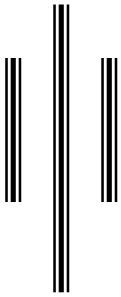
ANALYSIS OF DIVIDEND POLICY OF NEPALESE COMMERICAL BANKS
(With Special Reference to NABIL & EBL)



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VIVA – VOCE SHEET

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

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"ANALYSIS OF DIVIDEND POLICY OF NEPALESE COMMERCIAL BANKS"

and found the thesis to be the original work of the student and written according to the prescribed format. We recommend the thesis to be accepted as partial fulfillment of the requirement for Master's Degree in Business Studies (M.B.S.)

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DECLARATION

I herby declare that the work reported in this thesis "An analysis of Dividend Policy of Nepalese Commercial Banks" submitted to office of the Dean, Faculty of Management, Tribhuvan University, is my original work. It is done in the form of partial fulfillment of the requirement for the Master's Degree in Business Studies (M.B.S.) under the supervision and guideline of Mr. Shailendra Siwakoti, lecturer of P.G. Campus, Biratnagar.

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_____

Date: Lila Bhakta Raut

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ABBREVIATION

&	=	and
B.S.	=	Bikram Sambat
C.V.	=	Coefficient of Variance
EPS	=	Earning Per Share
DPS	=	Dividend Per Share
P/E	=	Price Earning
MPS	=	Market Price Per Share
D.Y.	=	Dividend Yield
DPR	=	Dividend Payout Ratio
DPS	=	Dividend Per Share
e.g.	=	example
NABIL	=	Nepal Arab Bank Limited
EBL	=	Everest Bank Limited
No.	=	Number
S.D.	=	Standard Deviation
T.U.	=	Tribhuvan University

CHAPTER I

INTRODUCTION

1.1 Background of the Study

Nepal is kingdom of hills and mountains with the area of 147181 square kilometers. Nepal is land locked country surrounded by the regional superpowers countries, India and China. Nepal is famous for its natural beauty, religion, language, and its cultural heritage. Nepal is one of the least developed countries in the world. It has very low per capita income and corporate growth rate. Majority of the people is under the line of poverty. Agriculture is the back bone of Nepalese economy, but non agricultural sector has shown their significant contribution in the national economy.

Various factors like land locked situation, political instability, lack of skilled manpower, poor resource mobilization, lack of capital, instability of government policy, lack of institutional commitment, lack of better training program, implement of inferior technology etc are responsible for the slow pace of development of the country.

For the entire development of the country, each and every sector should be strong and capable. Among various sectors, economic sector is the one of the major one. Nepal is running with eleventh plan but no valuable achievement has been made in the field of economic development of the country. But as Nepal has followed the course of economic liberalization, a number of commercial banks have been established in the form of joint venture with foreign commercial banks.

Financial institution plays an important role in the economic growth and development of the country. They help to mobilize the frizzed and dispersed saving of the people and play and intermediary role to make

investment of the collected fund in different productive sector. They help to fulfill the requirements of trade and industry in the country and play great role in reducing poverty, raising employment opportunities, and people's life standards. Banks are the most important and essential financial institution in any nation. In general, banks are those financial institutions that perform the widest range of financial functions of any business firm in the economy.

Banks play a vital role in developing the economy of any country. The level of overall development of a country is due to the effect of level of economic growth. Banks is the foundation of the economy. Hence, banks are extremely necessary for the healthy and perennial progress of our country. Banks are totally different from financial institutions as they cannot create credit through their acceptance of deposit, but the bank do so. Banks collect the funds from different sources (people) and invest in many different sectors, which play the vital role in reducing poverty, creating employment opportunities, and raising people's life standard. Commercial banks undertake payment of subscription, insurance premium, rent etc. In addition they purchase and discount bills of exchange promissory note and exchange foreign currency. Moreover, commercial banks also arrange to remit money. It is true that economic development of a country is not possible without sound banking system

Banks provide an effective payment and credit system, which facilitates the channel of fund from the surplus spending units (investors) in the economy. In Nepal, the banking plays significant role in the economic development of the country. Bank is a resource for the economic development which maintains the self confidence of various segments of society and extends credit to the people.

There is a practice of using the term 'bank' to refer to commercial bank." Ordinary banking business consists of changing cash for bank deposits and bank deposits for cash; transferring bank deposits from on person or

corporation to another, giving bank in exchange for bills of exchange, government bonds, and so forth." (*R.S. Sayers, 1987: 22*)

So, commercial banks are those financial institutions mainly dealing with activities of the trade, commerce, industry and agriculture that seek regular financial and other helps from them (banks) for growing and flourishing. The main objective of commercial banks is to mobilize idle resources in particular productive uses after collecting them from scattered sources. Thus, commercial banks as a financial institution, transfers monitory sources from savers to users. Commercial banks contribute significantly in the formulation and mobilization of internal capital and development efforts; they furnish necessary capital required for trade and commerce in mobilizing the dispersed saving of the individuals and institution. Commercial banks are being the means of enlistment of society. The function of commercial banks are in many ways such as accepting deposits, provide interest in the formulation of capital, granting loan which helps to remove the deficiency of capital performing agency functions which make the life easier and they also play an important role in credit creation.

"Commercial bank is a corporation which accepts demand deposits subject to cheque and makes short-term loans to business enterprises regardless of the scope of its other services." (*Dilli Raj Bhandari, 2056:3*)

A commercial bank is a dealer in money and in substitutes for money, such as cherub or bill of exchange. It also provides a variety of financial services. In Nepalese context, "Commercial bank as one, which exchange money, deposits money, accepts deposits, grants loans and performs commercial banking function."

Nepal bank Ltd was the first and oldest bank of Nepal which was established in 1994B.S. likewise in 2013 B.S. Nepal Rastra Bank established as the central bank of country. Gradually competition began to grow and several other banks were opened with joint investment.

According to U.S law, “Any institution offering deposits subject to withdrawal on demand and making banks of a commercial or business matter is a bank.”

According to Walker Leaf,” A bank is an institution or individual who is always ready to receive money on deposited to be returned against the cheques of their depositors.”

According to Kenley, “A bank is a established which makes to individual such advances of money as may be required and safety made and to which individuals entrusted money when not required by for use.”

So the banks are very necessary in this twenty first century. The main roles of banking system in economy are as follows:

- Mobilization of saving
- supply of capital to agriculture, industry and trade
- Encouragement of thrift
- Increase in a mobility of capital
- creation of various types of credit investment
- Institutional system of import and export

Security market is the place where people buy and sell financial instruments. These financial instruments may be in the form of governments bonds, corporate bonds or debentures, ordinary shares, preference shares, etc. So far security market is concern; it is an important constituent of capital market. It has a wide term embracing the buyers and sellers and all the agencies and institutions that assist the sale and resale of corporate securities. Although security market is concern in few locations, they refer more to mechanism rather than to

place designed to facilitate the exchange of securities. Securities market can be defined as a mechanism for bringing together buyers and sellers of financial assets in order to facilitate trading. In order to allocate capital efficiently to maintain higher degree of liquidity in securities, the security market should be efficient enough in price shares solely by economic considerations based on publicly available information.

- An efficient market is one where current price of shares gives the best estimate of its true worth. Thus security market is a place where shares of listed companies are traded or transferred from one to another a fare price through the organized brokerage system. The major function of security market is a competitive price thereby, importing future market ability and liquidity. It is a medium through which scattered savings and scarce resources are transferred to productive areas that ultimately help in the economic development and industrializations of the nation.

The stock exchange market or stock market is one of the forms of secondary market. It is a major component of secondary market and also a medium through which corporate sector mobilize funds to finance the productivity projects by issuing share in the market. It is a place shares of listed companies are transferred from one hand to another at a fair price through the organized brokerage firms. The stock exchange is a financial market, which probably has a great glamour and is perhaps the least understood more over security market exists in order to bring together buyer and seller of the securities to facilitate the exchange of asset. Hence it creates and enhances liquidity in the securities. Hence in tradition of listing the stock of public companies in the stock exchange for which they must meet exchange requirement to such factors as size of company number of years in business earning records, numbers of shares outstanding and the market value. The listed companies receive certain amount of free advertisement publicity and the status being

listed enhances their reputation. The stock exchange market provides at least three economic functions which are as follows.

Security exchange facilitates the investment process by providing a market place to conduct efficient and relatively less expensive transaction. The investors thus assure that they would have place to see securities.

Securities pries are more stable because of the operation of the securities market. They improve liquidity by providing continuous market that makes a more frequent by smaller price change.

The investor is capable of handling continuous testing the value of securities. The records of securities transaction help investor to make a judgment about value and prospects of companies. Those prospects are judged favorably the investors, which leads to higher value and facilitate new financing and growth.

After the restoration of democracy in 1990 and universal echo of economic liberalization, Nepal has implemented liberal economic policy. The liberalization economic policy has attracted not only native investors but also motivated the foreign investors to work in a partnership basis with Nepalese investors. This encouraged a healthy competition in financial sector and brings modernization concept of business and commerce in Nepal and it allowed the entry of foreign banks in the Nepalese market in the form of joint venture banks. In the other words, his majesty government of Nepal has permitted to establish private commercial banks with foreign investment.

In the early 1980's when government permitted establishment of foreign joint venture banks, namely Nepal Grindlays Bank Limited (renamed as Standard Chartered Bank Nepal Limited), Nepal Arab Bank Limited

(later renamed as NABIL Bank Limited) and Nepal Indosuez Bank Limited(

renamed as Nepal Investment Bank Limited) were established. The growth of the commercial bank increased dramatically after the restoration of democracy when government adopted liberal and market oriented policy. The development has helped to mobilize the internal resources as well as external funds of foreign investors for the economic development of the nation.

In the capital market, all firms operate in order to generate earnings. Stockholders supply equity capital hoping to share in these earnings either directly or indirectly. If, for example, a firm plays out a portion of its earning to the shareholders in the form of dividend, the shareholder directly share the earning. If, instead of paying dividend, the firm retains the earning to exploit other growth opportunities, the shareholders can expect to be benefited indirectly through future increase in price of stock. Thus shareholder wealth can be increased through either dividend or capital gains.

Generally while the company operates in profit, it will be acceptable to pay the dividend regularly. The portion out of the earning made by the firm that shareholders obtain as return to their investment in shares is referred to as 'Dividend'. In other words, it is the shareholders earning instead of investment that provide equity towards the company. Where as 'Policy' is decision regarding action. Therefore, 'Dividend Policy' is the one of the most important financial decision because it directly affects the financial structures of the company. Wealth maximization is the major objective of the dividend policy.

Dividend policy determines the allocation of net profit between payment to shareholders and reinvestment in the firm. In other words, dividend policy can be defined as dividing the earning between dividend and retention. The earning which is kept as reserve by the company is known as retained earning. Retained earning is one of the most

significant sources of funds required for the growth of the company. At the end of the fiscal year, management has to decide how much money should be kept as retention and how much should be distributed to the shareholders. This is the important aspect of the dividend policy.

"By a dividend policy, we mean some kind of consistent approach to the distribution versus retention decision rather than making the decision on the purely adhoc basis from period to period." (*Hunt Pearson, M. William Charles and Donaldson Gordon, 1972:405*)

Dividend policy is an integral part of the firm's financing decision. Dividend decision is however still a crucial as well as controversial area of managerial finances. The dividend policy of the firm is regarded as a tool to determine the appropriate allocation of profit between dividend payment and amount to be retained in the firm or plugging them back into business. Dividend is a portion of earning of a firm which is distributed to its shareholders. In a capital structure decision each and every firm can obtain additional funds by issuing new equity and retention of earning. So after measuring the firm's profit there is further problem of how much of this profit should be distributed in terms of dividend. It is a big financial decision because the firm has to choose between distributions of the profit to the shareholders of reinvesting them to finance the business. Different firms adopt different approaches to distribute dividend. To maximize the shareholder wealth, there should be used large amount of profit for payment of dividend. If the firm's objective is to expansion of business, the firm retains profit to refinance in investment program for the growth of the business.

"The objective of the dividend policy should be to maximize shareholder return so that the value of his investment is maximized. Shareholder return consists of two components: dividend and capital gain. Dividend

policy has direct influence on these two components of returns." (*I.M. Pandey, 1999:744*)

Dividend policy decision seems to be independent from financing decision. But in reality, they are not. The dividend decision is essential part of the financing policy of the firm. The decision on selecting dividend payout procedure may affect the credit worthiness of the firm and hence the cost of debt and cost of equity. If the cost of capital changes, the value of the firm will also changes. Unfortunately one cannot determine whether the change in value will be positive or negative without knowing more about the optimality of the firm's dividend policy.

According to law, dividend should be declared out of the net profit. Usually dividend is paid annually, semi annually, quarterly, or monthly. In Nepal, dividend is paid annually. Some company may pay whole earnings as dividend to create good image in the market at the beginning but later they may change their policy and announce certain percentage of dividend payout term but usually dividend payout ratio seems to be 40%, in Nepal.

1.2 Focus of the Study

Economic development of a country largely depends upon the effective mobilization of its internal resources. Banks and other financial institution play pivotal role in financial and other services primarily to commercial services occasionally to industrial and agricultural sectors.

There is no uniformity in the dividend pattern of Nepal among the different corporations. The government is unable to receive dividend from the public enterprises as documented in the past several years budget speeches and economic surveys published by HMG, Ministry of finance. Recently, jointly venture banks and some other public limited companies have some new trend to pay dividend to the shareholders.

There is also growing practice of paying bonus shares among some corporation of Nepal. Stock split is another aspect almost neglected in the capital market of Nepal. An alternative form of dividend policy is share repurchase. If a firm has excess cash and insufficient profitable investment opportunities to justify the use of these funds, it will be in the shareholders' interest to distribute the funds. The distribution can be accomplished either by the repurchase of share or by paying the funds out in increased dividend. It is thus the repurchase of corporate share is often viewed as an alternative to paying dividend. However, Nepal Company's act 2053, section 47 has prohibited company from purchasing its own shares. Thus provision is against the theory of finance.

In each and every firm, dividend policy is taken as a financial decision that affects the firm. An investor should invest in the stock of any company knowing the dividend policy of the firm. The main focus of this research will be valuable to the investor to know about dividend policy of selected commercial banks comparatively. So this research may be helpful for those investors who want to know the productivity of the commercial banks for their better investment. This study also helps to the management for corrective action.

Stability or regularity of dividends is considered as a desirable policy by the management of the companies. Most of the shareholders also prefer stable dividend have a positive impact on the market price of shares. By stability we mean maintaining its position in relation to a trend lives preferably one that is upward sloping.

Investors are interested in investing their funds in the share of public limited companies. This trend plays a significant role for the development and expansion of the capital market. And it will continue only when dividend patterned is directed to the interest of shareholders. There is no uniformity in the dividend patterned of Nepalese

corporations. This research focuses a new trend of paying dividend to shareholders shown by different commercial banks and some public limited companies.

"By dividend, we mean some kind of consistent approach to the distribution versus retention decision, rather than making the decision on the purely adhoc basis period to period."(*Pearson, Charles and Garden, 1972:405*)

1.3 Statement of the Problem

Dividend decision is a very important part of managerial finance in the sense that investor may require to rethink about investing in the shares of the company in the absence of dividend payment. There is different school of thoughts on dividend policy in the theoretical literature of finance. Dividend policy is a crucial and probably the most controversial topic in finance. It is more technical area of finance in the sense that is a complex one having numerous implications for the firms.

In the context of Nepalese commercial banks and public enterprises listed in Nepal Stock Exchange are not seen so serious regarding dividend decision since the most of them do not have only consistent and clear cut policy on dividend distribution. There is no limit to the identification of the problem about dividend policy that is visible in Nepalese commercial bank. Even if there is policy that dividend policy of commercial banks is not matching with the earning. Retained earning of a firm is taken as financing sources. If the firm retains its earning, it will result in decreasing leverage ratio, expanding activities and increasing profit in succeeding years. If the firm pays dividend it may need to raise capital through capital market, which reduce ownership control of the existing shareholders. Another way of raising capital is through debenture, which ultimately affects on risk of the firm. However, dividend is the most important factor for the attraction and motivation

of investor and it also reflects firm's healthy position in the market. There is no limit to the identification of the problems about dividend policies and practices that are occurring in the different public companies.

In the context of Nepalese capital market, the commercial banks provide low rate of interest on deposits. So the people are attracted to invest money in shares for greater benefits. In Nepal, very few companies have adopted dividend policies. There are different form of dividend payment such as cash dividend, stock dividend and bonus share etc. Among different form of dividend policy, stock dividend is the most popular one. But also dividend policy is not clearly understood by a large segment of financial community.

Different research has been made in this area seeking to establish the irrelevance of dividend on shareholders Millar and Modigliani's work the following question: how can investor get benefit from a dividend when it is not in effect, paid rupee for rupee out of the value of the share?

Besides the number of research study has been made to lead the development of the behavior models associated with the name Linter(1956), Darling(1957), and Britain(1966) and other attempting to categories explain and measure the different types of observed different practice. The study seems to provide useful guidelines in handling the complicated decision problem.

Every firm follows different forms of dividend policy based on their strategy for the company. It is assumed that there is direct relationship between the dividend and stock price. But whole considering the firms of underdeveloped countries like Nepal, it is very difficult to match the relationship between dividend and stock price. There is no uniformity in the distribution of dividend of commercial banks. Similarly there is no any relationship between dividend distributed and share price. Due to

political instability and many other factors almost of the firms are not able to pay the dividend to their shareholders. The commercial banks especially joint venture banks pay low dividend while earning is high and sometime they pay high when earning is low.

It has been known that all banks have sufficient earning but they are not distributing the dividend in equal proportion. They have not followed the consistency in dividend policy and dividend policy has not been found to be uniformity of dividend payout ratio in these sample banks.

Therefore this research raises some of following question:

- Are stock price affected by dividend per share in sample banks?
- Are the sample banks guided by specific dividend policy?
- Do the sample banks have uniformity in dividend distribution?
- Is there any consistency in dividend per share and dividend payout ratio in the sample banks?
- Does the dividend policy affect DPS, EPS, DPR, PE ratio and MVPS with in stated sample banks?
- This study will try to answer the above mentioned issues on the basis of major findings?

1.4 Objective of the Study

This study is primarily undertaken to focus on the prevalent dividend policies and practices of commercial banks with a view to suggest some appropriate dividend strategy and direction of future endeavors for the overall healthier development of the share market and also the possible impact of such endeavors in share market in Nepal. In this regard, the specific objectives of the study are:

- To identify the dividend policies of different companies and find out whether the followed policy is appropriate or not and which policy is better.
- To identify the relationship between dividend policy and other financial indicators.
- To find out whether dividend policy affects value of the firm or not.
- To find out the relationship between dividend per share (DPS) and market price per share (MPS).
- To identify what type of dividend policy is being followed by Nepalese banks and followed policy should be appropriate or not.
- To provide practical suggestion and possible guidelines to overcome various issue and gaps based on the findings of the analysis.
- To find out which dividend policy is best suitable for the commercial banks in Nepalese context.
- To find out the liquidity position of the company by analyzing the dividend policy of the concerned banks.

1.5 Significance of the Study

Dividend pattern of Nepalese companies is important nowadays because it is getting considerable attention in financial management. Dividend pattern of the companies determines and analyzes the dividend of earning between payment to stockholders and investment in the firms. This study mainly analyzes the factors that influence the allocation of earning to dividend or retained earning in Nepalese companies. It also discusses the relationship between dividend payments and share prices, earning and dividend payment, market price and earning.

Corporate sector is an expanding one but there is an information gap between the management of Nepalese companies and investors who are eager to invest in the shares. Moreover, they are investing in the shares from trial and error method. Therefore, the clear picture of dividend pattern can be an effective way to attract new investor along with keeping present investors satisfied and maintaining reputation of the companies.

The present study is devoted to analyze the prevailing dividend policy adopted by the Nepalese commercial banks and tries to throw some light in the Nepalese context. Thus it provides important guidelines to the management in setting suitable dividend policy in their respective corporation. Similarly, the finding of this study will be equally important to other who is interested to know about this area.

This study will be beneficial to the policy maker by providing a comparative analysis of dividend policy. The interested persons like customers, financial agencies, stock brokers and scholars can also benefited by this study about the dividend policy of those commercial banks to conduct smoothly on their dividend policy. Also this policy helps to government on formulating policies and monitoring the commercial banks in the case of dividend policy.

Companies those earn profit can decide either of three ways: pay that profit out to shareholders, reinvest it in the business through expansion, and debt reduction or repurchase or both. There is an outgoing debate about whether a company should pay out its earning as dividend or retain them for firm growth. This research report is beneficial for company's executive director to make a decision that whether to pay dividend to the shareholder or retain it. There is further debate that whether to pay dividend to the shareholder or retain it. There is further debate that whether to pay high dividend or low dividend to its

shareholder. This research report suggests that to what extent dividend payment is beneficial.

Dividend policy involves the decision to pay out earning versus retaining them for reinvestment in the firm. Any change in dividend policy has both favorable and unfavorable impact on the firm's stock price and company's whole profitability. This research report will help to make a decision about whether to change the dividend policy.

Nepalese financial institutes have already experienced the practice of dividend distribution. As such, it is felt significant to study the policy regarding dividend concerned with financial institution. Dividend policy decision is one of the most important decisions in every organization. This study is expected to fill the research gap and add to the inputs to financial literature relating to the dividend policy. The findings may be valuable to following groups.

To the Management

Dividend policy is the controversial topic of financial management. It may affect value of the firm; moreover most common objective of the firm is to maximize shareholder wealth. So, management may adopt appropriate dividend policy.

To the Shareholders

Shareholders are more concerned with the amount of dividend paid by the firm. So, they have more curiosity on the dividend policy adopted by the concerned banks. With this study they can make their mind more comparable in terms of dividend pattern and value of the firm.

To the Investors

Generally most of the investors prefer to invest in preferable firm and expect high return. Corporate sector is expanding but there is

information gap between the management of Nepalese companies and investors, who are eager to invest in shares. They are just investing in the shares in trial and error methods. So, the dividend behavior should be effective to attracted new investors keeping the previous investors satisfied and should maintain the reputation of the firm.

To the Researcher

It can be used by researcher as guidelines to fulfill the partial requirement of Master of Business Study. It may help others who want to study in similar topic.

Besides these, it will also be beneficial for the policy makers from the comparative study of dividend policy formulation. Dividend policy of the banks helps the customers, financial agencies, stock brokers, interest person and scholars to find out appropriate dividend policy. It is believed that other banks will also benefited with this study

1.6 Limitation of the study

Each and every research has its own limitations likewise this has also some limitations. No one can be free from constraints. This research will be done for the partial fulfillment of the requirement of Master of Business Studies degree. The time is not sufficient and this study might not fulfillment of the lack of researcher experience. In addition, there are so many limitations, which weather the generalization, e.g. time taking, unreliability of statistical tools. Besides these, the following are the main limitations of the study:

- There are 32 commercial banks in Nepal. Because of time and resource factors the study will be confined to only two commercial banks.
- There are many factors those affect decision and valuation of the firm. However, only those factors related to dividend have been considered in this study.
- The study considers the cash dividend only and excludes the stock dividend.
- Only five year period are taken for the study.
- Only secondary data are analyzed to interpret the results emerging from decision, so the result depends on the reliability and accuracy of secondary data.
- The study is for the partial fulfillment of the MBS program.
- The research has been done according to the Tribhuwan University format.
- This study has been done using simple techniques and limited variable.
- The number of listed companies in the Nepalese stock market is small and the number of the companies, whose securities are traded regularly in the market, is even smaller. The sample of study has been selected from such companies is therefore very small.

1.7 Hypothesis of Study

According to Sckaran, "A logically conjectured relationships between two or more variables express in the form of testable statement is hypothesis." Research hypothesis is the backbone of the research process. There is no any readymade research hypothesis. A hypothesis helps the researcher in processing further or finding solution of the problem which researcher wants to study. Generally, two

complementary hypotheses is setup at one time. If one of the hypothesis is accepted then other will be rejected and vice versa. The null hypothesis is also called hypothesis of no difference and the alternative hypothesis is called the hypothesis of difference.

1.8 Organization of the Study

This study has been organized in to five chapters; they are:

Chapter 1: Introduction of study

This chapter consists of general background of the study with the reference to the existing economic and political scenario. This chapter comprises of focus of study, significance, and objective of the study, statement of problem, a research hypothesis, a brief introduction to the sample listed companies and the limitation of the study.

Chapter 2: Review of Literature

This chapter reviews the relevant previous studies made on the dividend policy. It includes the conceptual framework on dividend. The second part of the chapter consists of review of books, journals, previous study, research paper and reviews of unpublished various research studies.

Chapter 3: Research Methodology

The third chapter deals with the research methodology used in the study under this heading research design. Population and sample, sampling methods, sources of data methods of data, tools for analysis are used

Chapter 4: Presentation and analysis of data

This chapter is concerned with the presentation and analysis of data. This chapter consists of analysis, interpretation and major findings of the study. This is the most important part of the study.

Chapter 5: Summary, Conclusions and Recommendation

This chapter involves the summary, conclusions and recommendations of the study and concludes the reports with the major recommendation and suggestion to the investors listed commercial banks and government about the dividend policy.

CHAPTER – 2

REVIEW OF LITERATURE

2.1 Conceptual Framework

Dividend decision of the firm is yet another crucial area of financial management. Dividend refers to the distribution of earning to common stockholders in return to their investment. The important aspect of dividend policy is to determine the amount of earning to be distributed to shareholders and the amount to be retained in the firm. Retained earning is the most significant internal sources of financing for the growth of the firm. "Dividend policy refers to the issues of how much of the total profit, a firm should pay to its stockholders and how much to retain for investment so that the combined profit and future benefits maximize the wealth of stockholders." (*Surendra Pradhan, 1992:376*)

Since the dividend policy affects financial structure, the flow of funds, corporate liquidity and investor's attitude, it is related to overall financing decision as dividend payout reduces the amount of retained earnings that are paid to shareholders in return to their investment.

Dividends are generally paid in cash because it is easy to pay to shareholders. What and how much it is desirable to pay dividend is always a controversial concern. Thus, in order to strike a balance between paying dividend and retained earning, it is necessary for the firm to adopt and effective and relevant dividend policy. The firm's directors periodically meet in order to decide whether to pay dividend and to determine the amount and form of dividend payment. Dividend policy means some kind of consistent approach to the distribution versus retention decision. Dividend policy determines the amount of earnings to be retained and payout by the firm. Various questions related to the payment of dividend or retain the earnings are contained in the dividend policy. The dividend policy adopted by the firm should be

such that it strikes the proper balance between the financing decision and wealth maximization decision. There is inverse relationship between the retained earnings and cash dividends. When the firm retains earning, providing necessary equity, the amount of dividend decreases which may affect the market price of the stock adversely. This leads to the increase in future earning per share. Thus, dividend decision is one of the major decisions of managerial finance as it directly or indirectly determines the company's profitability. Shareholders wealth can be maximized through dividend or capital gains. When a company pays dividend to the shareholders, then they are benefited directly. If the firm retains the earnings to exploit growth opportunities shareholders can expect to be benefited indirectly through increase in the price of their shares. In other words, it is a right dividend decision, which maintains a balance between shareholders interest with that of corporate growth from internally generated funds. The funds that could not be used due to lack of beneficial investment opportunities should be better paid as dividends.

Any change in dividend policy has both favorable and unfavorable effects on the firm's stock price. Higher the dividend means the immediate cash flows to investors, which is good but lower future growth is bad. Thus, the dividend policy should be optimal which balances the opposing forces and maximizes the stock price.

2.2 Major Forms of Dividends

Corporation need to follow various types of dividend in view of the objectives and polices which they implement. In Nepalese context, most of the corporations are paying cash and stock dividend. "The type of dividend that corporations follow is partly a matter of a various circumstances and financial constraints that bound corporate plans and policies." (*Manohar Krishna Shrestha, 1980:670*)

- **Cash Dividend**

  The portion of net earnings, which are distributed to the shareholder as cash in proportion to their shares of the company is called cash dividend. If the company does not have sufficient cash at the time of dividend payment, company seeks to arrange funds, which will be managed by borrowing. Cash dividend is major form of dividend, which is distributed to shareholders in cash out of the company's profit. Generally, stockholders have strong performance for cash dividend.

  When cash dividend is paid then the total assets of the company is automatically reduced. So, the company needs to have enough cash and sufficient balance for the payment of cash dividend. If it does not have enough balance, arrangement should be made to borrow funds, which is difficult for the company. When the company follows stable dividend policy, they use to prepare cash budget to indicate the necessary funds which would be needed to meet regular dividend payment of the company.

- **Stock Dividend and Stock Split**

  A stock dividend is a payment in the form of additional shares of stock instead of cash. In other words, additional share is given proportionately to existing shareholders using the funds out of retained earnings in spite of having no real value, firms pay stock dividend instead of cash dividend. The effects of the issue of the stock dividends are summarized below.

  a. Increase in number of outstanding shares
  b. Transfers retained earning balance to capital
  c. Does any changes in net worth and par value of the company

d. Does not affect the shareholders proportional ownership and

Theoretically it is not a thing of value to shareholders

Stock split is the increment of the number of shares outstanding through a proportional reduction in the par value of the stock. When stock splits occur, shareholders receive large number of shares for the old shares they have. The effects of stock split are given below:

a. It increases the number of outstanding shares
b. Reduces the par value and price of the shares
c. Does not change the proportional ownership of the stock holders
d. It neither changes the capital account nor the net worth and

Theoretically, it is not a thing of value to stockholders

Stock dividend and stock split do not change the assets of the firm. In both cases, proportional increases in shares, no changes in net worth, not a thing of value to stockholders are the same features.

Difference between stock dividend and stock split

a. use of retain earning
b. change in capital account, but if company declares more than twenty percent of stock dividend then there is no differences between stock dividend and stock splits because only paid up value of stock dividend is transferred from retain earning to capital account

- **Scrip Dividend**

  When earning of the company justify dividends but the company's cost position is temporarily weak and does not permit cash dividend. It may declare dividend in the term of scrip. Scrip is a form of promissory note permissibly to pay the holder at specified later date. Under this of dividend corporation issue and distributes to shareholders transferable promissory notes, which may be interest bearing or not interest bearing. When the company has sufficient cash then it is distributed to stockholders.

  Scrip dividends are justified only when the company has really earned profit and have only to wait for the conversion of other current assets into cash in the course of operation.

- **Property Dividend**

  When dividend is paid in terms of assets or property dividend, this form of dividend may be followed when there are assets that are no longer necessary in operation of the business or in extra ordinary circumstances. Companies' own product and securities of subsidiaries are the examples that have been as property dividend.

- **Bond Dividend**

  Bond dividend by its name is a dividend that is distributed to shareholders in the firm of bond when the company generated more profit for a long time, it is better to issue bonds, when carries certain interest rate. In other words, corporation declares dividend in forms of its own bonds with a view to avoid cash outflows. It is issued for existing shareholders.

2.3 Dividend Policies or Theories of Dividends

There are so many dividend policies in practice. Some of them are:

2.3.1 Residual Theory of Dividend

Residual dividend policy assumes that external sources of finance are not available or even if it is available, the same cannot be used due to its excessive cost. Under the residual theory of dividend, company make their investment decision then payout any remaining funds as cash dividend, residual theory of dividend suggest that only residual earnings should be distributed as dividend, which is left accepting all the profitable investment opportunities, when depends upon the investment policy of the firm. According to this theory, if there exists a balance of earning after paying fixed obligation and investment opportunities and if the firm has investment opportunities with higher return than required, then the firm will invest the earnings to the project and if there are only earning left accepting on the investment opportunities then it will be distributed to stockholders as cash dividend.

When the firm has opportunity of investment in profitable sector at first, they prefer the internally generated funds (retained earnings) rather than the externally generated funds, which is comparatively expensive due to the floatation cost and others. So the amount of dividend fluctuates time to time in keeping with availability of acceptable dividend opportunities of the firm. "Although, the residual theory of dividend appears to make further analysis the dividend policy unnecessary, it is not clear that dividends are solely a means of disbursing excess funds." (*P.G. Hasting, 1966: 537*) If the earning is more than financing needed by equity then the funds more than needed is distributed as dividend, if equity is less than financing needed by equity or equal to it, then distribute no dividend. So this theory assumes dividend policy is totally passive in nature. The amount of dividend is calculated as follows:

D_t = Max (E_t – I_t or 0)

Where,

D_t = dividend paid in year 4

E_t = earning in yr $_t$

I_t = portion of investment in year t to be financed by equity.

In calculation, we can say the residual theory of dividend prefers use of internal funds in investment and increased value of shareholders assets through capital gain of equity.

2.3.2 Stability of Dividend

Stability of dividend is one the major aspects of dividend policy of the firm. When a firm constantly pays a fixed amount of dividends and maintains it for all times to care regardless of fluctuation in the level of its earning is called stable dividend policy. Stability of dividend refers to the regularly in paying dividend even through the amount of dividend fluctuates from period to period. Most of the investors are in favor stable dividend than variability in dividend. The reason may be that investor can expect how much of dividend the company will pay; all other things being same stable dividend have positive impact on the market price of the share. "The term dividend stability refers to the consistency or lack of variability in stream of dividend". (*Van Horne, James c., Mc Donald John; 1971:507-519*) In the stable dividend policy, the dividend will be paid regularly. It is suitable for these companies which have got stable income. "Stability of dividend considered as a desirable policy by the management of most of the companies. Shareholders also generally favor this policy and the value of stable dividends has a positive impact on the market price of the share." (*I.M. Pandey, 1995: 302*)

There are three major types of dividend policies developed under dividend stability, which are as follows.

I. Constant Dividend Per share

When a company pays a fixed amount of dividend per share over the year and does not change it with the fluctuation in the level of its earning, it is said to have pursued a relatively constant dividend per share. It does not mean that the level of dividend will never increase. It is easy to follow this policy when earnings are stable but if it fluctuates, the company fares difficulties to maintain such policy.

"The dividend policy of paying a constant amount of dividend per shares treats common shareholders without giving any opportunities available to shareholders." (*Louis K. Brandit, 1972: 7*)

This policy generally preferred by those person and institutions that depends upon the dividend income to meet their living and operating expenses because of the constant amount of dividend they received.

II. Constant Payout ratio:

Constant payout ratio refers to the paying a fixed percentage of net earnings every year as dividend. Under this policy, the amount of dividend fluctuates direct proportion of earnings. If the company incurs losses, no dividend shall be paid regardless of the desire of shareholders.

With this policy the amount of dividend will fluctuate in direct proportion to earning management may support this type of policy because it is related to the company's ability to pay dividends. Internal financing with retained earnings is automatically made when this policy is followed. At any given payout, the amount of dividend and the additions to retained earnings increase with increasing earning and decrease with decreasing earnings.

III. Low regular Dividend per share plus extra:

The company having fluctuating earnings follows this policy. Under this policy, a small amount of dividend is fixed to reduce the possibility of ever missing a dividend payment. In the period of

prosperity, external dividend is paid to prevent investors from expecting that the dividend represent an increase in the established dividend amount. This type of policy enables a company to pay constant amount of dividend regularity without a default and allows a great deal of flexibility for supplementing the income of shareholders only when the company's earnings are higher than the usual without committing itself to make large payments as a part of the future dividend.

2.4 Procedures of Dividend payment

Dividends are paid in different time periods such as quarterly, semiannually and annually. In Nepal, dividends are paid annually. Payment procedures tell how these dividends are paid to the stockholders. In other words, payment procedures are the steps of dividend payment. Dividends are not paid immediately after the announcement. So many problems may arise on payment of dividend. One major problem is that, who will obtain the dividend of stock sold after announcement of dividend. Like this, Company need time to obtain information about transfer of ownership share. Therefore, systematic procedures specify the rise on given conditions. The actual payment procedures are as follows:

- **Declaration Date:**

  Declaration date is the date on which directors of the company declare the dividend. In Nepal, declaration date is the date on which general annual meeting held on declaration date, amount of dividend per share, holders of record date and payment date are mentioned. After the declaration of dividends total amount of dividend is transferred to dividend payable account from retained earning account.

- **Holder of period Date:**

It is the date after which new owners of shares may not qualify to receive dividends. In other words, company makes the list of shareholders as a owner on that date. Only those shareholders get dividend that are listed. Therefore, it is a threshold date after which obtained ownership is not able to get dividend.

- **Ex-Dividend Date**

  There are so many brokers in the market. No one can exchange stock directly. Exchange of stock through brokers is necessary. The association of share brokers set a time, which is four business day before the holders of record date. After that the holders not able to receive the dividend called ex-dividend date.

- **Payment Date:**

  The company declares the date in which it pays dividend to its shareholders is called payment date.

  But in Nepal, Company act 2053, Section 140, sub-section describes that, "only the person which name stands registered in the register of existing shareholders at the time of declaring that only declaration and payment date take meaning in payment procedures.

2.5 Factors Influencing Dividend Policy:

Firm's dividend decision is affecting by various factors. Therefore while making a dividend decision; many factors are to be considered. In this sub-section, an attempt has been made to discuss the factors, which generally influence the dividend policy of the firm. Some of these factors are trying to mention below.

a) Legal Restriction:

All the companies are bounded by certain legal restriction for dividend payment. These constraints are:

- Company can pay dividend from the earning of current year or past year.
- Company can not pay dividend by the liabilities of the company exceed asserts.
- Dividend cannot be paid if the amount of dividend to be distributed exceeds net profit.
- Dividend cannot be paid from the capital invested in the firm.

b) Liquidity Position:

Liquidity position (Availability of cash) of the firm is an important consideration for dividend payment. Although a firm can have adequate earning to declare dividend but it may not have sufficient cash to pay. The dividend payment means cash outflow. Generally, growing firm faces the problem of liquidity even though it makes good profit but it needs funds for its expansion, so they cannot declare dividend.

c) Investment opportunities:

The dividend policy is also influenced by the financial needs of the company. If any profitable project found, company invests its earning to that project rather than paying dividend. "A growing firm gives procedure to the retention of earnings over the payment of dividend on order to finance its expanding objectives. But the firm having stable earning trends will prefer to pay larger portion of its earnings as dividend." (*I.M. Panday, 1995:304*) When the investment opportunities arise in frequently, company follows a policy of paying dividend are raises external funds, when the investment opportunities occur.

d) Access to capital Market:

Although a company has insufficient cash, it will able to pay dividend if it raise fund in capital market. They can generate fund from the capital provides flexibility to the management in paying dividend as well in meeting corporate obligation. Thus, greater the

ability of the fund to raise funds in the capital market, the greater will be its ability to pay dividends even it is not liquid.

e) Control:

If the company pay access cash dividend, there will be the shortage of fund to finance investment opportunities, which affects the control position of existing stockholders. So they are not desirable to distribute the earnings as dividend, which presents them to loose the control position to the company.

f) Inflation:

During the period of inflation, the company should retain high percentage of earnings because inadequate funds generation from depreciation to replace absolute equipment.

g) Earning Stability:

A company with stable earning pays more dividends in prospects of continuity of the earnings in the future. But a company having fluctuating earnings pays less dividends to face its future financial difficulties.

h) Growth prospects:

A rapidly growing firm usually has a substantial need funds to finance the abundance of attractive investment opportunities instead of paying large dividends and then attempting to sell new shares to rise the equity investment capital it needs. This type of firm usually retains larger portions of its earnings and avoids the expenses and inconvenience of public stock offerings.

i) Stockholders preference:

In a closely held corporation with relatively few stockholders, management may be able to set dividend according to the preferences of its stockholders. For example, assume that the majority of a firm's stockholders are in high marginal tax brackets. They probably favor a policy of high earnings retention, resulting in eventual price appreciation, over a high payout policy.

j) Restrictive Covenants:

Restrictive Covenants contained in bond indenture, term loans, short-term borrowing agreements, lease contracts and preferred stock agreements affect the dividend decision. These restrictions limit the total amount of dividends a firm can pay.

2.6 Legal provision Regarding Dividend Policy and practical in Nepal

There is a nothing stated regarding rule of dividend practices in "Nepal Company Act 2021". The responsibility to protect shareholders interest is handed to protect shareholders interest because the attitude of broad of directors play dominate role in the management of public limited Companies and they are generally in majority who are nominated by government. At the present situation, it is advisable to enact a separate shareholders protection act and safeguard shareholders rights and interest. Shareholders association of Nepal has been established for this purpose. The responsibilities to undertake required action to protect shareholders interest was given to stock exchange center by security exchange act 1983-84.

Nepal Company Act 1997 makes some legal provision for dividend payment. These provisions may be seen as under:

Section 2 (m) states that "Bonus share (stock dividend) mean state issued in the firm of additional shares to shareholders be capitalizing the surplus from the profit or the reserve fund of a company. The term also denotes an increase in paid-up values of the shares after capitalizing surplus or reserve funds."

Section 47 has prohibited company from purchasing its own shares. This section states that no company shall purchase its own shares or supply loans against the securities of its own shares.

Section 137 Bonus shares and subscription 1 states that the "company must inform the office before issuing bonus shares under sub section

(1). This may be done only according to special resolution passed by general meeting."

Section 140 Dividend and subscription of these section areas are as follows:

Subscription (1) - Expect in the following circumstances, dividends shall be distributed among the shareholders within 45 days from the date of decision to distribute them.

- In case any law forbids the distribution of dividend.
- In case the right to dividend is disputed.
- In case dividends cannot be distributed within the time limit mentioned above owing to circumstances beyond any one's control and without any fault on the part of the company.

Subsection (2) – In case dividends are not distributed within the time mentioned in sub-section (1), this shall be done by adding interest at the prescribed rate.

Subsection (3) – only the person whose name stands registered in the register existing shareholders at the time of declaring the dividend shall be entitled to it.

The above indicates that Nepalese law prohibits repurchase of stock which is against the theory of finance.

2.7 Review of Major studies in General.

This section is devoted to the review of the major study in general concerning dividends and stock prices. Management views on dividend policy and management view of stock dividends. Therefore, the researcher is going to review the various studies conducted in different places by the different experts and authors.

2.7.1 Walter's study (*James E.Walter, 1996:29-41*)

Prof. James Walter study conducted that the choice of dividend policy almost always affects the value of enterprises.

In this study, he suggests that dividend practice of firm affects its stock price. Walter especially notified that there is sufficient relationship between internal rate of return and cost of capital, which is the main determining factor to retain its earnings to distribute dividend to shareholder.

His study was based on the following assumptions.

- The firm finances all investment projects through retained earning that is the firm does not use debt or equity financing.
- All earnings are either distributed as dividend or re invested immediately that is no earnings should be retained in the firm of cash.
- The firms internal rate of return ® and cost of capital (k) are constant.
- Beginning earning per share and dividend never change.
- Firm has very long or infinite life.

Based on above assumption the dividend payout ratio determining price per share is as follows:

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

Where,

P = market price per share.

DPS = dividend per share

R = internal rate of return.

K = cost of capital

According to this study, the optimal dividend policy depends on the relationship between the firm's IRR and cost of capital. Walter suggested

different dividend policy of dividend types of firm. There are three conditions.

i) Growth firm (r>k):

If the IRR is greater than cost of capital, it is better to retained earnings. Firm having r>k are referred as growth firm. Growth firms are assumed to have profitable investment opportunities. These firms are able to re-invest earnings at a rate 'r' which is higher than the rate expected by shareholders 'k'. They will be maximizing the value per share if they follow a policy of retained all earning for internal investment. The market value per share increases by decreasing the dividend in such a condition. The market value per share will be maximizing at zero dividends.

ii) Normal firm (r=k):

If the IRR is equal to cost of capital, the dividend payout does not affect the value of share; such an enterprise can be called as normal firm. Whether the earning are retained on distributed, it is a matter of indifferent for a normal firm. The market price of share will remain constant for all dividend payout ratios from zero to hundred. There is no optimum dividend policy for such firm. The market value per share is not affected by the payout ratio in the situation of risk.

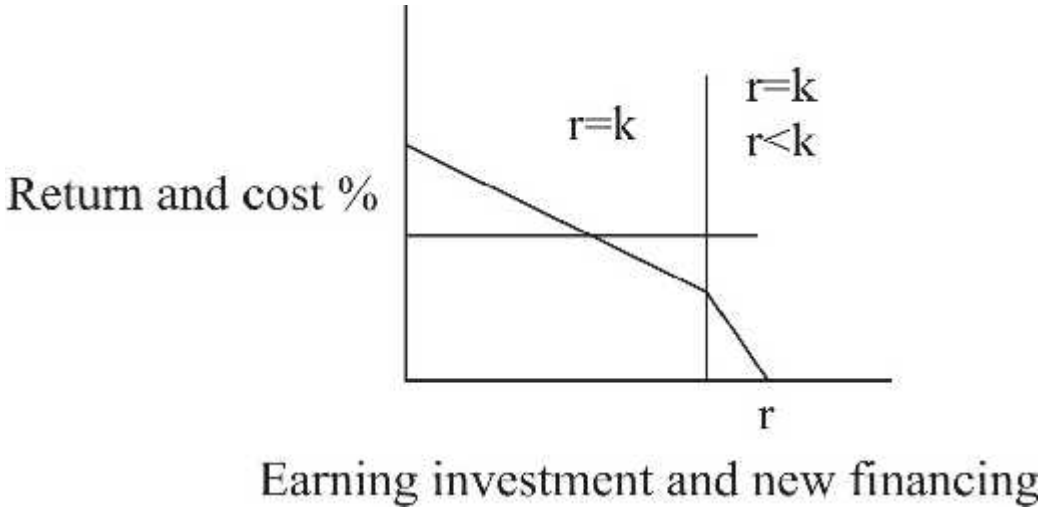
iii) Declining firm (r<k):

Firms having r<k do not have any preferable opportunities to invest, these firms are referred as declining firms. If these firms invest on unattractive investment, they will earn less IRR than required by investors. So, investing on this investment is worthless. Thus, optimum payout ratio for declining firm is hundred percent by distributing the entire earning as dividend. The value of share will be at optimum value. The market value of shares increases as payout ratio increases when r<k.

In this way, Welter's study concludes that dividends are negatively correlated with market value of stock for growth firm, positively correlated for declining firm and there is no relation between market value and dividend payout ratio for normal firm.

Figure 2.1

Walter Study



2.7.2 Gordon's study (*Myron J. Gordon, 1962:114-119*)

Myron Gordon modified the Walter's model for determining the market price of the stock. In his study he conducted that dividend policy has the direct relationship with market value of the stock. So, dividend policy affects the market value of the stock even when the internal rate of return (Return on investment) is equal to the capitalization rate. This study suggests that investor prefer present dividend rather than future gains. So, the higher dividend yield causes increase in market price of stock.

This study is mainly based on following assumptions.

i) The firm is an all equity firm.

ii) No external equity is available. Only retained earning is used for financing any expansion.

iii) Internal rate of return and appropriate discount rate are constant.

iv) The firm and its stream of earnings are perpetual.

v) The corporate taxes do not exit.

vi) The retention ratio once decided upon is constant. Thus the growth rate is constant forever.

vii) Cost of equity (K_e) must be greater than growth rate (g).

Based on these assumptions, Gordon has derived a formula for determining the market value of share.

$$P = \frac{EPS(1-b)}{ke-br}$$

Where,

P = Market price of share

EPS = Earning per share

B = Retention ratio

1-b = Dividend payout ratio

k = Capitalization rate

br = g = Growth rate

Limitations

Since the assumptions of both model are almost same. Some both have same conclusions. But their assumptions are far from the reality. Like they assumed that r and k will be constant but in practice r and k will not be constant rather it changes. They also assumed that firm is free from tax liability but in practice tax exists in any firm.

2.7.3 Modigliani and Millar's study (*Modigliani and Merton H. Miller, 1961:411-433*)

Frances Modigliani and Merton Miller first propounded the major argument indicating that dividends are irrelevant in 1961 in their

articles. It is popularly known as M.M approach. It is also termed as, "Dividend Irrelevance Model."

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. According the MM approach, under a perfect market situation, the dividend policy of a firm is irrelevant, as it does not affect the value of the firm. The dividend policy is irrelevant for valuation when the investment policy is given. Therefore, as per MM theory, the firm's value is independent of its dividend policy. According to them, the effect of dividend payments on shareholders wealth is exactly offset by other means of financing.

The Modigliani and Miller approach of irrelevance dividend is based on the following critical assumption.

1. The firm operates in perfect capital market where all investors are rational. Information are freely available, there is no transaction costs, securities are infinitely divisible, no investor is large enough to influence the market price of securities; there are no floatation cost.
2. There are no taxes.
3. The firm has fixed investment policy, which is not subject to change.
4. Risk of uncertainty does not exist.

MM provides the proof in support of their argument in the following manner.

Step-1

The current price of share in the beginning of the period is equal to the present value of dividend paid at the end of the period plus the market price of the share at the end of period. Symbolically,

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

where, P_o= The prevailing market price of share

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

P_1 = The market price of the stock at the end of period one

K_e= The cost of equity capital.

Step-2

Assuming no external financing, the total capitalized value of the firm would be simply the number of share ® times the price of each share (Po). Thus we have,

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

where, n= number of equity shares at zero period.

Step-3

Assume that the retained earning is not sufficient to finance the new investment needs of the funds; in that case issuing the new shares in the other alternative and n is the number of new shares issued at the end of year 1 at price of P_1.

$$\Delta nP_o = \frac{n(D_1 + P_1)}{1 + Ke} \quad \text{..... (iii)}$$

where, n= no. of shares at the beginning

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

Step-4

The issuing of new shares is determined by the amount of investment in period 1 not financed by retained earning. The number of new shares can be finding out in the following way.

$\Delta nP_1 = 1- (E- n\Delta_1)$

or, $\Delta nP_1 = 1- E+n\Delta_1$ ..... (iv)

Step-5

By the substitution, the value of nP_o in equation three from equation four, we get

$$\Delta nP_o = \frac{nD_1 + (n + \Delta n)P_1 - (I - E + nD_1)}{1 + Ke} \quad \text{..... (v)}$$

Step-6

There is no role of dividend in equation five. So, MM concludes that dividends do not count. Therefore, dividend has no effect on share price.

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 model holds that when the firm pays dividends, external financing offsets its advantage.

In this way, according to MM study, it seems that under conditions of perfect capital market, rational investors, absence of tax discrimination between dividend income and capital appreciation, given firm's investment policy, its dividend policy may have no influence in the market price of shares. However, the view that dividend is irrelevant, is not justifiable, once the assumption is modified to consider the realities of world.

In practice, every firm follows one kind of dividend policy on another. The section of certain dividend policy depends on the age and nature of the firm.

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.

2.7.4 Linter's Study

J. Linter conducted a study in 1956, which is focused in the behavioral aspect of dividend policy, He investigated dividend pattern of 28

different companies of America. The conclusion of his study is as follows:

Div^* = $P\ EPS_t$

And,

$DIV_t - DIV_{t-1}$ = $a+b\ (DIV^*_{t-1}) + e$

where,

Div^* = Firms desired payout

EPS_t = Earning Per Share

P = Targeted payout ratio

A = Constant relating to dividend growth

B = Adjustment factor relating to previous period's dividend and desired level of dividend (b>1).

Major findings of this study is as follows:

- Firm generally thinks in terms of proportion to be paid as dividend.
- Investment requirement are not considered for modifying the pattern of dividend behavior.
- Firm generally have target payout ratios in view while determining change in dividend per share.

2.7.5 Van Horne and Mc Donald's study (*James C. Van Horne and John G. Mc Donald, 1971:507-519*)

Van Horne and Mc Donald concluded a more comprehensive study on dividend policy and new equity financing. The purpose of this study was to investigate the combined effect of dividend policy and new equity financing decision on the market value of the firm's common stock. They explored some basis aspects of conceptual framework and empirical tests were performed during year end 1968, for two industries using a

well known valuation model i.e. cross section regression model. The required date were collected from eighty six electric utility firms included on the COMPUSTAT utility data electronic component industries as listed on the COMPUSTAT industrial data type.

They tested two regression models for the utilities industries.

First model

$P_o/E_o = a_0 + a_1 g + a_2(D_o/E_o) + a_3 (Lev) + u$

Where,

P_o/E_o = closing market price in 1968 dividend by average EPS for 1967 an 1968.

G= Expected growth rate, measured by compound annual rate of growth in assets per share for 1960 through 1968.

D_o/E_0 = Dividend payout measured by cash dividend in 1968 dividend by earnings in 1968

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

U= Error times

Second model

$P_o/E_o = a_o + a_1(g) + a_2(D_o/E_o) + a_3(Lev) + a_4(F_a) + a_5 (F_b) + a_6(F_6) + a_7(F_7) + u$

Where, F_a, F_{b1}, F_c and F_0 are dummy variables corresponding to "New issue Ratio" groups A through o.

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

Again they tested the following regression equation

For electronic Component industry

$P_o/E_o = A_0 + a_1(g) + a_2(D_o/E_o) + a_3 (Lev) + a_4(OR) + U$

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

OR= operating risk measured by standard error for the regression of operating earning per share on time for 1960 through 1968 and rest are as in first model above.

By using these models or methodology, they compared the result obtained for the firm, which both pay dividends and engage in new equity financing with other firms in an industry sample. They concluded that for electric utility firm's in 1968, share value was not adversely affected by new equity financing ion the presence of cash dividends except for those in the highest new issue group and it made new equity a more costly form of financing than the retention of earnings.

They also indicate that the payment of dividend through excessive equity financing reduces share prices. For electronic components industries a significant relationship between new equity financing and value was not demonstrated.

2.7.6 H.K. Baker, G.E. Farrelley and Richard B. Edelman Study (*H.K. Baker, G.E. Farrelley and Richard E. Edelman, 1985:78-84*)

H.K. Baker, G.E. Farrelley and Richard B. Edelman surveyed management views on dividend policy. They asked corporate financial managers what they considered most important in determining their firm's dividend policy. The objectives of their survey were as follows:

1. To compare the determinants of dividend policy with Linter's behavior model of corporate dividend policy and assess management's agreement with Linter's findings.
2. To examine the management's perception of signaling and clientele effects; and
3. To determine whether managers in different industries share similar views about the determinants of dividend policy.

The firms they surveyed were listed the New York stock Exchange and classified four digit standard industrial classification codes. Total of 562 NYSE firms were selected from three industrial groups; utility (150), manufacturing (309) and whole sale / retail (103).

They mailed questionnaire to obtained information about corporate dividend policy. The questionnaire consisted of three parts; 1) Fifteen closed and statements about the important of various factors that each firm used in determining its dividend policy. 2) 18 closed end statement about theoretical issues involving corporate dividend policy; and 3) a respondent's profile including such items at the firm's dividends and earnings per share.

They send the final survey instrument to the chief financial officer of the 562 firms, followed by a second complete mailing to improve the response rate and reduce potential non response rate and reduce potential non response bias. Their survey yielded 318 unable responses (56.6% response rate), which were divided among the three industry groups as follows: 114 (utilities (76%), 147 manufacturing firms (47.6%) and wholesale/retail (5.3%). Based on dividend and earning per share data provided by the respondents. The average dividend payout ratio was computed. They found that payout ratio of the responding utilities (70.3%) were considerably higher than for manufacturing (36.6%) and wholesale/retail (36.1%).

The results of their survey on the aspect of determinants of dividend policy were as follows:

- The first highly ranked determinants are the anticipated level of firm's future earnings and the second factor is the pattern of the past dividends. They found the high ranking of these two factors is constant with Linter's findings.
- A third factor is cited as important in determining dividend policy is the availability of cash.

- A fourth determinant is concerned about maintaining or increasing stock price. They found this factor is particularly strong among utilities that ranked this second in importance.

Similarly, the results of their survey on the aspect of attitudes on theoretical issues were as follows.

1. Respondents from all three group industry groups agreed strongly that dividend payout affects common stock prices.
2. The respondents from all three industry groups agreed on average that dividend payouts provide a signaling device of future company prospects and that the market uses dividend announcement as information. For assessing security value.
3. The respondents also demonstrated a high level of agreement that the reason for dividend policy changes should be adequately disclosed to investors.
4. Respondents from all three industry groups thought that investors have different perceptions of the relative riskiness of dividends and retained earnings and hence are not indifferent between dividend and capital gain return.

2.7.7 I.M Pandey's Study (*I.M. Pandey, 1990:783-786*)

I.M. Pandey studied on corporate dividend behavior and analysis of dividend policy in practice of CARSIN and TOUNBRO. It has been conducted based on the data from 1976 to 1987.

A stable payout ratio results fluctuation dividend per share pattern, which could be a cause of uncertainty for investors. In practice; firms express their dividend policy either in terms of dividend per share or dividend rate. Does this mean that firms generally think in terms of preparation of earnings to be paid? Investment requirements are not considered for modifying the pattern of dividend behavior. Thus, firms generally have target payout ratio in view while determining the change

in dividend per share (or dividend rate). Let us assume that a firm has EPS, as the expected earnings per share in the current year and P as the payout ratio. If the firm strictly follows stable payout policy, the expected dividend per share Div, is

$Div_1 = p^{EPS}{}_1$ …… (i)

And dividend changes as compared to the dividend of the previous year, (Div o) will be

$Div_1 – Div_0 = p^{EPS}{}_1 - DIV_0$ …… (ii)

But in practice, firms do not change the dividend per share immediately with change in the earning per share shareholders like a steadily growing dividend per share. Thus, the firm changes their dividends slowly and gradually even when there is large increase in earnings. This implies that firms have standards regarding the speed with which they attempt to move towards the all adjustments of payout to earnings. Linters has therefore suggested the following to explain the change in dividends of firms in practice.

$Div_1 – Div_0 = b\ (p^{EPS}{}_1 - DPS_0)$ …… (iii)

Where, 'b' indicates the speed of adjustment. A conservative company will more slowly towards its target payout.

The implications of equations three are

a. That firm stabilized their dividends in accordance with the level of current earnings.

b. The change in dividend over time does not correspond exactly with changes in earnings in the immediate time period. In other words, dividend per share of the previous year dividend (Div0). The previous year's earnings per share and the dividend per share in the year before.

2.8 Review of Journal and Articles

In this regard, there are very few articles published in Nepal. Under this subsection, the major studies are reviewed as follows:

2.8.1 Radhe Shyam Pradhan's Study (*Pradhan, 1993:23-43*)

Radhe Shyam Pradhan's study on stock market behavior in a small market was carried on in 1992. The study "A study of Dividend Policies and practices of Nepalese Enterprises" has been conducted based on views of 135 managers on dividend policy of large Nepalese enterprises.

A questionnaire was provided on the financial executives of 50 large Nepalese enterprises as identified in the publication of securities boards, Nepal and Nepal Stock Exchange Ltd. out of 50 enterprises. They research on 36 financial sectors and on 14 non finance sectors.

The main objective of that study is to examine managements' view on various aspects of dividend policy and practices in Nepal.

The major findings on the study are as follows:

- In their ranks for the importance of major decision of finance, respondents give third priority to divided decision.
- With respect to major motives for paying cash dividend that is to convey information to shareholders that the company is doing well and is to draw attention from the investment community.
- Dividend decision is not a residual decision.
- Nepalese shareholders are not really indifferent to whether the company pays or does not pay dividend.
- The earning announcement by the company would help to increase market price of share.
- In Nepal most of the companies do not want to pay dividend.
- Dividend Policy is affected by earning availability stock price.

2.8.2 Kamlal Das Manandhar's Study (*Manandhar, 1998:15-20*)

Kamal Das Manandhar's study on dividend policy and value of the firm was completed in 1998. The claim of study was to identify some important financial variable that are significant to the value of the firm.

The study was based on the secondary Financial data of ten lending companies of the year 1995/96 published by Nepal Stock Exchange Ltd. in trading report 2052/53, volume-2

The selected ten companies taken for the study were:

- Nepal Bank Ltd.
- Standard Chartered Bank Ltd.
- Nepal SBI Bank Ltd.
- Himalayan Bank Ltd.
- Nepal Indosuez Bank Ltd.
- NABIL Bank Ltd.
- Bishal Bazar Company Ltd.
- Harishidhi Brick and Tiles Factory
- National Life and General Insurance Company Ltd.
- Soaltee Hotel Ltd.

He used multiple regressions to achieve the objective. The regression equation was,

$Y=F(X_1, X_2, X_3, X_4, X_5)$

Where,,

X_1 represents Dividend per share (DPS); Equity dividend by number of equity shares.

X_2 represents earning per share (EPS); Net income dividend by number of equity shares.

X_3 represents P/E ratio: Closing price dividend by earning per share.

X_4 represents ROE; EPS dividend by paid up price multiplied by hundred

X_5 represents D/P ratio; DPS divided by closing market price.

After analysis, the result was found DPS and ROE have positive impact on market capitalization. EPS, P/E ratio and D/P ratio have negative impact on market capitalization. Especially for dividend, it was concluded that there is significant relationship between market capitalization and DPS. DPS was regarded as one of the significant determinant of market capitalization.

In conclusion, the dividend policy is relevance in stock valuation based of DPS.

2.8.3 Manohar Krishna Shrestha's Study (*Dr. Monohar Krishna Shrestha, 1992*)

Dr. Manohar Krishna Shrestha has conducted a study to deal with policy and financial performance of some companies in Nepal. A book entitled "Shareholder's Democracy and Annual General Meeting Feed back" contains a paper presented by Dr. Shrestha on the occasion of fifth annual meeting of Nepal Arab Bank Ltd. On the paper Dr. Shrestha opines 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 shareholder 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 on the basis of both earning and cost theory.

- Indo-Nepal trade and transit deadlock has become a sort of economic welfare putting rise in the cost of living index to a considerable extent. This has caused the shareholders to expect higher dividend.
- The waiting of five years with peanut dividend in previous year shareholders to expect handsome dividend already assured and committed in various reports earlier annual general meeting.
- One way to encourage risk-taking ability and performance is to have proper risk-return trade off by bank is management board in a way that higher risk takers that comprise bank is shareholders.

Regarding these difficulties he requested the bank management board to rethink the matters relation to payment of dividend.

2.9 Review of Thesis

2.9.1 Bishnu Hari Bhattarai's Study

Mr. Bishnu Hari Bhattarai carried out the task of analyzing the dividend decision and its impact on stock valuation on 1996 using ten companies of various sectors. The basic objective of the study was to identify the relationship between dividend and stock price.

The main objective of his thesis was as follows:

- To highlight various aspects of dividend policies and practices in Nepal.
- To analyze the variables such as profit dividend, retained earning, growth rate and relevant variables to show the relationship between the value and other ingredient affecting it.
- To provide feedback to the policy makers and executive working in various companies chosen for study based on the findings of the analysis.

After analyzing the above mentioned points, he concluded the following factors:

- The companies while paying dividend generally neglect shareholder's expectation.
- There were no criterion to adopt payout ratio and it is observed that there is a negative relationship between payout ratio and valuation of shares.
- In aggregate, there is not stable dividend paid by the companies over the years i.e. instability of dividend.
- Cash balance and dividend payment were positively correlated.
- Dividends were paid only in profitable years.
- There was positive impact on dividend valuation of shares.
- Mostly, the joint venture companies were paying dividends.
- Dividend payment was inadequate to cover the required rate of return of the investors.
- Market price considerably higher than actual net worth.
- There is negative relationship between market price of shares and stockholders required rate of return. Shareholders have foregone company's opportunity income in hope of getting higher return, but companies have not been able to return even equal to risk free rate of return.
- There is positive relationship observed on foreign investment and payment of dividend i.e. the companies invested by the foreign investors are paying regular dividends than the companies dominantly invested by Nepalese. There is negative relationship observed between the companies paying dividend, and percentage of public shareholders and percentage of shares hole by HMG/N.

2.9.2 Dipen Sitaula's Study

Sitaula's thesis is based on the analysis of dividend policy of three joint venture banks of Nepal named by

- NABIL Bank Limited.
- Everest Bank Limited.
- Nepal SBI Bank Limited.

The main objectives of the study are listed below:

- To study the current practice of dividend policy in joint venture commercial bank.
- To examine the relationship between DPS, EPS and DP ratio of sample banks.
- To find out the impact of dividend on share price.
- To identify the uniformity of dividend distribution of different commercial banks.
- To provide valuable suggestions and important guidelines to the banks to formulate optimal dividend policy and maximize share price on the basis of finding.

After conducting the research, finally the concluded that,

- Dividend per share, Earning per share of the sample bank except NABIL bank are not satisfactory. NABIL bank has distributed moderate amount of dividend.
- The price of earning of the sample banks have high degree of fluctuatio0n.
- The samples banks have not defined clearly about the dividend policy. The dividend paying system is highly fluctuating.

2.9.3 Sadakar Timilsina's Study

Sadakar Timilsina in his thesis paper, "Dividend and stock Price: An Empirical Study" has studied the relationship between dividend and

stock price by taking the data of ten enterprises from 1991 to 1994. Though it was not very comprehensive, it was the first of its kind and able to throw some light in the Nepalese context. One of the major objectives of study was to know about the influence in price caused by dividend policy of the firm. So the study used simultaneous equation model as developed by Friend and Puckett (1964) to explain the price behavior. The specific objectives of his study were as follows:

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

The main findings of his study were as follows:

- The relationship between dividend per share and stock price is positive in the sample companies.
- DPS affects the share price differently in different sector.
- By changing the dividend policy or DPS might help to increase the MPS.
- The relationship between stock prices and retained earning per share is not important.
- The relationship between stock price and lagged earning price ratio is negative.

2.9.4 Rabindra Poudel's Study

A study "Dividend Policy, A Case Study of Different Listed Finance Companies" conducted by Rabindra Poudel has concluded the following factors:

- Dividend practices of all the sample companies are neither stable nor constantly growing; moreover haphazard way is adopting but in growing trend.
- Relationship between DPS with EPS, NAPAT and NW are positive in all these finance companies, whereas relationship between DPS with average stock price is in improving condition with compare to previous year.
- Change in DPS affects the MPS differently in different finance companies.
- The situation of capital market of Nepal is improving condition. So, the capital market is efficient with compare to previous years. But still capital markets of Nepal are inefficient.

2.9.5 Babita Khadka's Study

Babita Khadka has performed a thesis on dividend policy : Comparative study between KBL and MBL 34 with five years data relating to dividend policy from 2003/2004 to 2007/2008

Objective of the study as follows:

- To check the consistency in DPS, EPS and D/P ratio on sample banks.
- To study the current practice of dividend policy in commercial banks.
- To determine the impact of dividend on share price.
- To provide useful suggestion to formulate optional dividend policy and maximize the share price on the basis findings.

Major finding of the study are as follows:

The generally analysis of earning per share, dividend yield, dividend per share, dividend payout ratio, earning yield, price earning ratio, correlation between various variable, regression analysis and test of hypothesis of EPS,DPS and DPR shows the following findings:

- The average earning per share of related banks is satisfactory.
- Dividend per share is not satisfactory.
- The correlation coefficient between MPS and EPS of two banks is positive.
- The correlation coefficient between EY and DY of banks is positive.
- The correlation coefficient between MPS and P/E ratio is positive and the relationship of two banks is significant at 5% level off 'S' test.
- The regression coefficient of EPS, dependent variable MPS on EPS of two banks are positive.
- F test suggest that EPS, DPS, DPR and MPS of the concerned two banks are significant different at 5% level of significance.

Reviewing the available studies in Nepal, it is found that no one has conducted any studies of dividend policy; dividend decision is major decision of the company. It has direct effect on the market value of share and its trend is very important for attraction of investors.

Actually, commercial banks are financial institutions. It provides those kinds of services, which are different from other banks like development of agriculture. So in commercial bank there should be unique policy and strategy. This study differs from the previous studies because it tries to analyze the capital market explaining whether the capital market is efficient or inefficient which is not cover by previous studies.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Concept of Research Methodology

Research methodology is a way to systematically solve the research problem. It is also understood as a science of studying how research is done appropriately.

This chapter highlights about the methodology adopted in the process of current study. It also focuses about sources and limitations of data, which are used in current study. In other words, research methodology is the methods, steps and guidelines for presenting the collected data for meaningful analysis. Research methodology refers to the various sequential steps to be adopted by the researcher in studying a problem with certain objects/objects in a view.

Research methodology describes the methods and process applied in the entire aspects of the designs has therefore been included in the present study. This research study is based on scientific methods and most of the data's are quantitative. Financial indicators and statistical tools are used for the analysis of various aspects and different variables about dividend on the basis of secondary data. The collected data are presented in a simple way using tables, diagrams etc. In this study, research methodology has been paid due attention to achieve the objectives of the study, which is to compare the dividend policies practicing commercial banks in Nepal.

3.2 Research Design

Research design is a conceptual structure within which a research is conducted. In a simple language, planning for research is a research design. Research design helps researcher to keep track of action and to know whether the researcher is moving in the right direction to achieve his/her goal. “Research design is a plan structure and strategy of investigation concerned so as to obtain answer to research question and to control the variance.”

This research design is an overall framework for the study, guiding the collection and analysis of data. A research design is helpful because it specifies the sources and types of information relevant to the research problem. The research design then focuses on the data collection methods, the research instruments utilized and the sampling plan to be followed. This study is descriptive, analytical and comparative employing various historical secondary data to analyze the using variables, which are related to dividend policy practicing Nepalese commercial banks. For the analytical purpose, the annual reports, financial statement and other relevant material of the companies were collected under the study. So, the analytical as well as descriptive research designs have been followed in the research study.

3.3 Population and Sample

As this study is based on the data of the commercial banks listed in NEPSE, soothe population is taken from only these companies which are listed in NEPSE. Since the topic implies the study should be done among the dividend paying and actively traded companies, the sampling will be done accordingly. This study will cover 2 commercial banks.

The selected sample banks are as follows:

- NABIL Bank Limited (NABIL)
- Everest Bank Limited (EBL)

3.4 Method for Analysis

Specific Financial and statistical tools are used in this research. The analysis of data is done according to pattern of data available. The relationship between different variables related to study topic would be drawn out by using financial and statistical tools. The calculated results are tabulated under different heading for case of reading, and then they are compared with each other to interpret results. In this study simple regression analysis has been used to analyze the effect of independent variable on dependent variable. It helps in studying the effect and magnitude of the single independent variable one dependent, variable to determine whether the variable of DPS is related to dividend decision.

3.5 Data Collection Procedure

Almost all the data requires for the research is collected from the secondary source, mainly from the financial statement of listed companies' volume 3 and 4 and trading report published by Nepal Stock Exchange. Other necessary information has been taken from the related banks officials, SEBO/N and NEPSE staffs and other related personalities as well. Besides this, related websites like www.nepalstock.com, www.nrb.org.com are also used for data collection.

3.6 Tools and Techniques

Data collected from various sources have been properly, analyzed and presented in appropriate tables and formats. Such tables and formats are subjected to interpretation and explanation as necessary. Specific financial tools and statistical tools are used to analyze variables. Mainly, the analysis has been done using following tools and methods.

3.6.1 Financial Indicators:

There are some financial indicators used for analyzing the data. They are:

1. Earning Per Share (EPS)

Earning per share refers the rupee amount earned per share of common stock outstanding. It measures the profitableness of the shareholders investment. The earning per share shows the profitability of the banks on a per share basis. The higher earning indicates the better achievements in terms of profitability of the banks by mobilizing their funds and vice versa. In other words, the EPS indicates the strength and weakness of the bank.

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

$$\text{EPS} = \frac{\text{Earning available to common shareholders}}{\text{Number of common shares outstanding}}$$

2. Dividend Per Share (DPS)

Dividend per Share indicates the portion of earning distributed in the shareholders on per share basis. It gives financial soundness of the company. Only financially strong companies can distribute dividend. It attracts investors to invest in shares of stock and maintains goodwill. It is calculated by dividing the total dividend to equity shareholders by the number of ordinary share outstanding. The part of earnings distributed to the shareholders as per share basis is known as DPS. It is the amount calculated by dividing the total dividend with total numbers of shares outstanding.

$$\text{DPS} = \frac{\text{Total Dividend}}{\text{No. of common shares outstanding}}$$

3. Dividend in Percent:

Dividend percent indicates the ratio of dividend per share to the paid up price per outstanding shares. It is obtained by dividing dividend per share by paid up price per share.

$$\text{Dividend in percent (\%)} = \frac{\text{Dividend per Share (DPS)}}{\text{Paid up price per share}}$$

4. Dividend Payout Ratio (DPR):

DPR is the proportion of earnings paid in the form of dividend. This ratio reflects what percentage of profit is distributed as dividend and what percentage of profit is retained as reserve and surplus for the growth of the company. It is calculated by dividing by EPS. Thus,

$$\text{DPS} = \frac{\text{Dividend per share (DPS)}}{\text{Earning Per Share (EPS)}}$$

5. Price Earning Ratio (P/E Ratio)

P/E ratio indicates the price currently paid by the market for each rupee/ dollar of currently reported earning per share (EPS). It is also called the earning multiplier. It is the ratio between market price per share and earning per share. The higher the P/E ratio implies the market share price of a stock gicen the earning per share and the greater confidence of investors in the firms future. It is calculated by the dividing market price per share (MPS) by earning per Share (EPS). Thus,

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

6. Dividend Yield

The dividend yield reflects the percentage relationship between dividend per share and market value per share. It measures the dividend in relation to market value of the investors as a percentage of market prices per share in the stock market. It is calculated by

dividing the cash dividend per share (DPS) by the market price per share (MPS).Thus,

$$\text{Dividend Yield} = \frac{\text{Dividend Per share (DPS)}}{\text{Market Value per share (MVS)}}$$

7 Book Value per Share

It is a rupee/dollar value per share. It is calculated dividend book value by total number of shares outstanding. Thus,

$$\text{Book Value per Share} = \frac{\text{Total Book Value}}{\text{Number of shares outstanding}}$$

8. Market value per share to Book value per share Ratio:

This ratio reflects the price of the market or outsiders paying for each rupee of currently or reported buy the company. It is calculated by dividing the market value per share by book value per share.

$$\text{MVPS to BVPS} = \frac{\text{Market Value per share (MVPS)}}{\text{Book value per share(BVPS)}}$$

9. Liquidity Ratio

This ratio is calculated through dividing total assets by total liability.

$$\text{Liquidity ratio} = \frac{\text{Total Assets}}{\text{Total Liability}}$$

10. Profitability Ratio

This ratio is calculated by dividing Net Assets by Capital employed (EBIT). That is

$$\text{Profitability Ratio} = \frac{\text{Net Assets}}{\text{EBIT}}$$

3.6.2 Statistical Tools used

The research holds various statistical tools, which are defined as follows:

1. Mean $(\overline{X})$

The arithmetic mean or average is the sum of total values to the number of observations in the sample. It represents the entire data which lies as average is frequently referred to as a men sure of central tendency. In this study it is used in data related to dividend of sample companies over different years. It is calculated as follows:

$$\text{Mean}(\overline{X}) = \frac{\text{sum of the values of observation}}{\text{Total number of observation (N)}}$$

2) Standard Deviation (S.D, 'δ')

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

$$S.D.(¢) = \sqrt{\frac{\sum (x - \bar{x})^2}{N}}$$

Where,

δ = Standard Deviation

$\sum (x - \bar{x})^2$ = Sum of the mean deviation square.

N = Total No. of Observation

3) Coefficient of variations (C.V.)

The coefficient of variables reflects the relation between standard deviation and mean. The relative measure of dispersion based in the standard deviation is known as coefficient of standard deviation. The coefficient of dispersion based on standard deviation multiplied by 100 is known as the C.V. It is used for comparing variability of two distributors. It the X be the arithmetic mean and δ the standard deviation of the distribution, then the C.V. is defined as

$$C.V. = \frac{¢}{\overline{X}} \times 100\%$$

Where,

C.V. = Coefficient of Variation

δ = Standard Deviation

$\overline{X}$ = Arithmetic Mean

Less the C.V. more will be the uniformity; consistency and more the C.V. less will be the uniformity, consistency.

4) Coefficient of Correlation(r)

Coefficient of Correlation is statistical tools for measuring Co-variation between two or more variables. In other words, it measures the closeness of one variable with other variables. The relationship may be positive or negative which depends upon their movement. If variables move to the same directions, the co-relation will be positive and if the variables move to opposite directions from each other, then the co-relation will be negative. It is calculated to show the relationship between MPS and DPS, MPS and EPS, Earning Yield and Dividend Yield, EPS and DPS, Dividend multiple and Price earning ratio and market capitalization with EPS and DPS.

Mathematically;

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

Where,

r = Karl Pearsons correlation Co-efficient.

N = Total no. of observation

ΣXY = Sum of the value of variables multiplied.

ΣX = sum of value of variables of 'X'

ΣY = Sum of the value of variables 'Y'

ΣX^2 = Sum of the squared value of variable ‘X’

ΣY^2 = Sum of the squared value of variable ‘Y’

$(\Sigma X)^2$ = Squared of the value of variables of ‘X’

$(\Sigma Y)^2$ = Squared of the value of variables of ‘Y’

5) Coefficient of Determination

The coefficient of determination is a measure of the degree of linear association or correlation between two or more independent variable. It measures the percentage total variation in dependent variables explained by independent variables. If r has a zero values then, it indicated that there is no correlations which means all the data points in the scatter diagram fall exactly on the regression line. If it has a value equal to 1 then it indicates that there is perfect correlation and as such the regression line is perfect estimator. But in most of the cases the value of r will lie somewhere between these two extremes of 1 and o. One should remember that r close to 1 indicated a strong correlation between two variables and r near to zero means there is little correlation. It is symbolically indicated as r through some would prefer to put it as r the coefficient of determination value can have ranging between zeros to one. A value of one can occur only if the unexplained variation is zero which

means that all the data point s in the scatter diagram fall exactly on the regression line. 'r' is 70% of the total variation in the dependent variable.

$$r^2 = \frac{1 - \text{Unexplained Variation}}{\text{Total Variation}}$$

6) Regression Analysis

Simply, using the relationship between a known variable (independent variable) and an unknown (dependent variable) to estimate the unknown is termed as regression analysis. But in real life, so many independent variables do affect the dependent variable and any study of correlation must take all variables into consideration. Such relationship between a single dependent variable and a number of independent variable in combinations is known as multiple regressions.

- **Regression Constant:** The regression Constant which is the intercept of the model represents the average level of dependent variable then independent variable has a value of zero. In other words, it can be termed as an indicator which specifies average effect on dependent variable if all the variables are committed from the modes. This term has practical meaning only if a zero omitted from the modes, this term has practical meaning only if a zero value for the independent variable is possible.

- **Regression Coefficient:** The regression coefficient is a parameter which indicated the marginal relationship between independent variable and value of dependent variable holding constant the effect of all other independent variables in the regression modes. The Coefficient specifies a part of change in the dependent variable regarding part of change in the independent variables.

7) T–Test

In case of all small sample, where 'n' is less than 30, we make all of the 't' distribution. It used for finding more appropriately the two limits where in the estimate would probably lie. For applying t – test first of all, 't'

value should be calculated and compared with the table value of 't'. At a certain of significant for given degree of freedom, if calculated value of 't' exceeds the table value. (Say 0.05) we know that the different is significant at 5% level. But if 't' is less than the concerning table value of the 't' the different is not trended as significant.

8) F – Test

A technique which is generally known as the variance ratio is mostly used in context of analysis of variance. F – Test is used to identify the significance of difference between more than two samples means from same normal population which equal variance. In case of F- Test there is no assumption of equality of variances as it was in the case of t –test. So, one way – Annova method is used to examine the equality between sample variances.

- **Standard Error of Estimate**

Standard Error of Estimate measures the line variability or scatter of the observed values around the regression line. It also measures the reliability after finding the regression. If the S.E. of estimate happens to be zero, then there is cent percent correct estimator. In other words, the estimating equation of the dependent variable is a 'perfect' estimator. It is possible for us to as certain how good and representative the regression since is as a description of the average relationship between two series. It is worked as under. The square root of the SE is also known as the variance of the error term which is the basic measuring of reliability.

$$S.E. = \sqrt{\frac{\sum e^2}{n-2}}$$

e = error term

S.E. = Standard error

N = Number of observation

9) Probable Error (P.E.)

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

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

- If r<P.E., it is insignificant so perhaps there is no evidence of correlation.
- IF R> P.E., it is significant. The P.E. of correlation coefficients may be used to determine the limits within which the population correlation lies. Limits for population correlation coefficient are r = P.E.

3.6 Limitation of the Methodology

- The analysis is based on secondary data.
- Only two commercial banks are taken as sample companies.
- Only cash dividend is considered.

CHAPTER – IV

PRESENTATION AND ANALYSIS OF DATA

Presentation and analysis of data is the major part of the research study. The main purpose of this chapter is to carry out secondary analysis. In this chapter, the relevant data and information regarding dividend policy of commercial banks are presented and analyzed comparatively. In order to achieve the objective of this research study mentioned in the chapter 1, various statistical and financial tools and techniques are used to analyze the collected data. The presentation and analysis of data is the core of the research which endeavors to find the major findings and helps to fulfill the existing gaps. This chapter begins with the descriptive analysis of earning per share, dividend per share, market price per share, dividend yield, and price earning ratio analysis of the sample companies and also calculated and interpreted the statistical tools i.e. mean, standard deviation, and coefficient of variance with the help of financial indicators of concerned banks. The test of hypothesis on significance of DPS, EPS and D/P ratio on sample commercial banks have been done. At the end of this chapter correlation and regression analysis of some specific components have been done.

4.1 Analysis of Individual Commercial banks

There are 32 commercial banks, which are currently operating in Nepal. Among these banks the researcher has been used only two banks in a view to analyze the comparative analysis of dividend policy of the selected companies. A brief description of the sample commercial banks are as follows: -

4.1.1 Everest Bank Limited (EBL)

Everest Bank Limited is a name of which depends on for professionalized and efficient banking founded in 1994(A.D) The bank has been one of the leading bank's pf the country and has been catering its service to various segments of the society since then. EBL is the Joint Venture bank of Punjab National Bank (PNB), its joint venture partner (holding 20% equity in the bank) is the largest nationalized bank in India, with its presence virtually in all the important centers at India and over 6000 ATM counters. Punjab Nation Bank offers a wide variety of banking services which include corporate and personal banking. EBL provides customer - friendly service through its Branch Network and all its the branches are connected through Anywhere Branch Banking system (ABBS), which enables customers for operational transactions from any branches. The bank has 48 branches, 63 ATM counters, 3 extension counter & 20 Revenue collection across the country making it a very efficient and accessible bank for its customers, anytime, anywhere.

4.2.2 NABIL Bank Limited (NBL)

NABIL Bank Limited the first Joint Venture Commercial bank in Nepal was established in 1984 under the company Act 1964 as Nepal Arab Bank Ltd. Dubai Bank Limited was the initial Joint venture partner with 50% equity investment. The shares owned by Dubai Bank Limited (DBL) were transferred to Emirates Bank International Limited, Dubai by virtue of its annexation, with the later. Later on, Emirates Bank International Limited, Dubai sold its entire 50% equity holding to National Bank Limited (NBL), Bangladesh. Being the largest equity holder, NBL, Bangladesh is managing the banking accordance with the technical services agreement signed between it (NABIL) and the bank on June 1995. Nepal Arab Bank Ltd. changed its name as Nabil Bank Limited (NABIL)

The promoters and their shareholding partners of NABIL are as follows.

National Bank Limited, Bangladesh	50%
Financial Institution	20%
Nepalese Public	30%

4.2 Analysis of Financial Tools

4.2.1 Earning Per Share (EPS)

Earning per Share (EPS) is one of the most important financial indicators which measure the earning capacity of a firm. It measures the profitableness of the shareholders investment on per share basic. It is computed by dividing net profit after taxes by the total number of common stock outstanding.

Table 4.1

Analysis of Earning Per Share

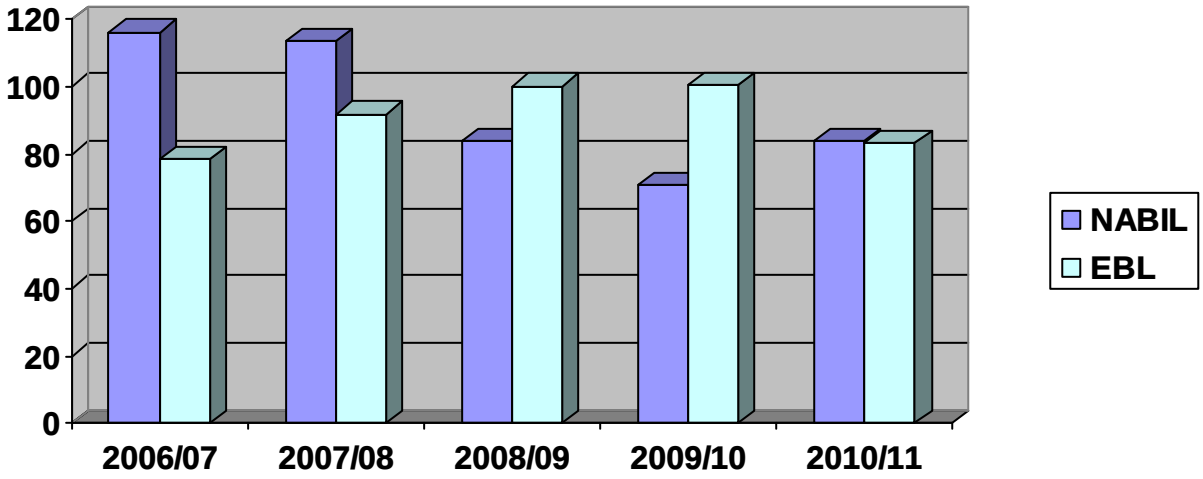
Year	NABIL	EBL	Pooled
2006/07	115.86	78.42	97.14
2007/08	113.44	91.82	102.63
2008/09	83.81	99.99	91.9
2009/10	70.67	100.16	85.41
2010/11	83.57	83.18	83.37
Mean	93.47	90.71	92.09
S.D.	17.95	8.76	7.17

C.V. %	19.20	9.66	7.78

Sources: Appendix 1(A) and Annual Report of Concerned Bank

Fig. 4.1

Bar Diagram showing Earning Per Share



The above table and figure shows that the EPS of selected commercial banks from the year 2006/7 to 2010/11.EPS is calculated to know the earning capacity of the organization. The performances and the achievement of business organizations are measured in terms of its capital to general earnings higher earning shows higher strength while lower earnings weaker strength of banks.

In the year 2006/07, the table shows that EPS of NABIL has higher which amount to Rs 115.86 while EBL have 78.42 respectively and their pooled average is 97.14. EBL have lower EPS than pooled average. It means EPS of NABIL is growing and better conditions than EBL.

In the year 2007/08, again EPS of NABIL has higher, which amount is Rs 113.44 while EBL have 91.82 respectively and their pooled average is 102.63 and NABIL and EBL has higher EPS than pooled average. EPS of NABIL is growing than other banks but less then previous year.

In the year 2008/09, EPS of NABIL is less than EBL EPS of EBL is 99.99 and the EPS of NABIL is 83.81 which is lower than the pooled average 91.9. EBL has higher EPS than pooled average.

In the year 2009/10, again EBL has highest EPS that amount is 100.16 and NABIL have 70.67 which amount is lower than pooled average. The pooled average is 85.41. NABIL has lower year EPS than before year EPS.

In the year 2010/11, again NABIL has highest EPS that amount is 83.57 and EBL have 83.18. The pooled average is 83.37. NABIL has higher EPS than before year EPS.

Finally, the average EPS of NABIL and EBL are 93.47 and 90.71 respectively which NABIL has the highest average of EPS which is better than EBL and S.D. of NABIL and EBL have 17.95 and 8.76 respectively and C.V. of NABIL and EBL have 19.20 and 9.66 respectively.

4.2.2 Dividend Per Share (DPS)

Dividend Per Share is another important financial indicator. DPS indicates the proportion of earning distributed to a each equity shareholder. Generally y the higher DPS creates positive attitude towards the bank which helps to increase the market value of shares. It is calculated by dividend the total dividend distributed to equity shareholders by total number of equality shareholders the dividend per share of the banks under study are stated in the table below:

Table 4.2

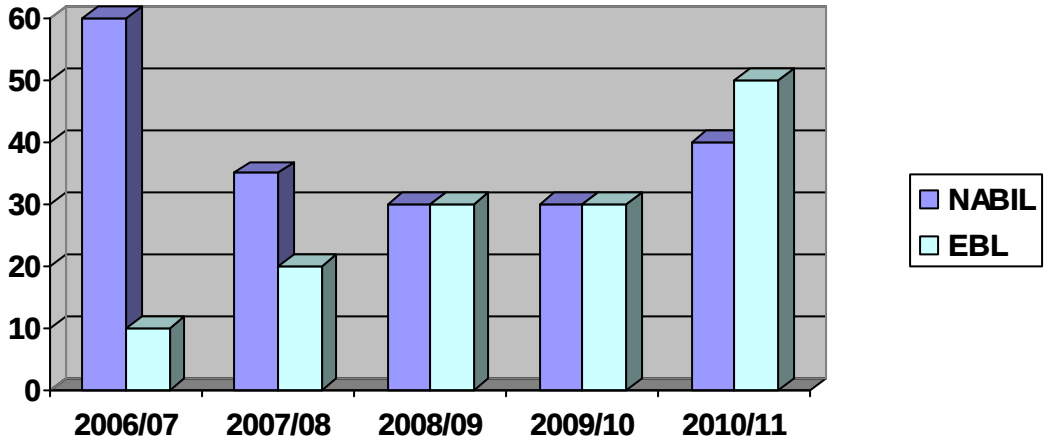
Analysis of Dividend Per Share

Year	NABIL	EBL	Pooled
2006/07	60	10	35
2007/08	35	20	27.5
2008/09	30	30	30
2009/10	30	30	30
2010/11	40	50	45
Mean	39	28	33.5
S.D.	11.13	13.26	6.24
C.V. %	28.55	47.38	18.62

Sources: Appendix 1(B) and Annual Report of Concerned Banks

Fig: 4.2

Bar diagram showing Dividend Per Share



The above table 4.2 shows the dividend per share of NABIL and EBL with pooled average, S.D. and Coefficient of variation.

In the year 2006/07, NABIL has highest DPS that amount is 60 per share and EBL distribute 10 dividend per share. NABIL distributed higher dividend than EBL. It is better for shareholders. Its pooled average is 35. NABIL has better condition than Everest Bank.

In the year 2007/08, the DPS of NABIL and EBL are 35 and 20 respectively. Among two banks, NABIL distribute higher dividend than EBL. In this year DPS of NABIL is higher than pooled average and DPS of EBL is less than pooled average.

In the year 2008/09, NABIL and EBL distribute 30 and 30 respectively. NABIL and HBL distribute 30 dividend per share. Its pooled average is same.

In 2009/10, NABIL and EBL distribute same dividend. NABIL and EBL distribute same 30 dividend per share.

In 2010/11, EBL distribute higher dividend then NABIL. EBL and NABIL distribute 50 and 40 dividend respectively.

Finally, the average of NABIL and EBL is 39 and 28 respectively. NABIL has highest average of DPS and which is better than Everest Bank and the S.D. of NABIL and EBL have 11.13 and 13.26 respectively. The C.V. of NABIL and EBL has 28.55% and 47.38%. So, NABIL have the satisfactory DPS.

4.2.3 Dividend Payout Ratio (DPR)

Dividend Payout ratio is the proportion of earning paid in the form of dividend. It shows what percentage is retained as reserve and surplus for the growth of the companies. It is calculated by dividing DPS by EPS. The following table shows the DPR of the NABIL, NIBL, HBL and EBL respectively.

Table 4.3

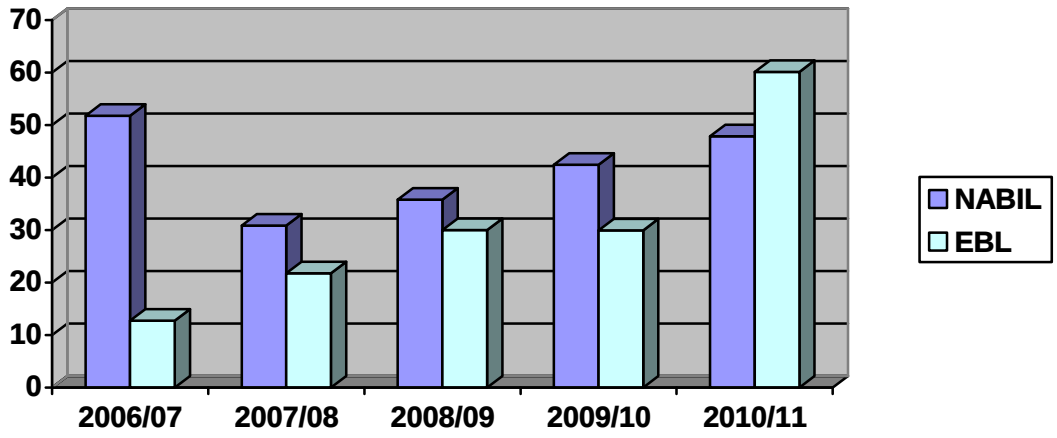
Analysis of Dividend Payout Ratio

Year	NABIL	EBL	Pooled
2006/07	51.78	12.75	32.26
2007/08	30.85	21.78	26.31
2008/09	35.79	30	32.89
2009/10	42.45	29.95	36.2
2010/11	47.86	60.11	53.98
Mean	41.74	30.91	36.32
S.D.	7.65	15.92	9.38
C.V. %	18.33	51.51	25.82

Sources: Appendix 1(C) and Annual Report of Concerned Banks

Fig 4.3

Bar diagram showing Dividend Payout Ratio



The above table 4.3 shows that the dividend payout ratio of NABIL and EBL with pooled average, standard deviation and coefficient of variation.

Which is the percentage of dividend paid out of the total earnings made, before analyzing the DPR we can segregate the DPR of these companies in to three different categories policy.

Policy DPR

- Conservative dividend policy less than 20%
- Moderate dividend policy 20% to 50%
- Aggressive dividend policy more than 50%

In the year 2006/07, NABIL follows aggressive dividend policy. It has 51.78 dividend payout ratios. EBL follows conservative dividend policy. NABIL has highest DPR among Everest bank. It shows that NABIL bank paid dividend to shareholder is good and good condition among Everest Bank.

In the year 2007/08, NABIL has decreased DPR. NABIL has 30.85 DPR which falls under moderate dividend policy. EBL also shows Conservative dividend Policy. The pooled average is 26.31.

In the year 2008/09, all two banks show the moderate dividend policy. They show their DPR is less than 50%. NABIL has 35.79 and EBL has Their pooled average is 32.89.

In the year 2009/10, NABIL and EBL have below 50% which DPR ratio is 42.4523 and 29.95 respectively. All two banks follow moderate dividend policy. Their pooled average is 36.2.

In the year 2010/11, EBL follow aggressive dividend policy which are greater than 50%. NABIL has 47.86 DPR which is less than 50%. They follow moderate dividend policy. The pooled average is 53.98

Finally, the S.D. of NABIL and EBL have 7.65 and 15.92 and C.V. of NABIL is 18.33 and EBL is 51.51%. It indicates that less C.V. is better.

4.2.4 Price Earning Ratio (P/E Ratio)

The table shows P/E Ratio of NABIL, NIBL and HBL. This ratio describes the relationship between EPS and MPS.

Table 4.4

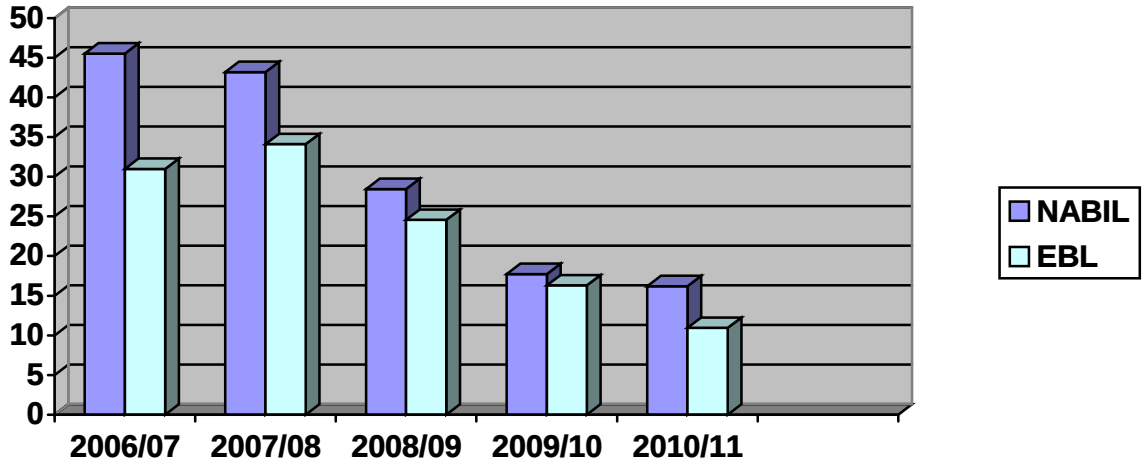
Analysis of P/E Ratio

Year	NABIL	EBL	Pooled
2006/07	45.53	30.99	38.26
2007/08	43.19	34.11	38.65
2008/09	28.45	24.55	26.5
2009/10	17.72	16.30	17.01
2010/11	16.21	10.94	13.57
Mean	30.22	23.37	26.79
S.D.	12.31	8.70	10.41
C.V. %	40.74	37.26	38.88

Sources: Appendix 1(D) and Annual Report of Concerned Banks

Fig 4.4

Bar diagram showing P/E Ratio



The above table 4.4 shows the P/E Ratio of NABIL and EBL with pooled average, standard deviation and Coefficient of Variation.

In the year 2006/07, the P/E Ratio of NABIL and EBL is 45.53 and 30.99 respectively, where NABIL has the highest P/E Ratio among Everest Bank. The pooled average is 38.26 and NABIL has better condition.

In the year 2007/08, the P/E Ratio of NABIL and EBL is 43.19 and 34.11. NAIBL has the highest P/E Ratio. Its pooled average is 38.65.

In the year 2008/09, NABIL has 28.45 and EBL has 24.55. Among these two banks, NABIL has highest P/E Ratio but all P/E Ratio of banks decreases than previous year.

In the year 2009/10, NABIL has 17.72 and EBL has 16.30. All the P/E Ratio of banks decrease from previous year. The pooled average is 17.01

In the year 2010/11, the P/E Ratio of NABIL and EBL is 16.21 and 10.94. Among these two banks, P/E Ratio of NABIL is in better condition.

The C.V. analysis shows that NABIL is better condition and EBL is fluctuating high.

4.2.5 Share Price Analysis

This analysis shows the market price of share of each selected banks. So, inter bank comparison can be made. Similarly coefficient of variation is also calculated to find out the uniformity of the given sample banks.

Table 4.5

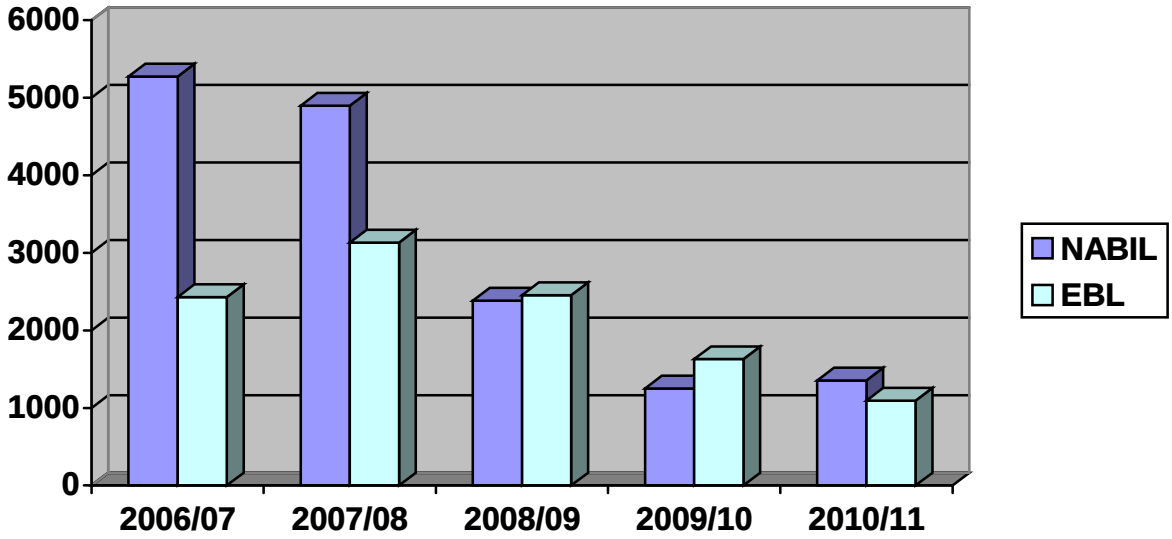
Analysis of Market price per share

Year	NABIL	EBL	Pooled
2006/07	5275	2430	3852.5
2007/08	4899	3132	4015.5
2008/09	2384	2455	2419.5
2009/10	1252	1630	1441
2010/11	1355	1094	1224.5
Mean	3033	2148.2	2590.6
S.D.	1727.27	710.10	1169.5
C.V. %	56.94	33.05	45.14

Sources: Appendix 1(E) and Annual Report of Concerned Bank

Fig 4.5

Bar diagram showing MPS



The above table 4.5 shows the MPS of the related banks from 2006/07 to 2010/11 with mean, standard deviation and coefficient of variation.

In the year 2006/07, NABIL has 5275 MPS which is the highest than EBL. EBL has 2430.

Similarly in 2007/08, NABIL has highest MPS i.e. 4899 and EBL has 3132. MPS of NABIL is decreasing where as MPS of EBL is increasing than previous year. Its average is 4015.5.

In the year 2008/09, EBL has the highest MPS than NABIL. EBL has 2455 and NABIL has 2384. MPS of NABIL and EBL is gradually decreases from previous year.

Similarly, in the year 2009/10, all the two banks MPS is decreased from the previous year. NABIL has 1252 MPS and EBL has 1630. Among these two banks, EBL has the highest MPS and its pooled average is 1441.

In the year 2010/11, MPS of NABIL is increased than previous year and MPS of EBL is decreased than previous year. NABIL MPS is increased to and EBL MPS is decreased to 1094. Its pooled average is 1224.5. NABIL

and EBL has higher MPS then pooled average where as NIBL and HBL has lower than pooled average.

In the same way, S.D. of NABIL and EBL is 1727.27 and 710.10 respectively. Similarly, the C.V. of two banks is 56.94% and 33.05% respectively.

4.2.6 Dividend Yield Analysis

The table shows dividend yield analysis of NABIL and EBL from the year 2006/07 to 2010/11.

Table 4.6

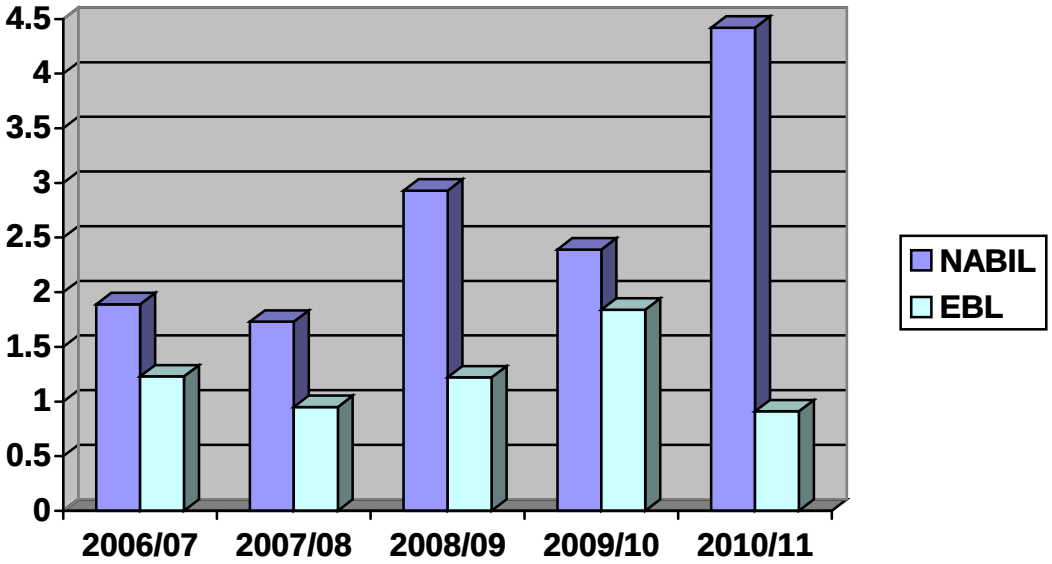
Analysis of Dividend Yield

Year	NABIL	EBL	Pooled
2006/07	1.89	1.23	1.56
2007/08	1.73	0.95	1.34
2008/09	2.93	1.22	2.07
2009/10	2.39	1.84	2.11
2010/11	4.42	0.91	2.66
Mean	2.67	1.23	1.94
S.D.	0.96	0.33	0.46
C.V. %	36.19	26.83	23.75

Sources: Appendix 1(F) and Annual Report of Concerned Banks

Fig 4.6

Bar diagram showing Dividend Yield Analysis



The above table 4.6 shows the Dividend Yield of the related banks from 2006/07 to 2010/11 with mean, standard deviation and coefficient of variation.

In the year 2006/07, NABIL has 1.89 and EBL has 1.23. The pooled average is 1.56. NABIL has higher dividend yield than pooled average where EBL has lower than pooled average.

In the year 2007/08, NABIL and EBL dividend yield is decreases than previous year. NABIL has 1.73 and EBL has 0.95. Among the two banks NABIL has higher dividend yield than EBL. Its pooled average is 1.34

Similarly, in the year 2008/09, all the two banks Dividend yield increases than previous year. NABIL dividend yield increase to 2.93 and EBL dividend yield increase to 1.22. Its pooled average is 2.07.

In the year 2009/10, NABIL dividend yield decreases to 2.39 and EBL dividend yield increases to1.84. Its pooled average is 2.11

In the year 2010/11, NABIL dividend yield increases to 4.42 and EBL dividend yield decreases to 0.91. Its pooled average is 2.66

The standard deviation of NABIL and EBL is 0.96 and 0.33 respectively. Therefore, its C.V. is 36.19% and 26.83% respectively.

4.3 Correlation Analysis

Correlation analysis helps to determine the strength of the linear relationship between two variables. In other words, as to how strongly are these two variables correlated. It helps to determine whether a positive or negative relationship exists between two variables and the relationship is significant or not. If two variables move in a same way then the relationship is called positive correlation. If these variables move in a opposite direction then the relationship is known as negative correlation.

We have some general rules in interpreting the value of 'r', are:

- When r = +1, it means there is perfect positive relationship between the variables.
- When r = -1, it means there is perfect negative relationship between the variables.
- When r = 0, it means there is no relationship between the variables i.e. variables are uncorrelated.

The closer r is to +1 or -1, the closer the relationship between the variables and the closer r is to 0, the less close the relationship.Correlation analysis helps to determine the strength of the linear relationship between two variables. In other words, as to how strongly are those two variables correlated. It helps to determine whether a positive or negative relationship exists between two variables and the relationship is significant or not.

4.3.1 Correlation between EPS and DPS

Table 4.7

Correlation between EPS and DPS

Banks	r	Relationship	r^2	Probable error	Remarks
NABIL	0.67	Positive	0.4489	0.1661	Significant
EBL	0.14	Positive	0.0196	0.2954	significant

Sources: Appendix 2(A)

where,

$$X = X - \overline{X}$$
$$Y = Y - \overline{Y}$$

Again probable error of correlation of coefficient P.E.(r) $= 0.674 \times \frac{1 - x^2}{\sqrt{n}}$

If 6PE(r) is greater than "r" then significant

If 6PE(r) is less than "r" than significant

Above table 4.7 shows the relationship between EPS and DPS of sample banks. It is observed that the correlation of NABIL and EBL is positive. It can be said that that EPS and DPS of these banks are strongly correlated with each other. The relationship between EPS and DPS whether they are significant or not can be measured by calculating the probable error of the correlated coefficient. In case of NABIL it is greater than 6PE. For NABIL, EPS is the key factor to determine DPS due to significant relationship between EPS and DPS.

The coefficient of determination is a more precise measure of the relationship between two variables and it can be presented as a

proportion. The coefficient of determination between EPS and DPS of NABIL is 0.67 which means that the change in EPS has a significant effect on the variation of DPS. In case and EBL, it is 0.14 respectively.

4.3.2 Correlation between EPS and MPS

Table 4.8

Correlation between EPS and MPS

Banks	r	Relationship	r^2	Probable error	Remarks
NABIL	0.9337	Positive	0.9480	0.0156	Significant
EBL	0.1129	Positive	0.0121	0.2977	Significant

Sources: Appendix 2(B)

From the above table, it shows that the relationship between EPS and MPS of four sample banks. It is observed that the correlation coefficient of all banks is positive. So it is concluded that there is positive relationship between EPS and MPS of NABIL and EBL. Since correlation coefficient of NABIL is higher than 6PE there is significant relationship between EPS and MPS. It means that the market price of the stock of the banks is affected by dividends.

4.3.3 Correlation between DPS and MPS

Table 4.9

Correlation between DPS and MPS

Banks	r	Relationship	r^2	Probable	Remarks

				error	
NABIL	0.6220	Positive	0.3868	0.1848	Significant
EBL	-0.77	Negative	0.6024	0.2679	Insignificant

Sources: Appendix 2(C)

From the above table, it shows that the relationship between MPS and DPS of two sample banks. It is observed that the correlation coefficient of all banks is not positive. So it is concluded that there is negative relationship between DPS and MPS of NABIL and EBL. Since correlation coefficient of NABIL is higher than 6PE there is significant relationship between EPS and MPS. It means that the market price of the stock of the banks is affected by dividends.

4.3.4 Correlation between DPS and P/E Ratio

Table 4.10

Correlation between DPS and P/E Ratio

Banks	r	Relationship	r^2	Probable error	Remarks
NABIL	0.56	Positive	0.3136	0.2069	Significant
EBL	-0.87	Negative	0.7225	0.0836	Insignificant

Sources: Appendix 2(D)

The above table shows the relatedness of dividend per share with price earning ratio. In NABIL, dividend is positively correlated with price earning ratio. This means that if dividend per share is raised then price earning ratio is also increased. The correlation coefficient for NABIL is 0.56. Correlation coefficient 0.56 indicates that there is very weak

relationship with dividend per share and price earning ratio. In EBL also there is weak relation in DPS and price earning ratio. This factor shows that price earning ratio is not so much depend upon dividend per share which is distributed to the shareholders.

The coefficient of determination of NABIL and EBL are 0.3136 and 0.7225respectively. It indicates that 0.6% and 14% of variation in the dependent variable (P/E ratio) of respective banks have been explained by independent variable (DPS).

The weak correlation between dividend per share and price earning ratio shows there is no too many impact on price earning ratio if there is change in dividend per share.

4.4 Regression Analysis

Regression analysis is a very powerful tools in the field of statistical analysis in predicting the value of one variable, given the value of another variable, when these two variable due to change in independent variable. The regression analysis either be simple regression or multiple. In simple regression analysis only one independent variable has taken for the prediction of the value of dependent variable. But multiple regression analysis involves two ore more independent variables forming the basis of estimating the values of dependent variable. In this research, simple regression analysis is used to establish relationship between the dependent variable and single dependent variable on individual sample company where the multiple regression analysis is used to show the combined relationship of dependent variable to other independent variable of all companies.

4.4.1 Simple Regression Analysis between DPS and EPS

When we take only one independent variable predict the value of the dependent variable through the appropriate regression line the analysis is known as simple regression analysis.

The major outcomes of simple regression analysis between DPS and EPS of the sample banks based on the data are shown as follows.

Table 4.11

Regression Analysis between DPS and EPS

Banks	No. of years	Constant (a)	Regression Coefficient (b)	S.E.E	Sβ	T-value
NABIL	5	0.67	0.41	10.73	0.26	1.57
EBL	5	8.15	0.21	18.02	0.0468	4.48

Sources: Appendix 2(A) & (B)

The table 4.9 helps us to found out the mathematical equation that relates to dependent variable (DPS) with the independent variable (EPS). The simple regression equation between DPS and EPS calculated in the Appendix 2 is:

$Y= a + bx$

Let the dependent variable DPS is denoted by y and independent variable EPS is denoted by x, then the equation is:

$DPS = a + bx$

Now,

$DPS_{NABIL} = 0.67 + 0.41EPS_{NABIL}$

$DPS_{EBL} = 8.15+ 0.21EPS_{EBL}$

In the case of NABIL, the beta (regression coefficient) is 0.41, which indicates that one rupee increase in independent variable EPS leads to

an average Rs 0.41 increase in dependent. Dependent Variable (DPS), if the constant (a) remains same at 0.67. Since calculated T-value of NABIL (1.57) is higher than the tabulated T-value (2.78) at % level of significance and 4 degree of freedom, so the result is statically significant.

In the case of EBL, the beta (regression coefficient) is 0.21, which indicates that one rupee increase in independent variable EPS leads to an average Rs 0.21 increase in dependent. Dependent variable (DPS), if the constant (a) remains same 8.15. Since calculated T-value (2.78) at 5% level of significance and 4 degree of freedom, so the result is statically significant.

4.4.2 Simple Regression Analysis between MPS and EPS

The major outcomes of simple regression analysis between MPS and EPS of the sample banks based on the data are shown as follows:

Table 4.12

Regression Analysis between MPS and EPS

Banks	No. of years	Constant (a)	Regression Coefficient (b)	S.E.E	Sβ	T-value
NABIL	5	-5723.26	93.68	508.64	12.67	7.39
EBL	5	1318.23	9.14	912.54	46.55	0.19

Sources: Appendix 2(A) & (B)

The table 4.10 helps us to find out the mathematical equation that relates to dependent variable MPS with the independent variable EPS. The simple regression equation between MPS and EPS calculated in the Appendix 2 is:

$Y = a + bx$

Let the dependent variable MPS is denoted by y and independent variable EPS is denoted by x, then the equation is:

Now,

$MPS_{NABIL} = -5723.26 + 93.68EPS$

$MPS_{EBL} = -2481.5 + 90.77EPS$

According to the table 4.10, the beta regression coefficient of NABIL is 93.68, which indicates that one rupees increase in independent variable EPS leads to an average Rs 93.68 increase in dependent variable MPS. If the constant (a) remains same at -5723.26, since the calculated T-value of NABIL (7.39) is higher than the tabulated T-value (2.78) at 5% level of significance and 4 degree of freedom, so the result is statically significant.

According to the table 4.10, the beta regression coefficient of EBL is 9.14, which indicates that one rupees increase in independent variable EPS leads to an average Rs 9.14 increase in dependent variable MPS. If the constant (a) remains same at 1318.23, since the calculated T-value of EBL (0.19) is higher than the tabulated T-value (2.78) at 5% level of significance and 4 degree of freedom, so the result is statically significant.

4.4.3 Simple Regression Analysis between MPS and DPS

The major outcomes of simple regression analysis between MPS and EPS of the sample banks based on the data are shown as follows:

Table 4.13

Regression Analysis between DPS and MPS

Banks	No. of years	Constant (a)	Regression Coefficient (b)	S.E.E	Sβ	T-value
NABIL	5	-728.94	96.46	1746.24	70.15	1.37
EBL	5	3311.40	-41.54	577.86	19.48	-2.13

Sources: Appendix 2(C)

According to the table 4.10, the beta regression coefficient of NABIL is 96.46, which indicates that one rupees increase in independent variable EPS leads to an average Rs 96.46 increase in dependent variable MPS. If the constant (a) remains same at -728.94, since the calculated T-value of NABIL (1.79) is less than the tabulated T-value (2.78) at 5% level of significance and 4 degree of freedom, so the result is statically significant.

According to the table 4.10, the beta regression coefficient of EBL is -41.54, which indicates that one rupees increase in independent variable

EPS leads to an average Rs 3311.40 increase in dependent variable MPS. If the constant (a) remains same at 3311.40, since the calculated T-value of EBL (-2.13) is higher than the tabulated T-value (2.78) at 5% level of significance and 4 degree of freedom, so the result is statically insignificant.

4.4.4 Simple Regression Analysis between DPS and P/E Ratio

The major outcomes of simple regression analysis between MPS and EPS of the sample banks based on the data are shown as follows:

Table 4.14

Regression Analysis between DPS and P/E Ratio

Banks	No. of years	Constant (a)	Regression Coefficient (b)	S.E.E	Sβ	T-value
NABIL	5	6.43	0.61	22.89	0.91	0.67
EBL	5	39.33	-0.57	5.53	0.1864	-3.05

Sources: Appendix 2(C)

According to the table 4.13, the beta regression coefficient of NABIL is 0.61, which indicates that one rupees increase in independent variable EPS leads to an average 0.61 increase in dependent variable MPS. If the constant (a) remains same at 6.43, since the calculated T-value of NABIL (0.767) is less than the tabulated T-value (2.78) at 5% level of significance and 4 degree of freedom, so the result is statically significant.

According to the table 4.14, the beta regression coefficient of EBL is -0.57, which indicates that one rupees increase in independent variable EPS leads to an average Rs 3311.40 increase in dependent variable MPS. If the constant (a) remains same at 39.33, since the calculated T-value of EBL (-3.05) is higher than the tabulated T-value (2.78) at 5% level of

significance and 4 degree of freedom, so the result is statically insignificant.

4.5 Major Findings

The main findings of research work obtained from the secondary data analysis are stated as follows:

- The average dividend per share of banks does not seem satisfactory except NABIL. NABIL paid higher rate of dividend to its shareholder who seem quite satisfactory but incase of EBL dividend paid to shareholders is quite low. In 2010/11, EBL paid higher dividend to its shareholders then NABIL. EBL paid a low dividend to its shareholders. Higher dividend per share creates positive attitude of the shareholder towards the company which consequently helps to increase the market value of shares.
- The average earning per share of sample banks see satisfactory of NABIL and EBL. NABIL and EBL have highest EPS in all consecutive years. In the year 2006/07, NABIL has highest EPS 137.08 and in the year 2009/10 EBL has the highest EPS.
- The P/E Ratio of NABIL and EBL is almost close to each other but among them EBL has the lower P/E Ratio. NABIL has higher C.V. than other sample bank. It indicates that is in risk and NABIL is high.
- The analysis of MPS shows of all four banks are in fluctuating trend. It also shows that average MPS of NABIL is higher than EBL and MPS of EBL is lowest. NABIL has the highest C.V. and EBL has the lowest C.V. among the sample bank.
- NABIL earning yield is higher than other sample banks and it earns more who earns more gives more satisfaction to the shareholders and investors believes more to NABIL bank.

- The correlation between EPS and DPS is positive for NABIL, has the significant relationship at 5% level of significance where as NABIL has negative correlation between EPS and DPS.
- The correlation between EPS and MPS is positive of all two banks and has the significant relationship at 5% level of significance. It means that EPS and MPS of these two banks are strongly correlated with each other.
- The regression analysis between EPS and DPS, the regression coefficient (b) is positive for NABIL and EBL. The calculated value of 'T' of NABIL, NIBL, HBL and EBL has 1.57 and 4.48 respectively which tabulated value 1.943.
- The regression analysis between EPS and MPS, the regression coefficient (b) is positive for NABIL and EBL respectively.
- The T value between MPS and EPS clearly shows that the results are statistically significant for all sample banks.
- The calculated value is 7.39 and 0.19 of NABIL and EBL respectively.

CHAPTER-V

SUMMARY, CONCLUSION AND RECOMMENDATIOS

The chapter focuses on summarizing the study held with researcher's analysis. Also, this chapter includes conclusion of the study based on major findings. The next attempt in this chapter will be made for the recommendations on the basis of findings and conclusion. For this purpose, the chapter is sub dividend into summary and conclusion of the research, which will be followed by some recommendations.

5.1 Summary

Dividend refers to distributed earnings to the shareholder of the company in return to their investment. Dividend decision is a major financial management decision because the firm has to choose between distributing the profit to the shareholders and reinvesting it to finance the business.

Dividend is very important factor for investors. It plays vital role to show the performance if the banks for effective goal achievement to satisfy the shareholders and to attract new investors. Dividend refers to the distributed earnings to the shareholders of the company in return to their investment. Dividend decision is a major financial management decision because the firm has to choose between distributing the profit to the shareholders and reinvesting it to finance the business.

The dividend may be affected by different factors such as earning of the firm, liquidity position of firm, net worth etc. These factors indicate the financial position of the company. If a firm has good performance in terms of these factors, it will be able to provide return in form of dividend.

This study is mainly focused to access the dividend practices of different banks. It covers some specific objectives mainly to find out the relationship between other financial indicators and also to find out the appropriate dividend policies of different banks.

This study is mainly based on the secondary data of three commercial banks. The study covers a period of five years. To make the research reliable, many more analysis are conducted to find out the appropriate relationship between dividend and other variables, which affects the dividend. The consistency of dividend distribution of different companies is also analyzed by using statistically tools. The relationship also statistically tested at 5% level of significance.

From share holder point of view, shareholder have always high expectations than market price so company invested by foreigners are paying dividend that is more attractive dividend than the companies promoted by Nepalese promoters. Because higher net worth do not give benefit to the foreigner rather than market price of the share they invest their capital for high return most of things about dividend policy defines in first chapter describes national international studies. In and research methodology and second chapter defines presentation and analysis of data.

In Nepal, only a few listed companies have been paying regular dividends to their shareholders. Recently some of the commercial banks and finance companies have shown new trend of paying dividends to shareholders further, companies have not been following stable dividend payout policies.

5.2 Conclusion

From the above analysis of various financial indictors and statistical tools of the all the sample banks, following conclusion are drawn.

- Above mentioned major findings lead this study concludes that the earning of banks said to be satisfactory in Nepalese context. Among sample banks NABIL is leading position in terms of earning followed by EBL respectively.
- It is found from the study that there is no consistency found in dividend distribution in all sample banks. The research shows that none of these banks have well defined and appropriate policy regarding dividend payment. NABIL is paying higher dividend than other sample banks.
- It is also found that there is positive and significant relationship between market price per share and earning price per share for all sample banks. It means that there is positive effect of earning to the market price of stock in Nepalese Commercial Banks.
- From the analysis it is found that the market price of stock is affected by other variables which indicate about the rational behavior of investors.
- The major findings have also led to conclude that the companies are neglecting the major factors like earning position of the form, liquidity position while paying dividend.
- The study deals with only examining and analyzing the dividend practices of two sample banks for a period covering 5 years from 2006/07 to 2010/11 due to limited time period. If a large sample is taken for the whole population the result might be very and be more accurate and absolute. So, dividend policy may be subject of further study. Which can be more appropriate?

- There is no uniformity of dividend payment policy in Nepal. The both of the sample commercial banks are inconsistently paying dividend to their shareholders
- Most of the companies do not seem to follow the optimum dividend policy for paying regular dividends as per shareholder's expectation.
- By analyzing the dividend policy of two commercial banks, it can be concluded that the bank that pays high dividend will have better financial position than the hank which pays low dividend.
- Besides dividend other factors also play a major role in determining the MPS.

5.3 Recommendations

Based on the above analysis and findings, the following suggestions are recommended for improving the financial performance and growth of firms.

This study has come to an end with the following recommendations.

- The legal rule for the treatment of dividend is must for the smooth growth of any enterprise as well as growth of national economy. Some of the companies are in position to pay dividend while considered some case. But some companies are suffering loss and there are efforts to minimize rather than payment of dividend. Therefore, the government should act on factor of investors and behind these companies by distinct rules.
- Formulation of dividend policy will clearly guide the way of how to follow dividend distribution strategy as the policy will determine it. Hence, the policy makers need to be farsighted and make appropriate policy in terms of dividend distribution. Like wise, the banks should follow a systematic way of the distribution of dividend.

- Commercial banks should formulate their dividend policy according to the Nepalese context. The banks should give more priority to the share holder's interest.
- The policy and practices of dividend payment procedure adopted by the commercial banks are not stable because in some cases, small amount of dividend is distributed without considering future. Dividend is not paid in upward trend. It is in fluctuation. So, banks should study about it.
- Most of the sample banks have great fluctuation in terms of coefficient of variation (C.V.), EPS, DPS, DY and MPS. Such fluctuation increases the risk factors among the investors. Therefore, the banks should take necessary steps towards bringing consistency in these factors.
- The value of constant 'a' is relatively high in the study of each financial tool. It means there are many factors which affects EPS, DPS, MPS, DPR etc. Besides them, there are many other non-financial factors like public awareness, high liquidity, expectation of bonus share, food government policy and political instability as well. I recommended for the necessary consideration.
- There is no uniformity of dividend payment policy in Nepal. The both of the sample commercial banks are inconsistently paying dividend to their shareholders
- The efficient and perfect capital market should be established.
- The liquidity position should be considered before making dividend decision.
- The legal rules and regulations must be in favor of investors to exercise the dividend practice and to protect the shareholders rights.
- The dividend decisions should not be biased and it should always in favor of the prosperity of the company.

- In most of the situation, the banks have been providing inconsistent dividend payment. This really dissatisfies their shareholder. In this situation all companies should follow constant dividend policy to satisfy their shareholders.

BIBLIOGRAPHY

Baker, H.K. and Phillips, Aaron L. (1992), *Management View on stock Dividend.* Working Paper Series, Nov. Issue. Jacksonville, Florida

Bhattarai, Bishnu Hari, (1996), *Dividend Decision and Its Impact on Stock Valuation,* Unpublished Master's Degree Dissertation, Central Department of Management. T.U., Kirtipur

Black, Fisher and Scholes, Myron, May (1974), *The Effects of Dividend Yield and Dividend Policy on Common Stock Prices and Returns*, Journal of Financial Economics.

Brandt, Louis K. (1972), *Analysis of Financial Management*, Engle Wood Cliffs, N.J. Printice Hall Inc.

Chawala, Deepak and Shrinivasan G. (1987), *Impact of Dividend and Retention Share Price:* An Economic Study, Decision Vol. 14

Endi Consultant Group, Kathmandu, Nepal, Nepal Company Act 2053*; Nepal for Profitable Investment*; Shree Star Printing Press, Kathmandu

Friend, Irwin and Puckett, Marshal, (1964), *Dividend and Stock Price, The American Economic Review* Vol. LIV

Manandhar, Kamal Das *A Study of Dividend Policy and Value of Firm in Small Market; A Case of Nepal* ,Management Dynamics, VOL.8 ,1998

Ministry of Law (1998), *Company Act, 1997*, Shree Star Printing Press, Kathmandu

Modigliani, F. and Miller, M.H. (1961), *Dividend Policy, Growth and Valuation of Shares,* Journal of Business (October)

Pandey, I.M. (1995) *Financial Management*, 7th edition, New Delhi, Vikash Publishing House Pvt. Ltd

Pradhan, Radhe Shyam, (1994), *Financial Management Practice in Nepal,* New Delhi; Vikash Publishing House Pvt. Ltd

Pradhan, Radhe Shyam (1986), *Management of Working Capital,* New Delhi; National Book Organization Publishers and Distributors

Poudel, Rabindra *Dividend Policy*, Unpublished Master Degree's thesis, Kirtipur Campus, Kathmandu

Sapkota, Rajendra (2000). *Capital Structure theory and Practice,* 1st Edition, Kathmandu: Buddha Academic Enterprises

Sitaula, Dipen *Dividend Policy of Joint Venture Banks in Nepal*, Unpublished Master Degree's Thesis, PG campus, T.U. Biratnagar, 2009

Shrestha, Manohar Krishna (1992), *Shareholder Democracy and Annual General Meetings Feedback: Portfolio Analysis,* Kathmandu: Nepal Publishing

Timilsina, Sadakar *Dividend and Stock Price: An Empirical study*, 1997

Trop, Dan Smith, (1997), *Relief from Double Taxation of Dividend Income, Harvard Business Review* Jan-Fib Vol

Van Horne, James C. and Mc Donald, G. (1971), *Dividend Policy and New Equity Financing*, Journal of Finance Vol. XXVI

Van Horne, James C. (1999) *Financial Management Policy,* 11th Edition, New Delhi: Practice Hall of India Pvt. Ltd

Walter, James E (1966), *Dividend Policies and Common Stock Price*, Journal of Finance

Weston, J. Fried and Brigham Eugene F. (1972), *Managerial Finance,* 7th Edition New York: Dryden Press International Editions

Weston, J. Fried and Copeland, T.E. (1990), *Managerial Finance,* 9th Edition, Chicago, the Dryden Press

Wolf, Howard K. and Panta Prem R. (1999), *A Hand Book of Social Science Research and Thesis Writing*, 2nd Edition, Kathmandu: Buddha Academic Enterprises

WEBSITES:

www.nrb.org.np

www.securityboardofnepal.com

www.nepalstock.com

www.nabilbank.com.np

www.everestbank.com.np

APPENDIX 1 (A)

EPS

FOR NABIL,

$$¢ = \sqrt{\frac{(115.86-93.47)^2+(113.44-93.47)^2+(83.81-93.47)^2+(70.67-93.47)^2+(83.57-93.47)^2}{5}}$$

$$= \sqrt{\frac{501.31+398.80+93.31+519.84+98.01}{5}}$$

$$= \sqrt{322.254} = 17.95$$

$$C.V. = \frac{17.95}{93.47} \times 100 = 19.20\%$$

FOR EBL,

$$¢ = \sqrt{\frac{(78.42-90.71)^2+(91.82-90.71)^2+(99.99-90.71)^2+(100.16-90.71)^2+(83.18-90.71)^2}{5}}$$

$$= \sqrt{\frac{151.04+1.2321+86.11+89.30+56.70}{5}}$$

$$= \sqrt{76.87} = 8.76$$

$$C.V. = \frac{8.76}{90.71} \times 100 = 9.66\%$$

FOR POOLED AVERAGED

$$¢ = \sqrt{\frac{(97.14-92.09)^2 + (102.63-92.09)^2 + (91.9-92.09)^2 + (85.41-92.09)^2 + (83.37-92.09)^2}{5}}$$

$$= \sqrt{\frac{25.50+111.09+0.0361++44.62+76.03}{5}}$$

$$= \sqrt{51.4569}$$

$$= 7.17$$

$$C.V. = \frac{7.17}{92.09} \times 100 = 7.78\%$$

APPENDIX 1 (B)

DPS

FOR NABIL,

$$¢ = \sqrt{\frac{(60-39)^2 + (35-39)^2 + (30.-39)^2 + (30-39)^2 + (40-39)^2}{5}}$$

$$= \sqrt{\frac{441+16+81+81+1}{5}}$$

$$= \sqrt{124} = 11.13$$

$$C.V. = \frac{11.13}{39} \times 100 = 28.55\%$$

FOR EBL,

$$¢ = \sqrt{\frac{(10-28)^2 + (20-28)^2 + (30-28)^2 + (30-28)^2 + (50-28)^2}{5}}$$

$$= \sqrt{\frac{324+64+4+4+484}{5}}$$

$$= \sqrt{176} = 13.26$$

$$C.V. = \frac{13.26}{28} \times 100 = 47.38\%$$

FOR POOLED AVERAGED

$$¢ = \sqrt{\frac{(35-33.5)^2 + (27.5-33.5)^2 + (30-33.5)^2 + (30-33.5)^2 + (45-33.5)^2}{5}}$$

$$= \sqrt{\frac{2.25+36+12.25+12.25+132.25}{5}}$$

$$= \sqrt{39} = 6.24$$

$$C.V. = \frac{6.24}{33.5} \times 100 = 18.62\%$$

APPENDIX 1 (C)

DPR

FOR NABIL,

$$¢ = \sqrt{\frac{(51.78-41.74)^2 + (30.85-41.74)^2 + (35.79-41.74)^2 + (42.45-41.74)^2 + (47.86-41.74)^2}{5}}$$

$$= \sqrt{\frac{100.80+118.59+35.40+0.50+374.5}{5}}$$

$$= \sqrt{58.54} = 7.65$$

$$C.V. = \frac{7.65}{41.74} \times 100 = 18.33\%$$

FOR EBL,

$$¢ = \sqrt{\frac{(12.75-30.91)^2+(21.78-30.91)^2+(30-30.91)^2+(29.95-30.91)^2+(60.11-30.91)^2}{5}}$$

$$= \sqrt{\frac{329.78+83.35+0.82+0.92+852.64}{5}}$$

$$== \sqrt{253.502} = 15.92$$

$$C.V. = \frac{15.92}{30.91} \times 100 = 51.51\%$$

FOR POOLED AVERAGED

$$¢ = \sqrt{\frac{(32.26-36.32)^2+(26.31-36.32)^2+(32.89-36.32)^2+(36.2-36.32)^2+(53.98-36.32)^2}{5}}$$

$$= \sqrt{\frac{16.48+100.20+11.76+0.01+311.87}{5}}$$

$$== \sqrt{88.064} = 9.38$$

$$C.V. = \frac{9.38}{36.32} \times 100 = 25.82\%$$

APPENDIX 1 (D)

P/E RATIO

FOR NABIL,

$$¢ = \sqrt{\frac{(45.53-30.22)^2 + (43.19-30.22)^2 + (28.45-30.22)^2 + (17.72-30.22)^2 + (16.21-30.22)^2}{5}}$$

$$= \sqrt{\frac{234.39+168.22+3.13+156.25+196.28}{5}}$$

$$== \sqrt{151.65} = 12.31$$

$$C.V. = \frac{12.31}{30.22} \times 100 = 40.74\%$$

FOR EBL,

$$¢ = \sqrt{\frac{(30.99-23.37)^2 + (34.11-23.37)^2 + (24.55-23.37)^2 + (16.30-23.37)^2 + (10.94-23.37)^2}{5}}$$

$$= \sqrt{\frac{58.06+115.34+1.39+49.98+154.50}{5}}$$

$$== \sqrt{75.85} = 8.70$$

$$C.V. = \frac{8.70}{23.37} \times 100 = 37.26\%$$

FOR POOLED AVERAGED

$$¢ = \sqrt{\frac{(38.26-26.79)^2+(38.65-26.79)^2+(26.5-26.79)^2+(17.01-26.79)^2+(13.57-26.79)^2}{5}}$$

$$= \sqrt{\frac{131.56+140.65+0.08+95.64+174.76}{5}}$$

$$== \sqrt{108.5396} = 10.41$$

$$C.V. = \frac{10.41}{26.79} \times 100 = 38.88\%$$

APPENDIX 1 (E)

MPS

FOR NABIL,

$$¢ = \sqrt{\frac{(5275-3033)^2+(4899-3033)^2+(2384-3033)^2+(1252-3033)^2+(1355-3033)^2}{5}}$$

$$= \sqrt{\frac{5026564+3481956+421201+3171961+2815684}{5}}$$

$$== \sqrt{2983473.2} = 1727.27$$

$$C.V. = \frac{1727.27}{3033} \times 100 = 56.94\%$$

FOR EBL,

$$¢ = \sqrt{\frac{(2430-2148.2)^2+(3132-2148.2)^2+(2455-2148.2)^2+(1630-2148.2)^2+(1094-2148.2)^2}{5}}$$

$$= \sqrt{\frac{79411.24+967862.44+94126.24+268531.24+1111337.64}{5}}$$

$$== \sqrt{504253.76} = 710.10$$

$$C.V. = \frac{710.10}{2148.2} \times 100 = 33.05\%$$

FOR POOLED AVERAGED

$$¢ = \sqrt{\frac{(3852.5-2590.6)^2+(4015.5-2590.6)^2+(2419.5-2590.6)^2+(1441-2590.6)^2+(1224.5-2590.6)^2}{5}}$$

$$= \sqrt{\frac{1592391.61+2030340.01+29275.21+1321580.16+1866229.21}{5}}$$

$$= \sqrt{1367963.24} = 1169.5$$

$$C.V. = \frac{1169.5}{2590.6} \times 100 = 45.14\%$$

APPENDIX 1 (F)

DIVIDEND YIELD

FOR NABIL,

$$¢ = \sqrt{\frac{(1.89-2.67)^2 + (1.73-2.67)^2 + (2.93-2.67)^2 + (2.39-2.67)^2 + (4.42-2.67)^2}{5}}$$

$$= \sqrt{\frac{0.60+0.88+0.06+0.07+3.06}{5}}$$

$$= \sqrt{0.934} = 0.96$$

$$C.V. = \frac{0.96}{2.67} \times 100 = 36.19\%$$

FOR EBL,

$$¢ = \sqrt{\frac{(1.23-1.23)^2 + (0.95-1.23)^2 + (1.22-1.23)^2 + (1.84-1.23)^2 + (0.91-1.23)^2}{5}}$$

$$= \sqrt{\frac{0+0.07+0.0001+0.3721+0.1024}{5}}$$

$$= \sqrt{0.10892} = 0.33$$

$$C.V. = \frac{0.33}{1.23} \times 100 = 26.83\%$$

FOR POOLED AVERAGED

$$¢ = \sqrt{\frac{(1.56-1.94)^2 + (1.34-1.94)^2 + (2.07-1.94)^2 + (2.11-1.94)^2 + (2.66-1.94)^2}{5}}$$

$$= \sqrt{\frac{0.1444 + 0.36 + 0.01 + 0.0289 + 0.5184}{5}}$$

$$= \sqrt{0.21234} = 0.46$$

$$C.V. = \frac{0.46}{1.94} \times 100 = 23.75\%$$

APPENDIX 2 (A)

For NABIL,

EPS(X)	DPS(Y)	X^2	Y^2	XY	$\left(x-\bar{x}\right)^2$
115.86	60	13423.53	3600	6951.6	501.31
113.44	35	12868.63	1225	3970.4	398.80
83.81	30	7024.11	900	2514.3	93.31
70.67	30	4994.24	900	2120.1	519.84
83.57	40	6983.94	1600	3342.8	98.01
$\sum X$=467.35	$\sum Y$=195	$\sum X^2$=45294.45	$\sum Y^2$=8225	$\sum XY$= 18899.2	$\sum (X-\bar{X})^2$ = 1611.27

Regression of Y on X & Y, Y = a + bx

where,

$$\bar{x} = \frac{\sum x}{n} = \frac{467.35}{5} = 93.47$$

$$\bar{y} = \frac{\sum y}{n} = \frac{195}{5} = 39$$

Coefficient of correlation (r)

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

$$= \frac{5 \times 18899.2 - 467.35 \times 195}{\sqrt{5 \times 45294.45 - (467.35)^2}\sqrt{5 \times 8225 - (195)^2}}$$

$$= \frac{94496 - 91133.25}{\sqrt{226472.25 - 218416.02}\sqrt{41125 - 38025}}$$

$$= \frac{3362.75}{\sqrt{8056.22 \times 3100}}$$

$$= \frac{3362.75}{89.75x55.67}$$

$$= 0.67$$

Coefficient of determination (r^2) = $(0.67)^2$ = 0.4489

Standard error of correlation (v)

$$= \frac{1 - r^2}{\sqrt{n}}$$

$$= \frac{1 - 0.4489}{\sqrt{5}}$$

$$= 0.2464$$

P.E. (v)

$$= 0.674 \times \frac{1 - x^2}{\sqrt{n}}$$

$$= 0.674 \times 0.2464$$

$$= 0.1661$$

b= regression coefficient

According to the principal of least square two normal equation for estimation numerical consent a and b given by

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

$\sum xy = a\sum x + \sum y^2$

Solving two normal equation, we get

$$b = \frac{n\sum xy - \sum x.\sum y}{n\sum x^2 - \left(\sum x\right)^2}$$

$$= \frac{5 \times 18899.2 - 467.35 \times 195}{5 \times 45294.45 - (467.35)^2}$$

$$= \frac{3362.75}{8056.22}$$

$$= 0.41$$

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

$$= 39 - 0.41 \times 93.47$$

$$= 39 - 38.32$$

$$= 0.67$$

$$\mathrm{Y} = \mathrm{a} + \mathrm{bx} \text{ or, } \mathrm{Y} = 0.67 + 0.41\,\mathrm{X}$$

Hence, required Simple equation as follows :-

Y = -47.97 + 0.95X

S.E.E.

$$= \frac{\sqrt{\sum Y^2 - a\sum Y - b\sum XY}}{n-2}$$

$$= \frac{\sqrt{8225 - (0.67)\times 195 - 0.41\times 18899.2}}{5-2}$$

$$= \frac{\sqrt{8225 - 130.65 - 7748.67}}{3}$$

$$= \sqrt{115.22}$$

$$= 10.73$$

$$(S_b) = \frac{\text{S.E.E.}}{\sqrt{\sum \left(X - \overline{X}\right)^2}} = \frac{10.73}{\sqrt{1611.27}} = \frac{10.73}{40.14} = 0.26$$

$$t = \frac{b}{S_b} = \frac{0.41}{0.26} = 1.57$$

For EBL,

EPS(X)	DPS(Y)	X^2	Y^2	XY	$\left(x-\bar{x}\right)^2$
78.42	10	6149.69	100	784.2	151.04
91.82	20	8430.91	400	1836.4	1.2321
99.99	30	9998.00	900	2999.7	86.11
100.16	30	10032.02	900	3004.8	89.30
83.18	50	6918.91	2500	4159	56.70
$\sum X$=453.57	$\sum Y$= 140	$\sum X^2$= 41529.53	$\sum Y^2$= 4800	$\sum XY$= 12784.1	$\sum(X-\overline{X})^2$ = 384.38

Regression of Y on X & Y, Y = a+bx

where,

$$\bar{x}=\frac{\sum x}{n}=\frac{453.57}{5}=90.71$$

$$\bar{y}=\frac{\sum y}{n}=\frac{140}{5}=28$$

Coefficient of correlation (r)

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

$$= \frac{5 \times 12784.1 - 453.57 \times 140}{\sqrt{5 \times 41529.53 - (453.57)^2}\sqrt{5 \times 4800 - (140)^2}}$$

$$= \frac{63920.5 - 63499.8}{\sqrt{1921.90}\sqrt{4400}}$$

$$= \frac{420.7}{43.83 \times 66.33} = \frac{420.7}{2907.24} = 0.14$$

Coefficient of determination (r^2) = $(0.14)^2$ =0.0196

Standard error of correlation (v)

$$= \frac{1 - r^2}{\sqrt{n}}$$

$$= \frac{1 - 0.0196}{5}$$

$$= \frac{0.9804}{2.2360}$$

$$= 0.4384$$

P.E. (v)

$$= 0.674 \times 0.4384$$

$$= 0.2954$$

b= regression coefficient

According to the principal of least square two normal

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

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

Solving two normal equation, we get

$$b = \frac{n\sum xy - \sum x.\sum y}{n\sum x^2 - \left(\sum x\right)^2}$$

$$= \frac{5\times 12784.1 - 453.57\times 140}{5\times 41529.53 - (453.57)^2}$$

$$= \frac{63920.5 - 63499.8}{207647.65 - 205725.74}$$

$$= \frac{420.7}{1921.90}$$

$$= 0.21$$

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

$$= 28 - 0.21\times 90.71$$

$$= 28 - 19.85$$

$$= 8.15$$

Hence,

$$\mathrm{Y} = \mathrm{a} + \mathrm{bx}$$

$$= 8.15 + 0.21X$$

S.E.E.

$$= \frac{\sqrt{\sum Y^2 - a\sum Y - b\sum XY}}{n-2}$$

$$= \frac{\sqrt{4800 - 8.15\times 140 - 0.21\times 12784.1}}{5-2}$$

$$= \frac{\sqrt{4800 - 1141 - 2684.661}}{3}$$

$$= \sqrt{324.77}$$

$$= 18.02$$

$$(\mathrm{S_b}) = \frac{\text{S.E.E.}}{\sqrt{\sum\left(\mathrm{X} - \overline{\mathrm{X}}\right)^2}} = \frac{18.02}{384.38} = 0.0468$$

$$t = \frac{b}{S_b} = \frac{0.21}{0.0468} = 4.48$$

APPENDIX 2 (B)

For NABIL,

EPS(X)	MPS(Y)	X^2	Y^2	XY	$\left(x-\bar{x}\right)^2$
115.86	5275	13423.53	27825625	611161.5	501.31
113.44	4899	12868.63	24000201	555742.56	398.80
83.81	2384	7024.11	5683456	199803.04	93.31
70.67	1252	4994.24	1567504	88478.84	519.84
83.57	1355	6983.94	1836025	113237.35	98.01
$\sum X$=467.35	$\sum Y$= 15165	$\sum X^2$= 45294.45	$\sum Y^2$= 60912811	$\sum XY$= 1568423.29	$\sum(X-\overline{X})^2 = 1611.27$

Regression of Y on X & Y, Y = a+bx

where,

$$\bar{x} = \frac{\sum x}{n} = \frac{467.35}{5} = 93.47$$

$$\bar{y} = \frac{\sum y}{n} = \frac{15165}{5} = 3033$$

Coefficient of correlation (r)

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

$$= \frac{5\times 1568423.29 - 467.35\times 15165}{\sqrt{5\times 45294.45 - (467.35)^2}\sqrt{5\times 60912811 - (15165)^2}}$$

$$= \frac{7842116.45 - 7087362.75}{89.75\times 8636.36}$$

$$= \frac{754753.7}{775113.91}$$

$$= 0.9737$$

Coefficient of determination (r^2) = $(0.9737)^2$ =0.9480

Standard error of correlation (v) $= \frac{1-r^2}{\sqrt{n}} = \frac{1-0.9480}{2.2360} = 0.0232$

P.E. (v) $= 0.674\times\frac{1-x^2}{\sqrt{n}} = 0.674\times 0.0232 = 0.0156$

b= regression coefficient

According to the principal of least square two normal equation for estimation numerical consent a and b given by

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

$\sum xy = a\sum x + \sum y^2$

Solving two normal equation, we get

$$b = \frac{n\sum xy - \sum x.\sum y}{n\sum x^2 - \left(\sum x\right)^2}$$

$$= \frac{5\times 1568423.29 - 467.35\times 15165}{5\times 45294.45 - (467.35)^2}$$

$$= \frac{754753.7}{8056.23}$$

$$= 93.68$$

$$a = \overline{Y} - b\overline{X}$$
$$= 3033 - 93.68 \times 93.47$$
$$= 3033 - 8756.26$$
$$= -5723.26$$

Hence, required Simple equation as follows :-

Y = -5723.26 + 93.68X

S.E.E.

$$= \frac{\sqrt{\sum Y^2 - a\sum Y - b\sum XY}}{n-2}$$
$$= \frac{\sqrt{60912811 - (-5723.26) \times 15165 - 93.68 \times 1568423.29}}{5-2}$$
$$= \frac{\sqrt{60912811 + 86793237.9 - 146929893.8}}{3}$$
$$= \sqrt{258718.36}$$
$$= 508.64$$

$$(S_b) = \frac{\text{S.E.E.}}{\sqrt{\sum (X - \overline{X})^2}} = \frac{508.64}{\sqrt{1611.27}} = \frac{508.64}{40.14} = 12.67$$

$$t = \frac{b}{S_b} = \frac{93.68}{12.67} = 7.39$$

Appendix 2©

For NABIL,

DPS(X)	MPS(Y)	X^2	Y^2	XY	$\left(x-\bar{x}\right)^2$
60	5275	3600	27825625	316500	441
35	4899	1225	24000201	171465	16
30	2384	900	5683456	71520	81
30	1252	900	1567504	37560	81
40	1355	1600	1836025	54200	1
$\sum X=195$	$\sum Y=$ 15165	$\sum Y^2=8225$	$\sum Y^2=$ 60912811	$\sum XY=651245$	$\sum(X-\overline{X})^2=$ 620

Regression of Y on X & Y, Y = a+bx

where,

$$\bar{x}=\frac{\sum x}{n}=\frac{195}{5}=39$$

$$\bar{y}=\frac{\sum y}{n}=\frac{15165}{5}=3033$$

Coefficient of correlation (r)

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

$$= \frac{5\times 651245 - 195\times 15165}{\sqrt{5\times 8225 - (195)^2}\sqrt{5\times 60912811 - (15165)^2}}$$

$$= \frac{3256225 - 2957175}{55.67\times 8636.36}$$

$$= \frac{299050}{480786.53}$$

$$= 0.6220$$

Coefficient of determination (r^2) = $(0.6220)^2$ =0.3868

Standard error of correlation (v) $= \frac{1-r^2}{\sqrt{n}} = \frac{1-0.3868}{2.2360} = 0.2742$

P.E. (v) $= 0.674\times\frac{1-x^2}{\sqrt{n}} = 0.674\times 0.2742 = 0.1848$

b= regression coefficient

According to the principal of least square two normal equation for estimation numerical consent a and b given by

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

$\sum xy = a\sum x + \sum y^2$

Solving two normal equation, we get

$$b = \frac{n\sum xy - \sum x.\sum y}{n\sum x^2 - \left(\sum x\right)^2}$$

$$= \frac{5\times 651245 - 195\times 15165}{5\times 8225 - (195)^2}$$

$$= \frac{299050}{3100}$$

$$= 96.46$$

$$a = \overline{Y} - b\overline{X}$$
$$= 3033 - 96.46 \times 39$$
$$= 3033 - 3761.94$$
$$= -728.94$$

Hence, required Simple equation as follows:-

Y = -728.94 + 96.46X

S.E.E.

$$= \frac{\sqrt{\sum Y^2 - a\sum Y - b\sum XY}}{n-2}$$
$$= \frac{\sqrt{60912811 - (-728.94) \times 15165 - 96.46 \times 651245}}{5-2}$$
$$= \frac{\sqrt{60912811 + 11054375.1 - 62819092.7}}{3}$$
$$= \sqrt{3049364.46}$$
$$= 1746.24$$

$$(S_b) = \frac{\text{S.E.E.}}{\sqrt{\sum \left(X - \overline{X}\right)^2}} = \frac{1746.24}{\sqrt{620}} = \frac{1746.24}{24.89} = 70.15$$

$$t = \frac{b}{S_b} = \frac{96.46}{70.15} = 1.37$$

For EBL,

DPS(X)	MPS(Y)	X^2	Y^2	XY	$\left(x-\bar{x}\right)^2$
10	2430	100	5904900	24300	324
20	3132	400	9809424	62640	64
30	2455	900	6027025	73650	4
30	1630	900	2656900	48900	4
50	1094	2500	1196836	54700	484
$\sum X=140$	$\sum Y=10741$	$\sum X^2=4800$	$\sum Y^2=25595085$	$\sum XY=264190$	$\sum(X-\bar{X})^2=880$

Regression of Y on X & Y, Y = a+bx

where,

$$\bar{x}=\frac{\sum x}{n}=\frac{140}{5}=28$$

$$\bar{y}=\frac{\sum y}{n}=\frac{10741}{5}=2148.2$$

Coefficient of correlation (r)

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

$$= \frac{5\times 264190 - 140\times 10741}{\sqrt{5\times 4800 - (140)^2}\sqrt{5\times 25595085 - (10741)^2}}$$

$$= \frac{1320950 - 1503740}{\sqrt{24000 - 19600}\sqrt{127975425 - 115369081}}$$

$$= \frac{-182790}{66.33\times 3550.54}$$

$$= -0.77$$

Coefficient of determination (r^2) = $(-0.77)^2$ =0.6024

Standard error of correlation (v) $= \frac{1-r^2}{\sqrt{n}} = \frac{1-0.6024}{2.2360} = 0.3976$

P.E. (v) $= 0.674\times\frac{1-x^2}{\sqrt{n}} = 0.674\times 0.3976 = 0.2679$

b= regression coefficient

According to the principal of least square two normal equation for estimation numerical consent a and b given by

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

$\sum xy = a\sum x + \sum y^2$

Solving two normal equation, we get

$$b = \frac{n\sum xy - \sum x.\sum y}{n\sum x^2 - \left(\sum x\right)^2}$$

$$= \frac{5\times 264190 - 140\times 10741}{5\times 4800 - (140)^2}$$

$$= \frac{-182790}{4400}$$

$$= -41.54$$

$$a = \overline{Y} - b\overline{X}$$
$$= 2148.2 - (-41.54) \times 28$$
$$= 2148.2 + 1163.20$$
$$= 3311.40$$

Hence, required Simple equation as follows:-

Y = 3311.40-41.54X

S.E.E.

$$= \frac{\sqrt{\sum Y^2 - a\sum Y - b\sum XY}}{n-2}$$
$$= \frac{\sqrt{25595085 - 3311.40 \times 10741 - (-41.54) \times 264190}}{5-2}$$
$$= \frac{\sqrt{25595085 - 35567747.4 + 10974452.6}}{3}$$
$$= \sqrt{333930.06}$$
$$= 577.86$$

$$(S_b) = \frac{\text{S.E.E.}}{\sqrt{\sum (X - \overline{X})^2}} = \frac{577.86}{\sqrt{880}} = 19.48$$

$$t = \frac{b}{S_b} = \frac{-41.54}{19.48} = -2.13$$

APPENDIX 2 (D)

For NABIL,

DPS(X)	P/E Ratio(Y)	X^2	Y^2	XY	$\left(x-\bar{x}\right)^2$
60	45.53	3600	2072.98	2731.8	441
35	43.19	1225	1865.37	1511.65	16
30	28.45	900	809.40	853.5	81
30	17.72	900	313.99	531.6	81
40	16.21	1600	262.76	648.4	1
$\sum X=195$	$\sum Y=$ 151.1	$\sum Y^2=8225$	$\sum Y^2=$ 5324.50	$\sum XY=6276.95$	$\sum (X-\overline{X})^2 =$ 620

Regression of Y on X & Y, Y = a+bx

where,

$$\bar{x}=\frac{\sum x}{n}=\frac{195}{5}=39$$

$$\bar{y}=\frac{\sum y}{n}=\frac{151.1}{5}=30.22$$

Coefficient of correlation (r)

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

$$= \frac{5 \times 6276.95195 \times 151.1}{\sqrt{5 \times 8225 - (195)^2}\sqrt{5 \times 5324.50 - (151.1)^2}}$$

$$= \frac{31384.75 - 29464.5}{55.67 \times 61.57}$$

$$= \frac{1920.25}{3427.79}$$

$$= 0.56$$

Coefficient of determination (r^2) = $(0.56)^2$ =0.3136

Standard error of correlation (v) $= \frac{1 - r^2}{\sqrt{n}} = \frac{1 - 0.3136}{2.2360} = 0.3069$

P.E. (v) $= 0.674 \times \frac{1 - x^2}{\sqrt{n}} = 0.674 \times 0.3069 = 0.2069$

b= regression coefficient

According to the principal of least square two normal equation for estimation numerical consent a and b given by

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

$\sum xy = a\sum x + \sum y^2$

Solving two normal equation, we get

$$b = \frac{n\sum xy - \sum x.\sum y}{n\sum x^2 - \left(\sum x\right)^2}$$

$$= \frac{5 \times 651245 - 195 \times 15165}{5 \times 8225 - (195)^2}$$

$$= \frac{1920.25}{3100}$$

$$= 0.61$$

$$a = \overline{Y} - b\overline{X}$$
$$= 30.22 - 0.61 \times 39$$
$$= 30.22 - 23.79$$
$$= 6.43$$

Hence, required Simple equation as follows:-

Y = 6.43+0.61X

S.E.E.

$$= \frac{\sqrt{\sum Y^2 - a\sum Y - b\sum XY}}{n-2}$$
$$= \frac{\sqrt{5324.50 - 6.43 \times 151.1 - 0.61 \times 6276.95}}{5-2}$$
$$= \frac{\sqrt{5324.50 - 971.57 - 3828.93}}{3}$$
$$= \sqrt{524}$$
$$= 22.89$$

$$(S_b) = \frac{\text{S.E.E.}}{\sqrt{\sum (X - \overline{X})^2}} = \frac{22.89}{\sqrt{620}} = \frac{22.89}{24.89} = 0.91$$

$$t = \frac{b}{S_b} = \frac{0.61}{0.91} = 0.67$$

For EBL,

DPS(X)	MPS(Y)	X^2	Y^2	XY	$\left(x-\bar{x}\right)^2$
10	30.99	100	960.38	309.9	324
20	34.11	400	1163.49	682.2	64
30	24.55	900	602.70	736.5	4
30	16.30	900	265.69	489	4
50	10.94	2500	119.68	547	484
$\sum X=140$	$\sum Y=116.85$	$\sum X^2=4800$	$\sum Y^2=3111.94$	$\sum XY=2764.6$	$\sum(X-\bar{X})^2=880$

Regression of Y on X & Y, Y = a+bx

where,

$$\bar{x}=\frac{\sum x}{n}=\frac{140}{5}=28$$

$$\bar{y}=\frac{\sum y}{n}=\frac{116.85}{5}=23.37$$

Coefficient of correlation (r)

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

$$= \frac{5\times 2764.6 - 140\times 116.5}{\sqrt{5\times 4800 - (140)^2}\sqrt{5\times 3111.94 - (116.85)^2}}$$

$$= \frac{13823 - 16359}{\sqrt{24000 - 19600}\sqrt{11559.7 - 13653.92}}$$

$$= \frac{-2536}{66.33\times 43.65}$$

$$= -0.87$$

Coefficient of determination (r^2) = $(-0.87)^2$ =0.7225

Standard error of correlation (v) $= \frac{1-r^2}{\sqrt{n}} = \frac{1-0.7225}{2.2360} = 0.1241$

P.E. (v) $= 0.674\times\frac{1-x^2}{\sqrt{n}} = 0.674\times 0.1241 = 0.0836$

b= regression coefficient

According to the principal of least square two normal equation for estimation numerical consent a and b given by

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

$\sum xy = a\sum x + \sum y^2$

Solving two normal equation, we get

$$b = \frac{n\sum xy - \sum x.\sum y}{n\sum x^2 - \left(\sum x\right)^2}$$

$$= \frac{5\times 2764.6 - 140\times 116.85}{5\times 4800 - (140)^2}$$

$$= \frac{-2536}{4400}$$

$$= -0.57$$

$$a = \overline{Y} - b\overline{X}$$
$$= 23.37 - (-0.57) \times 28$$
$$= 23.37 + 15.96$$
$$= 39.33$$

Hence, required Simple equation as follows:-

Y = 39.33-0.57X

S.E.E.

$$= \frac{\sqrt{\sum Y^2 - a\sum Y - b\sum XY}}{n-2}$$
$$= \frac{\sqrt{3111.94 - 39.33 \times 116.85 - (-0.57) \times 2764.6}}{5-2}$$
$$= \frac{\sqrt{3111.94 - 4595.71 + 1575.82}}{3}$$
$$= \sqrt{30.684}$$
$$= 5.53$$

$$(S_b) = \frac{\text{S.E.E.}}{\sqrt{\sum \left(X - \overline{X}\right)^2}} = \frac{5.53}{\sqrt{880}} = 0.1864$$

$$t = \frac{b}{S_b} = \frac{-0.57}{0.1864} = -3.05$$