# Dividend Policy & Practices in Commercial Banks

***Comparative Study of Nepal SBI Bank Limited***
***and***
***Nepal Bangladesh Bank Limited***


***By*:**
Jayanti Shrestha
**Shanker Dev campus**
Campus Roll No. 820/2060
Symbol No:3244
T.U Registration No. 34787-93


*A Thesis Submitted to:*
**Office of the Dean**

*Faculty of Management*
**Tribhuvan University**

In partial fulfillment of the requirement for the
degree of
Masters of Business Studies (M.B.S.)

**Kathmandu**
**March, 2010**

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# RECOMMENDATION

This is certified that the thesis

*Submitted by*

**Jayanti Shrestha**

*Entitled*

## Dividend Policy & Practices in Commercial Banks

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*has been prepared as approved by this department in the prescribed format of Faculty of Management. This thesis is forwarded for examination.*

| | | |
|---|---|---|
| **Mrs. Rita Maskey** | **Bishweshwar Man Shrestha** | **Prof. Dr. Kamal Deep Dhakal** |
| **(Thesis Supervisor)** | **(Head of Research Dept.)** | **(Campus Chief)** |

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**(Thesis Supervisor)**

# VIVA - VOCE SHEET

*We have conducted the viva-voce examination of the thesis presented by*

**Jayanti Shrestha**

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## Dividend Policy & Practices in Commercial Banks

***Comparative Study of Nepal SBI Bank Limited***
***and***
***Nepal Bangladesh Bank Limited***

*and found that the thesis to be original work of the student and written according to the prescribed format. We recommend the thesis to be accepted as partial fulfillment for*

**Master's Degree in Business Studies (M.B.S.)**

**Viva-Voce Committee**

Head of the Research Department _____

Member (Thesis Supervisor) _____

Member (Thesis Supervisor) _____

Member (External Expert) _____

# DECLARATION

*I hereby declare that the work reported in this thesis entitled*

## Dividend Policy & Practices in Commercial Banks

*Comparative Study of Nepal SBI Bank Limited*

*and*

*Nepal Bangladesh Bank Limited*

Submitted to Shanker Dev Campus, Faculty of Management, Tribhuvan University, is my original work done in the form of partial fulfillment of the requirement for the Master's degree in Business Studies under the supervision of **Mrs. Rita Maskey** and **Mrs. Meera Gautam.**

**Jayanti Shrestha**
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**Tribhuvan University**
**Shanker Dev Campus**

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**- Jayanti Shrestha**

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# INTRODUCTION

## 1.1 Background Information

Bank, a financial institution, is playing a vital role in the economic development of the country. The function of banks are not only accepting deposits and granting loans but also, including wide range of services to the different stratum of society, to facilitate the growth of trade, commerce, industry and agriculture of the national economy. In the absence and insufficiency of banking and financial facilities, the growth of the economic development becomes slow. However, bank is a resource for economic development, which maintains the self-confidence of various segments of society and advances credit to the people.

'Bank is the establishment for keeping money, valuables etc. safely, the money being paid out on the customer's order (by means of cheques.)' (Oxford Advanced Learner's Dictionary). Similarly, a definition given in encyclopedia that 'a bank is a business organization that receives and holds deposits of funds from others and makes loans or extends credits and transfers funds by written orders of deposits'.

Commercial banks are the financial institutions which deal in accepting deposits from persons and institutions, provide interest formulate capitals and grant loans against securities that help to remove the deficiency of capital. They contribute significantly in the formation and mobilization of internal capital and developmental effort. They also furnish necessary working capital according to the requirements for trade, commerce, industry and even to agriculture sectors. They also perform agency function to make life easier and play an important role in credit creation. Besides, they also provide technical and administrative assistance to industries, traders and business enterprises. So they are being the means for the upliftment of society. Their main objectives are to earn reasonable profit as reward for their service by proper mobilization of idle resources collecting them from different scattered sources, in particular productive sectors. They help to reduce the probability of inflations by increasing the interest rate while economy is in boom period and reduce the interest rate so that investors are interested for investment in case of depression period. More specifically, they collect required capital through float (issue) of different types of securities, specially shares and debentures. According to Nepal Commercial Bank Act

2031 B.S., "A commercial Bank is one which exchanges money, deposits money, accepts deposits, grants loans and performs commercial banking functions and which is not a bank meant for cooperation, agriculture, industries or for such specific purpose." (Nepal Commercial Bank Act 2031 B.S)

When studying to the origin of modern banking, we come to know that Bank of Venice was established, as the first commercial bank in the world, in 1157 and in Nepal, Nepal Bank Limited was established, as the first commercial bank in B.S. 1994. Before 1974 (B.S. 2031), there was no any existence of joint venture banks in the country, there were no provisions made in the old Commercial Bank Act, which facilitated to the establishment of joint venture banks in Nepal. The new commercial bank act 1974 has, however, made provisions to permit foreign banks to operate in the country by obtaining the approval of Nepal Rastra Bank. To accelerate economic activities towards growth, encourage proficient banking service, economic development, industrialization and growth of nation, three joint venture banks, Nepal Arab Bank Limited, Nepal Indosuez Bank Limited and Standard Chartered Bank Limited, were come into existence in 2041, 2042 and 2043 respectively. Similarly, when the democratically elected government adopted the liberal and market oriented economic policy, the number of joint venture banks has increased dramatically. Joint venture banks are established by joining different forces and ability to achieve a common goal with each of the partners. They are efficient and effective monetary financial institutions in modern banking fields than other old type of banks in Nepalese context. D.P. Gupta has defined the joint venture as, "a joint venture is the joining of forces between two or more enterprises for the purpose of carrying out a specific operation (industrial or commercial, investment, production or trade.)" (UNCTAD/ GATT, Geneva, 1984 : 15-24). Similarly, "A project or company in which two or more individuals or organizations participate, agreeing to share the risks and benefits according to some agreed formula." (Abrol 1993 : 167-183). In Nepal, joint venture banks are playing vital role in the economic development of the country. They collect deposits from different sources under different accounts, create capital, and mobilize the resources in productive area.

Dividend is one of the major reasons for which public is interested to invest money on the shares of bank or other institution. It refers to the portion of earnings that is distributed to the shareholders in return to their investment in the shares. Normally, that business, which is running at profit, is capable to pay dividend. The amount which is distributed as dividend should be adequate to meet the normal expectations of shareholders. Dividend can be paid in cash, shares and securities or a composition of these. There is a reciprocal relationship between retained earning and

cash dividends. So, cash dividend payout reduces the total amount of internal financing.

Dividend policy, an integral part of the firm's financing decision, refers that policy of a company on the division of its profits between dividend and retention. It is one of the major decisions of financial management because it affects the value of firm as well as overall financing decision like financial structure, the flow of funds, corporate liquidity and investor's attitudes. It is the work of management to adopt the appropriate dividend policy. The important aspect of dividend policy is to determine the appropriate allocation of profit between dividend payments and the amount to be retained in the firm. It solves the problem that how much of the profit should be distributed in terms of dividend and how much should be retained in the firm. It also determines the forms of dividend. All aspects and questions regarding payment of dividend and retention of profit are contained in dividend policy. Under dividend policy, it is determined that what percentage of the earnings of the firm is distributed to its shareholders and what percentage of the earnings is retained in the firm which is desirous for the growth of the firm. Dividend policy, having a crucial importance and being purely a policy matter, is to be formulated with consistent approach instead of making decision on adhoc / spur of moment basis.

It is obviously known that the dividend payout ratio depends on earnings. But net earnings may not conform and may not be an appropriate measure of the ability of the firm to pay dividend. So what and how much it is desirable to pay dividend and retained in the firm for the growth of firm is always a controversial matter because shareholders expect higher dividend but corporations ensure towards setting a side funds for maximizing the shareholders wealth.

The issue of how much a company should pay its stockholders as dividends is one that has concerned managers for a longtime. It has often been pointed out that a company that raises its dividend often experiences an increase in its stock price and that has a company that lowers its dividends has a falling stock price. These consequences suggest that dividends do matter in affecting stock price. It is, therefore, a wise policy to maintain a balance between dividend declaration and profit retention.

In Nepal, only few companies are able to pay dividend. The government is unable to receive dividends from most of the public enterprises as documented in past several years' budget speech and economic survey published by Government of Nepal, Ministry of Finance. It is because, they are unable to generate earning due to number of causes beyond their control and questions of dividend is really a difficult

problem. Some corporations are unable to minimize the losses through the better utilization of capital. Some corporations are following a balanced policy dividend declaration and profit retention. According to the study made by Management Consultants and Company, "it is found that the government never received a dividend more than 1.07 percent aggregate net worth. It is, thus, obvious that neither corporations are capable of generating sufficient earnings for dividend payment nor the government is expecting dividends since it has been observed that divided payment is practically a crucial problem of the corporations." (Management Consultants and Company, 1972:7-9).

But after the establishment of joint venture banks, they have shown new trend of paying dividend to shareholders that has brought new hopes for productive mobilization of funds. So dividend policy is assumed as the major decision of financial management. 'Among foreign joint venture banks, Nepal Arab Bank Limited has been able to pay a token dividend of Rs.5 per share, while other two banks Nepal Indoseuz Bank Limited and Nepal Grindlays Bank Limited have given signal to pay dividend in the near future. But the appreciation in the market value of shares of these joint venture banks have, without any doubt, provided adequate sense of protection to shareholders.'(Shrestha, 1992:3-4).

Thus, among the several commercial banks operating in Nepal, this study aims to focus on prevailing practice and policies of two joint venture commercial banks namely Nepal SBI Bank Limited and Nepal Bangladesh Bank Limited regarding payments of dividend.

## 1.2 A Brief Profile of the Banks :

The study focuses on the comparative dividend policy and practices of two joint venture banks namely Nepal SBI Bank Limited and Nepal Bangladesh Bank Limited.

### 1.2.1 Nepal SBI Bank Limited (NSBL) :

Nepal SBI Bank Ltd. (NSBL) is the first Indo-Nepal joint venture in the financial sector sponsored by three institutional promoters, namely State Bank of India, Employees Provident Fund and Agricultural Development Bank of Nepal through a Memorandum of Understanding signed on 17th July 1992. NSBL was established on 7th July 1993 with an Authorized Capital of Rs.12 Crore and commenced operation

with one full-fledged office at Durbar Marg, Kathmandu with 18 staff members. The staff strength has since increased to 256.

The Authorized and Issued Capital have been increased to Rs. 100 Crore and Rs. 87.45 Crore, respectively. The local promoters are Employees Provident Fund and Agricultural Development Bank/Nepal. The management team and the Managing Director who is also the CEO of the Bank are deputed by SBI. SBI also provides management support as per the Technical Services Agreement. Fifty percent of the bank share, set up in 1993, is held by the State Bank of India, 15 percent by the Employees Provident Fund, five percent by the Agricultural Development Bank Nepal and 30 percent by the general public. Now, the bank has 20 branches in Nepal.

It has the following share holding patterns.

| | | |
|---|---|---|
| (1) | State Bank of India (SBI) | 50% |
| (2) | Nepali Public | 30% |
| (3) | Agriculture Development Bank of Nepal (ADB/N) | 5% |
| (4) | Employees Provident Fund (EPF) | 15% |

Similarly, the present composition of Board of Directors (BOD) of the bank comprises as given below:

| | | | | |
|---|---|---|---|---|
| 1 | Chairman | - | Government of Nepal | nominee |
| 1 | Vice Chairman | - | SBI | nominee |
| 1 | Director | - | SBI | nominee |
| 1. | Managing Director | - | SBI | nominee |
| 1 | Director | - | EPF | nominee |
| 2 | Directors | - | Elected by public shareholders. | |

The objectives of Nepal SBI Bank Limited are as follows:

- To play an important role in facilitating Indo-Nepal trade which is growing, with the support of large network of branches of SBI in India.
- To provide a whole range of International Banking services to facilitate Nepal's trade and tourism.
- To participate in the emerging industrial scenario in Nepal where SBI's age - old exposure, experience and expertise would come in handy.
- To provide meaningful support to develop the banking in Nepal by collaborating with ADB/N and NIDC.

*(Source: Brochure of NSBL)*

The bank has not paid any dividend in 2003/04, has paid 5.0% in 2004/05, has paid 12.59% in 2005/06, bank has not paid in 2006/07 and bank has paid dividend of 2.11% in 2007/08.

### 1.2.2 Nepal Bangladesh Bank Limited (NBBL) :

Nepal Bangladesh Bank Limited is a joint venture bank with International Finance Investment and Commerce Bank (IFIC) Limited of Bangladesh, and was established in 6th June 1994 (2051-2-23) under the company act 1964. It is managed in accordance with the Technical and Management Agreement signed with IFIC Bank Ltd., Bangladesh. Now, the bank has 17 branches including main branch (i.e. head office) in Nepal. Its Head Office is situated at New Baneshwore, Bijuli Bazar, Kathmandu.

In the initial period, it had an authorized capital of Rs.240 million, issued Rs.120 million and paid up capital Rs.60 million; but at present, an authorized capital of the bank has Rs.480 million, issued Rs.240 million and paid up capital Rs.117.3 million. With the continuous support of its valued customer the Bank has made all round progress in every sphere of its operation. The Bank has mobilized deposit to the extent of Rs. 13015.14 million and advances loan to the extent of Rs. 9796.38 million as on Ashad end 2063.

The ownership composition or the holding pattern of share capital of the bank is as follows:

| | | |
|---|---|---|
| (i) | IFIC Bank Ltd. Bangladesh | 50% |
| (ii) | Nepali promoters | 20% |
| (iii) | Public shareholders | 30% |

Similarly, the present composition of Board of Directors (BOD) of the bank comprises is as given below:

| | | |
|---|---|---|
| 1 | Chairman | Representative from Nepalese Promoter (Group B) |
| 2 | Director (member) | Representative from Nepalese Promoter (Group B) |
| 3 | Directors (members) | Representative from IFIC Bank |
| 4 | Directors (members) | Representative from HMG/N |
| 5 | Directors (members) | Representative from Public shareholders. |
| 6 | Managing Director | |

The goals and objectives of Nepal Bangladesh Bank Limited are as follows :

- To facilitate the reliable, prompt and high standard of banking service adopting the latest version banking technologies in compliance with the need and demand of the market.
- To develop life-long relationship with clients and achieve profitability through customer oriented service and customer satisfaction.
- To widespread its branch - net work in different part of the countries covering at least one branch on all development regions facilitating large number of clients as far as possible.
- To support possible cooperation for the upliftment in the economic development of the country.

*(source: Brochure of NBBL)*

Due to loss, no dividend has been paid in the whole study period (2003/04 to 2007/08).

## 1.3 Identification of the Problem:

Dividend, the most inspiring factor for the investment on shares of the corporation, is an important aspect of financial management. While dividend policy determines the division of earnings between payment to stockholders and reinvestment in the firm to exploit growth opportunities. It affects the value of firm as well as overall financing decision such as financial structure, the flow of funds, corporate liquidity and investor's satisfaction.

The dividend decision, however, is still a crucial as well as controversial area of managerial finance. There is no consensus among the financial scholars on this subject matter and its relation with stock price. Some financial scholars say that stock price are least influenced by dividend per share while some others believe that its relevance to the stock prices is quite significant. The idea of relevance is vague as well. It is rather hard to define whether dividend per share has positive effect or its effect is negative one.

Dividend is desirable for the shareholders, which inspires them for the further investment on company's shares. But it is found that there is no satisfactory result about dividend decision of commercial banks in Nepal. Likewise, dividend

distribution does not match with the earnings of the commercial banks, there does not exist a proper relationship between dividend and quoted market price of share. Similarly, commercial banks with lower returns record stable (rigid) price of share and banks making sound returns do not rigid in share price.

It is because, among the various reasons, the government rules and regulations, ownership patterns, attitudes of management, forms of management may be the partial causes of such a situation. In practice, every firm follows some kinds of dividend policy and there is no unique dividend policy which is appropriate (suitable) for all the firms. So, they follow different policies. In general, it is assumed that there is relationship between dividend and stock price but the relation in under developed country like Nepal is not yet known. So the relation between dividend and stock prices established by much finance scholars needs to be tested in the context of Nepal.

In the Nepalese context, the companies listed in NEPSE are not seen so serious regarding dividend decisions, since most of them do not have any consistent and obvious (clear cut) policy on dividend distribution. In connection to Nepalese public enterprises, M.K. Shrestha remarks that dividend is still considered as the unintended strategy or the non payable obligation at a time when HMG is not in a position to impose the public limited companies to pay a minimum rate of dividend on the equity capital contributed. Some Nepalese acts like Nepal Company Act 2053, Nepal Commercial Bank Act 2031 and other regulating acts are still silent regarding dividend distribution. So different companies are adopting different dividend decisions inconsistently. There is a common trend of deciding the dividend by the management of companies instead of by shareholders meeting.

This study raises some issues to be examined which are stated below:

(a) Whether the problem is attitude to pay dividend or the ability to pay dividend.
(b) Whether there is uniformity of dividend distribution or not.
(c) Whether dividend decision affects the market price of shares differently in different banks or not.
(d) Whether or not the prevailing dividend policy influences the corporate liquidity position.
(e) Whether changing dividend policy or payout ratio increase the value of stock or not.
(f) What is the relationship between dividend with other key variables like earning per share, market price per share, book value per share, net profit and net worth of the banks?

(g) What are the prevailing practices of the banks regarding their dividends?

## 1.4 Objectives of the Study:

The study primarily focuses on the dividend policy and practices adopted by the sample banks with a view to provide workable suggestion which may be helpful to the formulation of optimal dividend policy and maximize the stock price and to take some other appropriate dividend strategies. However, the specific objectives can be set as follows:

- To highlight the dividend practices of the banks.
- To reflect (identify) the relationship between dividend per share and other financial indicators such as earning per share, net profits, net worth and market price of stock.
- To know if there is any uniformity among dividend per share, earning per share and dividend payout ratio of the two commercial banks sampled.
- To examine whether or not dividend influences the liquidity position and share prices of sample banks.
- To provide a possible guideline and a package of suggestion on the basis of finding and analysis to overcome various issues and gaps.

## 1.5 Significance of the Study:

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

(i) By means of dividend

(ii) By capital gains i.e., increase in share price.

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

In the Nepalese perspective, we find that there exist almost none of the companies adopting consistent dividend policy. There may be many reasons behind it. But there is not sufficient study conducted in this regard. So, I have made this humble attempt to contribute to this aspect. Therefore, considering all these facts, the study is undertaken which will help to meet deficiency of the literature relating to dividend decision and factors affecting the dividend policy. So the study of dividend policy is of considerable importance.

I believe that so many persons and parties such as shareholders, management of banks, financial institutions, general public (depositors, prospective customers, investors etc.) and other policy making bodies which are concerned with banking (especially Nepal SBI Bank Ltd. and Nepal Bangladesh Bank Ltd.) business will be benefited from this study. It is also believed that it will provide valuable inputs for future research scholars.

## 1.6 Limitations of the Study :

No study can be free from its own limitations. So, the present study has also some limitations. Reliability of statistical tools used and lack of research experience are the major limitations and some other limitations can be enlisted as follows:

### (1) Limited scope of the study :

This study is simply presented to fulfil a partial requirement of M.B.S. programme.

### (2) Coverage of time period :

The study covers the time period of last 5 years from fiscal year 2003/04 to 2007/08.

### (3) Financial & Time constraints :

The study is fully based on the students financial resources and it is to be conducted and submitted with in a time constraint. Further, the study is not a final study on the subject.

**(4) Sample size :**

There are about 27 commercial banks in Nepal. Due to time & resource constraints, only two joint venture banks; namely Nepal SBI Bank Limited and Nepal Bangladesh Bank Limited have been selected as samples in the study.

**(5) Lack of up - to-date data :**

The study is primarily based on the secondary data source such as annual reports of concerned banks, and other related journals, magazines, books etc. The up-to-date and complete data are very difficult to obtain due to inability of providing the required data by concerned authority. Variations in the data itself are also found when comparing with different sources. So the reliability of conclusion of the study depends upon the accuracy of secondary data.

**(6) Others:**

- The data related to cash dividend are analyzed and interpreted and stock dividend has been ignored.
- There could be many factors affecting the dividend decision and valuation of the firm. However, only those factors related with dividend will be considered in this study.

## 1.7 Organization of the Study:

Organization of this thesis work is based on the standard format of thesis report writing. The standard of thesis/research writing format basically includes five chapters each devoted to some aspects of dividend policy and practices of commercial banks, which this thesis also follows:

**The first chapter (Introduction) includes following components:** Background Information, Focus of the Study, Statement of the Problem, Objectives of the Study, Significance of the Study, Limitation of the Study, and Organization of the Study.

**The second chapter (Review of Literature)** includes a discussion on the conceptual framework on dividend and review of major-studies relating with dividend decision.

The main components are Conceptual/Theoretical Framework and Review of Related Studies.

**The third chapter (Research Methodology)** includes these components: Research Design, Sources of Data, Data Processing Procedures, Population and Sample, Period of the Study, Financial Indicators and Variables, Method of Analysis.

**The fourth chapter (Presentation and Analysis of Data)** consists of deals with the presentation and analysis of the facts found in the study in organized and sequential manner. This section is concerned with analytical framework. It includes the analysis of financial indicators; analysis of mean, standard deviation, coefficient of variation, correlation coefficient, regression analysis and findings.

**The fifth chapter (Summary, Conclusions & Recommendations)** includes the suggestive framework that consists with conclusions and recommendations of the study.

# CHAPTER - II

# REVIEW OF LITERATURE

The present research aims to analyze the dividend policy and practices of commercial banks especially two joint venture banks viz. Nepal Bangladesh Bank Limited and Nepal SBI Bank Limited. For this purpose, it needs to review related literatures in this concerned area which will help me to get clear ideas, opinions and other concepts. 'What other has said? What other has done? And what other have written?' these all and other related questions are reviewed which has provided useful inputs in this research work. This chapter emphasizes about the literatures which were concerned in this connections. Therefore, in this chapter conceptual frameworks given by different authors and intellectuals of this area, books, journals, research works, and previous thesis related to dividend and dividend policy and practices are reviewed. Moreover, rules regarding to dividend policy are reviewed and an attempt has been made to present them properly.

## 2.1 Conceptual Framework:

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

Iqbal Mathur defines the dividend and dividend policy as: "Dividends refer to that portion of retained earnings that is paid to stockholders while dividend policy refers to the policy or guidelines that management uses in establishing the portion of retained earnings that is to be paid in dividends."(Iqbal 1979:297)

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

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

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

### 2.1.1 Concept of Dividend:

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

**(a) Residual concept:**

Dividend is the residue left after meeting all obligations and adjusting for retention of earnings and other provisions. It is a residue since shareholders get dividends only when there exists balance of earnings after paying fixed obligations such as operating expenses, interest, provisions for depreciation, and setting aside reserves for future contingencies.

Under this concept, dividend policy is a residual firm investment policy and dividends are paid only after financing all investment opportunities. So, dividend policy is totally passive in nature. "When we treat dividend policy as strictly a financing decision, the payment of cash dividends is a passive residual."(Van Home, 1993:327) This concept is discussed later on in detail page 18.

**(b) Discretionary concept:**

When the board of directors declares the amount of dividend, it is known as discretionary dividend. According to this concept, dividend payment is one of directors' decisions and so they use discretion in declaration of dividend. Corporations' charter vested powers to board of directors and it is up to their

discretion that determines what and how much to pay by way of dividends to stockholders.

"The power to declare dividends is lodged in the board of directors of the corporation. At a meeting of the board, in accordance with the charter and corporate by-laws, the board passes a resolution declaring the amount of dividend, the period which it covers, the payable date, and the record date of ownership." (Cooke and Edwin, 1967:180)

Even in the context of Nepalese corporations, the payment of dividend is purely vested in the board of directors of corporation, and it (the power to declare dividend to the board of directors) is also insisted by the corporate acts. There are not any legal rights to demand any part of profit in the form of dividends by the ordinary shareholders because profits are the property of the corporations and not of individual shareholders.

**(c) Liability Concept:**

Dividend once declared by the board of directors becomes a liability of the corporation. "When the board of directors of a solvent corporation declares a cash dividend, the amount declared becomes an obligation to pay."(Raymond, 1967:589). If the directors avoid payment of dividend after declaration, the shareholders would have a right to take action against the directors to force payment. The dividends declared are treated as liabilities in the balance sheet if the shareholders do not come to claim in time.

**(d) Pro-Rata distribution concept:**

"A dividend is a pro-rata distribution of cash, other assets, promises to pay, or additional stock to the shareholders of a corporation chargeable against its surplus accounts or (for certain liquidating dividends only) against its capital stock accounts."(Iqbal 1979:587) The pro-rata distribution refers all shares of outstanding stock, or all shares of a given class, participate equally in whatever is distributed. Thus, under this concept, all shareholders enjoy equal rights according to their proportionate shareholders on the profits or gains distributed by the corporations.

### 2.1.2 Conflicting Theories on Dividends:

Basically, there are two schools of thought on dividend policy which have been expressed in the theoretical literature of finance. One school, associated with Myron Gordon and John Lintner, among others, holds the capital gains expected to result from earnings retention are riskier than are dividend expectations. In other words, dividend yield is less risky than the expected capital gain. It also holds that

investors give more emphasis to the present dividend more than future capital gain. Investors are not indifferent between current dividend and retention of earnings with the prospects of future dividends, capital gain and both. Accordingly, these theorists suggest that the earnings of a firm with a low payout ratio are typically capitalized at higher rates than the earnings of a high payout firm, other things held constant.

The another school of thought, associated with Merton Miller and Franco Modigliani, holds that investors are basically indifferent to returns in the form of current dividends or retention of earnings with the prospects of future dividends, capital gain. When firms raise or lower the dividends, their stock prices tend to raise or fall in like manner. They argue that, given the investment decision of the firm, the value of firm is determined safely by the firms earning power and that the manner in which the earnings split between dividends and retained earnings does not affect the value of firm. In other words, when investment decision of the firm is given, dividend decision, the split of earnings between dividends and retained earnings, is of no significance in determining the value of firm.

### 2.1.3 Types of Dividend (Forms of Dividend):

Though cash dividend is assumed as the most popular form of dividend, cooperation need to follow various types of dividend in view of the objectives and policies, which they implement. In Nepalese context, "the type of dividend that corporations follow is partly of a matter of attitude of directors and partly a matter of the various circumstances and financial constraints that bound corporate plans and policies."(Shrestha, 1980: 670) According to changing needs of corporations, dividend is being distributed in several forms viz. cash dividend, stock dividend (bonus share issue), scrip dividend, property dividend, optional dividend and bond dividend. But in Nepal and India only two types of dividend namely cash dividend and stock dividend are being practiced.

### 1. Cash Dividend:

Cash dividend is one form of dividend, which is distributed to shareholders in cash out of earnings of company. The cash account and the reserves account of a company will be reduced when the cash dividend is paid. Thus, both the total assets and the net worth of the company are reduced when the cash dividend is distributed. The market price of the share drops in most cases by the amount of the cash dividend distributed.(Hastings, 1966:370) So the companies should wisely make decision regarding payment of cash dividend.

**2. Stock Dividend / Bonus Share:**

A stock dividend represents a distribution of shares in addition to the cash dividend to the existing shareholders. This has the effect of increasing the number of outstanding shares of the company. The declaration of the bonus shares will increase the paid-up share capital and reduce the reserve and surplus of the company. The total net worth is not affected by the bonus issue. In fact, it represents nothing more than re-capitalization of the owners' equity portion, i.e., the reserve and surplus. It is simply an accounting transfer from retained earnings to capital stock.

**3. Scrip Dividend:**

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

**4. Property Dividend:**

It is also known by the name of liquidating dividends. It involves a payment of assets / property in any form other than cash. Such form of dividend may be followed whenever there are assets that are no longer necessary in the operation of the business or in extra ordinary circumstances. Companies own products and the securities of subsidiaries are the example that has been paid as property dividend.

**5. Optional Dividend:**

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

### 6 Bond Dividend:

This type of dividend is distributed to the shareholders in the form of bond. It helps to postpone the payment of cash. In other words, company declares dividend in the form of its own bond with a view to avoid cash outflows. They are issued rarely. They are long term enough to fall beyond the current liability group. The stockholders become secured creditors if the bond carries lien on assets.

But none of these types except cash and stock dividend have been practiced in Nepalese corporations although they have ample scope for application. So far in this study, the term dividend generally refers to cash dividend.

### 2.1.4 Residual Theory of Dividends:

The residual dividend policy suggests that dividend paid by the firm should be viewed as a residual amount or left after all acceptable investment opportunities have been undertaken.(Lawrance, 1996:537)

According to this theory, dividend policy is a residual firm investment policy and dividends are paid only after all acceptable investments have been financed. So, payment of dividend depends on its investment policy. In other words, the firms use earnings to finance the investment opportunities having good returns. If the firm has earnings left after financing all acceptable investment opportunities these earnings would then be distributed to shareholders in the form of dividend. If not, there would be no dividends. It assumes that the internally generated funds (i.e. retained earnings) are comparatively cheaper than the funds obtained from external sources (i.e. issuing new shares). It is because the retained earning or internally generated fund does not imply any flotation cost as in the external sources by selling equity shares.

So, under this theory, dividend policy is determined by the following two major factors:

(i) Company's investment opportunities.

(ii) Availability of internally generated funds i.e., retained earnings.

According to this concept, dividend policy is totally passive in nature. 'When we treat dividend policy as strictly a financing decision, the payment of cash dividend is a passive residual.'(Van Horne, 1993:327)

### 2.1.5 Stability of dividends:

Stability of dividends means regularity in paying some dividend annually, even though the amount of dividend may fluctuate from year to year and may not be related with earnings.

Stability or regularity of dividends is considered as a desirable policy by the management of most companies. Shareholders also generally prefer stable dividends because all other things beings of the same, stable dividends may have a positive impact on the market price of the share.

"By stability" we mean maintaining its position in relation to a dividend trend line, preferably one that is upward slopping. In other words, the term dividend stability refers to the consistency or lack of variability in the stream of dividends. In more precise term, it means that a certain minimum amount of dividend is paid out.

Three distinct forms of such stability may be distinguished.

**1. Constant dividend per share:**

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

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

**2. Constant Payout Ratio:**

Constant / target payout ratio is a form of stable dividend policy followed by some companies. The term payout ratio refers to the ratio of dividend to earnings or the percentage share of earnings used to pay dividend. With constant / target payout ratio, a firm pays a constant percentage of net earnings as dividend to the shareholders. In other words, a stable dividend payout ratio implies that the

percentage of earnings paid out each year is fixed. Accordingly, amount of dividend will fluctuate in direct proportion to earnings and are likely to be highly volatile in the wake of wide fluctuations in the earrings of the company.

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

**3. Stable Rupee Dividend plus Extra Dividend (or Low Regular Dividend plus Extras):**

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

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

### 2.1.6 Factors influencing dividend policy:

Dividend policy, one of the major decisions of managerial finance, determines that what percentage of the earnings of the firm is distributed to its shareholders and what percentage of the earnings is retained in the firm which is desirous for the growth of the firm. Dividends are desirable to its shareholders because it tends to increase their current wealth whereas retained earnings are desirable for the firm to exploit investment opportunities as the internal source of financing. So, in order to develop a long term dividend policy, the directors should aim at bringing a balance between the desire of shareholders and the needs of the company. The firm's decision regarding the amount of earnings to be distributed as dividends depends on a number of factors. The factors which restrict the firm’s ability to declare and pay dividends are discussed below:

**(1) Legal restrictions:**

**(a) The surplus rule:**

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

**(b) The insolvency rule:**

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

**(c) Capital Impairment rule:**

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

**(2) Bond Indenture:**

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

**(3) Possibility of accelerating or delaying projects:**

The ability to accelerate or postpone project will permit more flexibility in a firm's dividend policy.

**(4) Alternative sources of capital:**

**(i) Cost of selling new stock:**

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

**(ii) Ability to substitute debt for equity :**

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

**(5) Need to repay debt:**

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

**(6) Access to the capital market:**

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

**(7) Rate of assets expansion:**

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

**(8) Internal investment opportunity:**

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

**(9) Financial needs of the company:**

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

**(10) Profit rate:**

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

**(11) Tax position of the corporations:**

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

**(12) Stockholders' expectations:**

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

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

In a closely- held company, the body of shareholders is small and homogeneous group, so management usually knows the expectations of its shareholders and may adopt a dividend policy, which satisfies all shareholders. If most of the stockholders are in high tax brackets and have a preference for capital gains to current dividend incomes the company can establish a low dividend payout or no dividends and retains the earnings within the company.

**(13) Tax of stockholders:**

The tax position of the corporation's owners greatly influences the desire for dividends. For example, a corporation closely held by a few taxpayers in high income

tax brackets is likely to pay a relatively low dividend. The owners are interested in taking their income in the form of capital gains rather than as dividends which are subject to higher personal income tax rates. However, the stockholders of a large widely held corporation may be interested in a high dividend payout.

**(14) Stability of earnings:**

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

**(15) Control:**

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

**(16) Liquidity:**

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

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

**(17) Inflation:**

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

### 2.1.7 Legal provisions regarding dividend practices:

There are no clear-cut legal provisions regarding dividend policy in Nepal. The responsibility to undertake required actions to protect shareholder's interest is given to Nepal Stock Exchange which is stated on the Security Exchange Act 1983. But this organization is not so able to protect shareholders interest since interest and attitude of the board of directors that plays dominant role in management of public limited companies and they are generally in majority who are nominated by government.

According to Corporation Act, corporations must set aside a certain part of profit as reserves before the declaration of dividend. Moreover, corporations have to separate the tax provisions prior to dividend declaration.

Likewise, Commercial Bank Act 2031 has also made some provisions for distributing dividend. Section 18 of this act states about the restrictions for dividend distribution. According to this section 18, before providing the whole expenses by the bank for preliminary expenses, loss incurred in last year, capital reserve, risk beard fund reserve fund, the bank shall not declare and distribute the dividend to shareholders.

Similarly, Company Act 1997 makes some legal provisions regarding dividend distributions, which are discussed below.

According to this act, board of directors can fix dividend payout rate but such rate should be proposed first for the discussion and approval in the annual general meeting of shareholders, the general meeting can reduce the rate determined by board of directors but can't increase. Likewise, some other legal provisions are:

Section (2) (m) states that bonus shares mean shares issued in the form of additional shares to shareholders by capitalizing the surplus from the profits on the

reserve fund of a company. The term also denotes an increase in the 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 security of its own shares.

Section (137) bonus shares and sub-section (1) states that the company must inform the office before issuing bonus shares under sub-section (1); this may be done only according to a special resolution passed by the general meeting.

Section (140): Dividends and sub-sections of this section are as follows:

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

(a) In case any law forbids, the distribution of dividends.

(b) In case the right to dividend is disputed.

(c) In case dividends can't be distributed within the time limit mentioned above owing to circumstances beyond anyone's control and without any fault on the part of the company.

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

(3) Only the person whose name stands registered in the register of 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. But the reason for this kind of provision is still unknown.

Similarly, followings are the HMG's decision regarding dividend payment by the government corporations dated June 14, 1998.

(1) Dividend should be paid in profitable years. Even though there are cumulative losses, dividend is to be paid if cash flow is sufficient to distribute dividend.

(2) In case of unaudited accounts, interim dividend should be paid on the basis of provisional financial statement.

(3) Dividend rate will not be less than the interest rate on fixed deposit of commercial bank of government owned. Incase of insufficiency of profit amount to distribute dividend in above mentioned rate, concerned corporation

should send proposal of new distribution rate to the Finance Ministry through liaison ministry and should do what so ever decision is given there of.

(4) Those corporations operating in monopoly situation should repay all amounts of profits to the government except the amount of bonus, tax and the amount needed to expand and develop the business. The amount separated for the expansion and development of business will not be more than 20 percent of profit of the year and this amount will not be more than total paid up capital. The amount so separated should all be paid as dividend if it is not used within 3 years.

(5) Decision regarding distribution of annual net profit shall not be made without prior acceptance of Finance Ministry. All incentives, except those to be paid by law, shall not be distributed unless the amount of dividend is not paid to government.

(6) Concerned BOD and top management will be held responsible for implementation of these dividend policies.

*(7)* Ministry of Finance will make necessary arrangements regarding fixation of dividend percentage coordinating all concerned corporations and ministries.*(Source: Security Exchange Act 1983)*

## 2.2 Review of Major Studies:

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

### 2.2.1 Walter's Study:

**James E. Walter(1996)** conducted a study on dividend and stock prices in 1966. He proposed a model for share valuation. According to him, the dividend policy of the firm affects the value of the shares. So, the dividends are relevant. He argues that the choice of dividend policies always affect the value of enterprise.

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

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

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

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

(iv) All earnings are either distributed as dividend or reinvested internally.

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

(vi) The firm has a perpetual or infinite life.

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

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

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

where,

P = market value of an equity share (Market price per share)

DPS = Dividend per Share

EPS = Earning Per Share

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

ke = cost of capital / capitalization rate

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

**Growth Firm (r > k)**

Growth firms are those firms, which expand rapidly. Because of ample investment opportunities yielding return (r) is higher than the opportunity cost of capital (k). So, firms having **r > k** are referred as growth firms which are able to reinvest earnings at a rate which is higher than the rate expected by shareholders. They will maximize the value per share if they follow a policy of retaining all

earnings for internal investment. Thus, the correlation between dividend and stock price is negative, and the optimum payout ratio for a growth firm is zero. The market value per share (P), increases, as payout ratio declines when **r > k.**

**Normal Firm (r = k)**

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

**Declining Firm (r < k)**

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

**Criticism of Walter's Model(1972):**

**(i) No external financing :**

This model is based on assumption that the investment opportunities of the firm are financed by retained earnings finance the investment opportunities of the firm only no external financing i.e., debt or equity is used for the purpose. When such a situation exists either the firm's investment or its dividend policy or both will be sub-optimum. (Clark, 1972:347)

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

This model assumes that rate of return (R) and opportunity cost of capital or discount rate (k) is constant. In fact, rate of return (R) changes with increase and decrease of

investment. i.e., R decreases as more investment occurs and cost of capital (k) changes directly with the risk borne by the firms.

### 2.2.2. Gordon's Study(1962):

Myron Gordon has developed another popular and important model relating the stock valuation using the dividend capitalization approach. Gordon concludes that dividend policy does affect the value of shares even when the return on investment and required rate of return are equal. He explains that investors are not indifferent between current dividend and retention of earnings with the prospect of future dividends, capital gain and both. The conclusion of this study is that investors have a strong preference for present dividends to future capital gains under the condition of uncertainty. It is assumed that current dividend is less risky than the expected capital gain. His argument stresses that an increase in dividend payout ratio leads to increase in the stock price for the reason that investors consider the dividend yield (D1/Po) is less risky than the expected capital gain.( Gordon, 1962:683)

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

Basic assumptions of this model are as follows.

i. The firm uses equity capital only.

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

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

iv. There is no taxes on corporate income.

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

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

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

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

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

Where,

P= Price of share / market value per share

E= Earning per share

b= Retention ratio / percentage of retained earning

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

ke= Capitalization rate / cost of capital

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

**1st case : Growth Firms (r > k)**

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

**2nd Case : Normal Firms : (r=k)**

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

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

In case of declining firms, share price tends to enhance with increase in payout ratio, 1-b, or decrease in retention ratio, b. So, dividends and stock prices are positively correlated with each other in decline firm i.e., **r < k** firm.

### 2.2.3 Modigliani and Miller's Study(1961):

It has been argued that dividend policy has no effect either on the price of a firm's stock or its cost of capital, that is. dividend policy is irrelevance. This theory was first introduced by Franco Modigliani and Metron Miller in 1961 and popularly known as M-M Approach. Through an article "dividend policy, growth and valuation of shares' they advocated that dividend policy does not affect the value of the firm i.e. dividend policy has no effect on the share price of the firm. The M-M approach focused the irrelevant effect of dividend policy in the firm valuation arguing mat, the value of the firm is determined only by its basic earnings power and its business risk. thus, the value of the firm depends on the income from it assets and not on how this income is split between dividend and retain earnings.

**M-M approach is based on the following assumptions:**

- Perfect capital market in which all investors are rational. Information available to all at no cost, instantaneous transaction without costs, infinitely divisible securities and no investor large enough to affect the market price of the security,
- An absence of floatation costs on securities issued by the firms.
- A world of no taxes,
- A given investment policy for the firm, no subject to changed.
- Perfect certainty by every investor as to future investment and profits of the firm (but M-M dropped this assumption later)

M-M had tried to prove their theory by different models. Of those are explained below: **Market value/price of share:**

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

**P0=D1+P1/1+Ke ……. (1)**

**Where.**

Po= market price at the beginning (Zero period)

Ke = cost of equity capital (assumed constant)

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

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

No external financing

Assuming that the firm does not resort to any external financing, the market value of the firm can be computed as follows:

**nP0=n(dl+pl)/l+Ke.....(2)**

Where: n= numbers of equity shares at zero periods.

New Shares

Assuming that the retain earnings is not sufficient to finance the investment needs of the funds, in that case issuing new shares is the other alternative. Say m is the number newly issued equity share at price of Pi.

**nP0= nd1+Pi(n+m)-mP1/l+Ke.....(3)**

Where: n=no. of share at the beginning

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

**Total number of Shares**

The issuing of new stock is determined by the amount of investment in period 1 not financed by retained earnings. The total numbers of new shares can be found out by the following way:

**mP1 =I-(E-nd1).....(4)**

Where:

mP1 = the amount collected by issuing new shares

m = the numbers of shares

P1= price of shares

I = total new investment requirement

E = earning of the firm during the period

nd1 = total dividend paid

E-nd1 = retain earning

**Conclusion**

By substituting the value of mPi from equation (4) to the equation (3), we find:

**nP0 = nd1+P1(m-n)-I+E-nd1/l+Ke**

**= P1(m+n)-I+E/l+Ke**

In such a way. M-M approach concludes its result, that there is no any role of dividend (dl) in the above equation. So. Modigliani and Miller conclude that dividend policy is irrelevant and dividend policy has no effect on the shares price.

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

**2.2.4 Deepak Chawla and G. Srinivasan's study(1969-73)**:

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

The followings were the prime objectives of their study.

(i) to test the hypothesis of dividend and retained earnings.

(ii) to estimate a model to explain share price, dividend and retained earnings relationship.

(iii) to examine the structural changes in estimated relations over time.

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

1. Price function,

$P_t = f [D_t, R_t, P/E (t-1)]$

2. Dividend supply function,

$D_t = f [E_t, D(t-_1), P/E (t-_1)]$

3. Identity,

$$E_t = D_t + R_t$$

Where,

P= market price per share.

D= Dividend per share.

R= Retained earning per share.

E= Earning per share (D+R)

P/E= Deviation from the sample,

( Average of price earning ratio)

t= subscript of time.

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

It was observed that the coefficient of dividend was very high as compared to retained earnings for chemical industry. They also found that coefficient of dividend was significant at one percent level in both years whereas coefficient of retained earnings was significant at ten percent level in1969 and one percent level in 1973.

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

### 2.2.5 Lintner's Study(1956):

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

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

II. To determine the factors which existed most actively into dividends.

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

$$DIV_t^* = P\ EPS_t \quad \text{----------} \quad \text{----(1)}$$

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

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

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

Where,

DIVt*= Firm's desired payment

EPSt= earnings

P= Targeted payout ratio

a = constant relating to dividend growth

b = adjustment factor relating to the previous period's divided

and new desired level of dividends where, **b < 1.**

The major findings of this study were as follows:

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

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

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

### 2.2.6 Van Horne And Mc-Donald's Study(1968):

Van Horne and Mc-Donald conducted a most comprehensive study on dividend policy and new equity financing. The purpose of this study was to investigate the combined effect of dividend policy and new equity financing decision on the market value of the firm's common stocks.

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

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

They concluded that for electric utility firms in 1968, share value was not adversely affected by new equity financing in the presence of cash dividends, except for those firms in the highest new issue group and it made new equity a more costly form of financing than the retention of earnings.

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

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

### 2.2.7 R. Michaely, Richard H. Thaler & Kent L. Womack Study(1995):

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

### 2.2.8 Friend and Puckett's Study(1958):

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

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

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

Where,

$P_t$ = Per share price at time t

$D_t$ = Dividends at time t

$R_t$ = Retained earnings at time t

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

and, Dividend supply function;

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

Where,

$E_t$ = Earnings per share at time t

$P_{t-1}$ = Last year dividend

The followings were the basic assumptions of their study.

1. Dividends do react to year-to-year fluctuations in earnings.
2. Price does not contain speculative components.
3. Earnings fluctuations may not sum zero over the sample.

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

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

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

They tested this equation and found the following results.

Dividends have a predominant influence on stock prices in the same three out of five industries but the differences between the dividends and retained earnings coefficients were not quite so marked as in the first set of regressions. The dividends and retained earnings coefficients were closer to each other for all industries in both years except for steels in 1956, and the correlations are higher, again except for steels.

They also calculated the dividend supply equation, i.e.,

$D_t = e + f E_t + g D_{t-1} + h(E/P)_{t-1}$ and derived price equation for four industry groups in 1958. The derived price equation show no significant changes from those obtained from the single equation approach as explained above, reflecting the fact that stock price, or more accurately the price earnings ratio, does not seem to have a significant effect on dividend payout. On the other hand, they noted that, in three of the four cases tested, the retained earnings effect is increased relatively. Moreover, their result suggested that price effects on dividend supply are probably not a serious

source of bias in the customary derivation of dividend and retained earnings effects on stock prices, though such a bias might be masked if the distributing effects of short run income movements are sufficiently great.

Further, they used lagged price as a variable instead of lagged earnings price ratio. They found that retained earnings received greater relative weight than dividends in the majority of the cases. The only exceptions were steels and foods in 1958. Chemicals, electronics, and utilities were considered as growth industries and the retained earnings effect was larger than the dividend effect for both years covered. For the other two industries (steels and foods) there no longer seems to be any significant systematic differences between the retained earnings and dividend coefficients.

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

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

### 2.3 Review of Books & Journals in Nepalese Perspective:

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

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

The objectives of this study were as follows:

i. To assess the stock market behaviour in Nepal.

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

The following model was employed.

V = b0 + b1 LIQ + b2 LEV + b3 EARN + b4 TURN + b5 COV + Ui ……

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

- Market equity, number of shares multiplied by market price of shares (ME).
- Market value of equity to its book value (MV / BV)
- Price – earning ratio (PE)
- Dividend per share to market price per share (DPS/MPS)
- Dividend per share to earning per share (DPS / EPS)

The independent variables are specified as:

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

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

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

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

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

U= Error term

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

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

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

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

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

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

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

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

HMG wants two things from the public enterprises:

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

But these both objectives are not achieved by public enterprises.

1. One reason for this inefficiency is caused by excessive governmental interference over daily affairs even though there is provision of government interference only for policy matters. On the other hand, high-ranking officials of HMG appointed as directors of board do nothing but simply show their bureaucratic personalities, Bureaucracy has been the enemy of efficiency and thus led corporation to face losses. Losing corporations are, therefore, not in a position of pay dividends to government.

2. Another reason of this is the lack of self-criticism and self-consciousness. Esman has pointed out that lack of favourable leadership is one of the biggest constraints to institution building. Moreover corporate leadership come, as managers are not ready to have self-criticisms. In fact, all so called managers of corporations have not been able to identify themselves regarding what they can contribute as managers of corporations. So HMG must be in a position to develop a financial target on corporate investment by imposing financial obligation on corporations.
3. The article points out the irony of government biasness that government has not allowed banks to adopt an independent dividend policy and HMG is found to have pressurized on dividend payment in case of Nepal Bank Limited regardless of profit. But, it has allowed Rastriya Banijya Bank to be relieved from dividend obligation despite considerable profit.
4. The improvement suggested by authors are :
    i. Adopt – a criteria –guided policy to drain resources from corporations through the medium of dividend payment.
    ii. Realization by managers about the cost of equity capital and dividend obligation.

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

i. Proper evaluation of public enterprises interns of capability of paying dividend through corporation coordination committee.
ii. Imposition of fixed rate of dividend by government on financially sound public enterprises.
iii. Circulating the information about minimum rate of dividend to all public enterprises.
iv. Specifying performance targets in terms of profit, priorities on timings and plans and development of strategic plans that bridges the gap between aspiration and reality.
v. Identification of corporation objectives in Corporations Act, Company Act or special charters so as to clarify public enterprise managers regarding their financial obligation to pay dividend to HMG.

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

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

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

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

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

iii. Erosion in the purchasing power of the income has made it clear that dividend payment must be directed to enhance shareholders' purchasing power by raising dividend payout ratio on the basis of both earnings and cost theory.

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

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

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

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

## 2.4 Review of Previous Thesis:

In last few years, prior to this thesis, some students of M.B.S. programme have been found conducting research about the dividend and dividend policy of commercial banks. Some of them which are supposed to be relevant have been reviewed and presented in this section.

Aryal(1997) - **"Dividend policy : Comparative study between Nepal Arab Bank Ltd. and Nepal Grindlays Bank Ltd"**

The main objectives of that study are :

1. To highlight dividend practices of the sample banks.
2. To analyze the relationship of dividend with various key variables such as earning per share, net profit, net worth and stock prices.

He concludes the various facts, which are as follows.

1. There are positive relationships between dividend per share with earning per share, net profit, net worth and stock prices.
2. There is no uniformity (consistency) in changes in share prices due to change in dividend per share.
3. There is not uniform of dividend distribution policy in both the banks.

Adhikari(1999)- **"Corporate Dividend Practices in Nepal"** has been carried out by Navaraj Adhikari. He has used both primary and secondary data.

The specific objectives of this study were :

i. To analyze the properties of portfolios formed on dividends.

ii. To examine the relationship between dividends & stock prices.

iii. To survey the opinions of financial executives on corporate dividend practices.

The main findings, on his research work, based on secondary data analysis were as follows:

It is observed that there are differences in financial position of high dividend paying and low dividend paying companies. Other things remaining the same, financial position of high dividend paying companies is comparatively better than that

of low dividend paying companies. 'Dividends affect the market price of share' is another conclusion of this study.

Likewise, the other findings based on survey are given below.

i. The price of common stock is induced by dividend payout ratio.
ii. Nepalese shareholders are not really indifferent towards payment or non-payment of dividend.
iii. The majority of the respondents feel that the major motives to pay cash dividend is to convey information to shareholders that the company is in good position.
iv. As regards dividend as a residual decision, the majority of the respondents feel that it is not a residual decision.
v. With respect to factors affecting corporate dividend policy, the majority of the respondents gave the first priority to 'earnings', the second priority to 'availability of cash', the third priority to 'past dividends' & fourth priority to 'concern about maintaining or increasing stock price'.

Bhattari(2002), had conducted a research study entitled *"**Dividend Policy and its Impact on Market Price of stock***". He has done his study in HBL, NLGI and UNCNL. He study the relationship between HBL, NLGI and UNCNL with references to DPS and MPS.

**His general objectives of his study is as follows:**

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

He concluded that there is not any consistency in the dividend policy of the sample firms, therefore sometimes the result of the different test accept the theoretical assumptions of dividend policy and sometimes do not. The Nepalese firm gives first priority to "earnings" to get into the decision of dividend. The second priority goes to the "cash availability" and third priority is given to "past dividend". Among the

sample firms, NGBL is a strong company with the financial market reputation, if the result of it compared to other firms, it can be said that although EPS affect DPS it is less concerned with MPS. Therefore the MPS is more or less dependent with DPS in the efficient capital market.

The major drawback researcher found in his research report is that, it lacks review of master degree thesis. In his research he has analysis the review of other thesis in general. There is no specific review of any other researchers' thesis.

The thesis entitled "**The Comparative Study of Dividend Policy and Practices of Commercial Bank in Nepal.**" conducted by Bhandari(2004).
His specific objectives of the study are as follows:

- To study the current practice of dividend policy in commercial banks.
- To find out the impact of dividend on share price.
- To analysis the relationship of financial indicators such DPS, EPS, DPR, PE ratio and Profitability ratio on the market value per share(MVPS).
- To examine if there is any uniformity among DPS, EPS and DPR on the three-sample joint venture banks
- To provide the workable suggestions and possible guidelines to overcome the various problem on the basis of the findings

Bhandari has conclude the sample sample banks have got sufficient earnings but some of the banks are paying high dividend while others are paying low dividend. Other things remaining the same, comparatively dividend per share is not restively more stable than the dividend payout ratio. That's why dividend per share and other variable have been highly fluctuated. Another conclusion is that the market price of share is affected by dividend. Lastly the sample banks have not clearly defined dividend policy.

Adhikari(2006), carried out a study on a **"The Comparative study of Dividend Policy and Practices of Commercial Bank in Nepal"**

Adhikari carried out the study with the following objective:

- To examine dividend policy of commercial banks.

- To examine relationship among various important financial indicators such as earning per share, dividend per share, market value per share, dividend payout ratio, dividend yield, price earnings ratio, profitability ratio and liquidity ratio.
- To examine impact of dividend policy on stock price
- To examine if there is any uniformity among DPS, EPS and MVPS on the five sample banks.

Adhikari concluded the sample banks have sufficient earnings but some of the banks are paying high dividend then other banks. Other things are same, financial position of high dividend paying banks is comparatively better than that of low dividend paying banks. Comparatively dividend per share is not restively more stable than the dividend payout ratio. The market value per share is affected by dividend. A wide policy should be maintained between shareholders interest and corporate growth from internally generated fund. The funds some time could not be used in case of lack of investment opportunities. In such a situation, distribution of dividend to share holders in taken as best because shareholders have greater investment opportunities to employ elsewhere.

Yadav(2007), had conducted a research study entitled *"**Dividend Policy and It's Impact on Market Price of Stock"*** he define once a company makes a profit, they must decide on what to do with those profits. They could continue to retain the profits within the company or they could pay out the profits to the owners of the firm in the form of dividends. Once the company decides on whether to pay dividends, they may establish a somewhat permanent dividend policy, which may in turn impact on investors and perceptions of the company in the financial markets.

His Specific objectives of the study are as follows:

- To study the prevailing practices and effort made in dividend policy among the firms.
- To find the impact of dividend policy on market price of stock.
- To analyze the uniformity among DPS, EPS, MPS and DPR.
- To provide suggestion and recommendations.

Yadav concluded that there is not any consistency in the dividend policy of the sample firms, therefore sometimes the result of the different test accept the theoretical

assumptions of dividend policy and sometimes do not. The majority of Nepalese firm gives first priority to “earning” to get into the decision of dividend. The second priority goes to the “cash availability” and third priority is given to “pass dividend”. After all, “concern about maintaining or increasing the stock price” priority also influences the dividend policy of the firm in Nepal. Among the sample firms, HBL is a strong company with the financial market reputation, if the result of it compared to other firms, it can be said that although EPS affects DPS it is less concerned with MPS. Therefore the MPS is more or less dependent with DPS in the efficient capital market.

## 2.5 Conclusion and Literature Review:

There have been many national and international studies in the field of dividend policy to date. All the concepts and practices of foreign author's model about dividend practices are not used in our Nepalese dividend policy. Those studies have tried to find out the relationship between dividend policy and market price of the stock. But as the Nepalese Capital market is in the early stage of development, the conclusion made by the international studies may not relevant in the Nepalese context. So, it is recommended to devote some efforts and think how to use those foreign model dividend practices in Nepalese dividend policy.

So far the Nepalese studies are considered, there are some studies done, like Padlian's and Manandhar's which can be considered to be landmark in the field of dividend policy. But many more changes have taken place in Nepalese capital market in last few years and the validity of the past result is doubtful in the present context. Besides this some researchers have taken different films of different firms of different sector, so the results drawn from those studies may not be accurate to represent the present practices and efforts made in the Nepalese capital markets.

# CHAPTER – III
# RESEARCH METHODOLOGY

## 3.1 Introduction

The different aspects of this thesis work regarding to dividend policy and practices of joint venture banks viz. Nepal Bangladesh Bank Limited and Nepal SBI Bank Limited that have been mentioned in the previous chapters. An introduction relating to this thesis work is made in the first chapter and relevant literatures are reviewed in the second chapter. The 'research methodology', which is used to analyze to collected data, are mentioned in this chapter.

This chapter highlights about the methodology adopted in the process of present study. It also focuses about sources and limitations of the data, which are used in the present study. 'Research Methodology' is a way for systematically solving the research problem. In other words, research methodology indicates the methods and processes employed in the entire aspects of the study. "Research methodology" refers to the various sequential steps (along with a rationale, of each such step) to be adopted by a researcher in studying a problem with certain object/objects in view"(Kothari, 1994:19). So, it is the methods, steps, and guidelines, which are to be followed in analysis, and it is a way presenting the collected data with meaningful analysis.

## 3.2 Research Design:

The research design is of both descriptive and prescriptive nature. For the analytical purpose, the annual reports published by the relative banks and other publications of the related banks published by Nepal Rastra Bank, Nepal Stock Exchange Ltd. & other related agencies, were collected for the year 2003/04 to 2007/08

## 3.3 Sources of Data:

The study is mainly based on secondary data, which are collected from their respective annual reports especially from profit and loss accounts, balance sheet and other publications made by the banks. Likewise, some other related information's are gathered from related banks and related agencies like Nepal Rastra Bank, Nepal Stock Exchange Limited, Ministry of Finance, National Planning Commission etc.

### 3.4 Data Processing Procedures:

For the purpose of this study, the different data are obtained from different sources, which are scanned and tabulated under different heads. After tabulation, they are analyzed by applying both financial and statistical tools.

### 3.5 Population and Sample:

At present, there are 25 commercial banks operating in Nepal. Due to time and resource factors, it is not possible to study all of them regarding the study topic. Therefore, sampling will be done selecting from population. The population are as follows:

**List of Commercial Banks in Nepal (Mid July 2008)**

| S.N | Name | Operation Date(A.D.) | Head Office |
|---|---|---|---|
| 1 | Nepal Bank Limited (NBL) | 11/15/1937 | Kathmandu |
| 2 | Rastriya Banijya Bank (RBB) | 1966/01/23 | Kathmandu |
| 3 | NABIL Bank Limited (NABIL) | 1984/07/16 | Kathmandu |
| 4 | Nepal Investment Bank Limited (NIBL) | 1986/02/27 | Kathmandu |
| 5 | Standard Chartered Bank Nepal Ltd. (SCBN) | 1987/01/30 | Kathmandu |
| 6 | Himalayan Bank Limited (HBL) | 1/18/1993 | Kathmandu |
| 7 | Nepal SBI Bank Limited (NSBI) | 1993/07/07 | Kathmandu |
| 8 | Nepal Bangladesh Bank Limited (NBBL) | 1993/06/05 | Kathmandu |
| 9 | Everest Bank Limited (EBL) | 1994/10/18 | Kathmandu |
| 10 | Bank of Kathmandu Limited (BOK) | 1995/03/12 | Kathmandu |
| 11 | Nepal Credit and Commerce Bank Ltd. (NCCBL) | 1996/10/14 | Siddharthanagar |
| 12 | Lumbini Bank Limited (LBL) | 1998/07/17 | Narayangadh |
| 13 | Nepal Industrial & Commercial Bank Ltd. (NIC) | 1998/07/21 | Biratnagar |
| 14 | Machhapuchhre Bank Limited (MBL) | 2000/10/03 | Pokhara |
| 15 | Kumari Bank Limited (KBL) | 2001/04/03 | Kathmandu |
| 16 | Laxmi Bank Limited (LXBL) | 2002/04/03 | Birgunj |
| 17 | Siddhartha Bank Limited (SBL) | 2002/12/24 | Kathmandu |
| 18 | Agriculture Development Bank Limited | 2006/03/16 | Kathmandu |

| | | | |
|---|---|---|---|
| 19 | Global Bank Limited | 2007/01/02 | Birgunj |
| 20 | Citizens Bank International Limited | 2007/06/-21 | Kathmandu |
| 21 | Prime Bank Limited | 2007/09/24 | Kathmandu |
| 22 | Sunrise Bank Limited | 2007/10/12 | Kathmandu |
| 23 | Bank of Asia Nepal Limited (BOA) | 2007/10/12 | Kathmandu |
| 24 | DCBL Bank Limited (DCBL) | 2008/05/25 | Kathmandu |
| 25 | NMB Bank Limited (NMB) | 2008/06/02 | Kathmandu |
| 26 | KIST Bank Limited(KIST) | 2009/05/07 | Kathmandu |

*(Source: Banking and Financial Statistics (Mid-July 2008, No.51)*

** There were 26 commercial banks in Nepal in F/Y 2007/08. The ADB/N, established in 1967, has been upgraded by Nepal Rastra Bank as "A" class licensed institution on 16th March 2006. The financial activities of ADBN are divided in commercial banking and development banking. The transaction of commercial banking has been consolidated with commercial banks. (Source: Banking and Financial Statistics (Mid-July 2008, No.51)*

The samples to be selected are as follows:

(i) Nepal SBI Bank Limited.

(ii) Nepal Bangladesh Bank Limited.

### 3.6 Period of the study.

The study is based on five years financial data of sample banks (i.e., Nepal SBI Bank Limited & Nepal Bangladesh Bank Limited) from fiscal year 2003/04 to 2007/08.

### 3.7. Financial Indicators and Variables:

The following financial tools have been used in the present study.

#### 1. Earning per share (EPS)

Earning per share refers the rupee amount earned per share of common stock outstanding. It measures the return of each equity shareholders. It is also identified to measure the profitableness of the shareholders investment. The earning per share simply shows the profitability of the banks on a per share basis. The higher earning

indicates the better achievements of the profitability of the banks by mobilizing their funds and vice versa. In other words, higher earning per share denotes the strength and lower earning per share indicates the weakness of the banks.

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

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

**2. Dividend per share (DPS)**

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

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

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

$$\text{DPS} = \frac{\text{Total amount of dividend paid to ordinary shareholders}}{\text{Number of ordinary shares outstanding}}$$

**3. Dividend percentage (DP)**

Dividend percent is the ratio of dividend per share to the paid-up price per ordinary share. It can be calculated as:

$$\text{DP} = \frac{\text{Dividend per share}}{\text{Paid-up price per share.}}$$

**4. Dividend payout Ratio (DPR)**

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

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

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

$$\text{DPR} = \frac{\text{Dividend per share}}{\text{Earning per share}}$$

$$\text{And, retention ratio} = (1\text{-Dividend payout ratio})$$
$$= (1\text{-DPR})$$

**5. Price-Earning Ratio / Earnings Multiplier (P/E Ratio)**

Price-earning ratio is also called the earnings multiplier. Price-earning ratio is simply the ratio between market price per share and earning per share. In other words, this represents the amount which investors are willing to pay for each rupee of the firm's earnings.

The P/E ratio measures investor's expectation and market appraisal of the performance of firm. This is important to compare the market share prices of different stocks given their earning per share. The higher P/E ratio implies the high market share price of a stock given the earning per share and the greater confidence of investor in the firm's future. This ratio is computed by dividing earning per share to market price per share. Thus,

$$\text{P/E Ratio} = \frac{\text{Market price per share}}{\text{Earning per share.}}$$

## 6. Earning Yield and Dividend Yield (EY and DY Ratio)

The earning yield and dividend yield both are expressed in terms of the market value (price) per share. Earning yield and dividend yield are two important profitability ratios from the point of view of the ordinary shareholders.

### Earning yield (EY)

Earning per share as the percentage of market price per share in the stock market is called the earning yield. In other words, it is a financial ratio relating to earning per share to the market share price at a particular time. It measures the earning in relation to market value of share. It gives some idea of how much an investor might get for his money.

The share with higher earnings yield is worth buying. Earning yield is informative to compare the market share prices of stocks in the secondary market. It is calculated as:

$$\text{EY Ratio} = \frac{\text{Earning per share}}{\text{Market price per share}}$$

### Dividend Yield (DY)

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

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

$$\text{DY Ratio} = \frac{\text{Dividend per share}}{\text{Market price per share}}$$

**7. Market Value (Price) Per Share to Book Value Per Share (MPS to BVPS) Ratio**

This ratio measures that the market situation per share in the competitive open market with respect to book value per share of joint venture banks. This ratio indicates the price that the market is paying for the share that is reported from the net worth of the banks.

This is important to compare the market share prices of different stocks on the basis of the book value per share. It shows the market share price of a stock as a percentage of book value per share and the effect of later on the former. The higher ratios represent to conclude that the better performance of joint venture banks in terms of market price per share to book value per share. This ratio can be derived by dividing market price per share by book value per share. Thus,

$$\text{MPS to BVPS Ratio} = \frac{\text{Market price per share}}{\text{Book value per share}}$$

**8. Return on Net worth (Shareholder's equity)**

It is a ratio of net profit after tax to net worth. This ratio reflects what percent of owner's capital is on net profit. It indicates how well the bank has used the resources of the owners. It helps to measure the profitableness of the owner's investment. It measures the return on total fund belonging to equity holder. The higher ratio implies higher return on equity capital for the time period and profitable position of the company. This ratio can be derived by dividing net worth (preferred and common shareholders equity) to net profit after tax. Thus,

$$\text{Return on Net Worth} = \frac{\text{Net profit after tax}}{\text{Net worth}}$$

## 3.8 Method of Analysis/Analysis Technique:

Some major financial and statistical tools have been used to attain the objectives of this study. The pattern of available data is a major determinant to analyse the data. So analysis of data will be done according to pattern of available data. The result of analysis has been properly tabulated, compared, analyzed and interpreted. In order to analyze the relationship between dividend and other related variables, some financial and statistical tools have been used. In this study, the following statistical tools have been used.

(a) Mean or Average, Standard Deviation & Coefficient of Variation.
(b) Coefficient of Correlation & Coefficient of Determination.
(c) Regression Analysis.
    (i) Regression constant – (a)
    (ii) Regression coefficient – (b)
    (iii) Standard error of estimate- (S.E.E.)

**A. (i) Arithmetic Mean or Average ( $\bar{X}$)**

An average is a single value that represents a group of values. It depicts the characteristic of the whole group. It is a representative of the entire mass of homogeneous data, its value lies somewhere in between the two extremes, i.e. the largest and the smallest items. It is obtained by dividing the sum of the quantities by the number of items. Thus,

$$\text{Mean } (\bar{X}) = \frac{X_1 + X_2 + X_3 + \ldots\ldots\ldots\ldots\ldots + X_n}{N}$$

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

Where,

$\sum X$ = sum of the sizes of the items

N= number of items

**(ii) Standard deviation: (S.D.)**

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

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

Where,

N = Number of items in the series.

$\bar{X}$ = mean

X = Variable

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

**(iii) Coefficient of Variation (C.V.)**

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

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

$$= \frac{\sigma \times 100}{\bar{X}}$$

Where,

$\sigma$ = Standard Deviation

X = Mean

**B. (i) Coefficient of Correlation**

According to Richard I. Levin, " correlation analysis is the statistical tools that we can use to describe the degree to which one variable is linearly related to another."(Levin and Rubin, 1994:613)

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

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

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

Thus, in this study, the degree of relationship between dividend and other relevant financial indicators such as earning per share, market price per share, current ratio, net profit & net worth is measured by the correlation coefficient, which is denoted by **r** or $\mathbf{r_X}$ or $\mathbf{r_{YX}}$ (of X and Y are two sets). It is defined by Karl Pearson as:

$$r = \frac{Cov(XY)}{\sigma x \sigma y}$$

$$\text{or, } r = \frac{\sum(X-\overline{X})(Y-\overline{Y})}{N\sigma x \sigma y}$$

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

Where,

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

Cov (X,Y) = covariance of X,Y value

$$= \frac{\sum(X-\overline{X})(Y-\overline{Y})}{N}$$

Under the correlation analysis, the following financial variables have been calculated.

**Simple Correlation Coefficient**.

a) Between divided per share and earning per share.
b) Between divided per share and net profit.

c) Between dividend per share and market price per share.
d) Between dividend per share and net worth.
e) Between dividend per share and investment.
f) Between dividend per share and current ratio.
g) Between earning yield and dividend yield.
h) Between market price per share and dividend per share of (t-1) year.
i) Between earning per share and market price per share.
j) Between dividend payout ratio and market price per share.
k) Between dividends percentage on paid up capital and market price per share.
l) Between dividend payout ratio and percentage of cash and bank balance to current assets.

**Multiple correlation coefficient :**

1. Between dividend per share and earning per share, current ratio and dividend per share of (t-1) year.
2. Between dividend payout ratio and percentage of cash and bank balance to current assets, earning per share and investment.
3. Between market price per share and earning per share, dividend per share and dividend payout ratio.

**(ii) Coefficient of Determination:**

The coefficient of determination is the primary way. We can measure the extent, or strength, of the association that exists between two variables, **X** and **Y**."$R^2$ measures only the strength of a linear relationship between two variables". It refers to a measure of the total variance in a dependent variable that is explained by its linear relationship to an independent variable. The coefficient of determination equals $R^2$ and the value of $R^2$ lie between zero and unity, the closer to unity, the greater the explanatory power. A value of one can occur only if the unexplained variation is zero, which simply means that all the data points in the scatter diagram fall exactly on the regression line. The $R^2$ is always a positive number. It can't tell whether the relationship between the two variables is positive or negative. The $R^2$ is defined as the ratio of explained variance to the total variance. Thus,

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

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

## C. Regression Analysis:

The concept of regression was first introduced by Francis Galton. Regression refers to an analysis which is involving the fitting of an equation to a set of data points, generally by the method of least square. In other words the regression is a statistical method for investing relationships between the variables by the establishment of an approximate functional relationship between them. It is considered as a useful tool for determining the strength of relationship between two (Simple Regression) or more (Multiple regression) variables. It helps to predict or estimate the value of one variable when the value of other variables is known. In order to make easier in my study, regression analysis has been divided into two parts.

### 1. Simple regression

The analysis, which is used to explain the average relationship between two variables, is known as simple linear regression analysis. In this study, the following simple regression have been analysed.

**Simple Regression Analysis:**

**1) Dividend per share on Earning per share:**

$Y=a + bX$

Where,

Y = Dividend per share

a = Regression constant

b = Regression coefficient

X = Earning Per share

This model has been constructed to examine the relationship between dividend per share (dependent variable) and earning per share (independent variable). It enables to determine whether the variable of earning per share is the influencing factor to dividend decision or not.

**2) Dividend per share on Net profits:**

$Y= a+bX$

Where,

Y= Dividend per share
a= Regression constant
b= Regression coefficient
X= Net profit

The given model can test the relationship between dividend per share and net profits.

**3) Average stock price on Dividend per share:**

Y= a+bX

Where,
Y= Average stock price
a= Regression constant
b= Regression coefficient
X= Dividend per share

This model examines the relationship between the average stock price and dividend per share.

**4) Net worth on Dividend per share:**

Y= a+bX

Where,
Y= Net worth.
a= Regression constant
b= Regression coefficient
X= Dividend per share

The relationship between net worth and dividend per share can be explained through this model.

**5) Dividend per share on Investment:**

Y= a+bX

Where,
Y= Dividend per share
a= Regression constant
b= Regression coefficient
X= Investment

The model tests the dependency of dividend per share on investment.

**6) Market price per share on Dividend per share of (t-1) year:**

$Y = a+bX$

Where,

Y= Market price per share

a= Regression constant

b= Regression coefficient

X= Dividend per share for (t-1) year.

This model has been used to determine whether market price of stock is influenced by the dividend per share of (t-1) year or not.

**7) Market price per share on Earning per share.**

$Y= a+bX$

Where,

Y= market price per share

a= Regression constant

b= Regression coefficient

X= Earning per share

This model tests the dependency of market price per share on earning per share.

**8) Average stock price on Dividend payout ratio:**

$Y= a+bX$

Where,

Y= Average stock price (Market price per share)

a= Regression constant

b= Regression coefficient

X= Dividend payout ratio.

This model tests the dependency of market price per share on dividend payout ratio.

**9) Market price per share on Dividend percentage on paid-up value:**

$Y= a+bX$

Where,
Y= Market price per share.
a= Regression constant
b= Regression coefficient
X= Dividend percent on Paid-up value.

To test the dependency of market price per share on dividend percentage on paid up value, this given model has been used.

**10) Dividend payout ratio on Percentage of cash and bank balance to current assets.**

$Y= a+bX$

Where,
Y= Dividend payout ratio
a= Regression constant
b= Regression coefficient
X= Percentage of cash and bank balance to current assets.

In order to test the dependency of dividend payout ratio on percentage of cash and bank balance to current assets, this model has been used.

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

$\Sigma Y = a+bX$

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

Where,
'a' and 'b' are unknown.
n = number of observation in the sample

**2. Multiple regression**

In multiple regression analysis, two or more independent variables are used to estimate the values of dependent variable. It is the extension of simple regression technique. In this study, the following multiple regression analysis have been analysed.

**Multiple Regression Analysis:**

**(1) Dividend per share on Earning per share and Dividend per share of (t-1) year:**

$Y = a + b_1X_1 + b_2X_2$

Where,

Y= Dividend per share

a= Regression constant

$b_1$= Regression coefficient of variable 1st

$b_2$= Regression coefficient of variable 2nd

$X_1$= Dividend per share

$X_2$=Earning per share

$X_3$= Dividend per share of (t-1) year

This model helps to predict the dividend per share on earning per share and dividend per share of (t-1) year.

**(2) Market price per share on Earning per share and Dividend per share.**

$Y = a + b_1X_1 + b_2X_2$

Where,

Y= Market price per share

a= Regression constant

$b_1$, $b_2$= Regression coefficient of variable 1st and 2rd respectively.

$X_1$= Market price per Share

$X_2$ Earning per share

$X_3$= Dividend per share.

It helps to predict the market price per share on earning per share and dividend per share.

**(i) Regression constant (a)**

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

**(ii) Regression Coefficient ($b_1$, $b_2$,..... )**

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

**(iii) Standard Error of Estimate (S.E.E)**

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

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

**d. T- statistics:**

To test the validity of our assumption, if sample size is less than 30(Kothari, 1994:143), **t**-test is used. For applying **t**-test in the context of small sample, the **'t'** -value is computed first and compared with the table value of **'t'** at a certain level of significance for given degree of freedom. If the computed value of **'t'** exceeds the table value (say $t_{0.01}$, $t_{0.05}$, $t_{0.10}$), we infer that the difference is significant at 1 %, 5 %, and 10 %, level. But if **'t'** value is less than the concerning table value of **'t'**, the difference is not treated as significant.

# CHAPTER - IV

## PRESENTATION AND ANALYSIS OF SECONDARY DATA

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

### 4.1 General Analysis of Financial Indicators:

#### 4.1.1. Earning Per Share (EPS)

**Table No. 4.1.1**

**EPS Status of Sample Banks**

| Year | NSBL | NBBL |
|---|---|---|
| 2003/04 | 13.29 | 0.74 |
| 2004/05 | 18.27 | -104.12 |
| 2005/06 | 39.35 | -249.65 |
| 2006/07 | 28.33 | -147.47 |
| 2007/08 | 36.18 | 72.83 |
| **Total** | **135.42** | **-427.67** |
| **Average** | **27.08** | **-85.53** |
| **S.D.( σ)** | **10.03** | **112.82** |
| **C.V.** | **37.02** | **-131.90** |

**(Source: nrb.org.np)**

While observing the above EPS table as presented in table no. 4.1.1, we come to know that the EPS of NSBL has increased in ascending order from 2003/04 to 2005/05. In Fourth year, EPS reach to 28.33, which is two times more than previous year. The average EPS is 27.08, standard deviation is 10.03%. This co-efficient of

variation clears that there is 10.03% fluctuation in EPS, which means there is inconsistency in EPS.

The EPS of NBBL is 0.74 in 2003/04. In second year, third year and fourth year the bank has become in loss and EPS is negative. It reached to (-147.47) in 2006/07. In fifth year the bank has succeed to come over from loss and EPS reach to 72.83. The average EPS is (-85.53) which is negative. The bank has not succeed to earn profit. The standard deviation is 112.82%, which means there is 112.82% fluctuation in EPS. It indicates there is no consistency in EPS.

An aggregate EPS of NBBL has recorded an increasing trend and EPS of NBBL is descending order.

### 4.1.2 Dividend Per Share (DPS)

**Table no. 4.1.3**
**DPS Status of Sample Banks**

| Year | NSBL | NBBL |
|---|---|---|
| 2003/04 | 0 | 0 |
| 2004/05 | 5 | 0 |
| 2005/06 | 12.59 | 0 |
| 2006/07 | 0 | 0 |
| 2007/08 | 2.11 | 0 |
| Total | 19.70 | 0 |
| **Average** | **3.94** | **0** |
| **S.D** | **4.70** | **0** |
| **CV.** | **119.23** | **0** |

**(Source: nrb.org.np)**

NSBL has not paid any dividend in the First year and fourth year. It has paid Rs. 5 dividend per share in second year. Again in the third year, it has paid Rs. 12.59 per share. In the last year it reach to Rs. 2.11 which is more than five time lower than third year. The average DPS of this bank is Rs. 2.94. The standard deviation of DPS is 4.70 and the coefficient of variation is 119.23%. The coefficient of variation of the bank indicate that there is 119.23 percent fluctuation in dividend per share of the bank.

In case of NBBL, the bank has not paid any dividend from 2003/04 to till date.

### 4.1.3 Dividend Payout Ratio (DPR)

**Table no. 4.1.3**

**DPR Status of Sample Banks**

| Year | NSBL | NBBL |
|---|---|---|
| 2003/04 | 0 | 0 |
| 2004/05 | 27.367 | 0 |
| 2005/06 | 31.995 | 0 |
| 2006/07 | 0.000 | 0 |
| 2007/08 | 5.832 | 0 |
| **Total** | **14.547** | **0** |
| **Average** | **13.04** | **0** |
| **S.D** | **13.832** | **0** |
| **CV.** | **106.082** | **0** |

**(Source: nrb.org.np)**

The table 4.1.3 depicts the dividend payout ratio of the two banks analyzed. The main objectives of this presentation is to show the percentage dividend payout of its earnings. The importance of this type of presentation lies in its ability to state the dividend policy of the concerned bank more obviously. According to the table there was no dividend payout ratio in the first and fourth years of NSBL. This is due to that NSBL has not paid any dividend in the first and fourth year. The average DPR of NSBL is 13.04 it reflects in average, NSBL has paid 13.04% dividend to their shareholders out of their earnings. In the second year and third year dividend payout ratio are 27.367 and 31.995 respectively, which is higher than average DPR of NSBl.

The standard deviation is 13.832. The coefficient of variation of NSBL is 106.082%, which indicates 106.082% fluctuation in dividend payout ratio of that bank.

Similarly, in case of NBBL, there was no dividend payout ratio in the whole period of the study. This is due to that NBBL has not paid any dividend. So, there is no standard deviation and C.V.

### 4.1.4 Price Earning Ratio (P/E Ratio)

**Table no. 4.1.4**

**P/E Ratio Status of Sample Banks**

| Year | NSBL | NBBL |
|---|---|---|
| 2003/04 | 25.207 | 478.378 |
| 2004/05 | 33.498 | -2.545 |
| 2005/06 | 29.886 | -0.797 |
| 2006/07 | 53.336 | -3.730 |
| 2007/08 | 52.515 | 7.758 |
| **Total** | **194.441** | **479.064** |
| **Average** | **38.888** | **95.813** |
| **S.D** | **11.76** | **191.33** |
| **CV.** | **30.25** | **199.69** |

**(Source: nrb.org.np)**

The table 4.1.4 exhibits the P/E ratio of two banks viz. NSBL and NBBL. This presentation helps our study by clarifying the relationship between earning per share and market price per share. According to the table, the P/E ratio of NSBL is 25.207 in 2003/04. The highest P/E ratio is 53.336 in 2006/07. This is two times more than first year. The average P/E ratio is 38.888 which is higher than the P/E ratio of the first, second and third year smaller then the P/E ratio of fourth and fifth year. The standard deviation and the coefficient of variation are 11.76 and 30.25 respectively of the bank.

Likewise, in case of NBBL, P/E ratio of first year is 478.378. In second, third and fourth years the P/E ratio are negative because of EPS are negative. In fifth year P/E ratio reach to 7.758. The average P/E ratio is 95.813% which is higher than P/E ratio of second, third, fourth and last years. The standard deviation and coefficient of variation are 191.33 and 199.69% respectively. The C.V indicates that there is 199.69% greater fluctuation in variables.

### 4.1.5 Earning Yield Ratio (EY)

**Table no. 4.1.5**

**EY Status of Sample Banks**

| Year | NSBL | NBBL |
|---|---|---|
| 2003/04 | 8.330 | 0.406 |
| 2004/05 | 12.037 | 319.485 |
| 2005/06 | 22.102 | 115.009 |
| 2006/07 | 17.643 | 40.454 |
| 2007/08 | 18.584 | -22.973 |
| Total | 78.697 | 452.380 |
| **Average** | **15.739** | **90.476** |
| **S.D** | **4.915** | **215.142** |
| **CV.** | **31.229** | **237.789** |

**(Source: nrb.org.np)**

The relationship between earning per share and market price per share of two banks of different years are exhibited in table 4.1.5. The main reason behind such kind of tabulation is to paint to the percentage relationship between EPS and MPS. So, as the illustrate the earning yield of the concerned banks, which may be a reliable tools to calculate the real value of the dividend as compared with current market value of each share.

As presented in table 4.1.5, the earning yield ratio of NSBL is in ascending order till the third year. The average earning yield ratio of that bank is 15.739, which is higher than the earning yield ratio of the first and second year and lower than the earning yield ratio of third, fourth and fifth years. The standard deviation is 4.915 and the coefficient of variation is 31.229 of that bank.

Likewise, the earning yield ratio of the NBBL is in fluctuate trend. The highest earning yield ratio of that bank is 319.485 in second year. In fifth year earning yield ratio is (22.973), which is negative. The average earning yield ratio is 90.476. The standard deviation and coefficient variation are 215.142 and 237.789 respectively.

### 4.1.6 Dividend Yield Ratio (DY)

**Table no. 4.1.6**
**DY Status of Sample Banks**

| Year | NSBL | NBBL |
|---|---|---|
| 2003/04 | - | - |
| 2004/05 | 0.817 | - |
| 2005/06 | 1.071 | - |
| 2006/07 | 0.000 | - |
| 2007/08 | 0.111 | - |
| **Total** | **1.999** | **-** |
| **Average** | **0.4** | **-** |
| **S.D** | **0.45** | **-** |
| **CV.** | **113.38** | **-** |

**(Source: nrb.org.np)**

The table 4.1.6 reveals the dividend of the concerned banks from the year 2003/04 to 2007/08. It is clearly shown there NSBL has not paid any dividend in case of first year and fourth year. So, there is no dividend yield ratio in that year. In the second year, dividend yield ratio has increase in 0.817 and it reach to 1.071 in third year. Again dividend yield ratio has decreased and it reach to 0.111 in last year. The average dividend yield ratio 0.40, which is higher than the dividend yield ratio of fifth year. The standard deviation is 0.45 and the coefficient of variation is 113.38.

Similarly, in case of NBBL, there are no dividend yield ratios in the whole period of study. It is due to that bank has not paid any dividend in there years. That is why, there is no standard deviation and the coefficient of variation.

### 4.1.7 Market Value per Share (MPS) to Book value per share (BVPS) Ratio :

**Table no. 4.1.7**
**MPS to BVPS Ratio Status of Sample Banks**

| Year | NSBL | NBBL |
|---|---|---|
| 2003/04 | 2.100 | 1.94 |
| 2004/05 | 4.032 | -8.13 |
| 2005/06 | 6.605 | -0.92 |
| 2006/07 | 9.410 | -1.51 |
| 2007/08 | 9.760 | -1.78 |
| **Total** | **31.907** | **-10.3984** |
| **Average** | **6.38** | **-2.080** |
| **S.D** | **2.98** | **3.303** |
| **CV.** | **46.74** | **-158.826** |

**(Source: nrb.org.np)**

As per table 4.1.7, the ratio of market price per share(MPS) to book value per share(BVPS) of NSBL is in ascending order from first to last year. In the first year MPS to BVPS is 2.1 but it reach to 9.76 in fifth year. The average ratio of NSBL is 6.38 which is higher than first and second year. The standard deviation of NSBL is 2.98 and the coefficient of variation is 46.74%.

Similarly, in case of NBBL MPS to BVPS negative from second to fifth year. The average ratio is (2.08), which is lower than first, third, fourth and fifth year. The standard deviation is 3.303 and coefficient of variation is (158.826)%.

### 4.1.8 Return on Net Worth (in percent)

**Table no. 4.1.8**
**Return on Net Worth (in percent) Status of Sample Banks**

| Year | NSBL | NBBL |
|---|---|---|
| 2003/04 | 209.979 | 194.06 |
| 2004/05 | 403.215 | -813.13 |
| 2005/06 | 660.526 | -91.68 |
| 2006/07 | 941.023 | -150.88 |
| 2007/08 | 975.961 | -178.22 |
| **Total** | **3190.703** | **-1039.842** |
| **Average** | **638.14** | **-207.968** |
| **S.D** | **704.41** | **330.31** |
| **CV.** | **110.39** | **-158.83** |

**(Source: nrb.org.np)**

The above table 4.1.8 depicts that the percentage return on Net worth of NSBL has increased in ascending order. In the last year it has increased to 975.961. The average return on Net worth is 638.14. NSBL is failure to maintain the bank's average in first and second year. The S.D is 704.41 and the C.V is 110.39%.

Similarly, the percentage return on Net worth of NBBL is very different in last five year. The percentage return on Net worth in first year is 194.06 which reached to (813.13) in second year. In third year it reached to (91.68). The average return on Net worth of this bank is (207.968), which is lower than first year, higher than second year and lower than third, fourth and fifth year. The S.D is 330.31 and C.V is (158.83), which higher than the C.V of NSBL. So, in aggregate, NSBL is more efficient than NBBL to mobilize its resources efficiently.

## 4.2 Simple Correlation and Bivariate Regression Analysis

**Table No. 4.2.1**

**Correlation between Earning Per Share (EPS) and Dividend Per Share (DPS)**

| Banks | Coefficient of correlation (r) | Relationship | R-square ($R^2$) | Probable Error(P.E.) | Significant / Insignificant |
|---|---|---|---|---|---|
| NSBL | 0.5496 | Direct | 0.3021 | 0.2105 | - |
| NBBL | - | - | - | - | - |

*Source: Appendix A-1 and B-1*

Table no 4.2.1 is concerned with analysis of relationship between earning per share (EPS) and dividend per share(DPS). As presented in table 4.2.1 there is relationship between earning per share(EPS) and dividend per share(DPS) of NSBL. The correlation coefficient is 0.5496, which shows positive relationship coefficient of determination is major of the degree of linear association or correlation between two variables. The value of $R^2$ is 0.3021, which indicate that 30.21% variation is explaining in dependent variable DPS due to change in the value of independent variable EPS. The data related to NSBL bank depicts that nothing can be conclude about relationship between DPS and EPS because coefficient of correlation (r) is greater than probable error but smaller than 6PE.

Similarly, in case of NBBL, the bank has not paid any dividend from first year to last year. So, there is no value of correlation between EPS and DPS.

**Table 4.2.2**

**Bivariate Regression Result of Dividend Per Share (DPS) on Earning Per Share (EPS)**

| Banks | No. of Observation (n). | Constant(a) | Regression Coefficient (b) | S.E.(b) | R-square (R2) | S.E.E | T-value |
|---|---|---|---|---|---|---|---|
| NSBL | 5 | -3.0398 | 0.2577 | 0.2259 | 0.3021 | 5.0648 | 1.1408 |
| NBBL | 5 | - | - | - | - | - | - |

*Source: Appendix A-1 and B-1*

The table 4.3.3 depicts the output of simple regression analysis of DPS and EPS of two banks NSBL and NBBL. In case of NSBL, beta coefficient is 0.2577, which indicates that a rupee increase in EPS, independent variable leads to an average about Rs. 0.2577 increase in DPS, dependent variable, holding other variable constant. The constant (a) is (3.0398), which means that if the EPS is zero and then the estimated DPS will be (3.0398). The standard error of coefficient (b) is 0.2259, which indicates that if the same sort of data is drawn, there may be variation of Rs. 0.2259 in coefficient. The standard error of estimate is 5.0648. The value of R-Square ($R^2$) is 0.3021, which indicates that 30.21% variation in DPS is explained by EPS variable. This is statistically insignificant in 5% lever of significance. Since the value of t is smaller then (1.1408) then the tabulated value of t(1.96).

In case of NBBL, the beta coefficient constant (a), the standard error of coefficient S.E(b) and the standard error of estimate are zero because NBBL has not paid any dividend since last five year.

**Table no. 4.2.3**

**Correlation between Dividend Per Share (DPS) and Net Profit (NP)**

**Correlation between DPS and NP**

| Banks | Coefficient of correlation (r) | Relationship | R-square ($R^2$) | Probable Error (P.E.) | Significant / Insignificant |
|---|---|---|---|---|---|
| NSBL | -0.0214 | Indirect | 0.0005 | 0.3015 | Insignificant |
| NBBL | - | - | - | - | - |

*Source: Appendix A-2 and B-2*

The table 4.2.3 helps to depicts the relationship between dividend per share(DPS) and Net profit of NSBL and NBBL. The correlation coefficient between DPS and NP of NSBL is (0.0214). There exists negative relationship between DPS and Net profit. Coefficient of determination between DPS and Net profit is 0.0005, which indicates that the variation in the Net profit explained 0.05% the variation in DPS. Probable error of correlation coefficient has also calculated to measure the significance of the relationship between DPS and Net profit of NSBL bank. The data related to NSBL bank depict that there is insignificant relationship between DPS and Net profit because coefficient of correlation (r) is negative.

Similarly, in case of NBBL, the bank has not paid any dividend in whole study period. That is why, there is no any correlation between DPS and NP.

**Table no. 4.2.4**

**Bivariate Regression Result of Dividend Per Share (DPS) on Net Profit (NP)**

| Banks | No. of Observation (n). | Constant(a) | Regression Coefficient (b) | S.E.(b) | R-square (R2) | S.E.E | T-value |
|---|---|---|---|---|---|---|---|
| NSBL | 5 | 6.3564 | -0.0164 | 0.0296 | 0.0005 | **5.7768** | -0.5536 |
| NBBL | 5 | - | - | - | - | - | - |

*Source: Appendix A-2 and B-2*

The table 4.2.4 is the collection of major output of simple regression analysis of dividend per share (DPS) on Net profit (NP) of two banks. It is clear to say that Net profit has direct influence on dividend per share as the regression coefficient of NSBL is (0.0164), which indicates that a rupee increase in Net profit leads to an average of

about Rs. 0.0164 decrease in the DPS, holding other variables constant. The value of $R^2$ is 0.0005, Net profit explains 0.05% variation in DPS of NSBL. Result of NSBL is insignificant because the value of t is low (0.5536) than the tabulated value of t (1.96) at 5% level of significance.

In case of NBBL, we can't calculate regression analysis dividend per share on Net profit because the bank has not paid any dividend in the study period.

**Table no. 4.2.5**
**Correlation between Dividend Per Share (DPS) and Average Stock Price (MPS)**

| Banks | Coefficient of correlation (r) | Relationship | R-square ($R^2$) | Probable Error (P.E.) | Significant / Insignificant |
|---|---|---|---|---|---|
| NSBL | 0.0024 | Direct | 0.0000059 | 0.3016 | Significant |
| NBBL | - | - | - | - | - |

*Source: Appendix A-3 and B-3*

The table 4.2.5 is supported to reveal the relationship between dividend per share (DPS) and average stock price(MPS). Coefficient of correlation between DPS and MPS of NSBL indicates the there is positive relationship. The coefficient of determination (R2) between DPS and MPS of NSBL is 0.0000059. The figure related to NSBL shows that variation in the DPS no explains of variation in the MPS, which is considerable. As for as significance of relationship is concerned, there is insignificant relationship between DPS and MPS of both banks because correlation coefficient is smaller than probable error.

Similarly, in case of NBBL, here is also same case. NBBL has not paid any dividend in whole study period, so we can't calculate correlation between DPS and MPS.

**Table no. 4.2.6**

**Bivariate Regression Result of Average Stock Price (MPS) on Dividend Per Share (DPS)**

| Banks | No. of Observation (n). | Constant(a) | Regression Coefficient (b) | S.E.(b) | R-square (R2) | S.E.E | T-value |
|---|---|---|---|---|---|---|---|
| NSBL | 5 | 1104.2691 | 0.6424 | 70.3392 | 0.0000059 | 738.8706 | 0.0091 |
| NBBL | 5 | - | - | - | - | - | - |

*Source: Appendix A-3 and B-3*

The table 4.2.6 depicts the major output of simple regression analysis of average market price per share (MPS) on dividend per share (DPS) of the concerned banks.

In case of NSBL, the beta coefficient is positive 0.6424 increase in MPS, holding other variables constant the value of $R^2$ is zero. This indicates that stock price per variation is not explained by dividend variable. The test of t statistic helps as to conclude that the result is not statistically significant at 5% level of significance since the t value (0.0091) is smaller than the tabulated value of t (1.96).

Similarly, in case of NBBL, there is no dividend in whole period. So, we couldn't calculate regression analysis of average stock price (MPS) on dividend per share (DPS).

**Table no. 4.2.7**

**Correlation between Dividend Per Share (DPS) and Net Worth (NW)**

| Banks | Coefficient of correlation (r) | Relationship | R-square ($R^2$) | Probable Error (P.E.) | Significant / Insignificant |
|---|---|---|---|---|---|
| NSBL | -0.0598 | Indirect | 0.0036 | 0.3006 | Insignificant |
| NBBL | - | - | - | - | - |

*Source: Appendix A-4 and B-4*

The table 4.2.7 depicts the relationship between dividend per share (DPS) and Net worth (NW) of the NSBL bank. Coefficient of correlation between DPS and NW of NSBL is (0.0598), which indicate the moderate degree of negative correlation.

The coefficient of determination ($R^2$) between DPS and NW of NSBL is 0.0036%. The figure related to the NSBL show that variation in the NW explain only 0.0036% variation in the NW, which is negligible. To measure the significance of the relationship between DPS and NW of the NSBL, it would be more preferable to calculate probable error of correlation coefficient. The same table depicts that coefficient of correlation (r) is negative of NSBL. So, the relationship between DPS and NW is insignificant.

At concerned of NBBL, we can't calculate the correlation between Dividend per share and Net worth because NBBL has not paid any dividend in whole study period.

**Table no. 4.2.8**

**Bivariate Regression Result of Net Worth (NW) on Dividend Per Share (DPS)**

| Banks | No. of Observation (n). | Constant(a) | Regression Coefficient (b) | S.E.(b) | R-square (R2) | S.E.E | T-value |
|---|---|---|---|---|---|---|---|
| NSBL | 5 | 989.9469 | -3.7450 | 36.0579 | 0.0036 | 378.7668 | -0.10386 |
| NBBL | 5 | - | - | - | - | - | - |

*Source: Appendix A-4 and B-4*

With the respect to the above tab le 4.2.8 regression result of Net Worth on dividend per share (DPS) beta coefficient is negative in NSBL. The beta coefficient is (3.7450) in the context of NSBL. It indicates that a rupee increase in DPS leads to an average Rs. 3.7450 decrease in Net Worth. Hence we can conclude that DPS does factors that affect NW. The value of $R^2$ of NSBL is 0.0036, which means only 0.0036% variation in NW is explained by variation in DPS.

The result of the regression is not statistically significant at 5% level of significant. In other words, regression equation can't explains accurately. It is because the tabulated value of t (1.96) is greater than the computed value of t 0.10386.

**Table no. 4.2.9**

**Correlation between Dividend Per Share (DPS) and Investment (INV)**

| Banks | Coefficient of correlation (r) | Relationship | R-square ($R^2$) | Probable Error (P.E.) | Significant / Insignificant |
|---|---|---|---|---|---|
| NSBL | 0.1558 | Direct | 0.0243 | 0.2943 | Insignificant |
| NBBL | - | - | - | - | - |

*Source: Appendix A-5 and B-5*

The table 4.2.9 shows the correlation between dividend per share (DPS) and Investment (INV) of NSBL and NBBL. The correlation coefficient between DPS and INV of NSBL is 0.1558, which indicates that there is direct relationship between INV and DPS.

The $R^2$ between DPS and INV is 0.0243. It shows that the variation in investment only 2.43% of variation in dividend per share in case of NSBL, which is considerable. Since r of NSBL is smaller than probable error the relationship between DPS and INV is insignificance.

In case of NBBL, here is also same case, NBBL has not paid any dividend whole study period. So, we can't calculate required figures.

**Table no. 4.2.10**
**Bivariate Regression Result of Dividend Per Share (DPS) on Investment (INV)**

| Banks | No. of Observation (n). | Constant(a) | Regression Coefficient (b) | S.E.(b) | R-square (R2) | S.E.E | T-value |
|---|---|---|---|---|---|---|---|
| NSBL | 5 | -14.1138 | 0.0065 | 0.003002 | 0.0243 | 3.7858 | 2.1676 |
| NBBL | 5 | - | - | - | - | - | - |

*Source: Appendix A-5 and B-5*

The table 4.2.10 depicts the le regression analysis of dividend per share (DPS) on Investment (INV) of the concerned banks.

With respect to the above regression result of dividend per share on investment, beta coefficient is positive. The beta coefficient is 0.0065 in the context of NSBL. It indicates that a rupee increase in investment leads to an average of Rs. 0.0065 increase in DPS, holding other variables constant.

The value of $R^2$ is 0.0243, which indicates that only 2.43% of dividend variation can be explained by investment variable. This result is statistically significant at 5% level of significance became the computed value of t (2.1676) is greater than the tabulated value of t (1.96).

**Table no. 4.2.11**

**Correlation between Dividend Per Share (DPS) and Current Ratio (CR)**

| Banks | Coefficient of correlation (r) | Relationship | R-square ($R^2$) | Probable Error (P.E.) | Significant / Insignificant |
|---|---|---|---|---|---|
| NSBL | 0.2703 | Direct | 0.0731 | 0.2796 | Insignificant |
| NBBL | - | - | - | - | - |

*Source: Appendix A-6 and B-6*

The table 4.2.11 depicts the relationship between current ratio (CR) and dividend per share (DPS) of the concerned banks. The correlation coefficient between CR and DPS of NSBL is 0.2703, it indicates that there is positive relationship between DPS and CR.

The $R^2$ between the two variables is 0.0731 of NSBL. It shows that the variation in CR explains 0.731% of variation in DPS. As for is significance of relationship between DPS and CR is concerned, the relationship between two variables are frankly insignificant, since r is less than PE of NSBL.

**Table no. 4.2.12**

**Correlation between Earning Yield (EY) and Dividend Yield (DY)**

| Banks | Coefficient of correlation (r) | Relationship | R-square ($R^2$) | Probable Error (P.E.) | Significant / Insignificant |
|---|---|---|---|---|---|
| NSBL | 0.3683 | Direct | 0.1357 | 0.2607 | - |
| NBBL | - | - | - | - | - |

*Source: Appendix A-7 and B-7*

The table 4.2.12 depicts the relationship between earning yield (EY) and dividend yield (DY) of NSBL and NBBL banks.

According to table 4.2.12, there are positive relationship between earning yield (EY) and dividend yield (DY). The $R^2$ of the NSBL is 0.1357. Coefficient of determination (R2) indicates that 13.57% variation is explained in dividend yield due to change in the value of earning yield in NSBL bank. There is nothing can be

concluded about relationship between EY and DY because the r is greater than probable error but smaller than 6PE.

In case of NBBL, we can not calculate the correlation between earning yield (EY) and dividend yield (DY) because NBBL has not paid any dividend during the study period.

**Table no. 4.2.13**
**Correlation between Average Stock Price (MPS) and Dividend Per Share of last year [ $DPS_{(t-1)}$]**

| Banks | Coefficient of correlation (r) | Relationship | R-square ($R^2$) | Probable Error (P.E.) | Significant / Insignificant |
|---|---|---|---|---|---|
| NSBL | 0.1767 | Direct | 0.0312 | 0.2922 | Insignificant |
| NBBL | - | - | - | - | - |

*Source: Appendix A-8 and B-8*

With respect to the above correlation table 4.2.13 between market price per share (Average stock price) (MPS) and dividend per share of last year ($DPS_{t-1}$). In the table correlation coefficient is positive in NSBL bank. The coefficient of correlation is 0.1767, it indicates that there is positive between MPS and $DPS_{t-1}$. The value of $R^2$ is 0.0312. This indicates that only 3.12% of NSBL variation is explained in dependent variable DPS of t-1 year. There is insignificance relationship between $DPS_{t-1}$ and MPS because r is less than probable error.

In case of NBBL, we cannot calculate correlation between MPS and $DPS_{t-1}$.

**Table no. 4.2.14**

**Bivariate Regression Result of Market Price Per Share (Average Stock Price = MPS = $P_t$) on Dividend Per Share of Last Year [$DPS_{(t-1)}$]**

| Banks | No. of Observation (n). | Constant(a) | Regression Coefficient (b) | S.E.(b) | R-square (R2) | S.E.E | T-value |
|---|---|---|---|---|---|---|---|
| NSBL | 5 | 949.5982 | 44.6849 | 61.8313 | 0.1357 | 681.9035 | 0.7226 |
| NBBL | 5 | - | - | - | - | - | - |

*Source: Appendix A-8 and B-8*

With respect to the above regression result of market per share (MPS) on dividend per share of last year DPS $_{(t-1)}$, the beta coefficient is positive in NSBL, which refer that a rupee increase in DPS last year leads to an average of Rs. 44.6849 of NSBL increase in MPS of current year.

The value of R2 is 0.1357 of NSBL. So, the $DPS_{t-1}$ variable can explain only 13.57% variation in MPS for t year of the bank. This result is not statistically significant at 5% level of significance since the value of t is smaller 0.7226 than the tabulated value of t 0.05 (1.96).

**Table no. 4.2.15**

**Correlation between Dividend Payout Ratio (DPR) and Market Price Per Share (MPS)**

| Banks | Coefficient of correlation (r) | Relationship | R-square ($R^2$) | Probable Error (P.E.) | Significant / Insignificant |
|---|---|---|---|---|---|
| NSBL | -0.0780 | Indirect | 0.0061 | 0.2998 | Insignificant |
| NBBL | - | - | - | - | - |

*Source: Appendix A-9 and B-9*

The table 4.2.15 helps to depict the relationship between dividend payout ratio (DPR) and market price per share (MPS). There is negative relationship between DPR and MPS. This figure indicates that DPR of NSBL explains 0.0061% of variation in the MPS R is negative. So, the relationship between DPR and MPS is insignificant.

**Table no. 4.2.16**

**Bivariate Regression Result of Market Price Per Share (MPS) on Dividend Payout Ratio (DPR)**

| Banks | No. of Observation (n). | Constant(a) | Regression Coefficient (b) | S.E.(b) | R-square (R2) | S.E.E | T-value |
|---|---|---|---|---|---|---|---|
| NSBL | 5 | 1198.142 | -7.0054 | 23.5447 | | 728.2145 | -0.2975 |
| NBBL | 5 | - | - | - | - | - | - |

*Source: Appendix A-9 and B-9*

Table 4.2.16 depicts the linear relationship between stock price (MPS) and dividend payout ratio (DPR) of concerned banks. In case of NSBL, beta coefficient is (7.0054), which indicates that a one percent increase in DPR leads to an average 7.0054 percent decrease in average stock price all other things being same.

The value of $R^2$ of NSBL is 0.0061. This indicates that only 0.0061% in stock price variable is explained by dividend payout variable which is negligible. However the result of NSBL is not statistically significant at 5% level of significance. Since computed value of t 0.05(0.2975) is smaller than the tabulated of t 0.05(1.96).

## 4.3 Multiple Correlation and Regression Analysis :

**Table no. 4.3.1**

**Multiple Correlation between Dividend Per Share (DPS) and Earning Per Share (EPS) and Dividend Per Share of last year $DPS_{(t-1)}$.**

| Banks | Coefficient of correlation (r) | Relationship | R-square ($R^2$) | Probable Error (P.E.) | Significant / Insignificant |
|---|---|---|---|---|---|
| NSBL | 0.5928 | Direct | 0.3514 | 0.3844 | - |
| NBBL | - | - | - | - | - |

*Source: Appendix C-1*

The above table 4.3.1 depicts multiple correlations between dividend per share (DPS), earning per share (EPS) and dividend per share of last year ($DPS_{t-1}$) of two concerned banks. The multiple correlation coefficient (r) between DPS, EPS and ($DPS_{t-1}$) of NSBL is 0.5928. This indicates that there exists high degree of direct relationship between these variables of NSBL bank.

The coefficient of multiple determinations ($R^2$) of NSBL is 0.3514. It shows that only 35.14% variation in dependent variables. DPS is explain by independent variables viz. EPS and ($DPS_{t-1}$) in case of NSBL. As far as the significant of DPS, EPS and ($DPS_{t-1}$) is concerned, it cannot be concluded about relationship of these variables because r is greater than PE but smaller than 6PE.

But the figure related to NBBL shows that, the bank has not paid any dividend last five years. That is why; we cannot calculate correlation between dividend per share (DPS), earning per share (EPS) and dividend per share of last year ($DPS_{t-1}$).

**Table no. 4.3.2**

**Multiple Regression Analysis of Dividend Per Share (DPS) on Earning Per Share (EPS) and Dividend Per Share of last year $DPS_{(t-1)}$.**

| Banks | No. of Obs(n). | Constant(a) | b1 | b2 | S.E.(b) | R-square (R2) | F | F.Sig |
|---|---|---|---|---|---|---|---|---|
| NSBL | 5 | 5.4367 | -0.0550 | -0.0021 | 7.6636 | 0.351 | 0.0606 | Insignificant |
| NBBL | 5 | - | - | - | - | - | - | - |

*Source: Appendix C-1*

The result presented in table 4.3.2 shows the relationship between DPS, EPS and $DPS_{t-1}$. The constant (a) is positive in NSBL. In case of NSBL, a one rupee increase in EPS leads to an average of about Rs. 0.0550 decrease in DPS, remaining variables $DPS_{t-1}$ constant. The relationship between DPS, EPS and $DPS_{t-1}$ is negative in NSBL. That is why, increase in $DPS_{t-1}$ causes decrease DPS. The value of $R^2$ is 0.351, which indicates that only 35.1% variation in DPS is explain by EPS and $DPS_{t-1}$. One of the most important points to be noted here is that F-statistic. Here calculated F is smaller than tabulated value $F_{0.05}(2,12)$ i.e 3.89. So, null hypothesis is accepted. Therefore, we concluded that there is insignificant difference in these variables.

**Table no. 4.3.3**

**Multiple Correlation between Market Price Share (MPS) and Earning Per Share (EPS) and Dividend Per Share (DPS)**

**MPS and EPS, DPS.**

| Banks | Coefficient of correlation (r) | Relationship | R-square ($R^2$) | Probable Error (P.E.) | Significant / Insignificant |
|---|---|---|---|---|---|
| NSBL | 0.5928 | Direct | 0.3514 | 0.3844 | - |
| NBBL | - | - | - | - | - |

*Source: Appendix C-2*

The table no. 4.2.3.depicts the multiple correlation between market price per share (MPS), earning per share (EPS) and dividend per share (DPS) of two concerned banks. The multiple correlation coefficients (R) between MPS, EPS and DPS of NSBL is 0.5928. We can conclude that there is positive relationship between these variables.

The coefficient of multiple determinations (R2) of NSBL is 0.3844, Which indicates that only 38.44% variation independent variables (MPS) is explained by the variation in dependent variables EPS and DPS. As far as, the significant of relationship of MPS, EPS and DPS is concerned, the relationship of these variables are nothing can be concluded. Since r is higher than PE but smaller than 6PE.

In case of NBBL, the bank has not paid any dividend. So, we cannot concluded relationship between MPS, EPS and DPS.

**Table no.:4.3.4**

**Multiple Regression Analysis of Market Price Per Share (MPS) on Earning Per Share (EPS) and Dividend Per Share (DPS) .**

| Banks | No. of Obs(n). | Constant(a) | b1 | b2 | S.E.(b) | R-square (R2) | F | F.Sig |
|---|---|---|---|---|---|---|---|---|
| NSBL | 5 | -400.5085 | -78.0260 | 67.0038 | 178.5588 | 0.351 | 24.6849 | Significant |
| NBBL | 5 | - | - | - | - | - | - | - |

*Source: Appendix C-2*

The table 4.3.4 represent the linear relationship between MPS, EPS and DPS of two concerned banks. The constant (a) is negative in NSBL. The beta coefficient of EPS and DPS of NSBL are (78.026) and 67.0038 respectively. It indicates that a one rupee increase in EPS leads to an average about 78.026 decrease in MPS, since the relationship between MPS and EPS is negative, holding other variables constant. But negative coefficient of DPS indicates that a rupee increase in DPS causes Rs. 67.0038 increase in MPS.

The value of coefficient multiple determination $R^2$ is 0.351, which indicates that 35.1% variation in dependent variables (MPS) is explained by variation in independent variables EPS and DPS. Since calculated F is greater than tabulated value $F_{0.05}(2,12)$ i.e 3.89. So, the null hypothesis is rejected an hence the alternative hypothesis is accepted. Therefore, we concluded that there is significant these variables.

## 4.4 Major Findings:

- Earning per share analysis shows that the average earning per share is negative in NBBL. At the same time C.V. analysis helps us to conclude that NSBL has relatively more consistent earning per share than that of NBBL.

- The analysis of dividend per share is concerned, data related to NSBL shows that its average dividend per share is 3.94. NBBL has not paid any dividend in the whole study period. This indicates that NSBL is able to pay higher average dividend to its shareholders.

- The analysis of divided payout ratio is one of the major studies, which helps us to find out dividend policy and practices adopted by the concerned banks. This analysis shows that both banks do not exhibit constant divided payout ratio. The average DPR of NSBL is 31.04 it reflects in average, NSBL has paid 31.04% dividend to their shareholders out of their earnings. In case of NBBL, it was failed to pay dividend for the five years because the bank has not succeed to earning profit.

- Price-earnings ratio analysis shows that the average price – earnings ratio of NBBL is higher with high variation than NSBL. NSBL has lower price earning ratio put has comparatively more consistency of price earning ratio.

- The earning yield ratio analysis shows that the average earning yield ratio of NBBL higher with high variation than NSBL. NBBL is remarkable here in the sense of its earning yield ratio, which ranks higher with more consistency than NSBL.

- On the basis of dividend yield ratio, average dividend yield ratio of NSBL is 0.40. NBBL was fail to distribute dividend in whole period.

- On the basis of dividend yield ratio, NSBL is more efficient with more consistency than NBBL for distribution of dividend on the basis of market price per share.

- Average market value per share to book value per share of NSBL is greater with relatively less consistency than that of NBBL. This shows that there is greater chance of higher capital gain to the shareholders of NSBL.

- The average return on net worth of NBBL is negative. It is in fluctuating trend. The average return Net worth of NSBL is 975.19, it in ascending order.

- In case of NSBL, the relationship between dividend per share with earning per share, average stock price and investment are positive. While the relationship between dividend per share with net worth, net profit and Current ratio are negative. But, in case of NBBL, there is no relationship between DPS, EPS, Net profit, MPS, INV and CR because of the bank was fail to pay dividend.

- The correlation between divided per share with net profit, average stock price, Net worth, investment, current ratio are insignificant in NSBL.

- The relationship between earning yield with dividend yield is direct. Coefficient of correlation (r) is greater than probable error but smaller than 6PE. So, nothing can be concluded about significant.

- The relationship between dividend per share and market price per share of last year is positive in NSBL and the correlation between dividend payout ratio and market price per share is insignificant.

- According to simple regression analysis of dividend per share on earning per share, beta coefficient is positive in NSBL. The regression coefficient (0.2577) of NSBL indicates that a one rupee increase in earning per share leads to an average of Rs.0.2577 increase in dividend per share

- As far as the bivariate regression analysis of dividend per share on net profit is concerned, beta coefficient is negative (i.e. -0.0163) of NSBL it indicates that a one rupee increase in net profit leads to an average Rs. 0.0163 decrease in dividend per share holding other variable constant. This appears ridiculous because increase in net profit leads to decrease in DPS.

- From the regression analysis of average stock price on dividend per share, regression coefficient is positive (i.e. 0.6423) in NSBL. The regression coefficient (0.6423) of NSBL indicates that a one rupee increase in dividend per share leads to an average of Rs. 0.6423 increase in stock price, holding other variables constant.

- According to simple regression analysis of Net worth on dividend per share beta coefficient is negative in NSBL. Which indicates that if one of dividend per share is decreased in NSBL at the same time.

- Dividend per share and investment are positively correlated, which means higher the investment, higher will be dividend per share. This situation generally does not exit become when the company has investment proposal, it can't pay dividend since it has to invest to the proposal from earning. In this case beta coefficient is positive in NSBL.

- According to simple regression analysis of market price per share on dividend per share of last year beta coefficient is positive in NSBL.

- With respect to regression analysis at market price per share on dividend payout ratio, beta coefficients is negative in NSBL. Bet coefficient of NSBL is (7.0054) which indicates that one percent increase in DPR leads to an average 7.0054 percent decrease in MPS, holding other variable constant.

# CHAPTER – V

## SUMMARY, CONCLUSION & RECOMMENDATION

This chapter focuses on summarizing the study held with the researcher's conclusion. The next attempt in this chapter will be made for the recommendations on the basis of findings. For this whole purpose the chapter is sub divided in to Summary, Conclusion and Recommendation as followings.

### 5.1 Summary

Dividend policy decision is undoubtedly one of the three major decisions of financial management. It is right to say that dividend policy decision affect on the operation and prosperity of a financial companies because it has the power to influence other to decisions namely capital structure decision and investment decision. Basically every investor expect handsome earnings on his/her share capital investment. The firm that is not able to distribute fair dividend, will not be able to raise further equity capital from capital market. The total earning that a shareholder can gain from share investment may be classified into dividend yield and capital gain yield. The company therefore needs to device a proper balance between retention and dividend distribution. So, it is justified to whole that a clearly defined and effectively manage dividend policy is required in all financial companies to fulfill the shareholders' expectation with that of corporate growth from internally generated funds. So, the funds couldn't be used due to lack of investment opportunities would be better as dividend, since shareholders have investment opportunities elsewhere.

### 5.2 Conclusion

From the study held by this researcher, it can be concluded that there is not any consistency in the dividend policy of the sample firms. Therefore, sometimes the results of the different test accept the theoretical assumptions of dividend policy and some time do not.

Researcher found the majority of Nepalese firm gives first priority to earning to get into the decision of dividend. The second priority goes to the cash availability and third priority is given to past dividend. After all, "Concern about maintaining or

increasing the stock price" priority also influences the dividend policy of the firm in Nepal.

The shareholders in Nepal don't seem to be investing their capital on the basis of financial performance of the financial institution as such. The main reason behind this statement is that market price of the shares don't seem to be more or less dependent upon earning per share and dividend per share.

### 5.3 Recommendation

On the basis of findings the following recommendation is made for the further application of dividend policy to have the strong MPS in the capital market.

- Banks are paying dividend without adopting any appropriate policy. Companies should have their clearly defined divided policy. Clearly defined dividend policy helps to determine specific policy i.e. stables dividend or constant pays out or low regular plus extras. What should be the long run dividend payout ratio either are pure residual policies. Fixed dividend payout policies or smooth dividend policies. This helps to investor in deciding whether to buy or not the share of particular company and to build image stock market.

- It is necessary to enact legal rules that bind. So, the government should act in favor of investors and should bind through such legal provisions or distinct rules so that the profit earning companies should distribute certain percent of their earnings as dividend.

- Banks should have long term visions regarding earning and dividend payment that helps to cope with challenging competitive situation of prevent world. Various internal and external factors should be considered before taking decision.

- Shareholders should be given options to choose between stock dividend and cash dividend instated of declaring of stock or cash dividend. For this dividend declaration should be proposed to the annual general meeting of shareholders for approval.

- All the firms must accept one major fact that EPS is to be considered for determining dividend amount. The analysis's shows the conditions of not being able to say either significant or insignificant relationship between EPS and DPS in average. It is important to consider earning rather than neglecting it while making dividend decision.

- Each and every company should provide regarding their activities and performance, so that investor can analyze the situation and invest their money in the best company.

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

- Deposit mobilization is the most important function of commercial banks since their successful functioning depends on the extent of funds mobilized. NBBL should be proper mobilizing its deposit on secured area. NBBL should give attention to gain its clients and shareholders' believe and truth.

- NSBL and NBBL must give more attention on quality and reliable services its clients. Both banks need to employee new technology, new service and best management efforts.

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# APPENDIX - A

## NEPAL SBI BANK LIMITED : AN OVERVIEW

| Year | EPS (in Rs.) | DPS (in Rs.) | DPR (in %) | PE *Ratio* | EY Ratio | DY Ratio | MPS (in Rs.) | BVPS (in Rs.) | NP('000,000') | NW ('000,000) (in Rs.) | CR | $DPS_{(t-1)}$ | INV ('000,000) (in Rs.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2003/04 | 13.29 | 0 | 0 | 25.21 | 8.33 | 0.000 | 335 | 159.54 | 60.852 | 626.6 | 2.13 | 0 | 1907.5 |
| 2004/05 | 18.27 | 5 | 27.36 | 33.50 | 12.04 | 0.817 | 612 | 151.78 | 57.387 | 689.0 | 1.45 | 0 | 2607.7 |
| 2005/06 | 39.35 | 12.59 | 31.99 | 29.89 | 22.10 | 1.071 | 1176 | 178.04 | 117.003 | 982.4 | 2.00 | 5 | 3610.8 |
| 2006/07 | 28.33 | 0 | 0 | 53.34 | 17.64 | 0.000 | 1511 | 160.57 | 254.908 | 1163.3 | 1.54 | 12.59 | 2659.5 |
| 2007/08 | 36.18 | 2.11 | 5.83 | 52.52 | 18.58 | 0.111 | 1900 | 194.68 | 247.770 | 1414.6 | 1.00 | 0 | 3088.9 |

## APPENDIX –B:

## NEPAL BANGLADESH BANK LIMITED : AN OVERVIEW

| Year | EPS (in Rs.) | DPS (in Rs.) | DPR (in %) | PE *Ratio* | EY Ratio | DY Ratio | MPS (in Rs.) | BVPS (in Rs.) | NP (000,000) | NW ('000,000) (in Rs.) | CR | $DPS_{(t-1)}$ | INV ('000,000) (in Rs.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2003/04 | 0.74 | 0 | 0 | 478.38 | 0.41 | 0 | 354 | 182.42 | 2.643 | 656.578 | 1.92 | 0 | 2699.166 |
| 2004/05 | -104.12 | 0 | 0 | -2.55 | 319.48 | 0 | 265 | -32.59 | -749.543 | 234.576 | 1.05 | 0 | 2411.72 |
| 2005/06 | -249.65 | 0 | 0 | -0.80 | 115.01 | 0 | 199 | -217.07 | -1797.159 | -1562.584 | 0.92 | 0 | 2661.833 |
| 2006/07 | -147.47 | 0 | 0 | -3.73 | 40.45 | 0 | 550 | -364.54 | -1061.580 | -2624.163 | 0.58 | 0 | 1034.56 |
| 2007/08 | 72.83 | 0 | 0 | 7.76 | -22.97 | 9 | 565 | -317.03 | 596.000 | -2191.448 | 0.20 | 0 | 1389.901 |

**A.1: Variables used in Analysis**

| Years / Variables | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|---|---|---|---|---|---|
| X | 13.29 | 18.27 | 39.35 | 28.33 | 36.18 |
| Y | 0 | 5 | 12.59 | 0 | 2.11 |

*Note: DPS and EPS denote dividend per share (Depended Variable) and earning per share(Independent Variable) respectively.*

Note : Values of X represent earning per share (in Rs.)
Values of Y represent dividend per share (in Rs.)

Output of Regression Results :

| | | | | | | |
|---|---|---|---|---|---|---|
| a | = | -3.04 | $\Sigma XY$ | = | 663.106 | |
| b | = | 0.2577 | Y | = | 3.9 | |
| $\Sigma X^2$ | = | 4170.42 | $\sigma_Y$ | = | 4.7 | |
| $\Sigma X$ | = | 135.42 | X | = | 27.1 | |
| $\Sigma Y^2$ | = | 187.96 | $\sigma_X$ | = | 10.03 | |
| $\Sigma Y$ | = | 19.7 | r | = | 0.5496 | N = 5 |

Bivariate regression result of DPS = a+b.EPS
= -3.04+ 0.2577.EPS

Where, DPS = Dividend Per Share
EPS = Earning Per Share

| | | |
|---|---|---|
| Probable Error (P.E.) | = | 0.2015 |
| Coefficient of Determination ($r^2$) | = | 0.3021 |
| Standard Error of Estimate Y on X (SEE) | = | 5.0648 |
| Standard Error of Beta Coefficient [SE(B)] | = | 0.2259 |
| T value | = | 1.1408 |

**A.2: Variables used in Analysis**

| Years / Variables | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|---|---|---|---|---|---|
| X ('000,000) | 60.85 | 57.39 | 117.00 | 254.91 | 247.77 |
| Y | 0 | 5 | 12.59 | 0 | 2.11 |

*Note: DPS and NP denote dividend per share (dependent variable) and Net profit (independent variable) respectively.*

Note : Values of X represent net profit (in Rs.)
Values of Y represent dividend per share (in Rs.)

Output of Regression Results :

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| a | = | 6.3564 | | ΣXY | = | 2282.8 | |
| b | = | -0.0164 | | Y | = | 3.9 | |
| $\Sigma X^2$ | = | 147053.9970 | $\sigma_Y$ | = | 4.7 | | |
| ΣX | = | 737.92 | | X | = | 147.6 | |
| $\Sigma Y^2$ | = | 187.96 | | $\sigma_X$ | = | 1242.52 | |
| ΣY | = | 19,7 | r | = | -0.0214 | | N = 5 |

Bivariate regression result of DPS = a+b.NP
= 6.3564-0.0164. NP
Where, DPS = Dividend Per Share
NP = Net Profit

| | | |
|---|---|---|
| Probable Error (P.E.) | = | 0.2105 |
| Coefficient of Determination ($r^2$) | = | 0.0005 |
| Standard Error of Estimate Y on X (SEE) | = | 5.7768 |
| Standard Error of Beta Coefficient [SE(B)] | = | 0.0295 |
| T value | = | -0.5535 |

**A.3: Variables used in Analysis**

| Years / Variables | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|---|---|---|---|---|---|
| X | 0 | 5 | 12.59 | 0 | 2.11 |
| Y | 335 | 612 | 1176 | 1511 | 1900 |

*Note: MPS and DPS denote, average stock price (dependent variable) and dividend per share (independent variable)*

Note : Values of X represent dividend per share (in Rs.)
Values of Y represent market price per share (in Rs.)

Output of Regression Results :

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| a | = | 1104.2691 | | ΣXY | = | 21874.8 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| b | = | 0.6424 | | Y | = | 1106.8 |
| $\Sigma X^2$ | = | 187.9602 | | $\sigma_Y$ | = | 1242.5245 |
| $\Sigma X$ | = | 19.7 | | X | = | 3.9 |
| $\Sigma Y^2$ | = | 7762866 | | $\sigma_X$ | = | 4.7 |
| $\Sigma Y$ | = | 5534 | r | = | 0.0024 | N = 5 |

Bivariate regression result of MPS = a+b.DPS

= 1104.2691+ 0.6424.DPS

Where, DPS = Dividend Per Share

MPS = Market Price Per Share

| | | |
|---|---|---|
| Probable Error (P.E.) | = | 0.3016 |
| Coefficient of Determination ($r^2$) | = | 0.000006 |
| Standard Error of Estimate Y on X (SEE) | = | 738.8705 |
| Standard Error of Beta Coefficient [SE(B)] | = | 70.3392 |
| T value | = | 0.0091 |

**A.4: Variables used in Analysis**

| Years / Variables | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|---|---|---|---|---|---|
| X | 0 | 5 | 12.59 | 0 | 2.11 |
| Y | 626.637 | 689.013 | 982.373 | 1163.29 | 1414.645 |

*Note: NW and DPS denote net worth (dependent variable) and dividend per share (independent variable) respectively.*

Note : Values of X represent dividend per share (in Rs.)

Values of Y represent net worth (in Rs.)

Output of Regression Results :

| | | | | | |
|---|---|---|---|---|---|
| a | = | 989.9469 | $\Sigma XY$ | = | 2065.595 |
| b | = | -3.7450 | Y | = | 975.2 |
| $\Sigma X^2$ | = | 187.9669 | $\sigma_Y$ | = | 293.92 |
| $\Sigma X$ | = | 19.7 | X | = | 3.9 |
| $\Sigma Y^2$ | = | 5186933.6552 | $\sigma_X$ | = | 4.7 |
| $\Sigma Y$ | = | 4875.9580 | r | = | -0.0598 |

N = 5

Bivariate regression result of NW = a+b.DPS

= 989.9469- 3.7450.DPS

Where, DPS = Dividend Per Share

NW = Net Worth

Probable Error (P.E.) = 0.3006

Coefficient of Determination ($r^2$) = 0.0036

Standard Error of Estimate Y on X (SEE) = 378.7668

Standard Error of Beta Coefficient [SE(B)] = 36.0579

T value = -0.1038

**A.5: Variables used in Analysis**

| Years / Variables | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|---|---|---|---|---|---|
| X ('000,000) | 1907.521 | 2607.68 | 3610.775 | 2659.453 | 3088.887 |
| Y | 0 | 5 | 12.59 | 0 | 2.11 |

*Note: Dividend per share and Investment are represented by DPS and INV respectively.*

Note : Values of X represent investment (in Rs.)

Values of Y represent dividend per share (in Rs.)

Output of Regression Results :

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| a | = | -14.1138 | $\Sigma XY$ | = | 65015.61 | | |
| b | = | 0.0065 | Y | = | 3.9 | | |
| $\Sigma X^2$ | = | 40090240.6064 | $\sigma_Y$ | = | 4.7 | | |
| $\Sigma X$ | = | 13874.3160 | X | = | 2774.9 | | |
| $\Sigma Y^2$ | = | 187.96 | $\sigma_X$ | = | 2827.75 | | |
| $\Sigma Y$ | = | 19.7 | r | = | -0.0598 | N = 5 | |

Bivariate regression result of DPS = a+b.INV

= -14.1138+ 0.0065.INV

Where, DPS = Dividend Per Share

INV = Investment

Probable Error (P.E.) = 0.2943

Coefficient of Determination ($r^2$) = 0.02443

| | | |
|---|---|---|
| Standard Error of Estimate Y on X (SEE) | = | 3.7858 |
| Standard Error of Beta Coefficient [SE(B)] | = | 0.0030 |
| T value | = | 2.1676 |

**A.6: Variables used in Analysis**

| Years / Variables | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|---|---|---|---|---|---|
| X | 2.13 | 1.45 | 2.00 | 1.54 | 1.00 |
| Y | 0 | 5 | 12.59 | 0 | 2.11 |

Note : Values of X represent current ratio
Values of Y represent dividend per share (in Rs.)

Worked out Results :

$\Sigma XY = 34.5995$
$\Sigma X^2 = 14.00335$
$\Sigma X = 8.1263$
$\Sigma Y^2 = 187.96$
$\Sigma Y = 19.7$ r = 0.2703 N = 5

Probable Error (P.E.) = 0.2796
Coefficient of Determination ($r^2$) = 0.0731

**A.7: Variables used in Analysis**

| Years / Variables | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|---|---|---|---|---|---|
| X | 8.33 | 12.04 | 22.10 | 17.64 | 18.58 |
| Y | 0.000 | 0.817 | 1.071 | 0.000 | 0.111 |

Note : Values of X represent earning yield ratio
Values of Y represent dividend yield ratio

Worked out Results :

$\Sigma XY = 35.55.98$
$\Sigma X^2 = 1359.4411$
$\Sigma X = 78.6969$
$\Sigma Y^2 = 1.8259$
$\Sigma Y = 1.9986$ r = 0.3683 N = 5

Probable Error (P.E.) = 0.2607
Coefficient of Determination ($r^2$) = 0.1357

**A.8: Variables used in Analysis**

| Years / Variables | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|---|---|---|---|---|---|
| X | 0 | 0 | 5 | 12.59 | 0 |
| Y | 335 | 612 | 1176 | 1511 | 1900 |

*Note: Market price per share or average stock price and dividend per share of last year denoted by MPS and $DPS_{(t-1)}$ respectively.*

Note : Values of X represent dividend per share of last year (in Rs.)
Values of Y represent market price per share (in Rs.)
Output of Regression Results :

| | | | | | |
|---|---|---|---|---|---|
| a | = | 949.5982 | $\Sigma XY$ | = | 24903.5 |
| b | = | 44.685 | Y | = | 1106.8 |
| $\Sigma X^2$ | = | 183.5081 | $\sigma_Y$ | = | 1242.52 |
| $\Sigma X$ | = | 17.59 | X | = | 3.5 |
| $\Sigma Y^2$ | = | 7762866 | $\sigma_X$ | = | 4.95 |
| $\Sigma Y$ | = | 5534 | r | = | 0.1767 N = 5 |

Bivariate regression result of MPS = $a+b.DPS_{(t-1)}$
= $949.5982+ -44.685.DPS_{(t-1)}$
Where, $DPS_{(t-1)}$ = Dividend Per Share of Last Year
MPS = Market Price Per Share

| | | |
|---|---|---|
| Probable Error (P.E.) | = | 0.2922 |
| Coefficient of Determination ($r^2$) | = | 0.0312 |
| Standard Error of Estimate Y on X (SEE) | = | 681.904 |
| Standard Error of Beta Coefficient [SE(B)] | = | 61.8341 |
| T value | = | 0.7226 |

**A.9: Variables used in Analysis**

| Years / Variables | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|---|---|---|---|---|---|
| X | 0.00 | 27.37 | 31.99 | 0.00 | 5.83 |
| Y | 335 | 612 | 1176 | 1511 | 1900 |

*Note: MPS and DPR represent market price per share (dependent variable) and dividend payout ratio (independent variable) respectively*

Note : Values of X represent dividend payout ratio (in %)
Values of Y represent market price per share (in Rs.)

Output of Regression Results :

| | | | | | | |
|---|---|---|---|---|---|---|
| a | = | 1198.1424 | $\Sigma XY$ | = | 65455.5 | |
| b | = | -7.0054 | Y | = | 1106.8 | |
| $\Sigma X^2$ | = | 1806.6538 | $\sigma_Y$ | = | 4.70 | |
| $\Sigma X$ | = | 65.1941 | X | = | 13.0 | |
| $\Sigma Y^2$ | = | 7762866 | $\sigma_X$ | = | 25.11 | |
| $\Sigma Y$ | = | 5534 | r | = | -0.0779 | N = 5 |

Bivariate regression result of MPS = a+b.DPR
= 1198.1424-7.0054. DPR

Where, MPS = Market Price Per Share
DPR = Dividend Payout Ratio

| | | |
|---|---|---|
| Probable Error (P.E.) | = | 0.2998 |
| Coefficient of Determination ($r^2$) | = | 0.0608 |
| Standard Error of Estimate Y on X (SEE) | = | 728.214 |
| Standard Error of Beta Coefficient [SE(B)] | = | 23.5448 |
| T value | = | -0.2975 |

**B.1: Variables used in Analysis**

| Years / Variables | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|---|---|---|---|---|---|
| X | 0.74 | -104.12 | -249.65 | -147.47 | 72.83 |
| Y | 0 | 0 | 0 | 0 | 0 |

*Note: DPS and EPS denote dividend per share (Depended Variable) and earning per share(Independent Variable) respectively.*

Note : Values of X represent earning per share (in Rs.)
Values of Y represent dividend per share (in Rs.)

Output of Regression Results :

| | | | | | |
|---|---|---|---|---|---|
| a | = | 0 | $\Sigma XY$ | = | 0 |
| b | = | 0 | Y | = | 0 |
| $\Sigma X^2$ | = | 100218.2543 | $\sigma_Y$ | = | 0 |
| $\Sigma X$ | = | -427.6700 | X | = | -85.5 |
| $\Sigma Y^2$ | = | 0 | $\sigma_X$ | = | 112.82 |
| $\Sigma Y$ | = | 0 | r | = | 0 |
| | | | N | = | 5 |

Bivariate regression result of DPS = a+b.EPS
= 0 + 0.EPS

Where, DPS = Dividend Per Share
EPS = Earning Per Share

Probable Error (P.E.) = 0
Coefficient of Determination ($r^2$) = 0
Standard Error of Estimate Y on X (SEE) = 0
Standard Error of Beta Coefficient [SE(B)] = 0
T value = 0

**B.2: Variables used in Analysis**

| Years / Variables | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|---|---|---|---|---|---|
| X ( '000,000) | 2.64 | -749.54 | -1797.16 | -1061.58 | 596.49 |
| Y | 0 | 0 | 0 | 0 | 0 |

*Note: DPS and NP denote dividend per share (dependent variable) and Net profit (independent variable) respectively.*

Note : Values of X represent net profit (in Rs.)
Values of Y represent dividend per share (in Rs.)

Output of Regression Results :

| | | | | | |
|---|---|---|---|---|---|
| a | = | 0 | $\Sigma XY$ | = | 0 |
| b | = | 0 | Y | = | 0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| $\Sigma X^2$ | = | 5274351.0031 | | $\sigma_Y$ | = | 0 |
| $\Sigma X$ | = | -3009.1520 | X | = | | -601.8 |
| $\Sigma Y^2$ | = | 0 | $\sigma_X$ | = | | 832.13 |
| $\Sigma Y$ | = | 0 | r | = | | 0 |
| | | | N | = | | 5 |

Bivariate regression result of DPS = a+b.NP

= 0+ 0. NP

Where, DPS = Dividend Per Share

NP = Net Profit

| | | |
|---|---|---|
| Probable Error (P.E.) | = | 0 |
| Coefficient of Determination ($r^2$) | = | 0 |
| Standard Error of Estimate Y on X (SEE) | = | 0 |
| Standard Error of Beta Coefficient [SE(B)] | = | 0 |
| T value | = | 0 |

**B.3: Variables used in Analysis**

| Years / Variables | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|---|---|---|---|---|---|
| X | 0 | 0 | 0 | 0.00 | 0.00 |
| Y | 354 | 265 | 199 | 550 | 565 |

*Note: MPS and DPS denote, average stock price (dependent variable) and dividend per share (independent variable)*

Note : Values of X represent dividend per share (in Rs.)

Values of Y represent market price per share (in Rs.)

Output of Regression Results :

| | | | | | | |
|---|---|---|---|---|---|---|
| a | = | 0 | $\Sigma XY$ | = | 0 | |
| b | = | 0 | Y | = | 388.6 | |
| $\Sigma X^2$ | = | 0 | $\sigma_Y$ | = | 413.96 | |
| $\Sigma X$ | = | 0 | X | = | 0 | |
| $\Sigma Y^2$ | = | 856867 | $\sigma_X$ | = | 0 | |
| $\Sigma Y$ | = | 1933 | r | = | 0 | |
| | | | N | = | 5 | |

Bivariate regression result of MPS = a+b.DPS

= 0+ 0. DPS

Where, DPS = Dividend Per Share

MPS = Market Price Per Share

Probable Error (P.E.) = 0

Coefficient of Determination ($r^2$) = 0

Standard Error of Estimate Y on X (SEE) = 0

Standard Error of Beta Coefficient [SE(B)] = 0

T value = 0

**B.4: Variables used in Analysis**

| Years / Variables | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|---|---|---|---|---|---|
| X | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Y ('000,000) | 656.578 | 234.576 | -1562.584 | -2624.163 | -2191.448 |

*Note: NW and DPS denote net worth (dependent variable) and dividend per share (independent variable) respectively.*

Note : Values of X represent dividend per share (in Rs.)

Values of Y represent net worth (in Rs.)

Output of Regression Results :

| | | | | | |
|---|---|---|---|---|---|
| a | = | 0 | ΣXY | = | 0 |
| b | = | 0 | Y | = | -1097.4 |
| $\Sigma X^2$ | = | 0 | $\sigma_Y$ | = | 1311.10 |
| ΣX | = | 0 | X | = | 0 |
| $\Sigma Y^2$ | = | 14616465.1142 | $\sigma_X$ | = | 0 |
| ΣY | = | -5487.0410 | r | = | 0 |
| | | | N | = | 5 |

Bivariate regression result of NW = a+b.DPS

= 0+0.DPS

Where, DPS = Dividend Per Share

NW = Net Worth

Probable Error (P.E.) = 0

Coefficient of Determination ($r^2$) = 0
Standard Error of Estimate Y on X (SEE) = 0
Standard Error of Beta Coefficient [SE(B)] = 0
T value = 0

**B.5: Variables used in Analysis**

| Years / Variables | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|---|---|---|---|---|---|
| X ('000,000) | 2699.166 | 2411.72 | 2661.833 | 1034.56 | 1389.901 |
| Y | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

*Note: Dividend per share and Investment are represented by DPS and INV respectively.*

Note : Values of X represent investment (in Rs.)
Values of Y represent dividend per share (in Rs.)

Output of Regression Results :

a = 0
b = 0
$\Sigma X^2$ = 23189384.5572
$\Sigma X$ = 10197.1800
$\Sigma Y^2$ = 0
$\Sigma Y$ = 0
$\Sigma XY$ = 0
Y = 0
$\sigma_Y$ = 0
X = 2039.4
$\sigma_X$ = 691.79
r = 0
N = 5

Bivariate regression result of DPS = a+b.INV
= 0 + 0.INV

Where, DPS = Dividend Per Share
INV = Investment

Probable Error (P.E.) = 0
Coefficient of Determination ($r^2$) = 0
Standard Error of Estimate Y on X (SEE) = 0
Standard Error of Beta Coefficient [SE(B)] = 0
T value = 0

**B.6: Variables used in Analysis**

| Years / Variables | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|---|---|---|---|---|---|
| X | 3.08 | 2.86 | 7.73 | 4.04 | 3.38 |
| Y | 0 | 0 | 0 | 0 | 0 |

Note : Values of X represent current ratio
Values of Y represent dividend per share (in Rs.)

Worked out Results :

$\Sigma XY = 0$
$\Sigma X^2 = 105.2560$
$\Sigma X = 21.0995$
$\Sigma Y^2 = 0$
$\Sigma Y = 0$ r = 0 N = 5

Probable Error (P.E.) = 0
Coefficient of Determination ($r^2$) = 0

**B.7: Variables used in Analysis**

| Years / Variables | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|---|---|---|---|---|---|
| X | 0.41 | 319.48 | 115.01 | 40.45 | -22.97 |
| Y | 0 | 0 | 0 | 0 | 0 |

Note : Values of X represent earning yield ratio
Values of Y represent dividend yield ratio

Worked out Results :

$\Sigma XY = 0$
$\Sigma X^2 = 117461.8229$
$\Sigma X = 452.3803$
$\Sigma Y^2 = 0$
$\Sigma Y = 0$ r = 0 N = 5

Probable Error (P.E.) = 0
Coefficient of Determination ($r^2$) = 0

**B.8: Variables used in Analysis**

| Years / Variables | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|---|---|---|---|---|---|
| X | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Y | 354 | 265 | 199 | 550 | 565 |

*Note: Market price per share or average stock price and dividend per share of last year denoted by MPS and $DPS_{(t-1)}$ respectively.*

Note : Values of X represent dividend per share of last year (in Rs.)
Values of Y represent market price per share (in Rs.)

Output of Regression Results :

| | | | | | |
|---|---|---|---|---|---|
| a | = | 0 | $\Sigma XY$ | = | 0 |
| b | = | 0 | Y | = | 386.6 |
| $\Sigma X^2$ | = | 0 | $\sigma_Y$ | = | 413.97 |
| $\Sigma X$ | = | 0 | X | = | 0 |
| $\Sigma Y^2$ | = | 856867 | $\sigma_X$ | = | 0 |
| $\Sigma Y$ | = | 1933 | r | = | 0 |
| | | | N | = | 5 |

Bivariate regression result of MPS = $a+b.DPS_{(t-1)}$
= $0 + 0.DPS_{(t-1)}$
Where, $DPS_{(t-1)}$ = Dividend Per Share of Last Year
MPS = Market Price Per Share

Probable Error (P.E.) = 0
Coefficient of Determination ($r^2$) = 0
Standard Error of Estimate Y on X (SEE) = 0
Standard Error of Beta Coefficient [SE(B)] = 0
T value = 0

**A.9: Variables used in Analysis**

| Years / Variables | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|---|---|---|---|---|---|
| X | 0 | 0 | 0 | 0 | 0 |
| Y | 354 | 265 | 199 | 550 | 565 |

*Note: MPS and DPR represent market price per share (dependent variable) and dividend payout ratio (independent variable) respectively*

Note : Values of X represent dividend payout ratio (in %)
Values of Y represent market price per share (in Rs.)

Output of Regression Results :

| | | | | | | |
|---|---|---|---|---|---|---|
| a | = | 0 | $\Sigma XY$ | = | 0 | |
| b | = | 0 | Y | = | 386.6 | |
| $\Sigma X^2$ | = | 0 | $\sigma_Y$ | = | -158.38 | |
| $\Sigma X$ | = | 0 | X | = | 0 | |
| $\Sigma Y^2$ | = | 856867 | $\sigma_X$ | = | 0 | |
| $\Sigma Y$ | = | 1933 | r | = | 0 | N = 5 |

Bivariate regression result of MPS = a+b.DPR
= 0-0. DPR

Where, MPS = Market Price Per Share
DPR = Dividend Payout Ratio

| | | |
|---|---|---|
| Probable Error (P.E.) | = | 0 |
| Coefficient of Determination ($r^2$) | = | 0 |
| Standard Error of Estimate Y on X (SEE) | = | 0 |
| Standard Error of Beta Coefficient [SE(B)] | = | 0 |
| T value | = | 0 |

## C-1: Variable User in Analysis

| **NSBL** | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DPS(X) | EPS(X2) | D(t-1) (X3) | x1x2 | x2x3 | x1x3 | $x1^2$ | $x2^2$ | $x3^2$ | | | | | |
| 0 | 13.29 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 176.6241 | 0.0000 | | Total Var | Exp Var | UnExp Var | F-Test |
| 5 | 18.27 | 0 | 91.3500 | 0.0000 | 0.0000 | 25.0000 | 333.7929 | 0.0000 | | 110.3422 | -7.1120 | 117.4542 | -0.0606 |
| 12.59 | 39.35 | 5 | 495.4165 | 196.7500 | 62.9500 | 158.5081 | 1548.4225 | 25.0000 | | | | | |
| 0 | 28.33 | 12.59 | 0.0000 | 356.6747 | 0.0000 | 0.0000 | 802.5889 | 158.5081 | | | | | |
| 2.11 | 36.18 | 0 | 76.3398 | 0.0000 | 0.0000 | 4.4521 | 1308.9924 | 0.0000 | | | | | |
| **19.7000** | **135.4200** | **17.5900** | **663.1063** | **553.4247** | **62.9500** | **187.9602** | **4170.4208** | **183.5081** | | | | | |
| 3.9400 | 27.0840 | 3.5180 | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | a1 | b1 | b2 | R2 | SEE | | | | | |
| r12 | r13 | r23 | | 5.4367 | -0.0550 | -0.0021 | -0.0645 | 7.6636 | | | | | |
| 0.0024 | 0.5496 | 0.3784 | NSBL | R1.23 | 0.5928 | | P.E | 0.3844 | R2 | 0.3514 | | | |
| | | | | | | | | | | | | | |
| **NBBL** | | | | | | | | | | | | | |
| DPS(X) | EPS(X2) | D(t-1) (X3) | x1x2 | x2x3 | x1x3 | $x1^2$ | $x2^2$ | $x3^2$ | | | | | |
| 0.0000 | 0.74 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.5476 | 0.0000 | | Total Var | Exp Var | UnExp Var | F-Test |
| 0.0000 | -104.12 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 10840.9744 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0 |
| 0.0000 | -249.65 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 62325.1225 | 0.0000 | | | | | |
| 0.0000 | -147.47 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 21747.4009 | 0.0000 | | | | | |
| 0.0000 | 72.83 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 5304.2089 | 0.0000 | | | | | |
| **0.0000** | **-427.6700** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **100218.2543** | **0.0000** | | | | | |
| 0.0000 | -85.5340 | 0.0000 | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | a1 | b1 | b2 | R2 | SEE | | | | | |
| r12 | r13 | r23 | | 0.0215 | -0.0016 | -1.3086 | 0 | 0.0000 | | | | | |
| -0.4576 | 0.0155 | -0.8991 | NSBL | R1.23 | 1.0137 | | P.E | 0.6868 | R2 | 1.0276 | | | |

## C-2: Variable User in Analysis

| **NSBL** | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MPS(X) | DPS(X2) | EPS(X3) | x1x2 | x2x3 | x1x3 | $x1^2$ | $x2^2$ | $x3^2$ | | | | | |
| 335 | 0 | 13.29 | 0.0000 | 0.0000 | 4452.1500 | 112225.0000 | 0.0000 | 176.6241 | | Total Var | Exp Var | UnExp Var | F-Test |
| 612 | 5 | 18.27 | 3060.0000 | 91.3500 | 11181.2400 | 374544.0000 | 25.0000 | 333.7929 | | 1637834.8000 | 1574068.2892 | 63766.5108 | 24.6849 |
| 1176 | 12.59 | 39.35 | 14805.8400 | 495.4165 | 46275.6000 | 1382976.0000 | 158.5081 | 1548.4225 | | | | | |
| 1511 | 0 | 28.33 | 0.0000 | 0.0000 | 42806.6300 | 2283121.0000 | 0.0000 | 802.5889 | | | | | |
| 1900 | 2.11 | 36.18 | 4009.0000 | 76.3398 | 68742.0000 | 3610000.0000 | 4.4521 | 1308.9924 | | | | | |
| **5534.0000** | **19.7000** | **135.4200** | **21874.8400** | **663.1063** | **173457.6200** | **7762866.0000** | **187.9602** | **4170.4208** | | | | | |
| 1106.8000 | 3.9400 | 27.0840 | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | a1 | b1 | b2 | R2 | SEE | | | | | |
| r12 | r13 | r23 | | -400.5085 | -78.0260 | 67.0038 | 0.9611 | 178.5588 | | | | | |
| 0.0024 | 0.5496 | 0.3784 | NSBL | R1.23 | 0.5928 | | P.E | 0.3844 | R2 | 0.3514 | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| **NBBL** | | | | | | | | | | | | | |
| MPS(X) | DPS(X2) | EPS(X3) | x1x2 | x2x3 | x1x3 | $x1^2$ | $x2^2$ | $x3^2$ | | | | | |
| 354 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 125316.0000 | 0.0000 | 0.0000 | | Total Var | Exp Var | UnExp Var | F-Test |
| 265 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 70225.0000 | 0.0000 | 0.0000 | | 109569.2000 | 0.0000 | 109569.2000 | 0.0000 |
| 199 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 39601.0000 | 0.0000 | 0.0000 | | | | | |
| 550 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 302500.0000 | 0.0000 | 0.0000 | | | | | |
| 565 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 319225.0000 | 0.0000 | 0.0000 | | | | | |
| **1933.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **856867.0000** | **0.0000** | **0.0000** | | | | | |
| 386.6000 | 0.0000 | 0.0000 | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | a1 | b1 | b2 | R2 | SEE | | | | | |
| r12 | r13 | r23 | | | | | -6.8203 | 654.5483 | | | | | |
| | | | NBBL | R1.23 | 0.0000 | | P.E | 0.2273 | R2 | 0.0000 | | | |

## *APPENDIX -C : FOR MULAE USED IN ANALYSIS*

$$X = \frac{\Sigma X}{N} \qquad Y = \frac{\Sigma Y}{N}$$

$$\sigma_X = \sqrt{\frac{\Sigma X^2}{N} - \left(\frac{\Sigma X}{N}\right)^2} \qquad \sigma_Y = \sqrt{\frac{\Sigma Y^2}{N} - \left(\frac{\Sigma Y}{N}\right)^2}$$

$$\text{Coefficient of Variation} = \frac{\text{Standard Deviation}}{\text{Mean}} \times 100\%$$

$$r = \frac{N\Sigma XY - \Sigma X.\,\Sigma Y}{\sqrt{N\Sigma X^2 - (\Sigma X)^2}\,\sqrt{N\Sigma Y^2 - (\Sigma Y)^2}}$$

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

$$\text{Regression (beta) Coefficient (b)} = \frac{N\Sigma XY - \Sigma X.\,\Sigma Y}{N\Sigma X^2 - (\Sigma X)^2}$$

$$\text{Regression Constant (a)} = \frac{\Sigma Y - b\Sigma X}{N}$$

$$\text{Standard Error of Regression Coefficient [SE (b)]} = \frac{\sigma_Y}{\sigma_X} \times \sqrt{\frac{1-r^2}{N}}$$

$$\text{Standard Error of Estimate Y on X (SEE)} = \sigma_Y \sqrt{1-r^2}$$

$$T = \frac{b}{SE(b)}$$

Regression lines, $Y = a+bX$ ------(i)

Normal equations, $\Sigma Y = Na + b\Sigma X$ ----(ii)

$\Sigma XY = a\,\Sigma X + b\Sigma X^2$ ----(iii)

## **APPENDIX - D : TABULATED VALUE OF T- STATISTIC**

| Level of Significance : | 1% | 2% | 5% | 10% |
|---|---|---|---|---|
| Tabulated Value : | 2.576 | 2.326 | 1.960 | 1.645 |