).

Table No. 15:

Multiple Regression and Coefficient of Determination Analysis of MPS on EPS and DPS

a1	b1	b2	$S_{1.23}$	$R^2_{1.23}$
-2991.76	86.27	-52.24	844.28	0.5772

Table No.15 shows the output of multiple regression analysis between MPS (X_1) and other variables [EPS (X_2) and DPS (X_3)] of the banks in average. The regression constant a_1 is -2991.76 which indicates that when EPS and DPS equal to zero, then MPS of the observed banks would be Rs. -2991.76. The regression coefficient b_1 for sample banks in average is 86.27 this indicates that one rupee increase in EPS causes Rs. 86.27 increase in MPS, when DPS is held constant. In the same way another regression coefficient b_2 is -52.24 which indicates that unitary increment in DPS causes Rs. 52.24 decrease in MPS, when EPS is held constant. Thus independent variable EPS has positive impact in MPS, when DPS is constant where as another independent variable DPS has negative impact in MPS of the observed banks in average, when EPS is constant. As the coefficient of multiple determinations $R^2_{1.23}$ is 0.5772, it means 57.72% variation in MPS is explained by variation EPS and DPS.

Multiple Correlation and Regression Analysis between MPS on DPR and DPS:

Following model has been used to analyze correlation between dependent variable MPS and the independent variables DPR and DPS.

$X_1 = a_1 + b_1.X_2 + b_2.X_3$

Where,

X$_1$ = Market Price Per Share (dependent variable)

X$_2$ = Dividend Payout Ratio (independent variable)

X$_3$ = Dividend Per Share (independent variable)

a$_1$ = Regression Constant

b$_1$ and b$_2$ = Coefficient of Net Regression

The following results have been obtained from the multiple regression models (Appendix 11).

Table No. 16:

Multiple Regression and Coefficient of Determination Analysis of MPS on DPR and DPS

a1	b1	b2	$S_{1.23}$	$R^2_{1.23}$
4101.23	175.77	-186.86	974.56	0.5612

Table No.16, shows the output of multiple regression analysis between MPS (X$_1$) and other variables [DPR (X$_2$) and DPS (X$_3$)] of the banks in average. The regression constant a$_1$ is 4101.23 which indicate that when EPS and DPS equal to zero, then MPS of the observed banks would be Rs. 4101.23. The regression coefficient b$_1$ for sample banks in average is 175.77 this indicates that one percent increase in DPR causes Rs. 175.77 increase in MPS, when DPS is held constant. In the same way another regression coefficient b$_2$ is -186.86 which indicate that unitary increment in DPS causes Rs. 186.86 decrease in MPS, when DPR is held constant. Thus independent variable DPS has negative impact in MPS, when DPR is constant. Where as another independent variable DPR has positive impact in MPS of the observed banks in average when DPS is constant. As the coefficient of multiple determinations $R^2_{1.23}$ is 0.5612, it means 56.12% variation in MPS is explained by variation DPR and DPS.

4.3   Test of Hypothesis

This part of the study is concerned with the test of the relationship between dependent and independent variables, whether the relationship is statistically significant or not. Here, it has been tried to find whether the independent variables have statistically significant relationship with dependent variables or not. The test is based on the yearly average data for the five year periods of the three commercial banks.

Hypothesis Test – 1

In this test, it has been tried to find whether the independent variables EPS (X_2) and DPS (X_3) have statistically significant relationship with dependent variable MPS (X_1) or not.

Null Hypothesis H_0: $b_1 = b_2 = 0$. That is the regression equation of X_1 on X_2 and X_3 is not significant. In other words, there is no relationship between dependent variable X_1 and two independent variables X_2 and X_3.

Null Hypothesis H_1: b_1 b_2 0. (i.e. at least one b_1 0). The regression equation of X_1 on X_2 and X_3 is significant. In other words, there is relationship between dependent variable X_1 and two independent variables X_2 and X_3.

Test Statistic: Under H_0 the test statistics is;

$$F \; X \frac{MSR}{MSE}$$

Where,

MSR = Regression Mean Sum of Square = Explained Variance

$$= \frac{\text{Explained variation}}{\text{Its degree of freedom}} \; X \frac{SSR}{k \, Z1}$$

MSE = Error Mean Sum of Square = Unexplained Variance

$$= \frac{\text{Unexplained variation}}{\text{Its degree of freedom}} \; X \frac{SSE}{n \, Zk}$$

Where,

SSR = Regression Sum of Square

= Explained Variation

$$= \quad (\hat{X}_1 - \bar{X}_1)^2$$

= 2498897.3

SST = Total Sum of Square

= Total Variation in the Dependent Variable

$$= \quad (X_1 - \bar{X}_1)^2$$

= 4329232.24

SSE = Error Sum of Square

= Unexplained Variation

= SST - SSR

= 4329232.24 – 2498897.3

= 1830334.94

Table No 17

ANOVA Table

Source of variation	Sum of Square (SS)	Degree of Freedom	Mean Sum of Square (M.S.)	F - Ratio
Explained (Regression)	SSR = 2498897.3	k - 1 = 2	MSR = SSR/(k-1) = 1249448.65	F (k-1, n-k) = MSR/MSE = 1.5402
Unexplained (Error)	SSE = 1622387	n - k = 2	MSE = SSE/(n-k) = 811193.5	
Total	SST=4329232.24	n - 1 = 4		

(Appendix 10)

Here calculated F (2, 2) = 1.5402

The tabulated value of F at 5% level of significance for two tailed test with d.f. (2,2) is,

$F_{0.05}$ (2,2) = 19.0

Decision: Since calculated value of F is less than the tabulated value of F, it is not significant and hence, H_0 is accepted which means that the regression equation of dependent variable X_1 (MPS) on two independent variables X_2 and X_3 (EPS and DPS) is not significant. In other words, there is not any significant relationship between the dependent variable X_1 and two independent variables X_2 and X_3.

Hypothesis Test – 2

In this test, it has been tried to find whether the independent variables DPR (X_2) and DPS (X_3) have statistically significant relationship with dependent variable MPS (X_1) or not.

Null Hypothesis H_0: $b_1 = b_2 = 0$. That is the regression equation of X_1 on X_2 and X_3 is not significant. In other words, there is no relationship between dependent variable X_1 and two independent variables X_2 and X_3.

Null Hypothesis H_1: $b_1 \quad b_2 \quad 0$. (i.e. at least one $b_1 \quad 0$). The regression equation of X_1 on X_2 and X_3 is significant. In other words, there is relationship between dependent variable X_1 and two independent variables X_2 and X_3.

Test Statistic: Under H_0 the test statistics is;

$$F \; X \frac{MSR}{MSE}$$

Where,

MSR = Regression Mean Sum of Square = Explained Variance

$$= \frac{\text{Explained variation}}{\text{Its degree of freedom}} \; X \frac{SSR}{k \; Z1}$$

MSE = Error Mean Sum of Square = Unexplained Variance

$$= \frac{\text{Unexplained variation}}{\text{Its degree of freedom}} \; X \frac{SSE}{n \; Zk}$$

Where,

SSR = Regression Sum of Square

= Explained Variation

$$= \sum (\hat{\mathbf{X}}_1 - \bar{\mathbf{X}}_1)^2$$

= 2429783.1

SST = Total Sum of Square

= Total Variation in the Dependent Variable

$$= \sum (\mathbf{X}_1 - \bar{\mathbf{X}}_1)^2$$

= 4329232.24

SSE = Error Sum of Square

= Unexplained Variation

= SST − SSR = 4329232.24 − 2429783.1 = 1899449.14

Table No 18

ANOVA Table

Source of variation	Sum of Square (SS)	Degree of Freedom	Mean Sum of Square (M.S.)	F - Ratio
Explained (Regression)	SSR = 2429783.1	k - 1 = 2	MSR = SSR /(k-1) = 1214891.55	F (k-1, n-k) = MSR/MSE = 1.2791
Unexplained (Error)	SSE = 1899449.14	n - k = 2	MSE = SSE /(n-k) = 949773.5	
Total	SST = 4329232.24	n - 1 = 4		

(Appendix 13)

Here calculated F (2,2) = 1.2791

The tabulated value of F at 5% level of significance for two tailed test with d.f. (2,2) is,

$F_{0.05}$ (2,2) = 19.0

97

Decision: Since calculated value of F is less than the tabulated value of F, it is not significant and hence, H_0 is accepted which means that the regression equation of dependent variable X_1 (MPS) on two independent variables X_2 and X_3 (DPR and DPS) is not significant. In other words, there is not any significant relationship between the dependent variable X_1 and two independent variables X_2 and X_3.

4.4   Major Findings of the Study:

) The average earning per share (EPS) of the banks under the study shows a positive result. But the coefficient of variation indicates that there is less consistency of EPS. The C.V ranges within 22.13% to 9.27%. Among the sample banks SCBNL has the highest average EPS with the less fluctuation and HBL has the least with high degree of fluctuation.

) The average dividend per share (DPS) shows that there is no regularity in dividend payment. The SCBNL has the highest average DPS and the higher degree of paying regular dividend to their shareholders. DPS share also fluctuating. The C.V. of DPS ranges within 63.35% to 35.56%. HBL has highest fluctuation among the sample banks EBL has not distributed dividend to its shareholders in the fiscal year 2061/62, again increasing trend thereafter in the study period.

) The analysis of DPR also shows that the DPR of the banks are not stable. Among the banks under the study, SCBNL has the highest average DPR of the commercial banks in are also fluctuating every year. EBL have 0.00 DPR in the first years 2061/62.The result also shows that HBL has the lowest average DPR and has the high fluctuation. The fluctuating ranges within 65.86% to 26.55%.

) The average market price per share (MPS) shows that there is quite high level of fluctuation. SCBNL has higher average MPS than other banks. So, this bank is in good position but average MPPS of all commercial banks being considered to be encouraging. HBL has the lowest average MPS but lowest fluctuation.

〕 The average dividend yield of the banks indicates that the dividend yield is quite low ranging within 2.38% to 0.82%. Among the banks, SCBNL has the highest average dividend yield and EBL has the lowest. There is high fluctuation in the dividend yield ranging from 53.23% to 77.19%.

〕 The DPS and EPS are positively correlated in all sample banks which means higher the EPS higher will be DPS. Regression analysis show that 1% increases in EPS leads to 0.870, 0.5426, 0.414 and 0.24 increases in DPS of SCBNL, HBL, EBL and average bank yearly average of sample banks.

〕 There is positive correlation between EPS and MPS in EBL, HBL, SCBNL and yearly average, all have positive correlation between EPS and MPS. It is mort rate positive correlated in the case of yearly average and highly Positive correlated in HBL & EBL But in SCBNL is low positive correlated.

〕 A positive relationship is found between DPS and MPS of the SCBNL, EBL and yearly average but HBL there is a no correlation between MPS and DPS.

〕 The correlation coefficient between MPS and DPR is positive correlation in EBL HBL, SCBNL and yearly average. It indicates that if the sample firms want to increase their stock price, then they should also increase DPR. But it cannot be said with confidence whether the obtained value of correlation coefficient is statistically significant or not as it is less than 6.P.E. (r) in average.

〕 There is a positive correlation between MPS and DY in EBL, HBL, SCBNL and yearly average.

〕 From the multiple regression analysis of MPS on EPS and DPS, it has been found that there is a positive relation between MPS and EPS, but negative relation between MPS and DPS.

⌡ From the multiple regression analysis of MPS on DPR and DPS, it has been found that there is a positive relation between MPS and DPR, but negative relation exists between MPS and DPS.

⌡ From the hypothesis test-1, it has been found that the regression equation of dependent variable MPS on two independent variables EPS and DPS is not significant.

⌡ From the hypothesis test-2, it has been found that the regression equation of dependent variable MPS on two independent variables DPR and DPS is also not significant

⌡ It can be seen from the study that the MPS, in average, is positively affected by EPS only   but it is negatively affected by all other variables.

CHAPTER – V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter focuses on summarizing the study held with the conclusions and some recommendations on the basis of findings. Three major aspect of the study are discussed in this chapter. At the beginning summary and conclusion has been drawn up based on findings. The gaps found and the factors to cause those gaps are also presented. This chapter is very important in the sense that:

5.1 Summary

Dividend policy is one of the major decisions of financial management. The dividend policy decision affects on the operation and prosperity of the organization. It influence the two decision of the organization i.e. capital decision and investment decisions. An investor expects two types of return that is capital gain and dividend by investing in equity capital. So payment of dividend to shareholders is an effective way to attract new investors and maintain present investors. It is important to have clearly defined and effectively managed dividend policy to fulfill the shareholders expectations and corporate growth. *(Thapa and Gautam, 2008:336).*

Dividend is an important tool to attract the new investors. Beside this dividend paying ability reflect the financial position of the organization in the market. Due to the division of earning between dividend payout and retention ratio the market price of the share may also reflected so, it is the crucial decision of the organization. In Nepalese environments after government adopt liberalization and privatization policy, Dividend policy is taking its path, slowly. Every Investor must have knowledge of dividend policy. So they can make better decision before they invest. Only those company pay dividend, which are in profit.

Dividends are payments made to shareholders from a firm's earnings in return to their investment. Thus, dividend policy is to determine the amount of earnings to be

distributed to shareholders and the amount to be retained or reinvest in the firm. Dividend payment to shareholder is taken as best in such a condition because shareholder have investment opportunities elsewhere. In the changed context of encouraging secondary market, it is time to study influences of other factors on dividend and application of dividend on market price per shares. The study has tried to cover some such factors. However, it is not enough due to some limitations.

In analyzing the problem with the stated objectives, this study has been in more descriptive nature. The study covers three joint venture banks as well as it cover for the past five fiscal years from 2004/05 to 2008/09. The available secondary data has been analyzed using various financial and statistical tools. So, the reliability of conclusions of this study is determined on the accuracy of secondary data.

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

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

It is found from the study that bank are paying dividend but there is no consistency in dividend distribution. The research shows that none of the banks have well defined and appropriate dividend policy. They do not seem to follow the optimum dividend policy of paying regular dividend as per the shareholders expectation. It might cause uncertainty among shareholders.
.

In Nepal, only few listed companies have paying regular dividend to their shareholders. 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 sample 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 first multiple regression was formed to assess the impact of EPS and DPS on market price of share. It concludes the fact that earning per share has positive impact on MPS where dividend per share has negative impact on MPS. The second multiple regression was formed to assess the impact of DPR and DPS on MPS. From the analysis, it is found that the DPR and DPS have negative and positive impact on MPS of the observed banks in average respectively. From the regression analysis it can be concluded that a change in dividend per share affects the share prices differently in different banks.

The market price of share is affected by the financial position and the dividend paid by the firms. In this regards the MPS of the sample banks is seem to be fluctuated. It denoted Nepalese investors are not treated fairly. The lack of financial knowledge and the market inefficiency has affected the market price of the share in all the sample banks. Paying dividend to shareholders is an effective way to lure new investors to invest in shares. Due to the division of earnings of company (between dividend payout and retention of earnings), its effect on the market prices of share is a crucial question. It is therefore, necessary that 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 should be better paid as dividends. Therefore, in conclusion, it can be said that the dividend policy should be optimal which balances the opposing forces and maximize stock price.

5.2 Conclusion

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

5.3 Recommendations

Based on the findings, the suggestions for future guidelines are presented here. These suggestions may also need some regressions but there is no doubt that these measures are helpful to improve the existing condition of financial institutions as well as other organizations of Nepal. These suggestions will be proved to be milestone in order to correct the existing situation.

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

b. Issue of stock dividend decreases market value per share and earnings per share however, issue of cash dividend increases market value per share and earnings per

share. So, due to this reason common shareholders should be given option to choose between stock dividend and cash dividend instead of declaring stock or cash arbitrary. Therefore, all the financial institutions are suggested to decide about it after collective opinion from shareholders.

c. There is a lack of awareness in Nepalese investors regarding their rights and dividend policy. Therefore, the potential investor should be informed and educated properly about the prevailing rules and regulation about dividend policy and other specific rights. Everybody should have clear knowledge about Nepalese Company Act- 1997 that makes some legal provisions for dividend payments.

d. The primary concern of this study is to look into the dividend policies and practices existing in the relatively immature capital markets economy of Nepal and to draw attention to both the opportunities and threats regarding the current practices. Based on the results of this study has come up with recommendation to all of the major players in playground that is the share markets.

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

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

g. It is more important for financial institutions for long-term sustainability then getting quick rich tendency of short-term value. Since, financial institutions have to survive as institutions in the long run and provide capital gain to the investor.

That's why all the financial institutions have to maintain certain discipline by learning from experience of operation regarding what is good to do and what is not good to do for future improvement and further success.

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

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

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

k. Stock brokers should be aware of the performances of the companies whose shares they trade. They should be aware of the prospects of the capital markets, work for the proper growth of the capital market of the country. They should follow ethics and do not influence other. They should think about Information Centre to provide the proper information to the potential investors on investment.

l. For the new researchers recommended that, they could be used different financial and statistical tools as well as primary and secondary data.

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Appendix 1

Earning Per Share (EPS)

Banks	2061/062	2062/063	2063/064	2064/065	2065/066	n = 5	Mean	SD (σ)	CV (%)
SCBNL	143.14	175.84	167.37	131.92	109.99	728.26	145.65	26.69	18.33
HBL	47.91	59.24	60.66	62.74	61.90	292.45	58.49	5.42	9.27
EBL	54.22	62.78	78.42	91.82	99.99	387.23	*77.44*	*17.14*	*22.13*
Yearly	81.75	99.28	102.15	95.49	90.62	469.31	93.86	16.41	16.57

*(Source: Annual reports of the concerned b*anks)

Dividend Per Share (DPS)

Banks	2061/062	2062/063	2063/064	2064/065	2065/066	n = 5	Mean	SD (σ)	CV (%)
SCBNL	120	130	80	80	50	460	92	32.71	35.56
HBL	11.58	30	15	25	12	93.58	18.72	7.45	39.80
EBL	0	25	10	20	30	85	17	10.72	63.35
Yearly	43.86	61.66	35.00	41.66	30.66	212.86	42.57	16.96	46.23

*(Source: Annual reports of the concerned b*anks)

Market Per Share (MPS)

Banks	2061/062	2062/063	2063/064	2064/065	2065/066	n = 5	Mean	SD (σ)	CV (%)
SCBNL	2343	3775	5900	6830	6010	24858	4971.6	1853.05	37.27
HBL	920	1100	1740	1980	1760	7500	1500	461.52	30.77
EBL	870	1979	2430	3132	2455	10266	2053	815.07	39.7
Yearly	1377.66	2284.66	3356.66	3980.66	3408.33	5922	2841.6	1043.21	35.91

*(Source: Annual reports of the concerned b*anks)

Dividend Payout Ratio (DPR)

Banks	2061/062	2062/063	2063/064	2064/065	2065/066	n = 5	Mean	SD (σ)	CV (%)
SCBNL	83.83	73.93	47.80	60.64	45.46	311.66	62.33	16.55	26.55
HBL	24.17	50.64	24.72	39.84	19.38	158.75	31.75	11.68	36.78
EBL	0	39.82	12.75	21.78	30	104.35	20.87	13.74	65.86
Yearly	36.00	54.79	28.42	40.75	31.61	191.58	38.31	13.99	43.06

(Source: Annual reports of the concerned banks)

Dividend Yield Ratio (DY) in %

Banks	2061/062	2062/063	2063/064	2064/065	2065/066	n = 5	Mean ($\bar{X}$)	SD (σ)	CV (%)
SCBNL	5.12	3.44	1.36	1.17	0.83	11.92	2.38	1.84	77.19
HBL	1.26	2.72	0.86	1.26	0.68	6.78	1.35	0.71	53.23
EBL	0	1.81	0.41	0.64	1.22	4.08	0.81	0.62	76.54
Yearly Average	2.12	2.65	0.87	1.02	0.91	7.59	1.51	1.05	68.98

(Source: Annual reports of the concerned banks)

Mean ($\bar{X}$) = $\dfrac{X}{n}$

Standard Deviation $(\exists) X \sqrt{\dfrac{(X Z \bar{X})^2}{N}}$

Coefficient of Variation $(C.V.) X \dfrac{S.D. | 100}{Mean} X \dfrac{\exists | 100}{\bar{X}}$

Appendix 2

Simple Correlations Coefficient between Financial Variables of SCBNL

		EPS	DPS	MPS	DPR	DY
EPS	Pearson Correlation	1	.710	-.363	.343	-.049
	Sig. (2-tailed)		.179	.548	.572	.937
	N	5	5	5	5	5
DPS	Pearson Correlation	.710	1	-.809	.899(*)	.482
	Sig. (2-tailed)	.179		.097	.038	.411
	N	5	5	5	5	5
MPS	Pearson Correlation	-.363	-.809	1	-.852	-.796
	Sig. (2-tailed)	.548	.097		.067	.108
	N	5	5	5	5	5
DPR	Pearson Correlation	.343	.899(*)	-.852	1	.729
	Sig. (2-tailed)	.572	.038	.067		.162
	N	5	5	5	5	5
DY	Pearson Correlation	-.049	.482	-.796	.729	1
	Sig. (2-tailed)	.937	.411	.108	.162	
	N	5	5	5	5	5

*Correlation is significant at the 0.05 level (2-tailed).

Correlations Coefficient between Financial Variables of HBL

		EPS	DPS	MPS	DPR	DY
EPS	Pearson Correlation	1	.395	.830	.225	-.090
	Sig. (2-tailed)		.510	.082	.716	.886
	N	5	5	5	5	5
DPS	Pearson Correlation	.395	1	.000	.984(**)	.818
	Sig. (2-tailed)	.510		1.000	.003	.091
	N	5	5	5	5	5
MPS	Pearson Correlation	.830	.000	1	-.173	-.560
	Sig. (2-tailed)	.082	1.000		.780	.326
	N	5	5	5	5	5
DPR	Pearson Correlation	.225	.984(**)	-.173	1	.895(*)
	Sig. (2-tailed)	.716	.003	.780		.040
	N	5	5	5	5	5
DY	Pearson Correlation	-.090	.818	-.560	.895(*)	1
	Sig. (2-tailed)	.886	.091	.326	.040	
	N	5	5	5	5	5

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Correlations Coefficient between Financial Variables of EBL

		EPS	DPS	MPS	DPR	DY
EPS	Pearson Correlation	1	.163	.569	.184	-.204
	Sig. (2-tailed)		.794	.317	.767	.742
	N	5	5	5	5	5
DPS	Pearson Correlation	.163	1	-.489	.945(*)	.898(*)
	Sig. (2-tailed)	.794		.403	.015	.038
	N	5	5	5	5	5
MPS	Pearson Correlation	.569	-.489	1	-.277	-.809
	Sig. (2-tailed)	.317	.403		.651	.097
	N	5	5	5	5	5
DPR	Pearson Correlation	.184	.945(*)	-.277	1	.785
	Sig. (2-tailed)	.767	.015	.651		.115
	N	5	5	5	5	5
DY	Pearson Correlation	-.204	.898(*)	-.809	.785	1
	Sig. (2-tailed)	.742	.038	.097	.115	
	N	5	5	5	5	5

Correlation is significant at the 0.05 level (2-tailed).

Correlations Coefficient between Financial Variables of Yearly Average

		EPS	DPS	MPS	DPR	DY
EPS	Pearson Correlation	1	.163	.569	.184	-.204
	Sig. (2-tailed)		.794	.317	.767	.742
	N	5	5	5	5	5
DPS	Pearson Correlation	.163	1	-.489	.945(*)	.898(*)
	Sig. (2-tailed)	.794		.403	.015	.038
	N	5	5	5	5	5
MPS	Pearson Correlation	.569	-.489	1	-.277	-.809
	Sig. (2-tailed)	.317	.403		.651	.097
	N	5	5	5	5	5
DPR	Pearson Correlation	.184	.945(*)	-.277	1	.785
	Sig. (2-tailed)	.767	.015	.651		.115
	N	5	5	5	5	5
DY	Pearson Correlation	-.204	.898(*)	-.809	.785	1
	Sig. (2-tailed)	.742	.038	.097	.115	
	N	5	5	5	5	5

Correlation is significant at the 0.05 level (2-tailed).

Appendix 3

Simple Correlation and Regression Analysis between EPS and DPS

Standard Chartered Bank Limited

Year	EPS (X)	DPS (Y)	XY	X²	Y²
2061/62	143.14	120	17176.8	20489.06	14400
2062/63	175.84	130	22859.2	30919.70	16900
2063/64	167.37	80	13389.6	28012.71	6400
2064/65	131.92	80	10553.6	17402.88	6400
2065/66	109.99	50	5499.5	12097.80	2500
n=5	**∑X=728.26**	**∑Y=460**	**∑XY=69478.7**	**∑X² = 108922.16**	**∑Y² = 46600**

Mean, $\overline{X}$ = 145.65, $\overline{Y}$ = 92.00

Coefficient of Correlation (r) = $\dfrac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2}\sqrt{n\sum Y^2 - (\sum Y)^2}}$ = 0.71

Coefficient of Determination (r^2) = 0.504

Standard Error of Correlation Coefficient, S.E. (r) = $\dfrac{1 - r^2}{\sqrt{n}}$ = 0.2218

Probable Error of Correlation Coefficient, P.E. (r) = 0.6745x $\dfrac{1 - r^2}{\sqrt{n}}$ = 0.1496

Independent Variable (X): EPS

Dependent Variable (Y): DPS

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

Where,

a = Regression Constant

b = Regression Coefficient (Slope of the Regression Line)

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

$Y \ X n.a \ \Gamma b. \quad X$

$XY \ X a. \quad X \ \Gamma b. \quad X^2$

Solving these two normal equations, we get

$$b = \frac{n. \quad XY \ Z \quad X \quad Y}{n. \quad X^2 \ Zf \quad X\text{Å}} = 0.87$$

a= Y – bX = -34.69

$$\text{Standard Error of Estimate (SEe)} = \sqrt{\frac{Y^2 \ Za \quad Y \ Zb \quad XY}{n \ Z2}} = 26.6$$

Himalayan Bank Limited

Year	EPS (X)	DPS (Y)	XY	X²	Y²
2061/62	47.91	11.58	554.79	2295.36	134.09
2062/63	59.24	30.00	1777.2	35.9.37	900.00
2063/64	60.66	15.00	909.9	3679.63	225.00
2064/65	62.74	25.00	1568.5	3936.30	625.00
2065/66	61.90	12.00	742.8	3831.61	144.00
n=5	**∑X= 292.45**	**∑Y= 93.58**	**∑XY=5553.19**	**∑X²=17252.27**	**∑Y² = 2028.09**

Mean, $\overline{X}$ = 58.49, $\overline{Y}$ = 18.72

$$\text{Coefficient of Correlation (r)} = \frac{n \quad XY \ Z \quad X \quad Y}{\sqrt{n \quad X^2 \ Zf \quad X\text{Å}}\sqrt{n \quad Y^2 \ Zf \quad Y\text{Å}}} = 0.3955$$

Coefficient of Determination (r^2) =0.1564

$$\text{Standard Error of Correlation Coefficient, S.E. (r)} = \frac{1 \ Zr^2}{\sqrt{n}} = 0.3782$$

$$\text{Probable Error of Correlation Coefficient, P.E. (r)} = 0.6745x \frac{1 \ Zr^2}{\sqrt{n}} = 0.2551$$

Independent Variable (X): EPS

Dependent Variable (Y): DPS

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

Where,

a = Regression Constant

b = Regression Coefficient (Slope of the Regression Line)

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

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

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

Solving these two normal equations, we get

$$b = \frac{n. \sum XY - \sum X \sum Y}{n. \sum X^2 - (\sum X)^2} = 0.54.26$$

a = Y − bX= -13.02

$$\text{Standard Error of Estimate (SEe)} = \sqrt{\frac{\sum Y^2 - a \sum Y - b \sum XY}{n - 2}} = 8.82$$

Everest Bank Limited

Year	EPS (X)	DPS (Y)	XY	X^2	Y^2
2061/62	54.22	0.00	0	2940	0
2062/63	62.78	25.00	1569.5	3941	625
2063/64	78.42	10.00	784.2	6150	100
2064/65	91.82	20.00	1836.4	8431	400
2065/66	99.99	30.00	2999.7	9998	900
n=5	∑X= 387.23	∑Y= 85.00	∑XY=7190	∑X^2=31460	∑Y^2 = 2025

Mean, $\overline{X}$ = 77.44, $\overline{Y}$ = 17.00

$$\text{Coefficient of Correlation (r)} = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2}\sqrt{n \sum Y^2 - (\sum Y)^2}} = 0.659$$

Coefficient of Determination (r^2) = 0.434

Standard Error of Correlation Coefficient, S.E. (r) = $\dfrac{1 Z r^2}{\sqrt{n}}$ = 0.2531

Probable Error of Correlation Coefficient, P.E. (r) = 0.6745x $\dfrac{1 Z r^2}{\sqrt{n}}$ = 0.1707

Independent Variable (X): EPS

Dependent Variable (Y): DPS

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

Where,

a = Regression Constant

b = Regression Coefficient (Slope of the Regression Line)

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

$Y \; X n.a \; \Gamma b. \quad X$

$XY \; X a. \quad X \; \Gamma b. \quad X^2$

Solving these two normal equations, we get

b = $\dfrac{n. \quad XY \; Z \quad X \quad Y}{n. \quad X^2 \; Zf \quad X \mathring{A}}$ = 0.414

a= Y − bX = -1506

Standard Error of Estimate (SEe) = $\sqrt{\dfrac{Y^2 \; Z a \quad Y \; Z b \quad XY}{n \; Z 2}}$ = 10.46

Yearly Average

Year	EPS (X)	DPS (Y)	XY	X^2	Y^2
2061/62	81.75	43.86	3585.55	6683.06	1923.70
2062/63	99.28	61.66	6121.60	9856.52	3801.95
2063/64	102.15	35	3575.25	10434.62	1225
2064/65	95.49	41.66	3978.11	9118.34	1735.55
2065/66	90.62	30.66	2778.41	8211.98	940.03
n=5	∑X= 469.29	∑Y= 212.84	∑XY=20038.93	∑X^2=44304.52	∑Y^2 = 9626.24

Mean, $\overline{X}$ = 93.858, $\overline{Y}$ = 42.568

Coefficient of Correlation (r) = $\dfrac{n\ \sum XY - \sum X\ \sum Y}{\sqrt{n\ \sum X^2 - (\sum X)^2}\sqrt{n\ \sum Y^2 - (\sum Y)^2}}$ = 0.163

Coefficient of Determination (r^2) = 0.26

Standard Error of Correlation Coefficient, S.E. (r) = $\dfrac{1-r^2}{\sqrt{n}}$ = 0.3309

Probable Error of Correlation Coefficient, P.E. (r) = 0.6745x $\dfrac{1-r^2}{\sqrt{n}}$ = 0.2232

Independent Variable (X): EPS

Dependent Variable (Y): DPS

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

Where,

a = Regression Constant

b = Regression Coefficient (Slope of the Regression Line)

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

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

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

Solving these two normal equations, we get

$$b = \frac{n. \sum XY - \sum X \sum Y}{n. \sum X^2 - (\sum X)^2} = 0.241$$

a= Y – bX = 19.93

$$\text{Standard Error of Estimate (SEe)} = \sqrt{\frac{\sum Y^2 - a\sum Y - b\sum XY}{n-2}} = 13.55$$

Appendix 4

Simple Correlation and Regression Analysis between EPS and MPS

Standard Chartered   Bank Limited

Year	EPS (X)	MPS (Y)	XY	X²	Y²
2061/62	143.14	2343	335377.02	20489.06	5489649
2062/63	175.84	3775	663796	30919.70	14250625
2063/64	167.37	5900	987483	28012.72	34810000
2064/65	131.92	6830	901013.6	17402.88	46648900
2065/66	109.99	6010	661039.9	12097.80	36120100
n=5	∑X=728.26	∑Y=24858	∑XY=3548709.52	∑X²=108922.16	∑Y²=137319274

Mean, $\overline{X}$ = 145.65, $\overline{Y}$ = 4971.6

$$\text{Coefficient of Correlation (r)} = \frac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2}\sqrt{n\sum Y^2 - (\sum Y)^2}} = 0.363$$

Coefficient of Determination (r^2) = 0.132

$$\text{Standard Error of Correlation Coefficient, S.E. (r)} = \frac{1 - r^2}{\sqrt{n}} = 0.3882$$

$$\text{Probable Error of Correlation Coefficient, P.E. (r)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.2818$$

Independent Variable (X): EPS

Dependent Variable (Y): MPS

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

Where,

a = Regression Constant

b = Regression Coefficient (Slope of the Regression Line)

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

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

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

Solving these two normal equations, we get

$$b = \frac{n. \sum XY - \sum X \sum Y}{n. \sum X^2 - (\sum X)^2} = -25.23$$

a= Y – bX = 8646.98

$$\text{Standard Error of Estimate (SEe)} = \sqrt{\frac{\sum Y^2 - a \sum Y - b \sum XY}{n - 2}} = 1993.38$$

Himalayan Bank Limited

Year	EPS (X)	MPS (Y)	XY	X²	Y²
2061/62	47.91	920	44077.2	2295.39	846400
2062/63	59.24	1100	65164	3509.37	1210000
2063/64	60.66	1740	105548.4	3679.63	3027600
2064/65	62.74	1980	124225.2	3936.31	3920400
2065/66	61.90	1760	108944	3831.61	3097600
n=5	∑X=292.45	∑Y=7500	∑XY=447958.8	∑X²=17252.3	∑Y²=12102000

Mean, $\overline{X}$ = 58.49, $\overline{Y}$ = 1356.42

$$\text{Coefficient of Correlation (r)} = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2}\sqrt{n \sum Y^2 - (\sum Y)^2}} = 0.830$$

Coefficient of Determination (r²) = 0.6889

Standard Error of Correlation Coefficient, S.E. (r) = $\dfrac{1 Z r^2}{\sqrt{n}}$ = 0.1391

Probable Error of Correlation Coefficient, P.E. (r) = 0.6745x $\dfrac{1 Z r^2}{\sqrt{n}}$ = 0.0938

Independent Variable (X): EPS

Dependent Variable (Y): MPS

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

Where,

a = Regression Constant

b = Regression Coefficient (Slope of the Regression Line)

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

$Y \; X n.a \; \Gamma b. \quad X$

$XY \; X a. \quad X \; \Gamma b. \quad X^2$

Solving these two normal equations, we get

b = $\dfrac{n. \quad XY \, Z \quad X \quad Y}{n. \quad X^2 \, Zf \quad X \text{\AA}}$ = 52.13

a = Y − bX= -1692.65

Standard Error of Estimate (SEe) = $\sqrt{\dfrac{Y^2 \, Z a \quad Y \, Z b \quad XY}{n \, Z 2}}$ = 297.36

Everest Bank Limited

Year	EPS (X)	MPS (Y)	XY	X^2	Y^2
2061/62	54.22	870	47171.4	2940	756900
2062/63	62.78	1379	86573.62	3941	1901641
2063/64	78.42	2430	190560.6	6150	5904900
2064/65	91.82	3132	287580.2	8431	9809424
2065/66	99.99	2455	245475.5	9998	6027025

n=5	∑X=387.2	∑Y=10266	∑XY=857361.3	∑X^2=31460	∑Y^2=24399890

Mean, $\overline{X}$ = 77.44, $\overline{Y}$ = 2053.2

Coefficient of Correlation (r) = $\dfrac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2}\sqrt{n\sum Y^2 - (\sum Y)^2}}$ = 0.8914

Coefficient of Determination (r^2) = 0.7947

Standard Error of Correlation Coefficient, S.E. (r) = $\dfrac{1 - r^2}{\sqrt{n}}$ = 0.09181

Probable Error of Correlation Coefficient, P.E. (r) = 0.6745x $\dfrac{1 - r^2}{\sqrt{n}}$ = 0.06192

Independent Variable (X): EPS

Dependent Variable (Y): MPS

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

Where,

a = Regression Constant

b = Regression Coefficient (Slope of the Regression Line)

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

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

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

Solving these two normal equations, we get

b = $\dfrac{n.\sum XY - \sum X \sum Y}{n.\sum X^2 - (\sum X)^2}$ = 42.40

a= $\overline{Y}$ – b$\overline{X}$ = -1231.78

Standard Error of Estimate (SEe) = $\sqrt{\dfrac{\sum Y^2 - a\sum Y - b\sum XY}{n-2}}$ = 476.919

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Yearly Average

Year	EPS (X)	MPS (Y)	XY	X^2	Y^2
2061/62	81.75	1377.66	112623.70	6683.06	1897947.07
2062/63	99.28	2284.66	226821.04	9856.51	5219671.31
2063/64	102.15	3356.66	342882.82	10434.62	11267166.36
2064/65	95.49	3980.66	380113.22	9118.34	15845654.04
2065/66	90.62	3408.33	308862.86	8211.98	11616713.39
n=5	∑X=469.29	∑Y=14407.97	∑XY=1371303.66	∑X^2=44304.52	∑Y^2=45847152.17

Mean, $\overline{X}$ = 93.858, $\overline{Y}$ = 42.568

Coefficient of Correlation (r) = $\dfrac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2}\sqrt{n\sum Y^2 - (\sum Y)^2}}$ = 0.569

Coefficient of Determination (r^2) = 0.323

Standard Error of Correlation Coefficient, S.E. (r) = $\dfrac{1 - r^2}{\sqrt{n}}$ = 0.3027

Probable Error of Correlation Coefficient, P.E. (r) = 0.6745x $\dfrac{1 - r^2}{\sqrt{n}}$ = 0.2042

Independent Variable (X): EPS

Dependent Variable (Y): MPS

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

Where,

a = Regression Constant

b = Regression Coefficient (Slope of the Regression Line)

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

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

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

Solving these two normal equations, we get

$$b = \frac{n. \sum XY - \sum X \sum Y}{n. \sum X^2 - (\sum X)^2} = 73.67$$

a= Y – bX = -4033.06

$$\text{Standard Error of Estimate (SEe)} = \sqrt{\frac{\sum Y^2 - a\sum Y - b\sum XY}{n - 2}} = 988.17$$

Appendix 5

Simple Correlation and Regression Analysis between DPS and MPS

Standard Chartered Bank Limited

Year	DPS (X)	MPS (Y)	XY	X^2	Y^2
2061/62	120	2343	281160	14400	5489649
2062/63	130	3775	490750	16900	14250625
2063/64	80	5900	472000	6400	34810000
2064/65	80	6830	546400	6400	46648900
2065/66	50	6010	300500	2500	36120100
n=5	**∑X= 460**	**∑Y=24858**	**∑XY=2090810**	**∑X²=46600**	**∑Y²=137319274**

Mean, $\overline{X}$ = 92, $\overline{Y}$ = 4971.6

$$\text{Coefficient of Correlation (r)} = \frac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2}\sqrt{n\sum Y^2 - (\sum Y)^2}} = 0.809$$

Coefficient of Determination (r^2) = 0..654

$$\text{Standard Error of Correlation Coefficient, S.E. (r)} = \frac{1 - r^2}{\sqrt{n}} = 0.1547$$

$$\text{Probable Error of Correlation Coefficient, P.E. (r)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.1043$$

Independent Variable (X): DPS

Dependent Variable (Y): MPS

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

Where,

a = Regression Constant

b = Regression Coefficient (Slope of the Regression Line)

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

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

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

Solving these two normal equations, we get

$$b = \frac{n. \sum XY - \sum X \sum Y}{n. \sum X^2 - (\sum X)^2} = -45.82$$

a= $\overline{Y} - b\overline{X}$ = 9187.39

Standard Error of Estimate (SEe) = $\sqrt{\dfrac{\sum Y^2 - a\sum Y - b\sum XY}{n-2}}$ = 702.83

Himalayan Bank Limited

Year	DPS (X)	MPS (Y)	XY	X^2	Y^2
2061/62	11.58	920	10653.6	134.09	846400
2062/63	30	1100	33000	900	1210000
2063/64	15	1740	26100	225	3027600
2064/65	25	1980	49500	625	3920400
2065/66	12	1760	21120	144	3097600
n=5	∑X= 93.75	∑Y=7500	∑XY=140373.6	∑X^2=2028.09	∑Y^2=12102000

Mean, $\overline{X}$ = 18.72, $\overline{Y}$ = 1500

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

Coefficient of Determination (r^2) = 0

Standard Error of Correlation Coefficient, S.E. (r) = $\dfrac{1 \mathbb{Z} r^2}{\sqrt{n}}$ = 0.4472

Probable Error of Correlation Coefficient, P.E. (r) = 0.6745x $\dfrac{1 \mathbb{Z} r^2}{\sqrt{n}}$ = 0.3016

Independent Variable (X): DPS

Dependent Variable (Y): MPS

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

Where,

a = Regression Constant

b = Regression Coefficient (Slope of the Regression Line)

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

$$Y \ \mathrm{X} n.a \ \Gamma b. \quad X$$

$$XY \ \mathrm{X} a. \quad X \ \Gamma b. \quad X^2$$

Solving these two normal equations, we get

$$b = \frac{n. \quad XY \ \mathbb{Z} \quad X \quad Y}{n. \quad X^2 \ \mathbb{Z} f \quad X \text{Å}} = 0.13$$

a = Y − bX= 1499.75

$$\text{Standard Error of Estimate (SEe)} = \sqrt{\frac{Y^2 \ \mathbb{Z} a \quad Y \ \mathbb{Z} b \quad XY}{n \ \mathbb{Z} 2}} = 532.92$$

Everest Bank Limited

Year	DPS (X)	MPS (Y)	XY	X^2	Y^2
2061/62	0	870	0	0	756900
2062/63	25	1379	34475	625	1901641
2063/64	10	2430	24300	100	5904900
2064/65	20	3132	62640	400	9809424
2065/66	30	2455	73650	900	6027025
n=5	**∑X=85**	**∑Y=10266**	**∑XY=195065**	**∑X^2=2025**	**∑Y^2=24399890**

Mean, $\overline{X}$ = 17, $\overline{Y}$ = 2053.2

Coefficient of Correlation (r) = $\dfrac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2}\sqrt{n\sum Y^2 - (\sum Y)^2}}$ = 0.4680

Coefficient of Determination (r^2) = 0.2190

Standard Error of Correlation Coefficient, S.E. (r) = $\dfrac{1-r^2}{\sqrt{n}}$ = 0.3492

Probable Error of Correlation Coefficient, P.E. (r) = 0.6745x $\dfrac{1-r^2}{\sqrt{n}}$ = 0.2357

Independent Variable (X): DPS

Dependent Variable (Y): MPS

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

Where,

a = Regression Constant

b = Regression Coefficient (Slope of the Regression Line)

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

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

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

Solving these two normal equations, we get

$$b = \frac{n. \sum XY - \sum X \sum Y}{n. \sum X^2 - (\sum X)^2} = 35.42$$

a= Y – bX = 1441.07

Standard Error of Estimate (SEe) = $\sqrt{\dfrac{\sum Y^2 - a\sum Y - b\sum XY}{n-2}}$ = 929.89

Yearly Average

Year	DPS (X)	MPS (Y)	XY	X²	Y²
2061/62	43.86	1377.66	60424.16	1923.70	1897947.07
2062/63	61.66	2284.66	140872.13	3801.95	5219671.31
2063/64	35	3356.66	117483.1	1225	11267166.36
2064/65	41.66	3980.66	165834.29	1735.55	15845654.04
2065/66	30.66	3408.33	104499.39	940.03	11616713.39
n=5	∑X= 212.84	∑Y=14407.97	∑XY=589113.09	∑X²=9626.23	∑Y²=45847152.17

Mean, $\overline{X}$ = 93.858, $\overline{Y}$ = 2881.594

Coefficient of Correlation (r) = $\dfrac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2}\sqrt{n\sum Y^2 - (\sum Y)^2}}$ = 0.489

Coefficient of Determination (r²) = 0.239

Standard Error of Correlation Coefficient, S.E. (r) = $\dfrac{1 - r^2}{\sqrt{n}}$ = 0.3403

Probable Error of Correlation Coefficient, P.E. (r) = 0.6745x $\dfrac{1 - r^2}{\sqrt{n}}$ = 0.2295

Independent Variable (X): DPS

Dependent Variable (Y): MPS

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

Where,

a = Regression Constant

b = Regression Coefficient (Slope of the Regression Line)

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

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

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

Solving these two normal equations, we get

$$b = \frac{n. \sum XY - \sum X \sum Y}{n. \sum X^2 - (\sum X)^2} = \text{-42.76}$$

a= Y – bX = 4701.80

$$\text{Standard Error of Estimate (SEe)} = \sqrt{\frac{\sum Y^2 - a\sum Y - b\sum XY}{n - 2}} = 1047.88$$

Appendix 6

Simple Correlation and Regression Analysis between DPR and MPS

Standard Chartered Bank Limited

Year	DPR (X)	MPS (Y)	XY	X²	Y²
2061/62	83.83	2343	196413.69	7027.46	5489649
2062/63	73.93	3775	279085.75	5465.64	14250625
2063/64	47.8	5900	282020	2284.84	34810000
2064/65	60.64	6830	414171.2	3677.21	46648900
2065/66	45.46	6010	273214.6	2066.61	36120100
n=5	**∑X= 311.66**	**∑Y=24858**	**∑XY=1444905**	**∑X²=20521.76**	**∑Y²=137319274**

Mean, $\overline{X}$ = 4971.6, $\overline{Y}$ = 455

$$\text{Coefficient of Correlation (r)} = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2}\sqrt{n \sum Y^2 - (\sum Y)^2}} = 0.852$$

Coefficient of Determination (r²) = 0.726

Standard Error of Correlation Coefficient, S.E. (r) = $\dfrac{1\,Zr^2}{\sqrt{n}}$ = 0.1225

Probable Error of Correlation Coefficient, P.E. (r) = 0.6745x $\dfrac{1\,Zr^2}{\sqrt{n}}$ = 0.0826

Independent Variable (X): DPR

Dependent Variable (Y): MPS

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

Where,

a = Regression Constant

b = Regression Coefficient (Slope of the Regression Line)

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

$$Y \; Xn.a \; \Gamma b. \quad X$$

$$XY \; Xa. \quad X \; \Gamma b. \quad X^2$$

Solving these two normal equations, we get

$$b = \dfrac{n. \quad XY \; Z \quad X \quad Y}{n. \quad X^2 \; Zf \quad X\text{Å}} = \text{-95.44}$$

a= Y – bX = 010920.57

Standard Error of Estimate (SEe) = $\sqrt{\dfrac{Y^2 \; Za \quad Y \; Zb \quad XY}{n \; Z2}}$ = 1119.16

Himalayan Bank Limited

Year	DPR (X)	MPS (Y)	XY	X²	Y²
2061/62	24.17	920	22236.4	584.18	846400
2062/63	50.64	1100	55704	2564.41	1065251
2063/64	24.72	1740	43012.8	611.07	1257045
2064/65	39.84	1980	78883.2	1587.22	3354978
2065/66	19.38	1760	34108.8	375.58	3523805

n=5	$\sum X^2$=158.75	$\sum Y^2$=7500	$\sum XY$=233945.2	$\sum X^2$=5722.46	$\sum Y^2$=10047479

Mean, $\overline{X}$ = 31.75, $\overline{Y}$ = 1500

Coefficient of Correlation (r) = $\dfrac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2}\sqrt{n \sum Y^2 - (\sum Y)^2}}$ = 0.173

Coefficient of Determination (r^2) = 0.30

Standard Error of Correlation Coefficient, S.E. (r) = $\dfrac{1 - r^2}{\sqrt{n}}$ = 0.3130

Probable Error of Correlation Coefficient, P.E. (r) = 0.6745x $\dfrac{1 - r^2}{\sqrt{n}}$ = 0.211

Independent Variable (X): DPR

Dependent Variable (Y): MPS

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

Where,

a = Regression Constant

b = Regression Coefficient (Slope of the Regression Line)

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

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

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

Solving these two normal equations, we get

b = $\dfrac{n. \sum XY - \sum X \sum Y}{n. \sum X^2 - (\sum X)^2}$ = -6.127

a = Y − bX= 1694.53

Standard Error of Estimate (SEe) = $\sqrt{\dfrac{\sum Y^2 - a \sum Y - b \sum XY}{n - 2}}$ = 524.84

Everest Bank Limited

Year	DPR (X)	MPS (Y)	XY	X^2	Y^2
2061/62	0	870	0	0	756900
2062/63	39.82	1379	54911.78	1585.63	1901641
2063/64	12.75	2430	30982.5	162.56	5904900
2064/65	21.78	3132	68214.96	474.36	9809424
2065/66	30	2455	73650	900	6027025
n=5	∑X= 104.35	∑Y=10266	∑XY=227759.2	∑X^2=3122.56	∑Y^2=24399890

Mean, $\overline{X}$ = 20.87, $\overline{Y}$ = 2053.2

Coefficient of Correlation (r) = $\dfrac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2}\sqrt{n\sum Y^2 - (\sum Y)^2}}$ = 0.2411 Coefficient of

Determination (r^2) = 0.05814

Standard Error of Correlation Coefficient, S.E. (r) = $\dfrac{1-r^2}{\sqrt{n}}$ = 0.4242

Probable Error of Correlation Coefficient, P.E. (r) = 0.6745x $\dfrac{1-r^2}{\sqrt{n}}$ = 0.2861

Independent Variable (X): DPR

Dependent Variable (Y): MPS

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

Where,

a = Regression Constant

b = Regression Coefficient (Slope of the Regression Line)

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

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

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

Solving these two normal equations, we get

$$b = \frac{n. \sum XY - \sum X \sum Y}{n. \sum X^2 - (\sum X)^2} = 14.29$$

a= Y – bX = 1.754.81

$$\text{Standard Error of Estimate (SEe)} = \sqrt{\frac{\sum Y^2 - a\sum Y - b\sum XY}{n - 2}} = 1021.21$$

Yearly Average

Year	DPR (X)	MPS (Y)	XY	X^2	Y^2
2061/62	36	1377.66	49595.76	1296	1897947.07
2062/63	54.79	2284.66	125176.52	3001.94	5219671.31
2063/64	28.42	3356.66	95396.27	807.70	11267166.36
2064/65	40.75	3980.66	162211.89	1660.56	15845654.04
2065/66	31.61	3408.33	107737.31	999.19	11616713.39
n=5	∑X= 191.57	∑Y=14407.97	∑XY=540117.76	∑X^2=7765.39	∑Y^2=45847152.17

Mean, $\overline{X}$ = 38.314, $\overline{Y}$ = 2881.594

$$\text{Coefficient of Correlation (r)} = \frac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2}\sqrt{n\sum Y^2 - (\sum Y)^2}} = 0.277 \text{ Coefficient of}$$

Determination (r^2) = 0.77

$$\text{Standard Error of Correlation Coefficient, S.E. (r)} = \frac{1 - r^2}{\sqrt{n}} = 0.1028$$

$$\text{Probable Error of Correlation Coefficient, P.E. (r)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.0693$$

Independent Variable (X): DPR

Dependent Variable (Y): MPS

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

Where,

a = Regression Constant

b = Regression Coefficient (Slope of the Regression Line)

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

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

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

Solving these two normal equations, we get

$$b = \frac{n. \sum XY - \sum X \sum Y}{n. \sum X^2 - (\sum X)^2} = -27.98$$

a= Y – bX = 3953.74

Standard Error of Estimate (SEe) = $\sqrt{\dfrac{\sum Y^2 - a \sum Y - b \sum XY}{n-2}}$ = 1154.11

Appendix 7

Simple Correlation and Regression Analysis between DY and MPS

Standard Chartered Bank Limited

Year	DY (X)	MPS (Y)	XY	X^2	Y^2
2061/62	5.12	2343	11996.16	26.21	5489649
2062/63	3.44	3775	12986	11.83	14250625
2063/64	1.36	5900	8024	1.85	34810000
2064/65	1.17	6830	7991.1	1.36	46648900
2065/66	0.83	6010	4988.3	0.69	36120100
n=5	∑X= 11.92	∑Y=24858	∑XY=45985.56	∑X^2=41.95	∑Y^2=137319274

Mean, $\overline{X}$ = 2.384, $\overline{Y}$ = 4971.6

Coefficient of Correlation (r) = $\dfrac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2}\sqrt{n \sum Y^2 - (\sum Y)^2}}$ = 0.796

Coefficient of Determination (r^2) = 0.633

Standard Error of Correlation Coefficient, S.E. (r) = $\dfrac{1 - r^2}{\sqrt{n}}$ = 0.1641

Probable Error of Correlation Coefficient, P.E. (r) = 0.6745x $\dfrac{1\mathcal{Z}r^2}{\sqrt{n}}$ = 0.1106

Independent Variable (X): DY

Dependent Variable (Y): MPS

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

Where,

a = Regression Constant

b = Regression Coefficient (Slope of the Regression Line)

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

$$Y \; \mathcal{X}n.a \; \Gamma b. \quad X$$

$$XY \; \mathcal{X}a. \quad X \; \Gamma b. \quad X^2$$

Solving these two normal equations, we get

b = $\dfrac{n. \quad XY \; \mathcal{Z} \quad X \quad Y}{n. \quad X^2 \; \mathcal{Z}f \quad X\mathring{A}}$ = -0.6459

a= Y – bX = 5641.81

Standard Error of Estimate (SEe) = $\sqrt{\dfrac{Y^2 \; \mathcal{Z}a \quad Y \; \mathcal{Z}b \quad XY}{n \; \mathcal{Z}2}}$ = 1298.56

Himalayan Bank Limited

Year	DY (X)	MPS (Y)	XY	X²	Y²
2061/62	1.26	920	1159.2	1.5876	846400
2062/63	2.72	1100	2992	7.3984	1210000
2063/64	0.86	1740	1496.4	0.7396	3027600
2064/65	1.26	1980	2494.8	1.5876	3920400
2065/66	0.68	1760	1196.8	0.4624	3097600
n=5	∑X= 6.78	∑Y=7500	∑XY=9339.2	∑X²=11.77	∑Y²=12102000

Mean, $\overline{X}$ = 1.35, $\overline{Y}$ = 1500

Coefficient of Correlation (r) = $\dfrac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2}\sqrt{n\sum Y^2 - (\sum Y)^2}}$ = 0.560

Coefficient of Determination (r^2) = 0.314

Standard Error of Correlation Coefficient, S.E. (r) = $\dfrac{1 - r^2}{\sqrt{n}}$ = 0.3067

Probable Error of Correlation Coefficient, P.E. (r) = 0.6745x $\dfrac{1 - r^2}{\sqrt{n}}$ = 0.2069

Independent Variable (X): DY

Dependent Variable (Y): MPS

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

Where,

a = Regression Constant

b = Regression Coefficient (Slope of the Regression Line)

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

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

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

Solving these two normal equations, we get

$$b = \dfrac{n. \sum XY - \sum X \sum Y}{n. \sum X^2 - (\sum X)^2} = -321.77$$

a = Y – bX = 1936.33

Standard Error of Estimate (SEe) = $\sqrt{\dfrac{\sum Y^2 - a\sum Y - b\sum XY}{n - 2}}$ = 441.46

Everest Bank Limited

Year	DY (X)	MPS (Y)	XY	X^2	Y^2
2061/62	0	870	0	0	756900
2062/63	1.81	1379	2496	3.2761	1901641
2063/64	0.41	2430	996.3	0.1681	5904900
2064/65	0.64	3132	2004.48	0.4096	9809424
2065/66	1.22	2455	2995.1	1.4884	6027025
n=5	**∑X= 4.08**	**∑Y=10266**	**∑XY=8491.87**	**∑X^2= 5.3422**	**∑Y^2=24399890**

Mean, $\overline{X}$ = 0.81, $\overline{Y}$ = 2053.2

Coefficient of Correlation (r) = $\dfrac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2}\sqrt{n\sum Y^2 - (\sum Y)^2}}$ = 0.0444 Coefficient of

Determination (r^2) = 0.002

Standard Error of Correlation Coefficient, S.E. (r) = $\dfrac{1-r^2}{\sqrt{n}}$ = 0.4463

Probable Error of Correlation Coefficient, P.E. (r) = 0.6745x $\dfrac{1-r^2}{\sqrt{n}}$ = 0.3010

Independent Variable (X): DY

Dependent Variable (Y): MPS

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

Where,

a = Regression Constant

b = Regression Coefficient (Slope of the Regression Line)

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

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

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

Solving these two normal equations, we get

$$b = \frac{n.\sum XY - \sum X \sum Y}{n.\sum X^2 - (\sum X)^2} = 57.06$$

a= Y − bX = 2006.64

$$\text{Standard Error of Estimate (SEe)} = \sqrt{\frac{\sum Y^2 - a\sum Y - b\sum XY}{n-2}} = 1051.21$$

Yearly Average

Year	DY (X)	MPS (Y)	XY	X²	Y²
2061/62	2.12	1377.66	2920.64	4.4944	1897947.076
2062/63	2.65	2284.66	6054.35	7.0225	5219671.316
2063/64	0.87	3356.66	2920.25	0.7569	11267166.36
2064/65	1.02	3980.66	4060.27	1.0404	15845654.04
2065/66	0.91	3408.33	3101.58	0.8281	11616713.39
n=5	∑X= 7.57	∑Y=14407.97	∑XY=19057.09	∑X²=14.14	∑Y²=45847152.17

Mean, $\overline{X}$ = 1.51, $\overline{Y}$ = 2881.594

$$\text{Coefficient of Correlation (r)} = \frac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2}\sqrt{n\sum Y^2 - (\sum Y)^2}} = 0.809$$

Coefficient of Determination (r^2) = 0.655

$$\text{Standard Error of Correlation Coefficient, S.E. (r)} = \frac{1 - r^2}{\sqrt{n}} = 0.1543$$

$$\text{Probable Error of Correlation Coefficient, P.E. (r)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.1041$$

Independent Variable (X): DY

Dependent Variable (Y): MPS

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

Where,

a = Regression Constant

b = Regression Coefficient (Slope of the Regression Line)

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

$$Y\ X\ n.a\ \Gamma b.\quad X$$

$$XY\ X\ a.\quad X\ \Gamma b.\quad X^2$$

Solving these two normal equations, we get

$$b = \cfrac{n.\quad XY\ Z\quad X\quad Y}{n.\quad X^2\ Zf\quad X\overset{R}{A}} = -1028.05$$

a= Y – bX = 4438.06

$$\text{Standard Error of Estimate (SEe)} = \sqrt{\cfrac{Y^2\ Za\quad Y\ Zb\quad XY}{n\ Z2}} = 706.01$$

Appendix – 8

Multiple Regression Analysis of MPS on EPS and DPS (Pooled Average)

Year	MPS(X	EPS	DPS	X_1^2	X_2^2	X_3^2	X_1X_2	X_1X_3	X_2X_3
2061	1377.	81.75	43.86	1897947.07	6683.06	1923.70	112623.70	60424.1	3585.
2062	2284.	99.28	61.66	5219671.31	9856.51	3801.95	226821.04	140872.	6121.
2063	3356.	102.1	35	11267166.3	10434.62	1225	342882.81	117483.	3575.
2064	3980.	95.49	41.66	15845654.0	9118.34	1735.55	380113.22	165834.	3978.
2065	3408.	90.62	30.66	11616713.3	8211.98	940.03	308862.86	104499.	2778.
n=5	$\Sigma X_1 =$ 14407.	$\Sigma X_2 =$ 469.2	$\Sigma X_3 =$ 212.8	$\Sigma X_1^2 =$ 45847152.1	$\Sigma X_2^2 =$ 44304.52	$\Sigma X_3^2 =$ 9626.24	$\Sigma X_1X_{2=}$ 1371303.6	$\Sigma X_1X_{3=}$ 589113.	$\Sigma X_2X_{3=}$

Mean, $\overline{X}_1$ = 2881.59, $\overline{X}_2$ = 93.858, $\overline{X}_3$ = 42.56

Dependent variable: MPS (X_1)

Independent variable: EPS (X_2) and DPS (X_3)

The general form of multiple regression equation applicable in given case is:

$X_1 = a_1 + b_1.X_2 + b_2.X_3$ ………………………. (1)

Where, a_1 = Regression Constant

                b_1 and b_2 = Coefficient of Net Regression

Required normal equations to find the values of a1, b1 and b2 can be written as under:

$\Sigma X_1 = n.a_1 + b_1.\Sigma X_2 + b_2.\Sigma X_3$ ……………….. (2)

$\sum X_1 X_2 = a1\sum X_2 + b_1.\sum X_2{}^2 + b_2.\sum X_2 X_3 \dots .(3)$

$\sum X_1 X_3 = a1\sum X_3 + b_1.\sum X_2 X_3 + b2.\sum X_3{}^2 \dots (4)$

Substituting the corresponding values and solving these equations for a_1, b_1 and b_2, we get:

$a_1 = -2991.76$, $b_1 = 86.27$ and $b_2 = -52.24$

Hence, the required multiple regression equation is as follows:

$\hat{X_1} = -2991.76 + 86.27 X_2 - 52.24 X_3$

Standard Error of Estimate of X_1 on X_2 and X_3 is given by:

$$S_{1.23} \quad X\sqrt{\frac{X_1^2 \, Za_1 \quad X_1 \, Zb_1 \quad X_1 X_2 \, Zb_2 \quad X_1 X_3}{n \, Z3}} = 844.28$$

Appendix- 9

Coefficient of Multiple Determinations among MPS, EPS and DPS (Pooled Average)

Year	MPS (X_1)	EPS (X_2)	DPS (X_3)	$(X_1 - \overline{X_1})$	$(X_1 - \overline{X_1})^2$	$\hat{X_1}$	$\hat{X_1} -$	$(\hat{X_1} - \overline{X_1})$	$X_1 - \hat{X_1}$	$(X_1 -$
2061/	1377.	81.7	43.86	-	226180	1969.	-	831798.	-591.9	350345
2062/	2284.	99.2	61.66	-	356325.	2352.	-	280454.	-67.35	4536.0
2063/	3356.	102.	35	475.0	225691.	3992.	1110.	123372	-	404063
2064/	3980.	95.4	41.66	1099.	120795	3069.	188.2	35438.0	910.82	829593
2065/	3408.	90.6	30.66	526.7	277455.	3224.	342.7	117484.	183.98	33848.
n=5	$\sum X_1 =$ 1440	$\sum X_2 =$ 469	$\sum X_3 =$ 212.8	$\sum(X_1 - \overline{X_1}) =$	$\sum(X_1 - \overline{X_1})^2 =$	$\hat{X_1} =$ 1460	$\sum(\hat{X_1} - \overline{X_1})$	$\sum(\hat{X_1} - \overline{X_1})^2$	$\sum(X_1 - \hat{X_1}) = -$	$\sum(X_1 - \hat{X_1})^2$

Mean, $\overline{X_1} = 2881.59$, $\overline{X_2} = 93.858$, $\overline{X_3} = 42.56$

Total variation = Total Sum of Square = SST = $\sum (X_1 - \overline{X_1})^2 = 4329232.24$

Explained variation = Regression Sum of Square = SSR = $\sum (\hat{X_1} - \overline{X_1})^2 = 2498897.3$

and, Unexplained variation = $\sum(X_1 - \hat{X_1})^2 = 1622387$

The coefficient of multiple determinations is given by,

$$R_{1.23}^2 \quad X\frac{\text{Explained variation}}{\text{Total variation}} \quad X\frac{SSR}{SST} \quad X\frac{2498897.3}{4329232.24} \quad X0.5772$$

Appendix- 10

Test of Regression Coefficients of Multiple Regression Model (Pooled Average)

ANOVA TABLE

Source of variation	Sum of Square (SS)	Degree of Freedom	Mean Sum of Square (M. S.)	F - Ratio
Explained (Regression)	SSR = 2498897.3	k - 1 = 3 - 1 =2	MSR = SSR / (k-1) = 2498897.3/ 2 = 1249448.65	F (k-1, n-k) = MSR/MSE =1249448.65/ 811193.5
Unexplained (Error)	SSE = 1622387	n - k = 5 - 3 = 2	MSE = SSE / (n-k) = 1622387/ 2 = 811193.5	= 1.5402
Total	SST = 4329232.24	n - 1 = 5 - 1 = 4		

Appendix – 11

Multiple Regression Analysis of MPS on DPR and DPS (Pooled Average)

Year	MPS(X_1)	DPR(X_2)	DP (X_3)	X_1^2	X_2^2	X_3^2	X_1X_2	X_1X_3	X_2X_3
2061/ 62	1377. 66	36	43.8 6	1897947. 07	1296	1923.6 996	49595.76	60424.16 76	1578.9 6
2062/ 63	2284. 66	54.79	61.6 6	5219671. 31	3001.9 441	3801.9 556	125176.5 214	140872.1 356	3378.3 514
2063/ 64	3356. 66	28.42	35	1126716 6.36	807.69 64	1225	95396.27 72	117483.1	994.7
2064/ 65	3980. 66	40.75	41.6 6	1584565 4.04	1660.5 625	1735.5 556	162211.8 95	165834.2 956	1697.6 45
2065/	3408.	31.61	30.6	1161671	999.19	940.03	107737.3	104499.3	969.16

66	33		6	3.39	21	56	113	978	26
n=5	$\sum X_1=$ 14407.97	$\sum X=$ 191.57	$\sum X_3=$ 212.84	$\sum X_1^2=$ 45847152.17	$\sum X^2=$ 7765.39	$\sum X_3^2=$ 9626.24	$\sum XY=$ 5040117.76	$\sum XY=$ 589113.09	$\sum X_2X_3=$ 8618.81

Mean, $\overline{X}_1$ = 2881.594, $\overline{X}_2$ = 38.314, $\overline{X}_3$ = 42.568

Dependent variable: MPS (X_1)

Independent variable: DPR (X_2) and DPS (X_3)

The general form of multiple regression equation applicable in given case is:

X_1 = a. + $b_1.X_2$ +$b_2.X_3$ ………………………. (1)

Where, a= Regression Constant

$\qquad$ b_1 and b_2 = Coefficient of Net Regression

Required normal equations to find the values of a1, b1 and b2 can be written as under:

$\sum X_1 = n.a_1 + b_1.\sum X_2 + b_2.\sum X_3$ ……………….. (2)

$\sum X_1X_2 = a1\sum X_2 + b_1.\sum X_2^2 + b_2.\sum X_2X_3$ ……. .(3)

$\sum X_1X_3 = a1\sum X_3 + b_1.\sum X_2X_3 + b2.\sum X_3^2$……….. (4)

Substituting the corresponding values and solving these equations for a_1, b_1 and b_2, we get:

a_1 = 4101.23, b_1 = 175.77and b_2 = -186.86

Hence, the required multiple regression equation is as follows:

$\hat{X}_1$ = 4101.23 + 175.77 X_2 – 186.89 X_3

Standard Error of Estimate of X_1 on X_2 and X_3 is given

by: $S_{1.23}$ $X\sqrt{\dfrac{X_1^2\,Za_1 \quad X_1\,Zb_1 \quad X_1X_2\,Zb_2 \quad X_1X_3}{n\,Z3}}$ = 974.56

Appendix- 12

Coefficient of Multiple Determinations among MPS, DPR and DPS (Pooled Average)

Year	MPS (X_1)	DPR (X_2)	DPS (X_3)	$(X_1 - \bar{X_1})$	$(X_1 - \bar{X_1})^2$	$\hat{X_1}$	$\hat{X_1} - \bar{X_1}$	$(\hat{X_1} - \bar{X_1})^2$	$X_1 - \hat{X_1}$	$(X_1 - \hat{X_1})^2$
2061 /62	1377.66	36	43.86	-1503.93	2261805.44	2233.27	-648.32	420318.82	-855.61	732068.5
2062 /63	2284.66	54.79	61.66	-596.93	356325.42	2209.88	-671.71	451194.32	74.78	5592.048
2063 /64	3356.66	28.42	35	475.07	225691.50	2556.51	-325.08	105677.01	800.15	640240
2064 /65	3980.66	40.75	41.66	1099.07	1207954.86	3479.27	597.68	357221.38	501.39	251391.9
2065 /66	3408.33	31.61	30.66	526.74	277455.02	3928.19	1046.6	1095371.6	-519.86	270254.4
n=5	$\sum X_1 =$ 14407.97	$\sum X_2 =$ 191.57	$\sum X_3 =$ 212.84	$(X_1 - \bar{X_1}) =$ 0.02	$\sum(X_1 - \bar{X_1})^2 =$ 4329232.26	$\sum \hat{X_1} =$ 14407.12	$\sum(\hat{X_1} - \bar{X_1}) =$ -0.83	$\sum(\hat{X_1} - \bar{X_1})^2 =$ 2429783.1	$\sum(X_1 - \hat{X_1}) =$ 0.83	$\sum(X_1 - \hat{X_1})^2 =$ 1899547

Mean, $\bar{X}_1 = 2881.594$, $\bar{X}_2 = 38.314$, $\bar{X}_3 = 42.568$

Total variation = Total Sum of Square = SST = $\sum (X_1 - \bar{X_1})^2 = 4329232.24$

Explained variation = Regression Sum of Square = SSR = $\sum (\hat{X_1} - \bar{X_1})^2 = 2429783.1$

and, Unexplained variation = $\sum(X_1 - \hat{X_1})^2 = 1899547$

The coefficient of multiple determinations is given by,

$$R^2_{1.23} \; X \frac{\text{Explained variation}}{\text{Total variation}} \; X \frac{SSR}{SST} \; X \frac{2429783.1}{4329232.24} \; X 0.5612$$

Appendix- 13

Test of Regression Coefficients of Multiple Regression Model (Pooled Average)

ANOVA TABLE

Source of variation	Sum of Square (SS)	Degree of Freedom	Mean Sum of Square (M. S.)	F - Ratio
Explained (Regression)	SSR = 2429783.1	k - 1 = 3 - 1 =2	MSR = SSR / (k-1) = 2429783.1/ 2 = 1214891.55	F (k-1, n-k) = MSR/MSE =1214891.55/949773.5
Unexplained (Error)	SSE = 1899547	n - k = 5 - 3 = 2	MSE = SSE / (n-k) = 1899547/ 2 = 949773.5	= 1.2791
Total	SST = 4329232.24	n - 1 = 5 - 1 = 4		