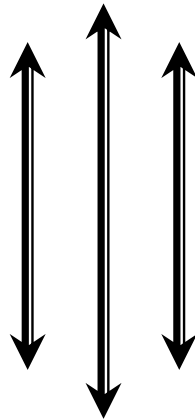


**DIVIDEND POLICY AND PRACTICES
IN COMMERCIAL BANKS:
A COMPARATIVE STUDY OF
NEPAL SBI BANK LIMITED And
NEPAL BANGLADESH BANK LIMITED**

**by:
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A Thesis Submitted to:
Office of the Dean
Faculty of Management
Tribhuvan University

In Partial fulfillment of the requirement of the degree of
Master of Business Studies (M.B.S.)

Birgunj, Nepal
May, 2012

RECOMMENDATION

This is to certify that the thesis

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BANGLADESH BANK LIMITED**

*and found the thesis to be the original work of the student and written
according to the prescribed format. We recommend the thesis to be accepted as
partial fulfillment of the requirement for
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Viva-voce Committee

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DECLARATION

I hereby declare that the work reported in this thesis entitled "**DIVIDEND POLICY & PRACTICES IN COMMERCIAL BANKS A COMPARATIVE STUDY OF NEPAL SBI BANK LIMITED AND NEPAL BANGLADESH BANK LIMITED**" submitted to the Thakur Ram Multiple Campus, Birgunj is my original work done in the form of partial fulfillment of the requirements for the Master Degree in Business Studies under the supervision and guidance of Mr. Sanjay Shrestha of Thakur Ram Multiple Campus, Birgunj.

Date:.....

ACKNOWLEDGEMENT

I wish to express my deep gratitude to Mr. Sanjay Shrestha lecturer, Department of Management, Tribhuvan University, Birgunj for suggesting of this thesis paper and for his constant encouragement, patient guidance, valuable supervision and meticulous care from time to time discuss on several aspect of this research study. This thesis work would never have been completed without his incisive observation that helped me a lot to get at the proper prospective and a clear insight. I record my deep sincere and deep sense of gratitude to him.

I am also grateful to Mr. Deepak Shakya, Associate Professors, T.U., Birgunj, Department Librarian and all the staffs for their kind cooperation during the study period.

I would like to thank publication department of Nepal SBI Bank Limited, Nepal Bangladesh Bank Limited and Nepal Stock Exchange Limited for providing necessary data.

Similarly, I would like to express debt of gratitude to my family members for their continuous inspiration and support during the entire period of study.

Finally, my thanks are also due to Mr. Badri Prasad Dahal and Mr. Pawan for computer typing this thesis correctly and neatly in time.

Last but not the least, I find the support of my friends Mr. Nippu Sonar and Mr. Rohit Agrawal and my companions really important to accomplish, so I heartily thank them.

.....

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ABBREVIATIONS

NSBL	=	Nepal SBI Bank Limited
NBBL	=	Nepal Bangladesh Bank Limited
EPS	=	Earning Per Share
DPS	=	Dividend Per Share
DPR	=	Dividend Payout Ratio
DP	=	Dividend Percent
P/E Ratio	=	Price Earning Ratio
EY	=	Earning Yield Ratio
DY	=	Dividend Yield Ratio
MPS	=	Market Value (price) Per Share / Average Stock Price
BVPS	=	Book Value Per Share
NP	=	Net Profit
NW	=	Net Worth
INV	=	Investment
CR	=	Current Ratio
CBB Ratio	=	Percentage of Cash and Bank Balance to Current Assets
DPS _(t-1)	=	Dividend Per Share of Last Year
DPPC	=	Dividend Percentage on Paid up Capital
C.V.	=	Coefficient of Variation
S.D.	=	Standard Deviation
S.E.E.	=	Standard Error of Estimate
P.E	=	Probable Error
S.E.(b)	=	Standard Error of beta (regression)coefficient
Viz.	=	namely
e.g.	=	for example
i.e.	=	that is
No.	=	number
g	=	growth rate
vol./vols	=	volume / volumes
HMG/N	=	His Majesty Government of Nepal
r	=	Coefficient of Correlation / Rate of Return
R	=	Coefficient of Multiple Correlation
r ² /R ²	=	Coefficient of Determination
P/P ₀	=	Market Price Per Share (at zero year)

CHAPTER - I

INTRODUCTION

1.1 Background of the Study

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 strata 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.)' ¹ 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'. ²

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." ³

When studying to the origin of modern banking, we come to know that Bank of Venice was established, as the first commercial bank of 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

¹ *Oxford Advanced Learner's Dictionary*

² Encyclopedia, *The Word Book*, America: Grolier Incorporated, Vol. 3, 1984.

³ *Nepal Commercial Bank Act 2031 B.S.*

banking service, economic development, industrialization and growth of nation, three joint venture banks, Nepal Arab Bank Limited, Nepal Indosuez Bank Limited and Nepal Grindlays 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.)" ⁴ 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."⁵ 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 this policy. Under this 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 desirable 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

⁴ D.P. Gupta, *The Banking System : Its Role in Export Development*, The Financing of Exports from Developing Countries, International Trade Center, UNCTAD / GATT, Geneva, 1984, pp. 15-24.

⁵ P.N. Abrol, *Dictionary of Accounting*, Anmol Publications, Reprint, 1993, India.

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 HMG, 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 ticklish 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." ⁶

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.' ⁷

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 Limited was registered under the company act 1964 in 28th April, 1993. This is the joint venture bank with State Bank of India and Nepalese promoters. A team of professionals deputed by SBI under a Technical services Agreement manages it, and

⁶ "Economic and Management Study of Public Enterprises in Nepal", *Management Consultants and Company*, 410 Nhaikuntala Tole, Kathmandu, 1972.

⁷ M.K. Shrestha, *Shareholders Democracy and Annual General Meeting Feedback*, Aug. 1992, PP. 3-4.

managing director is the chief executive officer deputed by SBI under this arrangement. Now, the bank has seven branches in Nepal.

An authorized capital of the bank had been Rs.240 million, issued Rs.120million and paid up capital Rs.119.871million in the beginning in my study period 2062/63. But, at present, there are no changes in both authorized capital and issued capital. But the paid up capital has changed to Rs. 119.946 million.

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	-	HMG/N	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 2062/63, has paid nearly a constant dividend of Rs.20 per share since 2063/64 to 2065/66 and has paid Rs.10 per share for the year 2066/67.

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 12 branches including main branch (i.e. head office) in Nepal.

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.

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)
1	Director (member)	Representative from Nepalese Promoter (Group B)
3	Directors (members)	Representative from IFIC Bank
2	Directors (members)	Representative from HMG/N
2	Directors (members)	Representative from Public shareholders.
1	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 first year 2062/63. The bank has distributed dividend in 3 (three) years from 2064/65 to 2066/67, eventhough there was profit in second year 2063/64, the bank did not distribute any dividend.

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:

- (ii) To highlight the dividend practices of the banks.
- (iii) 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.
- (iv) To know if there is any uniformity among dividend per share, earning per share and dividend payout ratio of the two commercial banks sampled.
- (v) To examine whether or not dividend influences the liquidity position and share prices of sample banks.

- (vi) 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, nowadays people are very much interested and attracted to invest in shares for getting higher returns. When any new company issues (floats) shares through capital markets, very big congregation gathers to apply for owner's certificate. It reveals that people have expectation on higher return for investing in shares. So the dividend decision is one of the most important decisions of financial management. It is an effective tool (way) to attract new investors, maintain present investors and controlling position of the firm. 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.A. programme. It is neither a Ph.D. thesis, nor any master piece of work.

(2) Coverage of time period :

The study covers the time period of last 5 years from fiscal year 1994/95 to 1998/99.

(3) Financial & Time constraints :

The study is fully based on the student's 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 13 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 Chapter Scheme :

This study has been comprised into five chapters, each devoted to some aspects of dividend policy and practices of commercial banks. The titles of each of these chapters are summarized and the contents of each of these chapters of this study are briefly mentioned here.

Chapter I	:	Introduction
Chapter II	:	Review of Literature
Chapter III	:	Research Methodology
Chapter IV	:	Presentation and Analysis of Data
Chapter V	:	Summary, Conclusion & Recommendations

The first chapter deals with the subject matter consisting introduction, a brief profile of the banks, identification of the problem, significance of the study, objectives, limitations and chapter scheme of the study.

The second chapter concerns with literature review that includes a discussion on the conceptual framework on dividend and review of major-studies relating with dividend decision.

The third chapter describes the research methodology adopted in carrying out the present research. It deals with research design, sources of data, data processing procedures, population and sample, period of the study, method of analysis and financial and statistical tools.

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

The fifth and the final chapter is concerned with the suggestive framework that consists with the overall findings, issues and gaps, conclusions and recommendations of the study.

The bibliography and appendices are incorporated at the end 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 a clear ideas, opinions and other concepts. 'What other have said ? What other have 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 or 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."⁸

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 are different decision models developed to analyze the situation and reach decision. These decision models are conflicting and consider the different aspects of the firm. One school of thought argues that dividend payment has no impact on valuation of a firm

⁸ Mathur, Iqbal, *Introduction to Financial Management* , Macmillan Publishing Company Inc. New York, 1979, P. 297.

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."⁹ This concept is discussed later on in detail page 13.

(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."¹⁰

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."¹¹ If the directors avoid payment of dividend after declaration, the shareholders would have a right to take action against the

⁹ James C Van Horne, *Financial Management & Policy*, 9th edition, Prentice - Hall of India Pvt. Ltd., New Delhi, 1993, P. 327.

¹⁰ Gilbert W. Cooke and Edwin C. Bomeli, *Business Financial Management*, Houghton Mifflin Company, Boston, New York, 1967, p.180.

¹¹ Raymond P. Kent, *Corporate Financial Management*, Richard D. Irwin, Inc., Homewood, Illinois, 1967, P. 589.

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."¹² 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 shareholdings 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 firm's 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, corporations 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 a matter of attitude of directors and partly a matter of the various circumstances and financial constraints that bound corporate plans and policies."¹³ 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.

¹² Ibid.p.587.

¹³ Shrestha, M.K., *Financial Management (Theory and Practice)*, Curriculum Development Centre, T.U., 1980, P. 670.

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.¹⁴ 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 earning 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. Company's own products and the securities of subsidiaries are the example that have 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."¹⁵ If the cash dividend is subject to income taxes over and above the limit he prefers to have stock dividend.

6 Bond Dividend :

¹⁴ P.G. Hastings, *The Management of Business Finance*, Von Nostrand Co., New York ,1966 p. 370.

¹⁵ W.C. Waring, Jr., *Fractional Shares under stock dividend Declarations*, Harvard Law Review, Boston, Jan. 1931, P. 404.

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.¹⁶

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 more 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.'¹⁷

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.

¹⁶ Lawrence J Gitman, *Principles of Managerial Finance*, Harper Collins College Publishers, 7th edition, 1976, p. 537.17.Van

¹⁷ Van Horne, Op. cit., p.327.

"By stability" we mean maintaining its position in relation to a dividend trend line, preferably one that is upward sloping. 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 an another form of stable dividend policy followed by some companies. The term payout ratio refers to the ratio of dividend to earnings or the percentage share of earnings used to pay dividend. With constant / target payout ratio, a firm pays a constant percentage of net earnings as dividend to the shareholders. In other words, a stable dividend payout ratio implies that the percentage of earnings paid out each year is fixed. Accordingly, amount of dividend will fluctuate in direct proportion to earnings and are likely to be highly volatile in the wake of wide fluctuations in the earnings 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 decision 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 desirable 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 earnings 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 raising 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 another 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 programmes. The control of the existing shareholders will be diluted if they don't want or can't buy additional shares. Under these circumstances, the payment of dividends may be withheld and earnings may be retained to finance the firm's investment opportunities.

(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) Except 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. In case 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 amount 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.

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 ¹⁸:

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

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

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

¹⁸ James E Walter, "Dividend Policies and Common Stock Prices", *Journal of Finance*, Volume 11, March, 1966, PP. 29-41.

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 :

(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.¹⁹

(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 :²⁰

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

¹⁹Francis, Jack Clark, *Investment : Analysis and Management*, New York , MC Graw Hill Book Company. Inc. 1972, P. 347.

²⁰ Gordon, Myron J., *The Investment Financing and Valuation of Corporation*, Homewood III. Richard D. Irwin, 1962.

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 ($D1/P_0$) is less risky than the expected capital gain.²¹

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 (k_e) 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. ' K_e ' 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.

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

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)

$k_e =$ 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

²¹ S. Pradhan, *Basics of Financial Management*, Educational Enterprises (P.) Ltd., Kathmandu, 1962, P.683.

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 Study :²²

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

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

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

The MM approach of irrelevance dividend is based on the following critical assumptions:

- I. The firms operate in perfect capital market where all investors are rational. Information is freely available to all. Securities are infinitely divisible and no investor is large enough to influence the market price of securities.
- II. There are no flotation costs. The securities can be purchased and sold without payment of any commission or brokerage etc.
- III. Taxes do not exist.
- IV. The firm has a definite (fixed) investment policy, which is not subject to change.
- V. Risk of uncertainty does not exist. Investors are also able to forecast future prices and dividends with certainty, and one discount rate is appropriate for all securities and all time periods. Thus $r = k = kt$ for all time.

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

Step-one,

²² Merton H. Miller and France Modigliani "Dividend Policy, Growth and Valuation of the Shares", *Journal of Business*, XXIV (Oct. 1961), pp. 411-433.

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

Symbolically,

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

Where,

P_0 = Current market price of a share (market price at the beginning or at the zero period.)

K_e = The cost of equity capital (Assumed constant)

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

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

Step-two,

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

$$np_0 = \frac{n(D_1+P_1)}{1+k_e} \quad (2)$$

Where,

n = no. of outstanding shares at zero period.

Step-three,

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

$$np_0 = \frac{n(D_1+P_1) + (mp_1 - mp_1)}{1+ke} \quad (3)$$

Where,

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

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

Step-four,

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

$$mp_1 = I - (E - nD_1)$$

$$\text{Or, } mp_1 = I - E + nD_1 \dots\dots (4)$$

Where,

I = Investment needs

E = Earning available.

Step-five,

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

$$np_0 = \frac{nD_1 + (n+m)p_1 - I + E - nD_1}{1+ke}$$

or, $np_0 = \frac{nD_1 + np_1 + mp_1 - I + E - nD_1}{1+ke}$

or, $np_0 = \frac{p_1(n+m) - I + E}{1+ke} \dots\dots\dots(5)$

Step-six,

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

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

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

2.2.4 Deepak Chawla and G. Srinivasan's study ²³.

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

²³ Chawala, Deepak and Srinivasan, G. "Impact of dividend and retention on share price - An Econometric study", *Decision*, vol. 14, July - Sept.1987, pp. 137 - 140.

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 in 1969 and one percent level in 1973.

Finally, they concluded that dividend hypothesis holds good in the chemical industry. Both dividend and retained earnings significantly explain the variation in share price in

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

2.2.5 Lintner's Study ²⁴:

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 lag behind shifts in earnings by one, or more periods. According to J. Lintner, 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.

$$DIV_t^* = P \text{ EPS}_t \text{-----(1)}$$

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

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

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

Where,

DIV_t^* = Firm's desired payment

EPS_t = earnings

P = Targeted payout ratio

a = constant relating to dividend growth

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

and new desired level 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 dividend rate or dividend per share.

2.2.6 Van Horne And Mc-Donald's Study ²⁵

²⁴ Lintner, John, "Distribution of Incomes of Corporations Among Dividends, Retained Earnings, and Taxes", *American Economic Review*, 46 (May, 1956), pp. 97-113.

²⁵ James C. Van Horne and John G. Mc-Donald, "Dividend Policy and New Equity Financing", *Journal of Finance*, May, 1971, PP. 507 - 519.

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 ²⁶

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 ²⁷:

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

²⁶ R. Michaely, Richard H. Thaler & Kent L. Womack, "Price Reactions to Dividend Initiations & Omissions", *Journal of Finance* , Vol.-50, No. 2 , June,1995, p. 605.

²⁷ Irwin Friend and Marshall Puckett, "Dividends and Stock Prices", *The American Economic Review*, Vol. LIV, No. 5, Sept. 1964, pp. 656-682.

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 :

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

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 $P_t = a + b D_t + c R_t$ by using normalized earnings again. They obtained normalized retained earnings by subtracting dividends from normalized earnings. That normalization procedure was based on the period 1950-61. Again, they added prior year's 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. Pradhan²⁸ 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

²⁸ R.S. Pradhan, "Stock Market Behaviour in a Small Market: A case of Nepal", *The Nepalese Management Review*, Vol. IX, summer 1993, pp. 23-43.

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.

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

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?**'²⁹ 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. The another reason of this is the lack of self-criticism and self-consciousness. Esman³⁰ 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 :

²⁹ M.K. Shrestha, "Public Enterprises : Have They Dividend Paying Ability?", *PRASHASAN, The Nepalese Journal of Public Administration*, 30th issue, March, 1981.

³⁰ Milton J. Esman, *The Institution Building Concept: An Interiem Appraisal*, Pittsburgh Inter University Research Programme in Institution Building, 1967, p. 44.

- 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 informations 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. Shrestha³¹ 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.

³¹ Shrestha, Op. cit., pp. 34-35.

- 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.A. 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.

Premesh K.C.'s Thesis: ³²

Premesh K.C. concludes as following in his thesis on "**Dividend policy of joint venture banks**".

Joint venture banks in Nepal are growth banks. Their market price per share has significantly fluctuated and traded at high price. They are less risky. There is correlation between dividend per share and earning per share of these sample banks. Retained earning ratio of these banks have been fluctuating in smaller proportion. These banks have been raised the earning per share to the satisfactory level. There is not consistency in price earning ratio and earning yield ratio. Higher dividend return on paid up capital have been declared by these banks.

Hari Ram Aryal's Thesis: ³³

"**Dividend policy : Comparative study between Nepal Arab Bank Ltd. and Nepal Grindlays Bank Ltd.**" was another study conducted by Hari Ram Aryal.

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.

³² Premesh K.C., *Dividend Policy of Joint Venture Banks in Nepal*, Unpublished Master's Thesis, Tribhuvan University, Kathmandu ,1991.

³³ Hari Ram Aryal, *Dividend Policy: Comparative Study Between Nepal Arab Bank Limited and Nepal Grindlays Bank Limited*, Unpublished Master's Thesis, Tribhuvan University, Kathmandu, 1997.

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.

Rishi Raj Gautam's Thesis ³⁴:

An another study is conducted by Rishi Raj Gautam on "**Dividend Policy in Commercial Banks: A comparative study of Nepal Grindlays Bank Limited, Nepal Indoseuz Bank Limited and Nepal Arab Bank Limited**".

He says that average earning per share of all three sample banks is satisfactory whereas dividend per share is not satisfactory. He further states that there is no consistency in dividend payment and its growth rate is also fluctuated. There is no prominent difference in dividend per share and dividend payout ratio of all three samples banks. However, there is no uniformity in earning per share.

He recommends as follows regarding the findings of his research.

- i. To follow clearly defined dividend strategy as lack of it causes serious inconvenience to many other of finance sectors.
- ii. Interest and expectations of the investors should be considered by banks while making dividend decisions.

Bishnu Hari Bhattarai's Thesis: ³⁵

The thesis entitled "**Dividend decision and its impact on stock valuation**" was carried out by Bishnu Hari Bhattarai in 1996. The prime objectives of his research work is to identify the relationship between dividend & stock price. After analyzing the data he concludes,

- i. The positive relationship exists between cash flow and current profit, and dividend percentage of shares. There is almost perfect degree of relationship. Noteworthy point in Nepalese companies is cash balance, which is maintained only when there is profit to pay dividend. Where there is both balances of cash and enough net profit only then the dividend is declared.
- ii. In aggregate, dividend paid by the company is not stable over years. Some companies have steadily increased dividend, it can be inferred that they have adopted low regular plus extra dividend. Stable dividend influences considerable impact on the valuation of shares if they are rational investor, however this is yet to be realized by Nepalese company management.
- iii. Basically, there is not also any policy about dividend payout ratio. And negative relationship is observed between the dividend payout ratio and valuation of shares.
- iv. In recent years, inflation rates are decreasing and market price of shares are increasing. Nevertheless, the companies are not able to give required rate of return to the investors.

³⁴Rishi Raj Gautam, *Dividend Policy in Commercial Banks: A Comparative Study of NGBL, NIBL and NABIL*, Unpublished Master's Thesis, Tribhuvan University, Kathmandu, 1998

³⁵ Bishnu Hari Bhattarai, *Dividend Decision and Its Impact on Stock Valuation*, Unpublished Master's Thesis, Tribhuvan University, Kathmandu, 1996.

- v. The negative relationship was noticed between market price of share and required rate of return of shareholders. Shareholders' have foregone opportunity income in the hope of getting higher return, but the companies have not been able to return even equal to risk free rate of return.
- vi. It was observed that there was positive relationship on foreign investment and payment of dividend. I.e. the companies invested by foreign investors are paying regular dividends than the companies dominantly invested by Nepalese. There was negative relationship observed between the companies paying dividend, and percentage of public shareholders and percentage of shares held by HMG/N.

Anjani Raj Bhattarai's Thesis: ³⁶

Anjani Raj Bhattarai has conducted a research entitled "**Share market in Nepal**" in 1990. He has given sufficient attention on dividend and dividend policy although the central part of this thesis is stock price. Both financial & statistical tools have been used to analyze the data related with dividend & stock price. In this work, he has found the following major issues related to dividend practices.

- i. Dividend per share paid by many companies were less than expected by investors. Some of them were paying higher than the average cash dividend per share while some company were paying regular dividend with higher amount, was low priced. So, in average most companies were undermining the expectation of investors and thereby resulting the low marketability of shares on the trading floor of stock exchange.
- ii. It was recorded that there was wide gap in the percentage of cash dividend paid by the listed public limited companies. The actual percentage of dividend was less than the percentage of dividend of investors. Thus, dividend declared by the majority of the companies were less than risk free rate of return plus market risk premium.
- iii. Majority of the companies displaying lower price earning ratio indicates the erosion of the believes of investors of listed companies. As a result market price of the share is highly skewed.
- iv. Calculated prices of shares do not match with quoted price of share. Only one calculated price of share was near the actual market price of share. It clearly suggests that the pricing of shares and market prices were guided by various technical factors.
- v. Bhattarai suggests / opines to improve the dividend policy in the following manner.
 - i. Fixation of dividend:
Dividend is the major financial aspect (variable), which affects the prices of the shares. Higher the dividend paid by the company and higher the prices of the shares prevail. The practices of non-paying and minimum paying of dividend should be abolished. For this, a proper balanced policy must be evolved. So it is necessary to lay down the following minimum targets.
 - a. Minimum dividend payment:
Listed companies should be bounded to pay a minimum rupee of dividend in each year.
 - b. Regular dividend payment:

³⁶ Anjani Raj Bhattarai, *Share Market in Nepal*, Unpublished Masters Thesis, Tribhuvan University, Kathmandu, 1990.

Listed companies should be bounded to pay a fixed rate of dividend. And that should be strongly watched and monitored on whether they are able to achieve it each year or not. They should be compelled to maintain a regular balance to declare the dividend.

- c. Regular & extra dividend:
The companies should pay extra dividends in the form of interium dividend along with regular dividend when the earnings of the companies are good.

Nabaraj Adhikari's Thesis ³⁷:

The latest study on the topic of "**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'.

³⁷Nabaraj Adhikari, *Corporate Dividend Practices in Nepal*, Unpublished Master's Thesis, Tribhuvan University, Kathamandu, 1999.

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"³⁸. 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 2062/63 (1994/95) to 2066/67 (1998/99)

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 informations are gathered from related banks and related agencies like Nepal Rastra Bank, Nepal Stock Exchange Limited, Ministry of Finance, National Planning Commission etc.

3.3.1 Data Processing Procedures:

For the purpose of this study, the different datas 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 13 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:

³⁸ Kothari, C.R., *Quantitatives Techniques*, Vikas Publishing House Pvt.Ltd., New Delhi, 1994, p.19.

<u>Banks</u>	<u>Estd.(in B.S.)</u>
i) Nepal Bank Limited	1994
ii) Rastriya Banijya Bank	2022
iii) Nepal Arab Bank Limited	2041
iv) Nepal Indosuez Bank Limited	2042
v) Nepal Grindlays Bank Limited	2043
vi) Himalayan Bank Limited	2049
vii) Nepal SBI Bank Limited	2050
viii) Nepal Bangladesh Bank Limited	2051
ix) Everest Bank Limited	2051
x) Bank of Kathmandu Limited	2051
xi) Bank of Cylon	2053
xii) Nepal Industrial & Commercial Bank	2055
xiii) Lumbini Bank Limited	2055

(Source: List of Licenced Commercial Banks, *Banking and Financial statistics*, Mid-July 1999, Nepal Rastra Bank.)

The samples to be selected are as follows:

- (i) Nepal SBI Bank Limited.
- (ii) Nepal Bangladesh Bank Limited.

The above first six banks (NBL, RBB, NABIL, NIBL, NGBL, and HBL) have been studied before this work. So, I have not taken as sample to these banks. Similarly, I have not taken as sample of last five banks (EBL, BKL, BC, NICB, and LBL) because the data of these banks have lowered than five years. On the other hand, the time and financial constraints are other factors that I have not taken as samples to these banks.

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 1994/95 to 1998/99.

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,

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

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

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,

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

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

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 1883. "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".³⁹ 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 is said to be less variable or more consistent, more uniform, more stable or more homogeneous. It is denoted by C.V. and is obtained by dividing the arithmetic mean to standard deviation. Thus,

$$\begin{aligned} \text{Coefficient of Variation (C.V.)} &= \frac{\text{S.D.}}{\text{Mean}} \times 100 \\ &= \frac{\sigma \times 100}{X} \end{aligned}$$

Where,

σ = Standard Deviation

X = Mean

³⁹.P.N.Abrol, *Dictionary of Accounting*, Anmol Publication, New Delhi, Reprint, 1993, P. 236.

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."⁴⁰

The correlation analysis refers to the techniques used in measuring the closeness of the relationship between the variables. It helps us in determining the degree of relationship between two or more variables. It doesn't tell us anything about cause and effect relationship. It describes 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 ± 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 (0), 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 r_x or r_{yx} (of X and Y are two sets). It is defined by Karl Pearson as:

$$r = \frac{\text{Cov}(X, Y)}{\sigma_X \sigma_Y}$$

or,
$$r = \frac{\sum(X - \bar{X})(Y - \bar{Y})}{N \sigma_X \sigma_Y}$$

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,

σ_X, σ_Y are the standard deviation of the distributions of X and Y values respectively.

$\text{Cov}(X, Y)$ = covariance of X, Y value

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

⁴⁰ Richard I. Levin and David S Rubin, *Statistics for Management*, Prentice-Hall of India Pvt. Ltd., New Delhi, 1994, p. 613.

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

Simple Correlation Coefficient.

- a) Between dividend per share and earning per share.
- b) Between dividend 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. "R² measures only the strength of a linear relationship between two variables".⁴¹ It refers to a measure of the total variance in a dependent variable that is explained by its linear relationship to an independent variable. The coefficient of determination equals R² and the value of R² 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 R² is always a positive number. It can't tell whether the relationship between the two variables is positive or negative. The R² is defined as the ratio of explained variance to the total variance. Thus,

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

⁴¹ Ibid. p. 617

$$\text{Total variance}$$

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

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 investigating 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, Current Ratio and Dividend per share of (t-1) year:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3$$

Where,

Y= Dividend per share

a= Regression constant

b₁= Regression coefficient of variable 1st

b₂= Regression coefficient of variable 2nd

b₃= Regression coefficient of variable 3rd

X₁= Earning per share

X₂= Current ratio

X₃= Dividend per share of (t-1) year

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

(2) Dividend payout ratio on Investment, Percentage of cash and bank balance to current assets and Earning per share.

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3$$

Where,

Y= Dividend payout ratio

b₁, b₂, b₃ = Regression coefficient of variable 1st,

2nd and 3rd respectively

a = Regression constant

X₁= Investment

X₂= Percentage of cash and bank balance to current assets

X₃= Earning per share

It helps to predict the dividend payout ratio on investment, percentage of cash and bank balance to current assets and earning per share.

(3) Market price per share on Earning per share, Dividend payout ratio, Dividend per share.

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3$$

Where,

Y = Market price per share

a = Regression constant

b_1, b_2, b_3 = Regression coefficient of variable 1st,
2nd and 3rd respectively.

X_1 = Earning per share

X_2 = Dividend payout Ratio.

X_3 = Dividend per share.

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

(i) Regression constant (a)

The value of constant is the intercept of the model, when the independent variable(s) is (are) zero, it indicates the average level of dependent variable. In other words, 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, \dots)

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 predicted 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 30⁴², 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.

⁴² Kothari, Op.cit.p.143.

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)

EPS Analysis

Table no. 1

Year	NSBL	NBBL
2062/63	6.15	-4.16
2063/64	31.58	5.46
2064/65	37.45	17.61
2065/66	49.17	50.65
2066/67	13.97	68.94
Total	138.32	138.50
Average	27.664	27.70
S.D.(σ)	15.65	27.71
C.V.	56.58%	100.04%

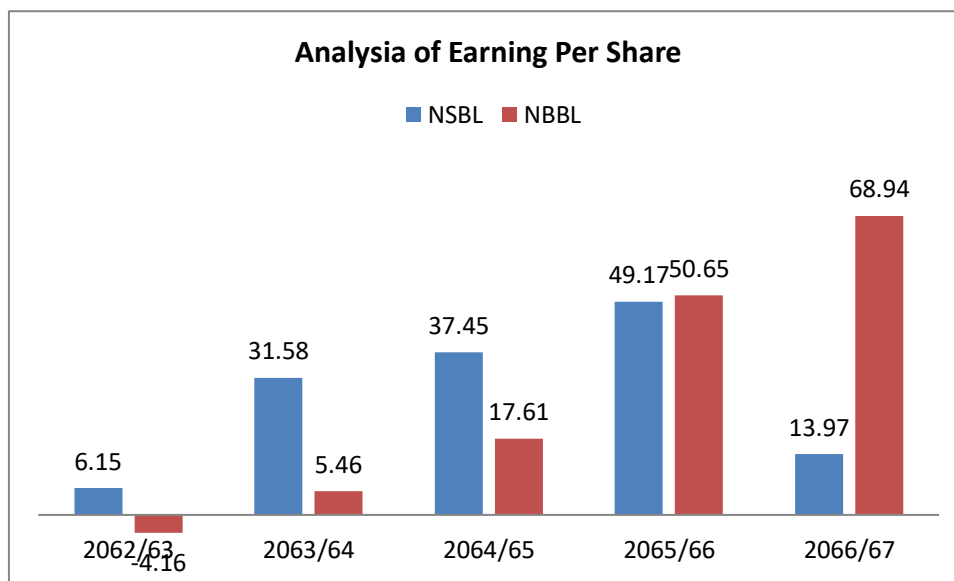


Figure: 1

While observing the above EPS table as presented in table no. 1, we come to know that the EPS of NSBL has increased from fiscal year 2062/63 to fiscal year 2065/66 in ascending order (manner). But in the last fiscal year 2066/67, EPS has highly decreased and has reached to 13.97. In the second year, EPS has increased to 31.58, which is five times more than previous year. The average EPS is 27.66, standard deviation is 15.65, and the coefficient of variation is 56.58%. This coefficient of variation clears that there is 56.58% fluctuation in EPS, which means there is inconsistency in EPS.

The EPS of 2062/63 and 2066/67 are lower than the average EPS of this bank. In other words, this bank is not able to maintain its average EPS for two years, and EPS of rest three years 2063/64, 064/65 and 065/66 are higher than the average EPS.

Similarly, the EPS of NBBL has increased from first year to last year in ascending order. In the first fiscal year, the EPS is negative, which shows there is negative profit (i.e. loss). But after that year, EPS has increased in a high rate. In the third fiscal year 064/65, the EPS has earned Rs.17.61, which is three times greater than the previous year. Similarly, in the fiscal year 065/66, EPS has increased to 50.65, which is also almost (nearly) triple to previous year. The average EPS is 27.70, which is higher than for first three fiscal years and is lower than the last two fiscal years. In other words, the bank is not able to maintain its average EPS for first three fiscal years and is able to maintain its average for last two fiscal years. The standard deviation is 27.71, which is about to equal to its average EPS. The coefficient of variation is 100.04%, which means there is 100.04% fluctuation in EPS. This indicates that there is greater fluctuation in EPS. In other words, it indicates there is no consistency in EPS.

In an aggregate, EPS of NBBL has recorded an increasing trend. But it does not find in case of NSBL. In an average, EPS of NBBL is slightly higher than that of NSBL. Yet it is more stable in case of NSBL.

4.1.2 Dividend per share (DPS)

**DPS Analysis
Table no 2**

Year	NSBL	NBBL
2062/63	0	0
2063/64	20	0
2064/65	20.01	7.50
2065/66	20.01	15
2066/67	10	15
Total	70.02	37.50
Average	14	7.50
S.D.(σ)	8	6.71
C.V.	57.14%	89.47%

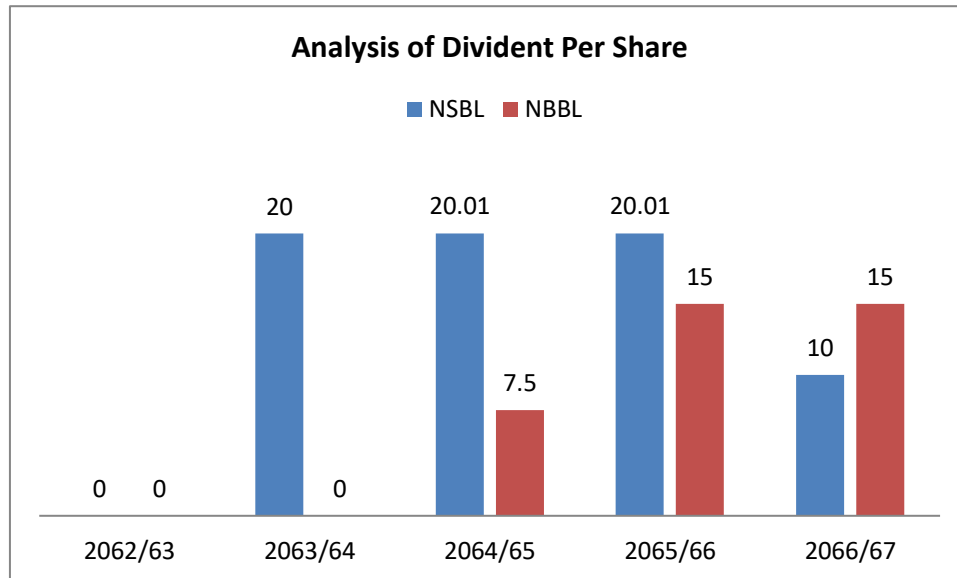


Figure: 2

The dividend per share chart exhibited in table 2 brings out that NSBL has not paid any dividend in the first year and has paid nearly a stable dividend per share of Rs.20 for 3 years 2063/64, 064/65 and 065/66. But the bank has not maintained the stability in the dividend payout in the last year. The bank has declared (paid) dividend of Rs.10 per share in case of the last year. The average DPS of this bank is Rs.14, which is higher than the first and last year DPS of that bank and is lower than for 3 years constant DPS of Rs.20.

The standard deviation of DPS is 8 and the coefficient of variation is 57.14%. The coefficient of variation of the bank indicates that there is 57.14 percent fluctuation in dividend per share of the bank.

In case of NBBL also, DPS has ranged between zero (0) to Rs.15. Similarly, the NBBL has not paid any dividend in the first two years. Despite the profit, NBBL has paid no profit as dividend, which indicates that NBBL has retained all the earnings for its internal growth in second year. The NBBL has paid a dividend of Rs.7.50 in the third year and has adopted stable dividend policy of Rs.15 per share for the last two years. The DPS of the third year of the NBBL is equal to the average DPS (Rs.7.50) of its bank and the DPS of last two years is higher than the average DPS of that bank. The standard deviation and the coefficient of variation of the bank are 6.71 and 89.47 percent respectively. The coefficient of variation indicates that there is 89.47% fluctuation in the variable or there is only 10.53% consistency in DPS.

In conclusion, the average dividend per share paid by NSBL is higher than the average dividend per share of NBBL. So, NBBL is comparatively more successful to create the positive attitudes of shareholders towards the bank. It consequently helps to increase the market value of shares and also helps to indicate the better performance of the bank's management.

.1.3 Dividend Percent (DP)

DP Analysis
Table no. 3

Year	NSBL	NBBL
2062/63	0	0
2063/64	20	0
2064/65	20.01	15
2065/66	20.01	15
2066/67	10	15
Total	70.02	45
Average	14	9
S.D. (σ)	8	7.35
C.V.	57.14%	81.67%

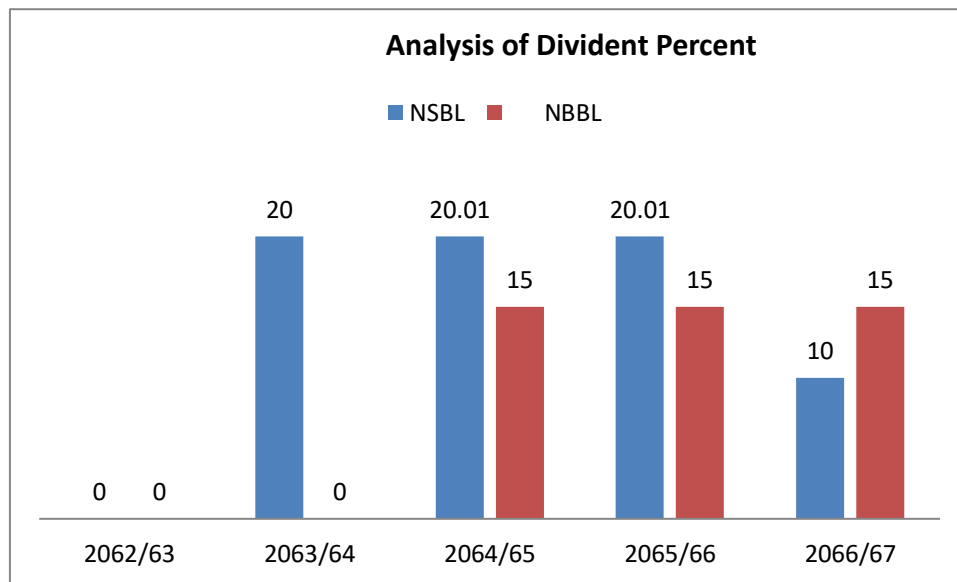


Figure: 3

It is apparent that the general analysis of EPS and DPS can't always give us a true picture of a bank dividend policy since the paid up price very well differs from one bank to another. Therefore, sometimes it is necessary to measure the dividend percentage in order to know the trend of paying dividend to the shareholders. The table given above shows the dividend percentage of two banks viz. NSBL and NBBL.

As the analysis of dividend percent shown in table no. 3, NSBL has not paid any dividend in case of first year and has paid a nearly constant rate of 20% dividend for the three years. Then only 10% has been paid as dividend to its shareholders by NSBL. But the NBBL has not paid any dividend for the first two years and has paid a constant rate of 15% dividend for the last three years. The average dividend percent paid by NSBL is 14%, which is higher than the average dividend percent paid by NBBL (9%). The standard deviation of NSBL is 8 where 7.35 are the standard deviation for NBBL. The coefficients of variations are 57.14% and 81.67% for NSBL and NBBL respectively. The calculation of coefficient of variation of

the DP of two banks suggests that the DP of NSBL is more consistent and the DP of NBBL is more fluctuating. This analysis helps us to assume that the DP of NSBL is sounder between the two banks studied.

So, in aggregate, the NSBL is more efficient for dividend distribution but has not adopted a constant rate. Even the NBBL is not more efficient for distributing dividend, it has adopted a constant dividend rate.

4.1.4 Dividend Payout Ratio (DPR)

DPR Analysis
Table no. 4

Year	NSBL	NBBL
2062/63	0	0
2063/64	63.33	0
2064/65	53.43	42.59
2065/66	40.70	29.62
2066/67	71.58	21.76
Total	229.04	93.97
Average	45.81	18.79
S.D. (σ)	25.11	16.73
C.V.	54.81%	89.04%

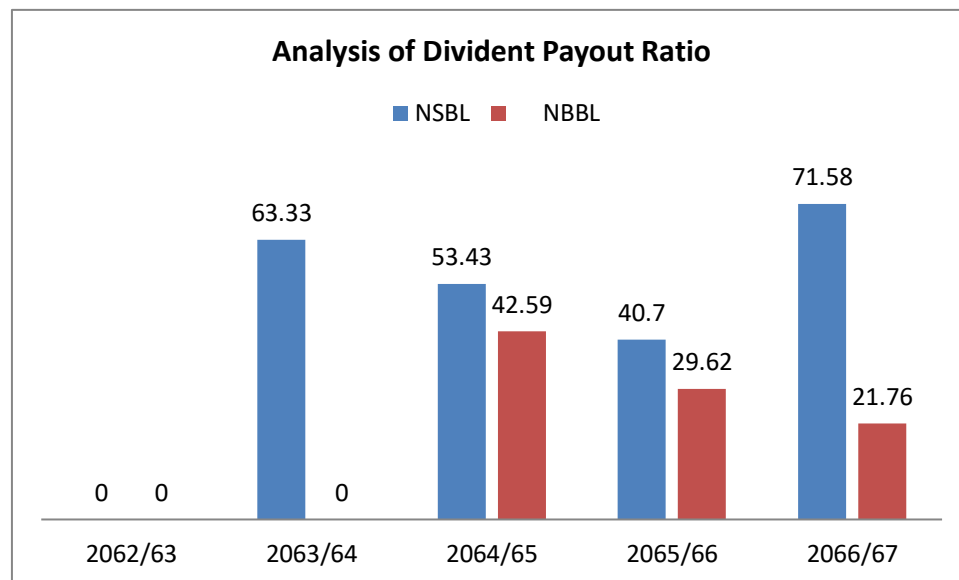


Figure: 4

The above table 4 depicts the dividend payout ratio of the two banks analyzed. The main objective of this presentation is to show the percentage of dividend payment out of its earnings. The importance of this type of presentation lies in its ability to state the dividend policy of the concerned banks more obviously. According to the table, there was no dividend payout ratio in the first year of NSBL and both first and second year in case of NBBL. This is due to that NSBL has not paid any dividend in the first year and NBBL was also failed to pay

divided for the first and second year. It was also found that DPR of NSBL was ranged from 0% to 71.58% and the DPR of NBBL was also ranged from 0% to 42.59%.

The average DPR of NSBL is 45.81, which is far higher than that of NBBL (i.e., 18.79). It reflects in average, that NSBL has paid 45.81% and NBBL has paid 18.79% dividend to their shareholders out of their earnings. The standard deviations are 25.11 and 16.73 of NSBL and NBBL respectively. The coefficient of variation of NSBL is 54.81%, which indicates 54.81% fluctuation in dividend payout ratio of that bank. The CV of NBBL is 89.04 percent, which is higher than that of NSBL. A higher CV indicates the greater inconsistency in those variables. So, it indicates that the DPR of NSBL is more consistent and the DPR of NBBL is more fluctuating. The DPR of NSBL is more fluctuating because the company has not paid any dividend for first two fiscal year 2062/63 and 063/64. After that, it has paid in descending manner (order) for the last three years.

4.1.5 Price Earning Ratio (P/E Ratio)

P/E Ratio Analysis
Table no. 5

Year	NSBL	NBBL
2062/63	77.18	NA
2063/64	13.48	29.85
2064/65	10.57	7.91
2065/66	8.86	4.13
2066/67	39.78	7.49
Total	149.87	49.38
Average	29.97	12.35
S.D. (σ)	26.15	10.21
C.V.	87.25%	82.67%

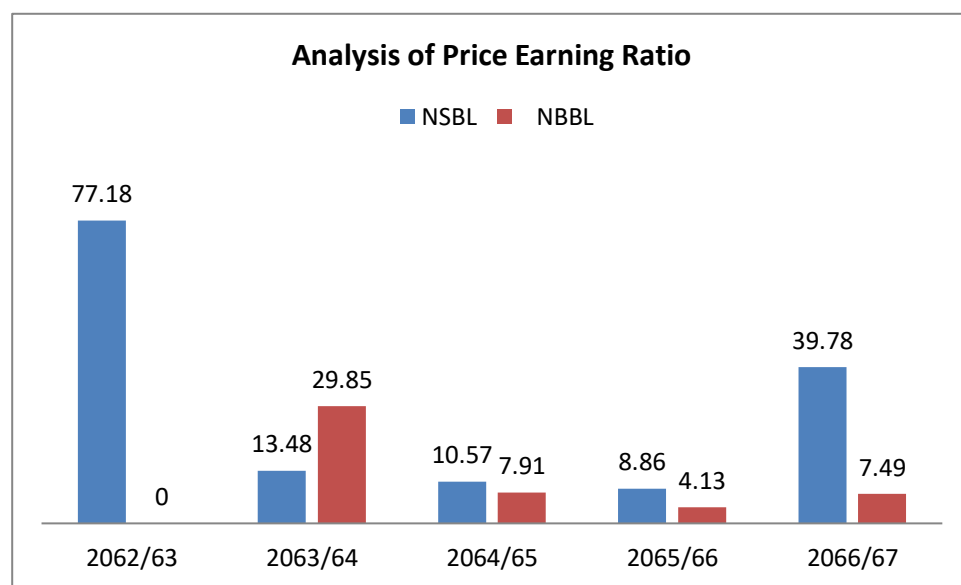


Figure: 5

The above table 5 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 in descending order (manner) for the first four years. Then in the fifth year, the P/E ratio is highly increased by 30.92 and reached to 39.78. Comparatively, the P/E ratio of the first year is very high. The average P/E ratio is 29.97, which is higher than the P/F ratio of the 2nd, 3rd and 4th years and is smaller than the P/E ratio of first and last year.

The standard deviation and the coefficient of variation are 26.15 and 87.25% respectively of that bank. The C.V. shows that there is greater fluctuation in that variable. In other words, there is only 12.75% consistency in P/F ratio of that bank.

Likewise, in case of NBBL, P/E ratio could not be calculated in the first year. This situation has been taken place (occurred) because the market price per share of the first year has not applicable. The P/E ratio of the third and fourth years is in descending order. In the last year, the P/E ratio is increased by 3.36 and reached to 7.49. Comparatively, the P/E ratio of the second year is very high. The average P/E ratio is 12.35, which is smaller than the P/E ratio of second year and is higher than the P/E ratio of the rest years.

The standard deviation and coefficient of variation are 10.21 and 82.67 percent respectively. The C.V. indicates that there is 82.67% fluctuation in variable. In other words, there is only 17.33% consistency in the P/E ratio of that bank.

4.1.6 Earning Yield Ratio (EY)

**EY Analysis
Table no. 6**

Year	NSBL	NBBL
2062/63	1.30	NA
2063/64	7.42	3.35
2064/65	9.46	12.64
2065/66	11.29	24.23
2066/67	2.51	13.25
Total	31.98	53.57
Average	6.40	13.39
S.D. (σ)	3.88	7.40
C.V.	60.63	55.27

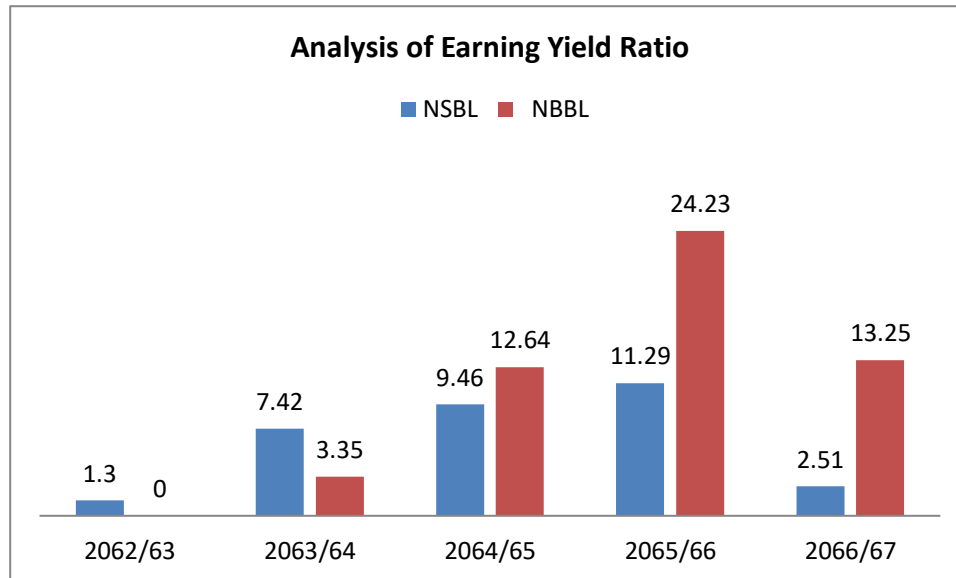


Figure: 6

The relationship between earning per share and market price per share of two banks of different years are exhibited in table 4.1.6. The main reason behind such kind of tabulation is to point to the percentage relationship between EPS and MPS so as to illustrate the earning yield of the concerned banks, which may be a reliable tool to calculate the real value of the dividend as compared with the current market value of each share.

As presented in table 4.1.6, the earning yield ratio of NSBL is in ascending order till the fourth year and the earning yield ratio is decreased by nearly 78% in case of fifth year. The average earning yield ratio of that bank is 6.40, which is higher than the earning yield ratio of the first and the last year and is lower than the earning yield ratio of 2nd, 3rd and 4th years. The standard deviation is 3.88 and the coefficient of variation is 60.66% of that bank.

Likewise, the earning yield ratio of the first year of NBBL could not be calculated. This situation has been occurred because the MPS of 1st year of that bank has not applicable. The earning yield ratio of that bank is also in ascending order till the fourth year and there is nearly 45% reduction in the earning yield in case of the fifth year. The average earning yield ratio is 13.39, which is lower than the 4th year's earning yield ratio and is higher than the rest year's earning yield ratio. On average, the earning yield of NSBL ranks higher than that of NBBL. The standard deviation is 7.40. By the calculation of coefficient of variation, the above data show that the earning yield of NBBL is relatively more consistent (55.27%).

So, in aggregate, NBBL is more efficient than NSBL for earning on the basis of market price of share.

4.1.7 Dividend Yield Ratio (DY)

**DY Analysis
Table no. 7**

Year	NSBL	NBBL
2062/63	0	0
2063/64	4.70	0
2064/65	5.05	5.38
2065/66	4.59	7.18
2066/67	1.80	2.91
Total	16.14	15.47
Average	3.23	3.09
S.D. (σ)	1.99	2.87
C.V.	61.61%	92.88%

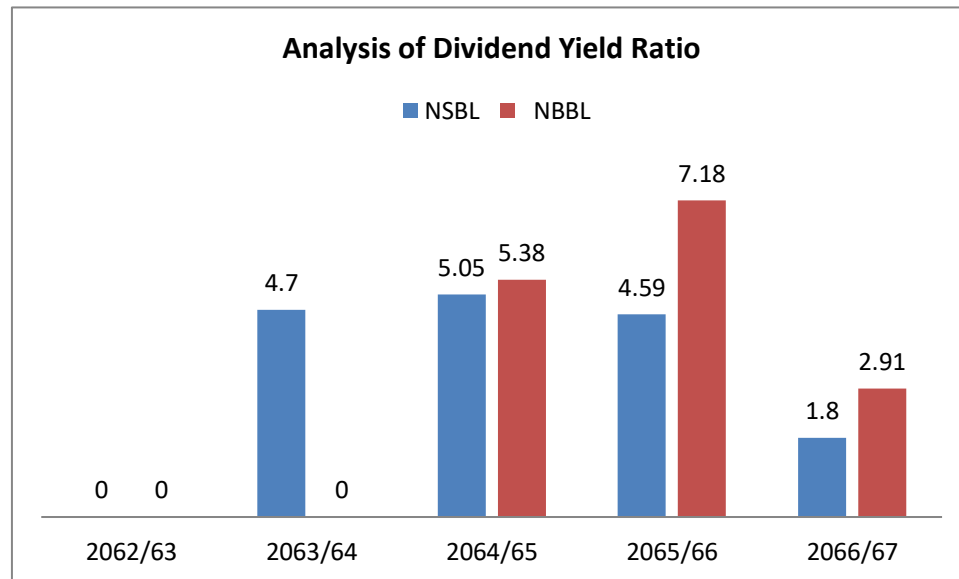


Figure: 7

The above table no. 4.1.7 reveals the dividend yield ratio of the concerned banks from the year 2062/63 to 2066/67. It is clearly shown that NSBL has not paid any dividend in case of first year. So, there is no dividend yield ratio in that year. In the third year, dividend yield ratio has increased but in case of the fourth and the fifth year, this ratio has decreased. The average dividend yield ratio is 3.23, which is lower (smaller) than the dividend yield ratio of second, third and fourth year but is higher than the fifth year. The standard deviation is 1.99 and the coefficient of variation is 61.65, which is smaller than the C.V. of NBBL.

Similarly, in case of NBBL also, there are no dividend yield ratios in the first and the second year. It is due to that the bank has not paid any dividend in these two years. The yield dividend ratio of fourth year is comparatively higher than the third and the last year dividend yield ratio of that bank. The average dividend yield ratio is 3.09, which is lower than the two year's (3rd and 4th) dividend yield ratio and is higher than the last year's ratio. The standard deviation is 2.87 and the coefficient of variation is 92.88%, which indicates 92.88%

fluctuation in that variable. In other words, there is only 7.12% consistency in the variable. This C.V. is comparatively higher than CV of the next bank. In aggregate, it seems that NSBL is more efficient than NBBL for distribution of dividend on the basis of market price of share.

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

Analysis of MPS to BVPS Ratio:

Table no. 8

Year	NSBL	NBBL
2062/63	4.08	NA
2063/64	3.25	2.43
2064/65	2.42	1.59
2065/66	1.99	1.06
2066/67	2.08	1.85
Total	13.82	6.93
Average	2.76	1.73
S.D. (σ)	0.79	0.49
C.V.	28.62%	28.32%

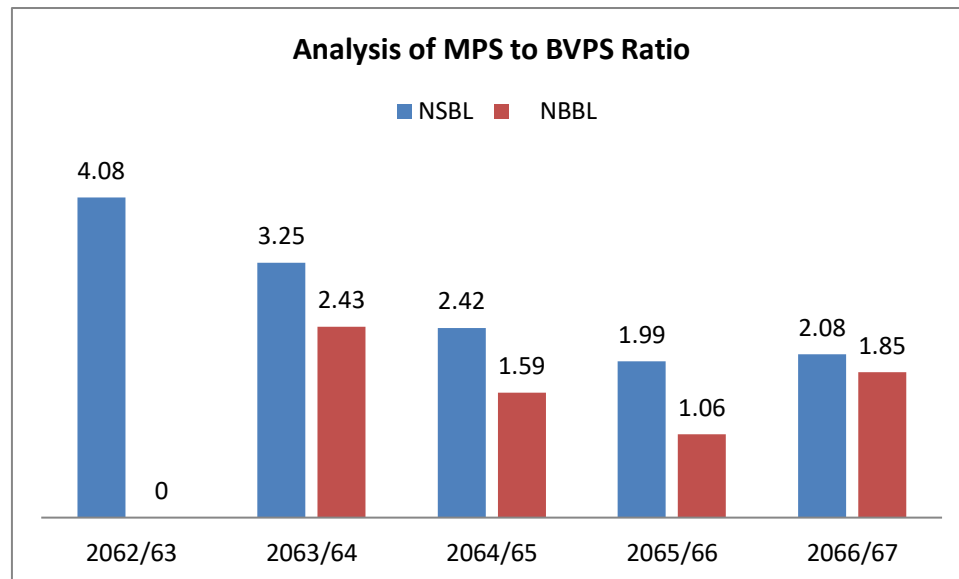


Figure: 8

As per table 4.1.8, the ratio of market value per share (MPS) to book value per share (BVPS) of NSBL is in descending order from first to fourth year but it has slightly increased in the last year. Such a similar case has happened in the case of NBBL also. But due to absence of MPS, the ratio could not be calculated in the first year in case of NBBL. The average ratio of NSBL is 2.76 whereas 1.73 is the average ratio of NBBL. So, NSBL is more efficient in case of average ratio of MPS to BVPS. The S.D. of NSBL is 0.79, which is

higher than the S.D. of NBBL (0.49). The coefficient of variation is 28.62% for NSBL and the CV of NBBL is 28.32%. The coefficient of variations of both banks is nearly equal.

4.1.9 Return on Net Worth (in percent)

Analysis of Return on Net Worth (in percent)

Table no. 9

Year	NSBL	NBBL
2062/63	5.29	-8.23
2063/64	24.12	8.14
2064/65	22.86	20.06
2065/66	22.49	25.64
2066/67	5.22	24.66
Total	79.98	70.27
Average	16	14.05
S.D. (σ)	8.79	12.76
C.V.	54.94	90.82

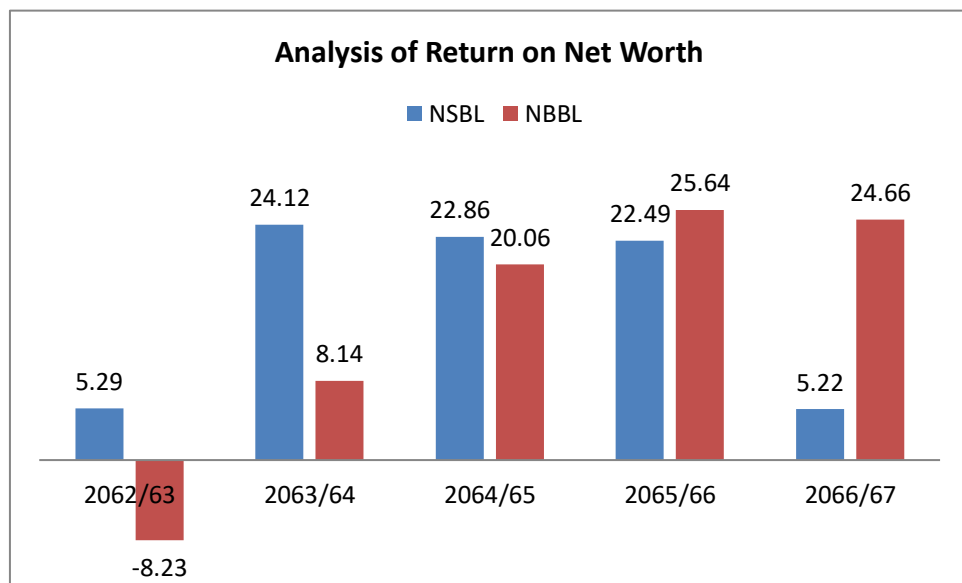


Figure: 9

Turning to the analysis of percentage return on net worth exhibited (presented) in table 4.1.9, it is depicted (seemed) that the percentage return on net worth of NSBL has increased in second year. Then it has gone to decrease in the rest years. It has ranged between 5.22% and 24.12%. The average return on net worth is 16. NSBL is failure to maintain the bank's average in the first and last year. But this is able to maintain the bank's average in the rest years. The S.D. is 8.79 and the C.V. is 54.95%.

Similarly, the percentage return on net worth of NBBL was in ascending order till fourth years. In the fifth year, is has slightly decreased. It has ranged between (8.23%) and 25.64%. Thus, percentage return on net worth of NBBL has more widely

fluctuated than the percentage return on net worth of NSBL. The average return on net worth of this bank is 14.05. NBBL is failure to maintain its average in the first and second year. But this bank is able to maintain its average in the rest years. The S.D. is 12.76. The C.V. is 90.82, which is higher than the C.V. of next bank. So, in aggregate, NSBL is more efficient than NBBL to mobilize its resources efficiently.

4.2 Simple Correlation and Bivariate Regression Analysis:

Earning Per Share (EPS) and Dividend Per Share (DPS) Correlation Between EPS and DPS

Table no. 10

Coefficient of correlation (r)	Relationship	R-square (r ²)	Probable Error (P.E.)	Significant/Insignificant
NSBL 0.9065	Direct	0.8217	0.0538	Significant
NBBL 0.9546	Direct	0.9113	0.0268	Significant

As presented in table no. 4.2.1, there is direct relationship between earning per share and dividend per share of NSBL. The correlation coefficient is 0.9065, which shows high degree of positive relationship. Coefficient of determination is measure of the degree of linear association or correlation between two variables. The value of R² is 0.8217, which indicates that 82.17 percent variation is explained in dependent variable DPS due to change in the value of independent variable EPS.

Similarly, in case of NBBL, the correlation coefficient is 0.9546. There also exists high degree of positive relationship between EPS and DPS. Coefficient of determination between EPS and DPS of NBBL is 0.9113, which indicates that the variations in the EPS explain 91.13% of the variations in DPS.

Probable error of correlation coefficient has also calculated to measure the significance of the relationship between EPS and DPS of these concerned banks. The data related to both banks depict that there is significant relationship between DPS and EPS because r is greater than 6 PE of corresponding banks.

Regression Analysis : Dividend Per Share (DPS) on Earning Per Share (EPS)

Regression equation : $DPS = a + b \cdot EPS$

$$D_t = a + b E_t$$

Table no. 11

Banks	no. of observation (n)	constant (a)	regression coefficient (b)	S.E. (b)	R-square (R ²)	SEE	T value
NSBL	5	1.1762	0.4637	0.0965	0.8217	3.3780	4.8052
NBBL	5	1.0985	0.2311	0.0323	0.9113	1.9984	7.1548

Bivariate Regression Result, $Y = a + bx$

$$DPS = a + b \cdot EPS$$

$$D_t = a + b \cdot E_t$$

Note : DPS & EPS denote dividend per share (dependent variable) and earning per share (independent variable) respectively.

Data and formula used in analysis are exhibited in appendix: A, B and C

The table no. 4.2.2 depicts the output of simple regression analysis of DPS on EPS of two banks viz. NSBL and NBBL. In both the banks, beta coefficients are positive. In case of NSBL, beta coefficient is 0.4637, which indicates that a one rupee increase in EPS, independent variable leads to an average about Rs. 0.4637 increase in DPS, dependent variable, holding other variables constant. The constant (a) is 1.1762, which means that if the EPS is zero, and then the estimated DPS will be 1.1762. The standard error of coefficient (b) is 0.0965, which indicates that if the same sort of data is drawn, there may be variation of Rs. 0.0965 in coefficient. The standard error of estimate is 3.3780. The value of R square (R^2) is 0.8217, which indicates that 82.17% variation in DPS is explained by EPS variable. This result is statistically significant at 5% level of significance since the value of **t** is greater (4.8052) than the tabulated value of **t** (1.96).

In case of NBBL, the beta coefficient is 0.2311, which indicates a one-rupee increase in EPS leads to an average about Rs.0.2311 increase in DPS, holding other variables constant. The constant (a) is 1.0985. The standard error of coefficient (b) is 0.0323. The standard error of estimate is 1.9984. The value of R^2 is 0.9113, which indicates that 91.13% variation in DPS is explained by EPS. This result is also statistically significant at 5% level of significance since the value of **t** is greater (7.1548) than the tabulated value of **t** (1.96).

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

Table no. 12

Banks	Coefficient of correlation (r)	Relationship	R-square (r^2)	Probable Error (P.E.)	Significant / Insignificant
NSBL	0.9066	Direct	0.8219	0.0537	Significant
NBBL	0.9546	Direct	0.9113	0.0268	Significant

Table 4.2.3 helps to depict the relationship between dividend per share (DPS) and Net Profit (NP) of NSBL and NBBL. The correlation coefficient between DPS and NP of NSBL is 0.9066, which is relatively low degree than that of NBBL (0.9546). But the correlation coefficient between DPS and NP of NSBL and NBBL are high and positive too.

The R^2 between DPS and NP of NSBL and NBBL are 0.8219 and 0.9113 respectively. It shows that the variation in NP explains 82.19% variation in DPS in case of NSBL. The figure related to NBBL shows that variation in NP determines 91.13% of variation in DPS. The relationship between DPS and NP is significant in both banks because **r** is greater than **6 PE** of corresponding banks.

Regression Analysis : Dividend Per Share (DPS) on Net Profit (NP)

Regression equation : $DPS = a + b NP$

Table no. 13

Banks	no. of observation (n)	constant (a)	Regression coefficient (b)	S.E. (b)	R-square (R^2)	S.E.E	T-value
NSBL	5	1.1751	0.3866	0.0804	0.8219	3.3762	4.8085
NBBL	5	1.0968	0.1926	0.0269	0.9113	1.9984	7.1599

Bivariate Regression Result : $Y = a + bx$

$DPS = a + b.NP$

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

Data and formula used in analysis are exhibited in appendix : A, B and C

The table no. 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 coefficients of both two banks are positive. Regression coefficient in the case of NSBL is 0.3866, which indicates that a one rupee increase in net profit leads to an average of about Rs.0.3866 increase in DPS, holding other variables constant. Similarly, regression coefficient of NBBL is 0.1926, which indicates that a one rupee increase in net profit leads to an average of about Rs.0.1926 increase in the DPS, holding other variables constant. Hence, from above analysis, it can be said that NSBL can pay more dividend of one rupee of net profit is increased in both banks. The value of R^2 are 0.8219 and 0.9113 if NSBL and NBBL respectively. Net profit explains 82.19% and 91.13% variation in DPS of NSBL and NBBL respectively. Results of NSBL and NBBL are statistically significant because the value of t are high (4.8085) and (7.1599) respectively than the tabulated value of t (1.96) at 5% level of significance.

Dividend Per Share (DPS) and Average Stock Price (MPS)

Correlation between DPS and MPS

Table no. 14

Banks	Coefficient of correlation (r)	Relationship	R-square (R^2)	Probable Error (P.E.)	Significant / Insignificant
NSBL	- 0.6004	Indirect	0.3605	0.1929	Insignificant
NBBL	0.6064	Direct	0.3677	0.2132	-

The table no. 4.2.5 is supported to reveal the relationship between dividend per share (DPS) and average stock price (MPS). Coefficients of correlation of NSBL and NBBL are - 0.6004 and 0.6064 respectively. The coefficient of correlation between DPS and MPS of NSBL indicates the moderate degree of negative correlation, while that of NBBL is positive.

The coefficients of determination (R^2) between DPS and MPS of NSBL and NBBL are 0.3605 and 0.3677 respectively. The figure related to NSBL shows that variation in the DPS explains only 36.05% of variation in the MPS, which is considerable. At the same time, the figure related to NBBL shows that the variation in the DPS explain 36.77% of variation in the MPS, which is also considerable. As far as significance of relationship is concerned,

there is insignificant relationship between DPS and MPS of NSBL because correlation coefficient is smaller than probable error. But it is difficult to say anything about the significance of the relationship since though r is greater than PE ; it is less than $6PE$ is case of NBBL.

Regression Analysis : Average Stock Price (MPS) on Dividend Per Share (DPS)

$$\text{Regression equation : MPS} = a + b \cdot \text{DPS}$$

Table no. 15

Banks	no. of observation (n)	Constant (a)	Regression coefficient (b)	S.E. (b)	R-square (R^2)	S.E.E	T-value
NSBL	5	515.4719	-4.1371	2.4650	0.3605	44.0976	-1.6783
NBBL	4	118.09	14.808	9.7086	0.3677	120.75	1.5252

Bivariate Regression Result : $Y = a + bx$

$$\text{MPS} = a + b \cdot \text{DPS}$$

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

Data and formula used in analysis are exhibited in appendix A, B & C

The table no. 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.

As far the regression of MPS and DPS is concerned, the regression coefficient (beta coefficient) of NSBL is negative (-4.1371). It indicates that a one-rupee increase in DPS leads to an average of Rs. 4.1371 decrease in stock price, holding other variables constant. This is very difficult to say that increase in DPS leads to decrease in MPS. Hence we can conclude that MPS of NSBL does not depend on DPS. There may be other factors that affect MPS. However, in case of NBBL, the beta coefficient is positive (14.808), which indicates that a one rupee increase in DPS leads to an average Rs. 14.808 increase in MPS, holding other variables constant. The value of R^2 is positive in both banks. In case of NSBL, the value of R^2 is a few small (i.e. 0.3605). This indicates that only 36.05% of stock price variation is explained by dividend variable. In case of NBBL, the value of R^2 is 0.3677, which indicates that 36.77% of stock price variation is explained by dividend variable. The test of t-statistics helps us to conclude that in both two cases, the results are not statistically significant at 5% level of significance since the t value (-1.6783 and 1.5252) are smaller than the table value of t (1.96)

Dividend Per Share (DPS) and Net Worth (NW)

Correlation between DPS and NW

Table no. 16

Banks	Coefficient of correlation (r)	Relationship	R-square (R^2)	Probable Error (P.E.)	Significant / Insignificant
NSBL	0.1702	Direct	0.0290	0.2929	Insignificant
NBBL	0.9129	Direct	0.8334	0.0503	Significant

The above table no. 4.2.7 depicts the relationship between dividend per share (DPS) and net worth (NW) of the two concerned banks. Coefficients of correlation between DPS and NW of NSBL and NBBL are 0.1702 and 0.9129 respectively, between which NBBL has

relatively high (more) degree of correlation coefficient. The R^2 between DPS and NW are 0.0290 and 0.8334 of NSBL and NBBL respectively It shows that the variation in NW explains only 2.90% variations in the DPS, which is negligible in the case of NSBL. But the R^2 analysis of NBBL shows that variation in the NW determination explains 83.34% of variation in the DPS. To measure the significance of the relationship between DPS and NW of the two concerned banks, it would be more preferable to calculate probable error of correlation coefficient. The same table depicts that r of NSBL is smaller than the probable error. So, the relationship between DPS and NW is insignificant. But in case of NBBL is undoubtedly greater than $6 P E$. So the relationship between DPS and NW is significant.

Regression Analysis : Net Worth (NW) on Dividend Per Share (DPS)

Regression equation : $NW = a + b \cdot DPS$

Table no. 17

Banks	no. of observation (n)	Constant (a)	Regression coefficient (b)	S.E. (b)	R-square (R^2)	S.E.E	T-value
NSBL	5	195.0904	1.4397	3.7287	0.0290	66.6967	0.3801
NBBL	5	55.9938	14.3763	2.8741	0.8334	43.1210	5.0020

Bivariate Regression Result : $Y = a + bx$

$NW = a + b \cdot DPS$

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

Data and formula used in analysis are exhibited in appendix : A, B & C.

With respect to the above regression result of net worth (NW) on dividend per share (DPS), beta coefficients are positive in both banks. The beta coefficient is 1.4397 in the context of NSBL. It indicates that a one rupee increase in DPS leads to an average Rs. 1.4397 increase in net worth. The value of R^2 of NSBL is 0.0290, which means only 2.90% variation in NW is explained by variation in DPS. The result of this regression is not statistically significant at 5% level of significance. In other words, regression equation can't explain accurately. It is because the tabulated value of t (1.96) is greater than the computed value of t (0.3861). Similarly, the beta coefficient of NBBL is 14.3763, which indicates that a one-rupee increase in DPS leads to increase by Rs.14.3763 in NW. The value of R^2 of NBBL is 0.8334, which means 83.34% variation in NW is explained by variation in DPS. The results of this regression are statistically significant at 5% level of significance because the tabulated value of t (1.96) is smaller than the computed value of t (5.0020).

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

Table no. 18

Banks	Coefficient of correlation (r)	Relationship	R-square (R²)	Probable Error (P.E.)	Significant / Insignificant
NSBL	0.8604	Direct	0.7403	0.0783	Significant
NBBL	0.6890	Direct	0.4747	0.1585	-

The table no. 4.2.9 depicts the correlation between dividend per share (DPS) and investment (INV) of two banks viz. NSBL and NBBL. The correlation coefficient between DPS and INV of NSBL is 0.8604, which is relatively more than that of NBBL (0.6890). There is direct relationship between the two variables for both concerned banks. The R² between DPS and INV are 0.7403 and 0.4747 of NSBL and NBBL respectively. The R square of NSBL is relatively more than that of NBBL. It shows that the variation in investment explains 74.03% of variations in dividend per share in case of NSBL. But the figures related to NBBL shows that the variations in the investment explain only 47.47% of variations in dividend per share, which is considerable.

Since **r** of NSBL is greater than **6PE**, the relationship between DPS and INV is significant. But in case of NBBL, **r** is undoubtedly greater than **PE** but we can conclude nothing out of this data about the significance of the relationship between DPS and INV since **r** is less than **6PE**.

Regression Analysis : Dividend Per Share (DPS) on Investment (INV)

Regression equation : DPS= a+b. INV

Table no. 19

Banks	no. of observation (n)	constant (a)	Regression coefficient (b)	S.E. (b)	R-square (R²)	S.E.E	T-value
NSBL	5	3.2697	0.0318	0.0084	0.7403	4.0769	3.7857
NBBL	5	4.2895	0.0151	0.0071	0.4747	4.8632	2.1268

Bivariate Regression Result : Y = a+bx

DPS = a+b. INV

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

Data and formula used in analysis are exhibited in appendix: A, B & C.

With respect to the above regression result of dividend per share (DPS) on investment (INV), beta coefficients are positive in both banks. In case of NSBL, beta coefficient is 0.0318, which indicates that a one rupee increase in investment leads to an average of about Rs. 0.0318 increase in the DPS, holding other variables constant, while in case of NBBL, beta coefficient is 0.0151, which indicates that a one rupee increase in investment leads to an average of about Rs. 0.051 increase in DPS, holding other variables constant from the above analysis, it is clear that if a one rupee of investment will increase in both the banks. NSBL might be able to pay higher dividend than NBBL. In case of NSBL, the value of R² is

0.7403, which indicates that 74.03% of dividend variation can be explained by investment variable. This result is statistically significant at 5% level of significance, since the tabulated value of **t** (i.e. 1.96) is smaller than the computed value of **t** (3.7857). But in case of NBBL, the value of R^2 is 0.4747, which indicates that only 47.47% of dividend variation can be explained by the investment variable. This result is also statistically significant at 5% level of significance because the computed value of **t** (2.1268) is higher than the tabulated value of **t** (1.96).

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

Table no. 20

Banks	Coefficient of correlation (r)	Relationsh ip	R -square (R^2)	Probable Error (P.E.)	Significant / Insignificant
NSBL	-0.8616	Inverse	0.7424	0.0777	Insignificant
NBBL	-0.8068	Inverse	0.6509	0.1053	Insignificant

The above table no. 4.2.11 depicts the relationship between current ratio (CR) and dividend per share (DPS) of the concerned banks. The correlations coefficient between CR and DPS of NSBL and NBBL are -0.8616 and -0.8068 respectively. The correlation coefficients of both banks are negative between which NSBL has relatively high degree of negative relationship. The R^2 between the two variables is 0.7424 and 0.6509 of NSBL and NBBL respectively. It shows that the variation in CR explains 74.24% of variations in DPS in case of NSBL. At the same time, the figure related to NBBL shows that the variation in CR determination explains only 65.09% of variation in DPS. As far as significance of relationship between DPS and CR is concerned, the relationship between two variables is frankly insignificant, since **r** is less than **PE** of corresponding banks in both two cases.

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

Table no. 21

Banks	Coefficient of correlation (r)	Relationsh ip	R -square (R^2)	Probable Error (P.E.)	Significant / Insignificant
NSBL	0.9250	Direct	0.8556	0.0436	significant
NBBL	0.9222	Direct	0.8505	0.0504	significant

The above table no. 4.2.12 depicts the relationship between earning yield (EY) and dividend yield (DY) of two concerned banks. According to this table, there is 0.9250 correlation coefficient between earning yield and dividend yield in case of NSBL. There exists high degree of positive relationship between the two variables. Coefficient of determination (R^2) indicates that 85.56% variation is explained in dividend yield due to change in the value of earning yield. This appears high degree of positive relationship.

Likewise, the coefficient of correlation between earning yield and dividend yield of NBBL is 0.9222, which is relatively less. This also exists high degree of positive relationship between the two variables. Coefficient of determination (R^2) indicates that 85.05% variation is explained in dividend yield due to changes in the value of earning yield. This also appears high degree of positive relationship. Since correlation coefficient (**r**) is undoubtedly greater

than **6PE** in both concerned banks. So we can conclude that there is significant relationship between EY and DY in both banks.

**Average Stock Price (MPS) and Dividend Per Share of last year [DPS_(t-1)]
Correlation between MPS and DPS_(t-1)**

Table no. 22

Banks	Coefficient of correlation (r)	Relationship	R-square (R ²)	Probable Error (P.E.)	Significant / Insignificant
NSBL	0.1093	Direct	0.0119	0.2981	Insignificant
NBBL	0.9350	Direct	0.8742	0.0424	Significant

With respect to the above correlation table between market price per share (Average stock price) (MPS) and dividend per share of last year (DPS_(t-1)), both correlation coefficients are positive in both banks. In case of NSBL, correlation coefficient is 0.1093, which reveals low degree of direct relationship between the two variables. The value of r² is 0.0119, which indicates that only 1.19% variation is explained in dependent variable MPS due to change in the independent variable DPS of (t-1) year. There is an insignificant relationship between DPS_(t-1) and MPS because r (0.1093) is smaller than P.E. (0.2981) in this bank.

Similarly, in case of NBBL, correlation coefficient is 0.9350, which reveals high degree of positive relationship between DPS_(t-1) and MPS. It is relatively high (more) than that of NSBL. The value of r² is 0.8742, which indicates that 87.42% variation is explained in dependent variable MPS due to change in the independent variable DPS_(t-1) year. The relationship between DPS_(t-1) and MPS is frankly significant because r is greater than **6PE** in case of NBBL.

Regression Analysis : Market Price Per Share (Average Stock Price = MPS = P_t) on Dividend Per Share of Last Year [DPS_(t-1)]

Regression equation : MPS = a + b.DPS_(t-1)

Table no. 23

Banks	no. of observation (n)	Constant (a)	Regression coefficient (b)	S.E. (b)	R-square (R ²)	S.E.E	T-value
NSBL	5	450.1535	0.6150	2.5011	0.0119	54.8145	0.2459
NBBL	4	128.4839	22.8322	4.3305	0.8742	53.86	5.2724

Bivariate Regression Result: Y = a+bx

$$\text{MPS} = a + b \cdot \text{DPS}_{(t-1)}$$

$$P_t = a + b \cdot D_t$$

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

Data and formula used in analysis are exhibited in appendix : A, B & C.

With respect to the above regression result of market price per share (MPS) on dividend per share of last year DPS_(t-1) year, the beta coefficients are positive in both banks, which refer that the dividend of the last year has direct influence on stock price of current

year. Constants of NSBL and NBBL are 450.1535 and 128.4839 respectively, which indicates that MPS of NSBL and NBBL will not fall below Rs.450.1535 and 128.4839 even if the dividend of last year is zero. Beta coefficient in case of NSBL is 0.6150, which indicates that if a one-rupee increase in $DPS_{(t-1)}$ year leads to an average about Rs.0.6150 increase in MPS, holding other variables constant. However in case of NBBL, the beta coefficient is 22.8322, which indicates that if a one rupee increase in $DPS_{(t-1)}$ year leads to an average about Rs. 22.8322 increase in MPS, holding other variables constant.

The value of R^2 for NSBL is smaller than that of NBBL. In case of NSBL, the value of R^2 is 0.0119, so the $DPS_{(t-1)}$ variable can explain only 1.19% variation in MPS for t year of the bank. This result is not statistically significant at 5% level of significance since value of t is smaller (0.2459) than tabulated value of $t_{0.05}$ (1.96). But incase of NBBL, the value of R^2 is 0.8742. So the $DPS_{(t-1)}$ year can explain 87.42% variation in MPS for t year of the bank. This result is statistically significant at 5% level of significance since value of ' t ' is greater (i.e., 5.2724) than tabulated value of $t_{0.05}$ (i.e., 1.96).

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

Table no. 24

Banks	Coefficient of correlation (r)	Relationsh ip	R-square (R^2)	Probable Error (P.E.)	Significant / Insignificant
NSBL	-0.6745	Inverse	0.4550	0.1644	Insignificant
NBBL	0.8361	Direct	0.6991	0.1015	Significant

The correlation between earning per share (EPS) and market price per share (MPS) of two banks are presented in table no. 4.2.15. There is -0.6745 correlation coefficient between EPS and MPS in case of NSBL. It indicates inverse relationship between the two variables. The value of R^2 is 0.4550, which indicates that the EPS of NSBL explains 45.50% of variations in the MPS, which is considerable. Generally, MPS increases, as EPS increases, but this situation does not exist at here.

Likewise, in case of NBBL, coefficient of correlation between EPS and MPS is 0.8361, which is relatively more than that of NSBL. It indicates positive relationship between the two variables. The value of R^2 is 0.6991, which shows that the EPS of NBBL explains 69.91% of variations in the MPS.

In case of NSBL, it is fairly safe to conclude that the relationship between EPS and MPS is insignificant since r is less than PE . But there is significant relationship between EPS and MPS incase of NBBL because r is greater than $6PE$.

Regression Analysis : Market Price Per Share on Earning Per Share
Regression equation : MPS= a+b. EPS

Table no. 25

Banks	no. of observation (n)	constant (a)	Regression coefficient (b)	S.E. (b)	R-square (R ²)	S.E.E	T-value
NSBL	5	523.2989	-2.3772	1.1632	0.4550	40.7093	-2.0437
NBBL	4	78.2690	5.0090	1.6431	0.6991	80.2984	3.0485

Bivariate Regression Result : Y = a+bx

$$\text{MPS} = \text{a} + \text{b} \cdot \text{EPS}$$

Note : Market price per share and Earning per share are represented by MPS and EPS respectively.

Data and formula used in analysis are exhibited in appendix : A, B & C.

With respect to the above regression result of market price per share (MPS) on earning per share (EPS) of the concerned banks, the beta coefficient of NSBL is negative (-2.3772). It indicates that a one-rupee increase in EPS leads to an average about Rs.2.3772 decrease in stock price, holding other variables constant. This is very difficult to say that increase in EPS leads to a decrease in MPS. Hence, we can conclude that MPS of NSBL does not depend on EPS. The share price of NSBL has walked randomly. R² is relatively low (0.4550). This indicates that only 45.50% of stock variation can be explained by variation in EPS. The value of constant (a) is relatively high. It means there are many other factors that affect MPS. The result of t statistic is not statistically significant at 5% level of significance since the computed value of t is smaller (-2.0437) than the tabulated value of t_{0.05} (1.96).

On the other hand, the beta coefficient (b) of NBBL is positive (5.0090), which indicates that a one-rupee increase in EPS leads to an average increase of Rs.5.0090 in stock price. The value of R² is relatively high (0.6991). This indicates that 69.91% of stock variation can be explained by variation in EPS. The test of t statistic helps us to conclude that the result is statistically significant at 5% level of significance since the value of t is greater (3.0485) than the tabulated value of t_{0.05} (1.96)

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

Correlation between DPR and MPS

Table no. 26

Banks	Coefficient of correlation (r)	Relationship	R-square (R ²)	Probable Error (P.E.)	Significant / Insignificant
NSBL	0.1197	Direct	0.0143	0.2973	Insignificant
NBBL	-0.0833	Inverse	0.0069	0.3349	Insignificant

As shown in table no. 4.2.17, the correlation coefficient between dividend payout ratio (DPR) and market price per share of NSBL is 0.1197, which indicates low degree of positive relationship between the two variables. Coefficient of determination (R²) is relatively high (0.0143). This figure indicates that the DPR of NSBL explains 1.43% of

variations in the MPS, which is negligible. R is smaller than P.E. So, the relationship between DPR and MPS is insignificant in case of NSBL.

Likewise, according to the same table, it is depicted that the correlation coefficient between DPR and MPS of NBBL is -0.0833, which refers low degree of inverse relationship between the two variables. Coefficient of determination (R^2) is relatively low (0.0069), which indicates that the variations in the DPR explain only 0.69% of variations in MPS, which is also negligible. There is also insignificant relationship between DPR and MPS since r is smaller than P.E.

Regression Analysis : Market Price Per Share (MPS) on Dividend Payout Ratio (DPR)

Regression equation : $MPS = a + b \cdot DPR$

Table no. 27

Banks	no. of observation (n)	constant (a)	Regression coefficient (b)	S.E. (b)	R-square (R^2)	S.E.E	T-value
NSBL	5	445.5022	0.2627	0.9750	0.0143	54.7479	0.2694
NBBL	4	276.1154	-0.8173	4.8914	0.0069	151.3290	-0.1671

Bivariate Regression Result : $Y = a + bx$

$MPS = a + b \cdot DPR$

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

Data and formula used in analysis are exhibited in appendix : A, B & C.

Table no 4.2.18 depicts the linear relationship between stock price (MPS) and dividend payout ratio (DPR) of concerned banks. In case of NSBL, beta coefficient is 0.2627, which indicates that a one percent increase in DPR leads to an average 0.2627 percent increase in average stock, all other things being same. In case of NBBL, beta coefficient is -0.8173, which indicates that a one percent increase in DPR leads to an average 0.8173 percent decrease in the average stock price, other variables remaining constant. Hence it can be concluded that a one rupee of DPR increase results rise in stock price of NSBL and fall in the stock price of NBBL.

The value of R^2 of NSBL is higher 0.0143 than that of NBBL (0.0069). This indicates that only 1.43% in stock price variable is explained by dividend payout variable in NSBL but only 0.69% of stock price variation is explained by dividend payout variable in NBBL. However, these results of both the banks are not statistically significant at 5% level of significance since computed value of $t_{0.05}$ (0.2694 and -0.1671) are smaller than the tabulated value of $t_{0.05}$ (1.96).

Dividend Percentage on Paid -up Capital (DPPC) and Market Price Per Share (MPS).

Correlation between DPPC and MPS

Table no. 28

Banks	Coefficient of correlation (r)	Relationship	R-square (R^2)	Probable Error (P.E.)	Significant / Insignificant
NSBL	-0.6004	Inverse	0.3605	0.1929	Insignificant
NBBL	0.3571	Direct	0.1275	0.2943	-

The correlation between dividend percentage on paid -up capital (DPPC) and market price per share (MPS) of two banks are presented in table no. 4.2.19. There is -0.6004 correlation coefficient between the two variables in case of NSBL. This shows inverse relationship between these variables. The value of R-square is 0.3605, which shows 36.05% variation is explained in market price per share due to change in dividend percentage on paid up capital. We generally find that market price per share increase as dividend percentage on paid up capital increase, but such situation does not exist in here.

Likewise, there is 0.3571 correlation coefficient between the two variables in case of NBBL. This refers positive relationship between the two variables. The value of R- square is 0.1275, which indicates only 12.75% variation is explained in market price per share due to change in dividend percentage on paid up capital.

In case of NSBL, it is concluded that the relationship between dividend percentage on paid up capital and market price per share is insignificant since r is less than PE . In case of NBBL, no conclusion can be made since r is greater than PE , but it is less than $6PE$.

Regression Analysis : Market Price Per Share (MPS) on Dividend Percentage on Paid-up Capital (DPPC).

Regression equation : $MPS = a + b \cdot DPPC$

Table no. 29

Banks	no. of observation (n)	constant (a)	Regression coefficient (b)	S.E. (b)	R-square (R^2)	S.E.E	T-value
NSBL	5	515.4719	-4.1371	2.4650	0.3605	44.0976	-1.6783
NBBL	4	163	8.348	10.9191	0.1275	141.8432	0.7645

Bivariate Regression Result : $Y = a + bx$

$MPS = a + b \cdot DPPC$

Note : MPS and DPPC denote the market price per share and dividend percentage on paid-up capital respectively.

Data and formula used in analysis are exhibited in appendix : A, B & C.

The above table 4.2.20 reveals the linear relationship between market price of share (MPS) and dividend percentage on paid up capital (DPPC) of two concerned banks viz. NSBL and NBBL. In case of NSBL, the beta coefficient is negative (-4.1371), which indicates that a one percent increase in dividend percentage on paid up value leads to an average 4.1371 percent decrease in market price per share, remaining other variable constant. While in case of NBBL, beta coefficient is positive (8.348), which indicates that a one percent increase in dividend percentage on paid up value leads to an average 8.348 percent increase in market price per share, remaining other variable constant.

However, the value of R^2 is high (0.3605) in case of NSBL. This indicates that 36.05% in market price variation is explained by dividend percentage on paid up value. However, this result is not statistically significant at 5% level of significance since value of t is smaller (-1.6783) than the tabulated value of t (1.96). But in case of NBBL, the value of R^2 is low (0.1275). This indicates that only 12.75% of market price variation is explained by

dividend percentage on paid up value. This result is also not statistically significant at 5% level of significance since value of 't' is smaller (0.7645) than the tabulated value of 't' (1.96).

Dividend Payout Ratio (DPR) and Percentage of Cash and Balance to Current Assets (CBB Ratio)

Correlation between DPR and CBB Ratio

Table no. 30

Banks	Coefficient of correlation (r)	Relationship	R-square (R ²)	Probable Error (P.E.)	Significant / Insignificant
NSBL	-0.1408	Inverse	0.0198	0.2957	Insignificant
NBBL	-0.8159	Inverse	0.6657	0.1008	Insignificant

The table no. 4.2.21 helps to depict the relationship between dividend payout ratio (DPR) and percentage of cash and bank balance to current assets (CBB Ratio). The correlation coefficient (r) between DPR and CBB Ratio of NSBL is -0.1408, which indicates the low degree of negative relationship between DPR and CBB Ratio. At the same time, the figure related to NBBL is also negative -0.8159, but the degree of correlation coefficient is relatively very high.

The r² between DPR and CBB Ratio of NSBL and NBBL are 0.0198 and 0.6657 respectively. It shows that the variation in CBB Ratio explains only 1.98% variation in DPR in case of NSBL. At the same time, the figures related to NBBL show that the variation in CBB Ratio determines 66.57% of variation in DPR. The relationship between DPR and CBB Ratio is frankly insignificant in both banks, since r is less than P.E. of corresponding banks.

Regression Analysis : Dividend Payout Ratio (DPR) on Percentage of Cash and Bank Balance to Current Assets (CBB Ratio)

Regression equation : DPR = a+b. CBB Ratio

Table no. 31

Banks	no. of observation (n)	constant (a)	Regression coefficient (b)	S.E. (b)	R-square (R ²)	S.E.E	T-value
NSBL	5	57.5957	-0.6008	1.8892	0.0198	24.8649	-0.3180
NBBL	5	102.1793	-4.3111	1.3662	0.6657	9.6703	-3.1555

Bivariate Regression Result : Y = a+bx

DPR = a+b. CBB Ratio

Note : DPR and CBB Ratio denote the dividend payout ratio and percentage of cash and bank balance to current assets respectively.

Data and formula used in analysis are exhibited in appendix : A, B & C.

The above table helps to depict the output of simple regression analysis between dividend payout ratio (DPR) and percentage of cash and bank balance to current assets (CBB Ratio) of two concerned banks. As far the regression of DPR and CBB Ratio is concerned, the regression coefficient (or beta coefficient) of both banks are negative. This implies,

holding other variables constant, that the CBB Ratio has not direct influence on DPR, as regression coefficients of both banks are negative. The constants of NSBL and NBBL are 57.5957 and 102.1793 respectively. The beta coefficient of NSBL is -0.6008, which indicates that a one percent increase in CBB Ratio leads to decrease in DPR by 0.6008%. Similarly, the beta coefficient of NBBL is -4.3111, which indicates that a one percent increase in CBB Ratio leads to decrease in DPR by 4.3111%.

The value of R^2 is 0.0198 in case of NSBL and is greater in case of NBBL (0.6657). This indicates that CBB Ratio explains only 1.98% and 66.57% variation in DPR of NSBL and NBBL are not statistically significant at 5% level of significance because the value of t is very small (-0.3180) and (-3.1555) respectively than the tabulated value of t (1.96).

4.3 Multiple Correlation and Regression Analysis :

Dividend Per Share (DPS) and Earning Per Share (EPS), Current Ratio (CR) and Dividend Per Share of last year $DPS_{(t-1)}$.

Table no. 32

Banks	Coefficient of correlation (r)	Relationship	R-square (R^2)	Probable Error (P.E.)	Significant / Insignificant
NSBL	0.980	Positive	0.961	0.0118	Significant
NBBL	1	Positive	1	0	Significant

The above table depicts the multiple correlations between dividends per share (DPS) and earning per share (EPS), current ratio (CR) and dividend per share of last year $DPS_{(t-1)}$ of two concerned banks viz. NSBL and NBBL. The multiple correlation coefficient (R) between DPS and EPS, CR and $DPS_{(t-1)}$ of NSBL is 0.980, which is relatively lower than that of NBBL (i.e. 1). This indicates that there exists high degree of direct relationship between these variables of both concerned banks.

The coefficient of multiple determination (R^2) of NSBL is 0.961, which is relatively lower than that of NBBL (i.e.1). It shows that only 96.1% variation in dependent variable, DPS is explained by independent variables viz. EPS, CR, and $DPS_{(t-1)}$ in case of NSBL. But the figure related to NBBL shows that the variation in independent variables (EPS, CR and $DPS_{(t-1)}$) explains all variation (i.e., 100%) variation in dependent variable (DPS).

As far as the significance of relationship of DPS and EPS, CR and $DPS_{(t-1)}$ is concerned, the relationship of these variables is frankly significant, since R is greater than $6PE$ of corresponding banks in both two cases.

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

Multiple Regression Equation : DPS on EPS, CR and $DPS_{(t-1)}$.

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3$$

$$DPS = a + b_1 EPS + b_2 CR + b_3 DPS_{(t-1)}.$$

Table no. 33

Banks	No. of Cases Listed (n)	Constant (a)	Regression Coefficient (b)			R ²	S.E.E.	F	Sig. F
			b ₁	b ₂	b ₃				
NSBL	5	177.584 (93.271) [1.904]	0.277 (0.151) [1.830]	-155.681 (82.277) [-1.892]	-0.284 (0.233) [-1.222]	0.96 1	3.5297	8.235	0.249
NBBL	4	19.867 (0) []	0.599 (0) []	-22.248 (0) []	-1.787 (0) []	1			

Note : Dividend per share, Earning per share, Current ratio, and Dividend per share of last year are represented by DPS, EPS, CR and $DPS_{(t-1)}$ respectively.

- Values in () and [] represent standard error of coefficients and t value respectively.

The results presented in above table show the relationship between DPS and EPS, $DPS_{(t-1)}$ and liquidity position, which is measured by CR. The constant (a) is positive in both the banks. In case of NSBL, a one rupee increase in EPS leads to an average of about Re.0.277 increase in DPS, remaining other two variables constant, since the relationship between EPS and DPS is positive, whereas the relationship between DPS and CR is negative in SNBL. That is why, increase in CR causes decrease in DPS. Similarly, increase in one rupee in $DPS_{(t-1)}$ leads to decrease in DPS of current year by Re.0.284 as the relationship is negative. In case of NSBL, the value of R^2 is 0.961, which indicates that 96.10% variation in DPS is explained by EPS, CR and $DPS_{(t-1)}$. In case of NBBL beta coefficients of EPS, CR and $DPS_{(t-1)}$ are 0.599, -22.248 and -1.787 respectively. Thus, one rupee increase in EPS leads about 60-paisa increase in DPS. But, when CR is increased by Re 1, DPS is decreased by Rs.22.248, since the relationship is negative. Similarly the relationship between DPS and $DPS_{(t-1)}$ is also negative. As a result, increase in $DPS_{(t-1)}$ by Re 1 leads about Rs.1.787 decrease in DPS for the year t. Coefficient of multiple determination (R^2) is 1, which indicates that all the variation (i.e. 100%) in DPS is explained by independent variation viz. EPS, CR and $DPS_{(t-1)}$. The beta coefficient of EPS, CR and $DPS_{(t-1)}$ are not statistically significant since their respective sig. T-value is greater than 0.05 at level of 5 percent. On the other hand, the sig. (0.249) for the multiple regression of NSBL is greater than 0.05 at 5% level of significance. So the data indicates that regression equation does not provide a statistically significant explanation of variation in DPS of NSBL.

Dividend Payout Ratio and Investment (INV.), Percentage of Cash and Bank Balance to Current Assets (CBB Ratio) and Earning Per Share (EPS).

Multiple Correlation between DPR and INV., CBB Ratio and EPS.

Table no. 34

Banks	Coefficient of correlation (r)	Relationship	R-square (R ²)	Probable Error (P.E.)	Significant / Insignificant
NSBL	0.368	Positive	0.135	0.2609	-
NBBL	0.966	Positive	0.933	0.0202	Significant

The table no 4.2.25 is supported to depict the multiple correlation between dividend payout ratio (DPR) and investment (INV.), percentage of cash and bank balance to current assets (CBB Ratio) and earning per share (EPS) of two banks. The multiple correlation coefficient (R) of NSBL and NBBL are 0.368 and 0.966 respectively. The correlation coefficient between DPR and INV. (CBB Ratio) and (EPS) of NSBL indicates the low degree of positive correlation, while that of NBBL is also positive but the degree is very high.

The coefficient of multiple determination (R²) between DPR and INV. CB Ratio and EPS of NSBL and NBBL are 0.135 and 0.933 respectively. The figure related to NSBL shows that only 13.5% variation in DPR is explained by variation in INV., CBB Ratio and EPS. At the same time, the figure related to NBBL shows that the variations in INV., CBB Ratio and EPS explain 93.30% variation in DPS.

As far as significance of relationship is concerned, in case of NSBL, it is difficult to say anything about the significance of the relationship, since though R is greater than P.E. it is less than 6 P.E. But in case of NBBL there is significance relationship between these variables, since R is greater than 6P.E.

Multiple Regression Analysis : Dividend Payout Ratio (DPR) on Investment (INV.), Percentage of Cash and Bank Balance to Current Assets (CBB Ratio) and Earning Per Share (EPS).

Multiple Regression Equation : DPR on INV., CBB Ratio and EPS

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3$$

$$DPS = a + b_1 \text{ INV} + b_2 \text{ CBB Ratio} + b_3 \text{ EPS.}$$

Table no. 35

Banks	No. of Cases Listed (n)	Constant (a)	Regression Coefficient (b)			R ²	S.E.E.	F	Sig. F
			b ₁	b ₂	b ₃				
NSBL	5	35.442 (234.424) [0.151]	8.035 (0.753) [0.107]	-6.748 (7.910) [-0.009]	-0.558 (11.788) [-0.047]	0.135	52.2271	0.052	0.978
NBBL	5	159.290 (64.591) [2.466]	-3.541 (0.029) [-1.201]	-6.820 (2.889) [-2.361]	-3.783 (0.489) [-0.077]	0.933	9.6927	4.629	0.326

Note : Dividend payout ratio, Investment, Percentage of Cash and bank balance to current assets and Earning per share are represented by DPR, INV. CBB Ratio and EPS receptively.

- Values in () and [] represent standard error of coefficients and t value respectively.

From the above regression equation and table, the linear relationship of dividend payout ratio (DPR) on investment (INV.), percentage of cash and bank balance to current assets (CBB Ratio) and earning per share (EPS) can be known. From the above analysis, we come to know that the constant (a) is positive in both the banks. In case of NSBL, regression coefficients of INV., CBB Ratio and EPS are 8.035, -6.748 and -0.558 respectively. This indicates that a one rupee increase in INV. leads to an average of 8.035% increase in DPR holding other two variables constant, whereas the relationship between DPR and CBB Ratio is negative in NSBL. So an increase in CBB Ratio by 1 percent causes to decrease in DPR by 1 percent. Similarly, increase in one rupee in EPS leads to decrease in DPR by 0.558 percent, since the relationship is negative. The value of coefficient of multiple determination (R^2) is too small i.e. 0.135 in NSBL. This indicates that only 13.5% variation in DPR (dependent variable) is explained by variations in INV. CBB Ratio and EPS (independent variables). On the other hand, in case of NBBL, beta coefficient of INV. is -3.541, which indicates that a one-rupee increase in INV. results to decrease in DPR by 3.541% holding other two variables constant. Beta coefficient of CBB Ratio is 6.820. This indicates that a one-rupee increase in CBB Ratio leads to a average of about 6.820 decrease in DPR, holding other variables constant. Likewise, beta coefficient of EPS variable is -3.783, which also indicates that a one rupee increase in EPS leads to an average about 3.783% decrease in DPR, remaining other two variables constant. The coefficient of multiple determination (R^2) is 0.933, which indicates that 93.30% variation in DPR (dependent variable) is explained by INV., CBB Ratio and EPS (independent variables). The beta coefficient of INV. CBB Ratio and EPS are not statistically significant, since their respective sig. T-value is greater than 0.05 at level of 5 percent in both the banks.

On the other hand, the sig. F for the multiple regression are 0.978 and 0.326 for NSBL and NBBL respectively, which are greater than 0.05 at 5% level of significance. So they are not statistically significant.

Market Price Share (MPS) and Earning Per Share (EPS) Dividend Payout Ratio (DPR) and Dividend Per Share (DPS)

Multiple Correlation between MPS and EPS, DPR, DPS.

Table no. 36

Banks	Coefficient of correlation (r)	Relationshi p	R-square (R^2)	Probable Error (P.E.)	Significant / Insignificant
NSBL	0.987	Positive	0.974	0.0078	Significant
NBBL	1	Positive	1	0	Significant

The above table no. 4.2.27 depicts the multiple correlation between market price per share (MPS) and earning per share (EPS), dividend payout ratio (DPR) and dividend per share (DPS) of two concerned banks during the years covered by investigation. The multiple

correlation coefficient (R) between MPS and EPS, DPR and DPS of NSBL and NBBL are 0.987 and 1 respectively. Although the correlation coefficient between MPS and EPS, DPR and DPS of NSBL is relatively lower than that of NBBL, we can conclude that there exists high degree of positive relationship between these variables of both two banks.

The coefficient of multiple determination (R^2) of NSBL is 0.974, which is negatively lower than that of NBBL (i.e., 1). It shows that, in case of NSBL, only 97.4% of variation in dependent variable (MPS) is explained by the variation in independent variables (EPS, DPR and DPS). But the figure related to NBBL shows that all the variation (i.e., 100%) variations in dependent variable (MPS) is explained by the variation in independent variables (EPS, DPR and DPS).

The measure the significance of the relationship between DPS and EPS, DPR and DPS of the two concerned banks, it would be more preferable to calculate probable error of correlation coefficient. The same table depicts that **R** of both banks are greater than **6 P.E.** of corresponding banks. So we can conclude that the relationship between MPS and EPS, DPR and DPS is significant in both banks.

Multiple Regression Analysis : Market Price Per Share (MPS) on Earning Per Share (EPS), Dividend Payout Ratio (DPR) and Dividend Per Share (DPS) .

Multiple Regression Equation : MPS on EPS, DPR and DPS.

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3$$

$$MPS = a + b_1 \text{ EPS} + b_2 \text{ DPR} + b_3 \text{ DPS.}$$

Table no. 37

Bank s	No. of Cases Listed (n)	Constan t (a)	Regression Coefficient (b)			R2	S.E.E.	F	Sig. F
			b ₁	b ₂	b ₃				
NSB L	5	440.767 (25.908) [17.013]	5.424 (2.237) [2.424]	3.484 (0.779) [4.472]	-20.912 (5.447) [-3.839]	0.974	19.852 2	12.526	0.204
NBB L	4	58.275 (0) []	19.180 (0) []	5.532 (0) []	-65.640 (0) []	1			

Note : MPS, EPS, DPR and DPS denote market price per share, earning per share, dividend payout ratio and dividend per share receptively.

- Values in () and [] represent standard error of coefficients and t value respectively.

The above table represents the linear relationship between MPS, with EPS, DPR and DPS of two concerned banks. The constant (a) is positive in both the banks. In case of NSBL, the beta coefficient of EPS, DPR and DPS are 5.424, 3.484 and -20.912 respectively. It

indicates that a one rupee increase in EPS leads to an average about Rs.5.424 increase in MPS, since the relationship between MPS and EPS is positive, holding other two variables constant. Similarly, MPS and DPR is positively correlated. So, one- percent increase in DPR leads to an average about 3.484% increase in MPS, remaining other two variables constant. But negative coefficient of DPS indicates that a one rupee increase in DPS cause Rs.20.912 decrease in MPS, which appears ridiculous. In indicates that stock market is influenced by some other variables than DPS and investors are not matching DPS and MPS. In case of NSBL, the value of coefficient of multiple determination (R^2) is 0.974, which indicates that 97.40% variation in dependent variable (MPS) is explained by variation in independent variables (EPS, DPR and DPS).

On the other hand, incase of NBBL the regression coefficients of EPS, and DPR are 19.180 and 5.532 respectively, which indicates that one unit increase in EPS and DPR causes increase in MPS with proportion of 19.180 and 5.532 respectively. But regression coefficient of DPS is negative. As a result, one rupee increase in DPS leads to an average about Rs.65.640 decrease in MPS, which appears ridiculous. Hence, we can conclude that DPS has not direct influence on MPS. In case of NBBL, the coefficient of multiple determination (R^2) is 1, which indicates that all the variations (i.e., 100% variations) in dependent variable (MPS) is explained by variation in independent variables (EPS, DPR and DPS).

In case of NSBL, the standard error of coefficients of EPS, DPR and DPS are 2.237, 0.779 and 5.447 respectively. Similarly the standard error of constant (a) is 25.908. The standard error of estimate is 19.8522. The beta coefficient of EPS DPR and DPS, are not statistically significant, since their respective sig. T value is greater than 0.05 at level of 5 percent. On the other side, sig. F for the multiple regressions is 0.249 in NSBL. This value is greater than the 0.05 at 5% level of significance. So this data indicates that regression equation (does not provide) a statistically significant explanation of variation in MPS of NSBL.

4.4 Growth Rate Analysis of Dividend :

According to the pervious analysis of dividend payout ratio, the payout ratios of dividend out of their earnings of both banks are not constant. This indicates that they are not following any defined policy for distributing dividends out of their earnings. We can't compute the real growth rate of dividend but we can compute the fake growth rate assuming constant payout ratio. By using the following equation, it is possible of compute the fake growth rate.

$$D_n = D_0 (1+g)^n$$

Where,

D_n	=	Dividend per share of current year
D_0	=	Dividend per share of base year
n	=	number of period
g	=	growth rate.

For NSBL,

D_0	=	DPS in base year (2063/064) = Rs.20.
D_n	=	DPS in current year (2066/067) = Rs.10
n	=	number of year = 4

Using above equation ;

$$\begin{aligned}
 D_n &= D_0 (1+g)^n \\
 \text{or, } 10 &= 20(1+g)^4 \\
 \text{or, } (1+g)^4 &= 0.50 \\
 \text{or, } 1+g &= (0.50)^{1/4} = 0.8409 \\
 \text{or, } g &= -0.1591
 \end{aligned}$$

$$\therefore \text{growth rate (g)} = -15.91\% = (15.91\%)$$

Similarly, for NBBL

$$\begin{aligned}
 D_0 &= \text{DPS in base year (2064/065)} = \text{Rs.7.50} \\
 D_n &= \text{DPS in current year (2066/067)} = \text{Rs.15} \\
 n &= \text{number of year} = 3
 \end{aligned}$$

Using above equation ;

$$\begin{aligned}
 D_n &= D_0 (1+g)^n \\
 \text{or, } 15 &= 7.50(1+g)^3 \\
 \text{or, } (1+g)^3 &= 2 \\
 \text{or, } (1+g) &= (2)^{1/3} = 1.2599 \\
 \text{or, } g &= 0.2599
 \end{aligned}$$

$$\therefore \text{growth rate (g)} = 25.99\%$$

Thus, from above analysis the fake growth rate of NSBL is negative (i.e., -15.91%) and the rate of NBBL is positive (i.e., 25.99%). This indicates that DPS of NSBL decrease by 15.91% each year and DPS of NBBL increase by 25.99% each year. But this growth rate does not reflect the real picture DPS nor DPS increases or decreases in constant rate.

The following table also supports to indicate the amount of dividend based on growth rate and actually amount of dividend paid.

For NSBL

Year	Cash Dividend Payable (based on growth rate) (1)	Actual Cash Dividend Paid (2)	Difference (3) = (1)-(2)
2063/064	20	20	0
2064/065	1.818	20.01	(3.192)
2065/066	14.1423	20.01	(5.8677)
2066/067	11.8923	10	1.8923

The computed growth rate of -15.91% was not followed by the NSBL in the past 4 years because the difference was positive in one year and was negative in other two years. It shows that the banks have neither followed the system of stable of cash dividend nor constant payout dividend.

For NBBL,

Year	Cash Dividend Payable (based on growth rate) (1)	Actual Cash Dividend Paid (2)	Difference (3) = (1)-(2)
2064/065	7.50	7.50	0
2065/066	9.4493	15	(5.5507)
2066/067	11.9052	15	(3.0948)

Likewise, according to the above analysis NBBL has not followed the computed growth rate of 25.99% in the past 3 years because the difference was negative in two years. It also shows that the bank has neither followed the system of stable of cash dividend nor constant payout dividend.

CHAPTER – V

SUMMARY, CONCLUSION & RECOMMENDATION

The chapter first to chapter fourth includes the introduction, review of literatures, research methodology and presentation and analysis of secondary data respectively. In this final chapter, an attempt has been made to present major findings, issues and gaps, recommendations and summary and conclusions. The noteworthy points, which are found in course of study, are presented under the head of major findings. The issues and gaps found and the factors to cause those issues and gaps are also presented under the head of issues and gaps. Considering the major findings, issues and gaps, some suggestions are provided to improve the existing conditions in this field, which is presented under the head of recommendations. Moreover, summary and conclusions is presented in the last part of this chapter.

5.1 Major Findings :

- ✘ Earning per share analysis shows that the average earning per share is few smaller in case of NSBL (i.e., 27.664) than that of NBBL (i.e., 27.70). At the same time, C.V. analysis helps us to conclude that it has relatively more consistent earning per share than that of NBBL.
- ✘ As far as dividend per share is concerned, data related to NSBL shows that its average dividend per share is nearly two times greater (i.e., 14) with more consistency than that of NBBL, which has relatively lower average dividend per share (i.e., 7.50) with more variation. This indicates that NSBL is able to pay higher average dividend to its shareholders.
- ✘ The data of dividend percent analysis shows that the NSBL has higher average dividend percent (i.e., 14) than NBBL (i.e., 9). At the same time C.V. analysis helps us to conclude that NSBL has relatively more consistent dividend percent than that of NBBL.
- ✘ The analysis of dividend 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 dividend payout ratio. NSBL is remarkable here in the sense of its average dividend payout ratio, which ranks higher with more consistency than NBBL. So we can conclude that NSBL is paying higher percentage of its earnings as dividends than NBBL.
- ✘ Price- earning ratio analysis shows that the average price-earning ratio of NSBL is higher with high variation than NBBL. NBBL has lower price earning ratio, but has comparatively more consistency of price – earning ratio.
- ✘ The earning yield ratio analysis shows that the average earning yield ratio is smaller in NSBL (i.e., 6.40) than NBBL (i.e., 13.39). At the same time, C.V. analysis helps us to conclude that it has relatively more variation-earning yield than that of NBBL.
- ✘ 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 NSBL is higher with more consistency than that of NBBL, which reveals that NSBL has mobilized its resources properly but NBBL has failed to do so.
- ✘ In case of NSBL, the relationship between dividends per share with earning per share, net profit, net worth and investment are positive while the relationship between dividend per share with market price per share and current ratio are negative. But, in case of NBBL, the relationship between dividend per share with earning per share, net profit, market price per share, net worth and investment are positive while the relationship between dividend per share and current ratio is negative.
- ✘ The correlation between dividend per share with earning per share and net profit is significant and the correlation between dividend per share with current ratio is insignificant in both the banks. Similarly, correlation between dividend per share with market price per share and net worth is insignificant in case of NSBL. But the correlation between dividends per share with net worth is significant in case of NBBL. Similarly, the correlation between dividends per share with investment is significant in case of NSBL. But, even the correlation between dividend per share with market price per share and investment are positive, it is difficult to say anything about the significance of the relationship, since although **r** is greater than **P.E.**, it is less than **6 P.E.** in case of NBBL.
- ✘ In case of NSBL, the relationship between market price per share with last year's dividend per share and dividend payout ratio are positive while the relationship between market price per share with earning per share, dividend percentage on paid up capital are negative. But in case of NBBL, the relationship between market price per share with last year's dividend per share, earning per share and dividend percentage on paid up capital are positive while the relationship between market price per share with dividend payout ratio is negative.
- ✘ The correlation between market price per share with dividend per share of last year, earning per share, dividend payout ratio and dividend percentage on paid up capital is insignificant in case of NSBL. But the correlation between market price per share with dividend per share of last year and earning per share is significant and market price per share with dividend payout ratio is insignificant in case of NBBL. But even the market price per share is positively correlated with dividend percentage on paid up capital. It is difficult to say anything about the significance of the relationship because **r (r)** is greater than **P.E.** but is smaller than **6 P.E.**
- ✘ The relationship between dividend yield and earning yield is positive and significant also in both the banks but the relationship between dividend payout ratio and percentage of cash and bank balance to current assets is negative and insignificant also in both the banks.
- ✘ As far as the bivariate regression analysis of dividend per share on earning per share and dividend per share on net profit is concerned, beta coefficient is positive in both the banks. The positive beta coefficients of earning per share and net profit indicate that dividend per share increases with higher earning per share and net profit in both

- the banks. Earning per share and net profit has greater influence on variation in dividend per share, which is higher in NSBL as compared to NBBL.
- ✘ According to simple regression analysis of average stock price on dividend per share, regression coefficient is negative (i.e., -4.1371) in NSBL and is positive (i.e., 14.808) in NBBL. The regression coefficient (-4.1371) of NSBL indicates that a one-rupee increase in dividend per share leads to an average of Rs. 4.1371 decrease in stock price, holding other variables constant. This appears ridiculous because increase in dividend per share leads to decrease in market price per share. Hence we can conclude that the market price per share of NSBL does not depend on dividend per share. There may be other factors that affect market price per share. However, in case of NBBL, beta coefficient (14.808) indicates that a one-rupee increase in dividend per share leads to an average of Rs.14.808 increase in stock price.
 - ✘ With respect to regression analysis of net worth on dividend per share beta coefficient is positive in both banks. Beta coefficient of NBBL is higher than NSBL, which indicates that NBBL might be able to increase higher net worth than NSBL if one of dividend per share is increased in both the banks at the same time.
 - ✘ From the regression analysis of dividend per share on investment, it is noticed that dividend per share and investment are positively correlated, which means higher the investment, higher will be the dividend per share. This situation generally does not exit because when the company has investment proposal, it can't pay dividend since it has to invest to the proposal from earnings. Beta coefficient of NSBL is higher than NBBL, which indicates that NSBL might be able to pay higher dividend per share than NBBL, if one rupee of investment is increased in both the banks at the same time.
 - ✘ According to simple regression analysis of market price per share on dividend per share of last year beta coefficient is positive in both the banks. This indicates that dividend per share of last year has direct influence on stock price of current year. The beta coefficient of NSBL is lower than NBBL, which indicates that if a one rupee of dividend per share of last year is increased in both the banks, NBBL might be able to increase in market price per share highly than NSBL.
 - ✘ As far as the bivariate regression of market price per share on earning per share is concerned, beta coefficient is negative (i.e., -2.3772) in NSBL and is positive (i.e., 5.0090) in NBBL. The beta coefficient (-2.3772) of NSBL indicates that, remaining other variables constant, a one-rupee increase in earning per share leads to an average of Rs. 2.3772 decrease in market price per share, which seems ridiculous. It is because that increase in earning per share leads to decrease in market price per share. Hence, we can conclude that market price per share of NSBL does not depend on earning per share. Its share price has walked randomly or there may be other variables that affect market price per share. However, in case of NBBL, beta coefficient (5.0090) indicates that a one-rupee increase in earning per share leads to an average of Rs.5.0090 increase in market price per share, remaining other variables constant.
 - ✘ With respect to regression analysis of market price per share on dividend payout ratio, beta coefficient is positive (0.2627) in NSBL and is negative (-0.8173) in NBBL. In case of NSBL, beta coefficient (0.2627) indicates that one- percent increase in dividend payout ratio leads to an average 0.2627 percent increase in market price per

- share, holding other variables constant. In case of NBBL, holding other variables constant, beta coefficient (-0.8173) indicates that one- percent increase in dividend payout ratio leads to an average 0.8173 percent decrease in market price per share, which appears ridiculous. Generally when dividend payout ratio is increased that leads increase in market price per share. But this situation does not exist in case of NBBL. This indicates that market price is influenced by any factor else than dividend payout ratio.
- ✘ According to simple regression analysis of market price per share on dividend percentage on paid up capital, beta coefficient is negative (-4.1371) in case of NSBL and is positive (8.348) in case of NBBL. The beta coefficient of NSBL shows that a one- percent increase in dividend percentage on paid up capital leads to an average 4.1371 percent decrease in market price per share, remaining other variables constant. In case of NBBL, the beta coefficient (8.348) indicates that a one- percent increase in dividend percentage on paid up capital leads to an average 8.348 percent increase in market price per share, remaining other variables constant.
 - ✘ As far as the bivariate regression analysis of dividend payout ratio on percentage of cash and bank balance to current assets is concerned, beta coefficient is negative in both the banks. This implies that the percentage of cash and bank balance to current assets has not direct influence on dividend payout ratio. In other words, this situation indicates that when we increase in percentage of cash and bank balance to current assets, it causes to decrease in dividend payout ratio, which can be seen as usual.
 - ✘ The multiple correlation analysis tells that dividend per share and earning per share, current ratio and dividend per share of last year are positively correlated in both the banks. Similarly, the dividend payout ratio and investment, percentage of cash and banks balance to current assets and earning per share are also positively correlated in both the banks. Moreover, multiple correlation analysis tells that market price per share and earning per share, dividend payout ratio and dividend per share are positively correlation in both the banks.
 - ✘ As far as the multiple regression analysis of dividend per share on earning per share, current ratio and dividend per share of last year is concerned, the constant (a) is positive in both the banks. Beta coefficients of earning per share and current ratio are positive and the beta coefficient of dividend per share of last year is negative in case of NSBL. But, in case of NBBL, the beta coefficient of earning per share is positive and beta coefficients of current ratio and dividend per share of last year are negative. In case of NSBL the beta coefficient of earning per share, current ratio and dividend per share of last year are not statistically significant at 5% level of significance.
 - ✘ With respect to the multiple regression analysis of dividend payout ratio on investment, percentage of cash and bank balance to current assets and earning per share, the constant (a) is positive in both the banks. Beta coefficient of investment is positive and the beta coefficients of percentage of cash and bank balance to current assets and earning per share are negative in case of NSBL. But the beta coefficients of all the independent variables are negative in case of NBBL. The beta coefficient of investment, percentage of cash and bank balance to current assets and earning per share are not statistically significant at 5% level of significance in both the banks.
 - ✘ According to multiple regression analysis of market price per share on earning per share, dividend payout ratio and dividend per share, the constant (a) and beta

- coefficients of earning per share and dividend payout ratio are positive in both the banks. But the beta coefficient of dividend per share is negative in both the banks. The beta coefficients of earning per share, dividend payout ratio and dividend per share are not statistically significant at 5% level of significance in case of NSBL.
- ✘ The market value per share is considerably higher than net worth per share (or book value per share). There exists vast difference between market price per share and book value per share in 2062/063 in NSBL and in 2063/064 in NBBL. This situation clearly reveals that the investors are not matching book value and market value of share. They do not see what is the reported value of share from its books and accounts. In other words, it can be concluded that they don't have enough knowledge on how to evaluate the value of share before investing on it.
 - ✘ The analysis of dividend payout ratio indicates that both the banks have adopted conservative dividend policy. There do not exist the relationship between the earnings, dividend payment and growth and expansion programme. The practices of low dividend payout ratio without having growth and diversification schemes ultimately lead to hamper on maximization of the shareholders wealth.
 - ✘ The growth rate of dividend is inconsistent in both the banks. The calculated growth rate gives tentative ideas of the rate at which dividend per share is growing. But none of the banks have followed it. The growth rate of NSBL is negative (i.e., -15.91%) and is positive (i.e., 25.99%) in case of NBBL.
 - ✘ None of the banks have followed the computed growth rates of dividend per share. This indicates that both banks have not adopted the stable and consistent dividend policy. However, they are paying fluctuating dividend. Similarly, they have not adopted any criteria to pay dividend. So, it can be concluded that there is no long-term vision regarding dividend decision.

5.2 Issues & Gaps :

Considering the major findings some gaps that perceived in this study are presented below. Some issues, which are related to dividend and other relevant factors found in the course of analysis, are also presented here. All these are given below.

1. Lack of Legal Rules:

There is lack of legal rule and regulations that bind companies to pay dividend when they are running at profit. Not only the companies do not have any clear policy regarding dividend payment but also there is no provision in Company Act 2053, Nepal Commercial Bank Act 2031 and other regulating acts. This has caused inconsistency and random walk of dividend payments.

2. Lack of Specific Dividend Strategy:

The banks have not paid dividend regularly. This indicates that there is instability and inconsistency in dividend payment. Dividend payout ratio does not show any stability and coordination with other variables. Further more, companies have not followed any specific dividend strategy.

3. Irregularity in Dividend Payment:

Both banks have not paid dividend in whole period of the study even they are running at profit in that year. This indicates that there is irregularity in payment of dividend.

4. Instability in Dividend Payout Ratio :

The dividend payout ratio has ranged from 0 to 71.58% in NSBL and 0 to 42.59% in NBBL. The average dividend payout ratio of both banks has ranged from 18.79% to 45.81%. The fluctuation of dividend payout ratio is 54.81% in NSBL and is 89.04% in NBBL. So, this is enough to say that there is instability and inequality in dividend payout ratio.

5. Low Percent of Earning Yield and Dividend Yield Ratio :

Earning yield is relationship between earning per share and market price per share whereas dividend yield is relationship between dividend per share and market price per share. The earning yield of NSBL has ranged from 1.30 to 11.29 and the average earning yield is 6.40. Similarly, the earning yield of NBBL has ranged from 3.35 to 24.23 and the average earning is yield is 13.39. On the other side, the dividend yield of NSBL has ranged from 0 to 5.05 and the average dividend yield is 3.23 whereas the dividend yield of NBBL has ranged from 0 to 7.18 and the average dividend yield is 3.09.

From these above figure, we can conclude that both banks have low percent of earning yield and dividend yield, which can't also be considered as encouraging figure. This indicates that companies have not considered price rise and inflation rate in the economy.

6. Huge Gap Between Book Value Per Share and Market Value Per Share:

Market price per share of both banks under the study period is greater than their respective book value per share in all the year. This indicates that investors are not looking at book value of share and they are placing higher price for the shares transacted. This also implies that there may be lack of conscious shareholders. In other words, having lack of enough knowledge, they are haphazardly investing in share. So, the value of share is increasing and ultimately there becomes huge gap between book value per share and market value per share.

7. Relationship between Net Profit and Earning Per Share:

As the net earning is increasing, earning per share is increasing. This is one of reason that there is no issue of bonus share.

8. Management's Role in Determining Dividend Decision:

There is no choice to the shareholders to prefer the stock dividend or cash dividend or any forms of dividend. The management is playing active role in determining the forms and amount of dividend instead of shareholders collective view. Moreover, the practices of dividend payment adopted by bank are not stable and adequate too. In some cases, only a small amount of dividend is paid without considering the risk free rate of return.

5.3 Recommendations :

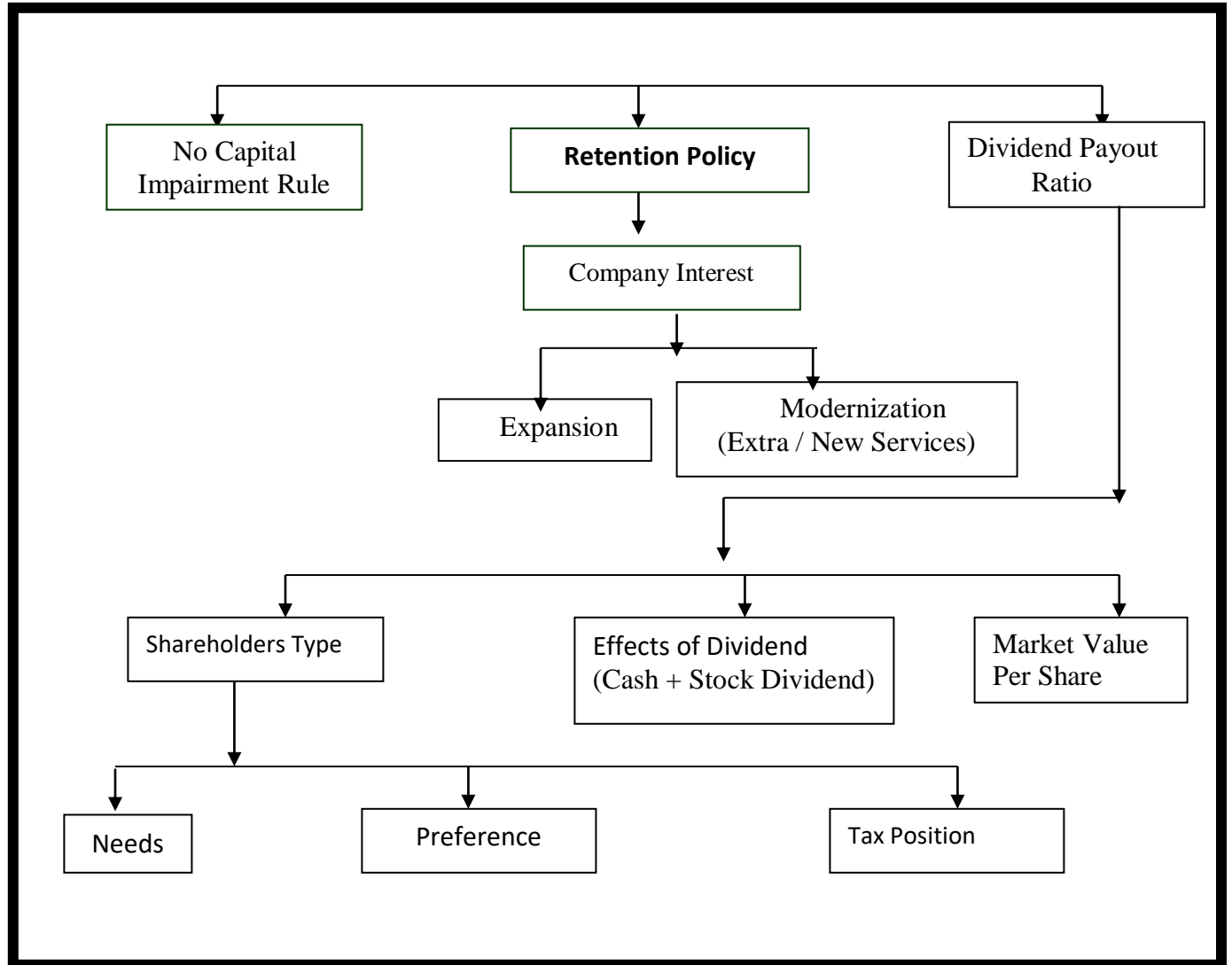
Based on major findings and issues and gaps found in course of this study, some recommendations are explained below hoping that these recommendations will certainly be proved milestone to overcome existing issues in this field.

1. There is no clear – cut legal provision regarding dividend payments. So the government should act in favour 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.
2. The banks should define their dividend strategy (policy) clearly whether the bank is going to adopt stable dividend policy, constant payout ratio or low regular plus extra dividends. The clearly defined policy will guide the way on how to follow dividend distribution. The bank should follow them (defined dividend strategy) strictly in normal condition. If there is lack of clearly defined dividend strategy, so many problems or inconveniences will be created to many other organizational sectors especially on the financial sectors.
3. Banks should provide a chance to their shareholders for their interest. They should try to know whether they (shareholders) prefer to obtain cash dividend or stock dividend or any forms of dividend. So, instead of declaring cash or stock or any forms of dividend, dividend declaration should be proposed to the annual general meeting of shareholders for their approval. Furthermore, the banks should also be careful about informing the impacts of dividends, the advantages and disadvantages of different forms of dividend to those shareholders or potential investors who know less about the matters.
4. The payment of dividend is highly fluctuating, which is neither static nor constantly growing. Such inconsistency and irregularity in the dividend payment may create more confusion and miss-conception about that firm. Due to higher degree of risk and uncertainty, such fluctuation can't impact positively in the firm's market price per share. So these banks are advised to follow either static or constantly growing dividend payment policy. Similarly, according to the changing context and shareholders interest and expectation, the predetermined policies should be reviewed.
5. The bank should consider the existing conditions and expectations of shareholders while distributing dividends so that the distributed dividend should meet the interests or expectations of the shareholders as far as possible.
6. The bank should study about the strategy to attract the ordinary or small or low level investors so that the interest or the expectation of shareholders will not be destroyed even the bank can't pay the dividend in some year.
7. It would be better to fix the amount of dividend in the annual general meeting of shareholders. This is important not only from the point of view of adequate return to shareholders but also to generate stable and increasing market value per share, long run survival of bank, efficient management and socially acceptable distribution of income.
8. Banks are playing on the public money. So in this regard, they are advised to have target rate of return (earnings) and target payout ratio that will help the banks to build good image in stock market and investors will be benefited on making investment decision.
9. There should be certain program to improve the efficiency and reduce the government interference in daily affair. Similarly, the managers should be able to fulfill their duties and responsibilities and to protect the shareholder's interest but not for operation of company desired by themselves.

10. It is recommended to the concerned parties that the optimum dividend policy must be based on the following criteria.
 - (i) Optimum retention is made for excellent expansion and modernization.
 - (ii) Optimum dividend so that market value per share will increase rapidly i.e., net present value of shareholders wealth can be maximized.
 - (iii) Stable or consistency in the dividend payment.

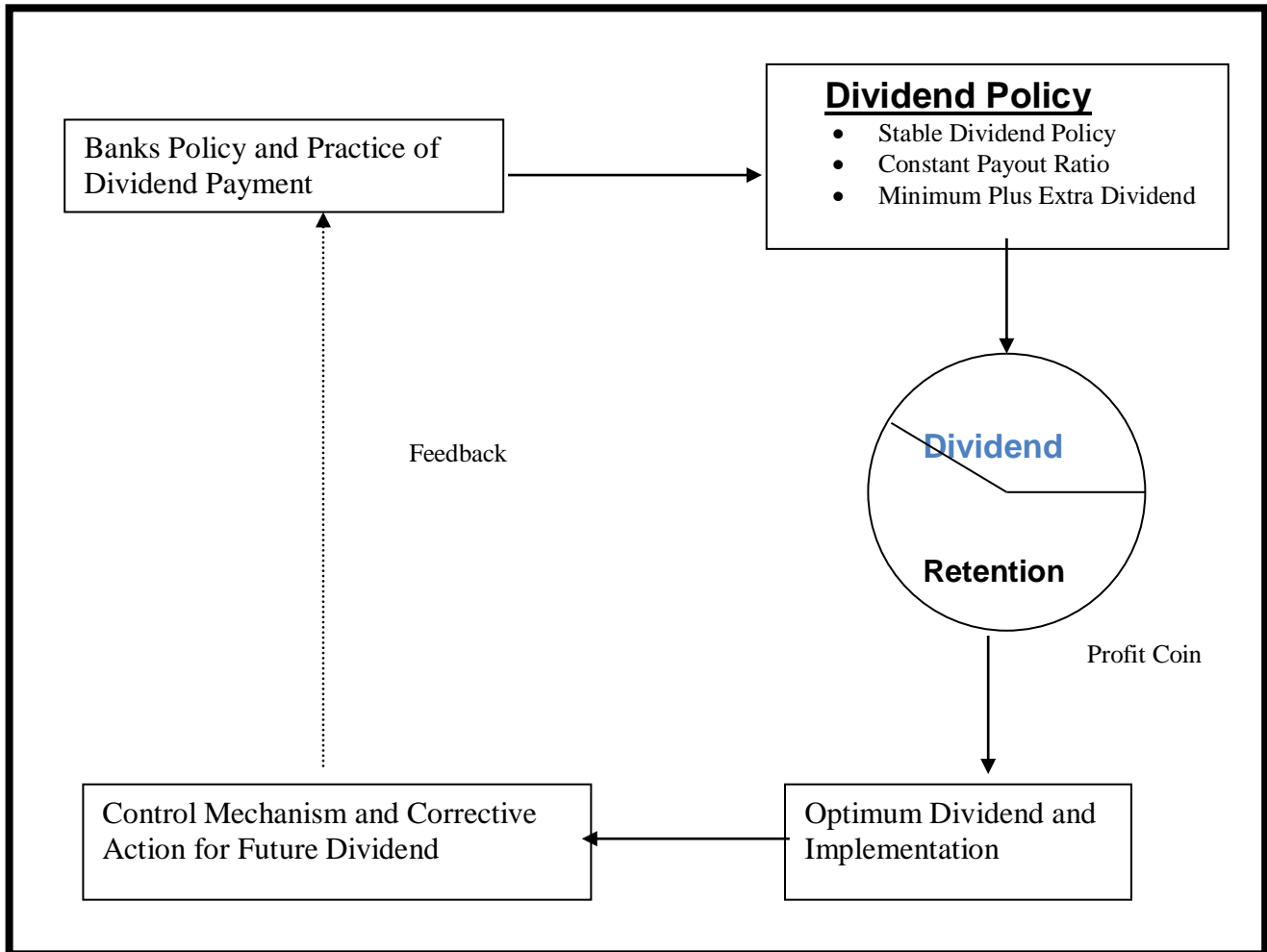
Based on the present research results derived from the above analysis, major findings and issues, the following model has been recommended as a guideline regarding the dividend decision.

Formulating Appropriate Rules Governing
Dividend Policy of Banks

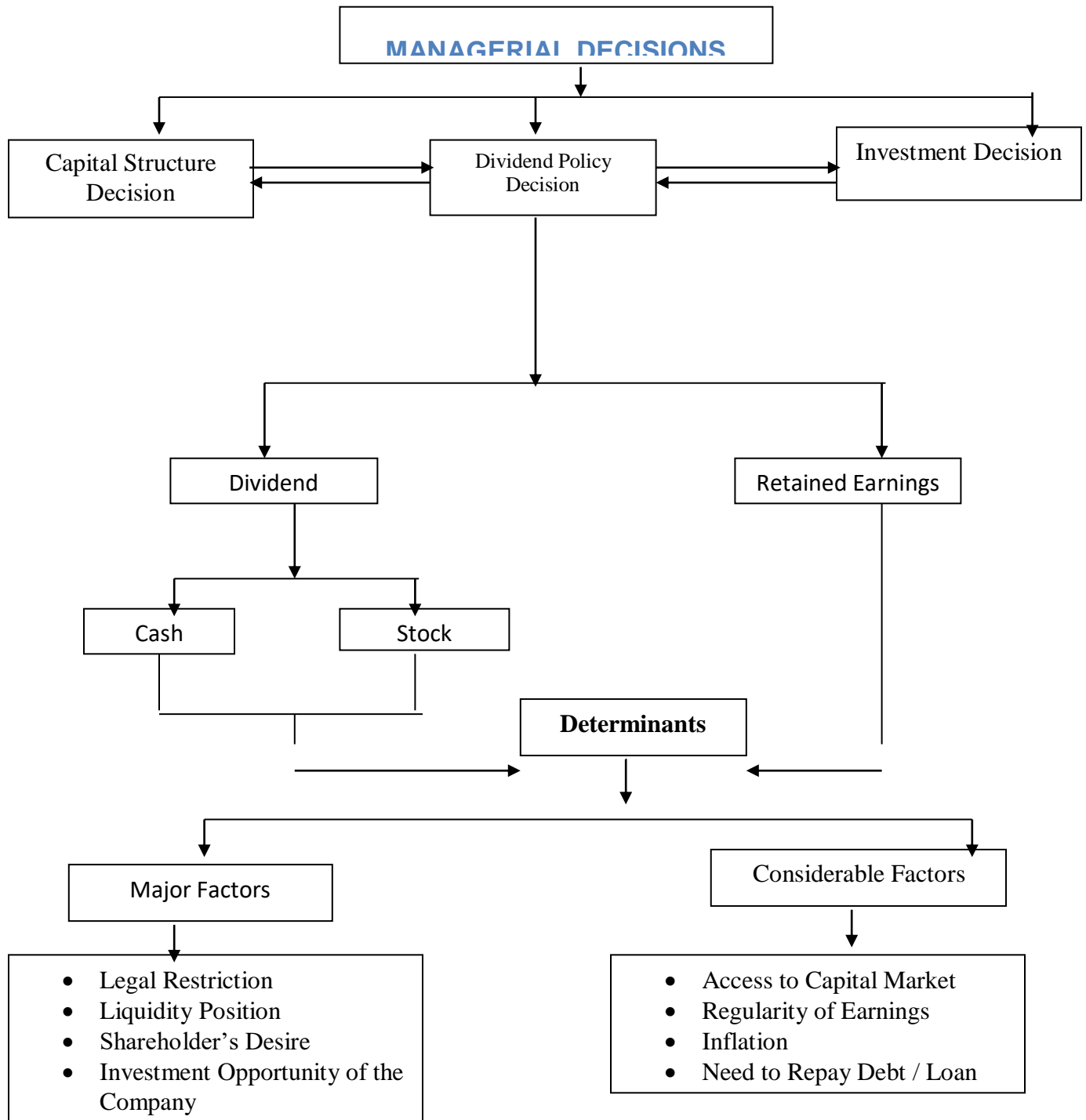


APPROPRIATE DIVIDEND POLICY

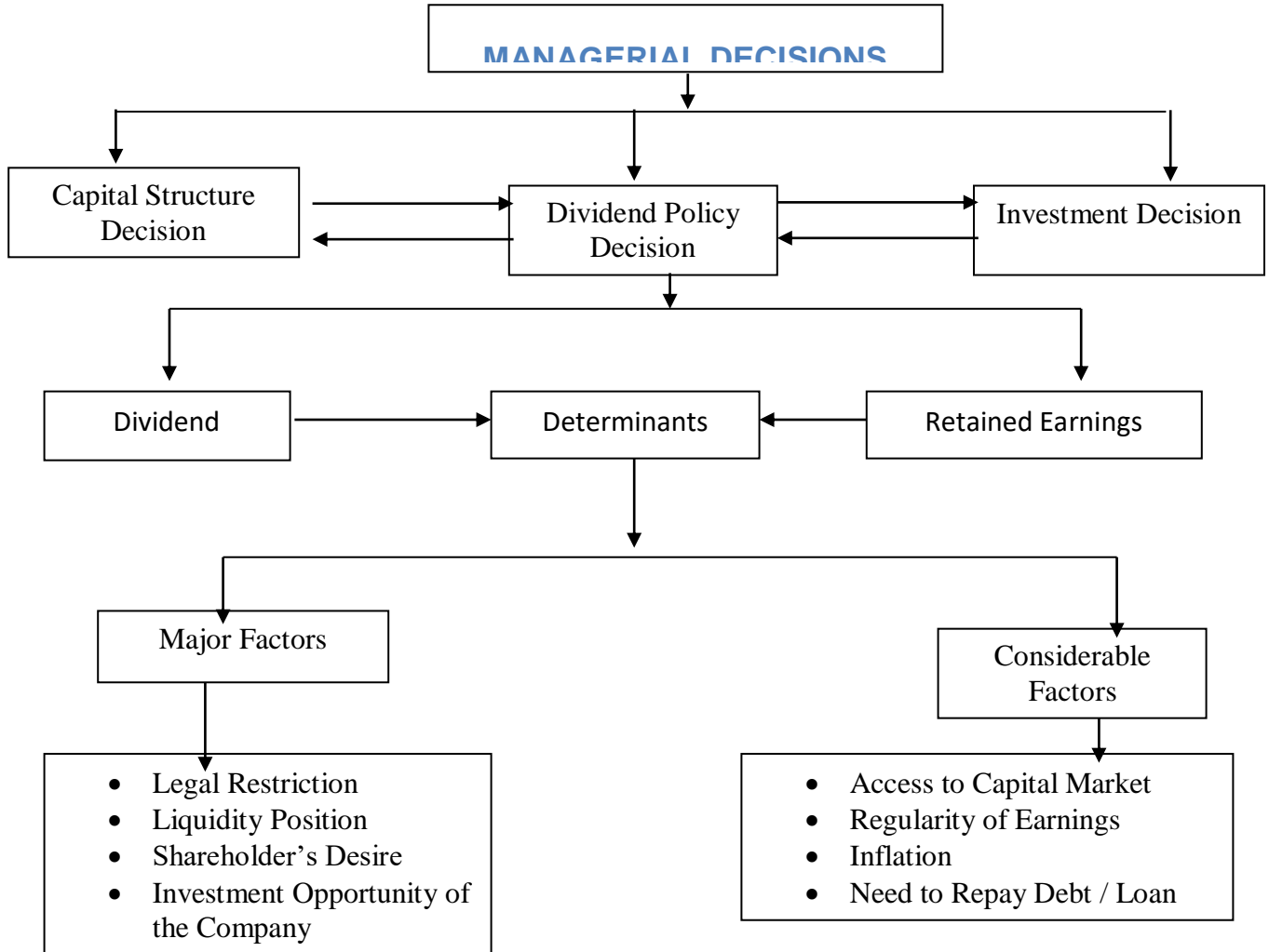
DIVIDEND PAYMENT PRACTICES



APPROPRIATE DIVIDEND MODEL



**INTERRELATIONSHIP
BETWEEN
MANAGERIAL DECISION**



5.4 Summary and Conclusion :

Dividend policy decision is undoubtedly one of the three major decisions of financial management .It is right to say that dividend policy decision affects on the operation and prosperity of a financial companies because it has the power to influence other two decisions namely capital structure decision and investment decision. Basically an investor has expected two types of return namely capital gain and dividend by investing in equity capital or ordinary share. So, payment of dividend to shareholders is an effective way to attract new investors and maintain present investors to invest in shares. So, it is justified to hold that a clearly defined and effectively managed dividend policy is required in all financial companies to fulfill the shareholders expectations with that of corporate growth from internally generated funds. So, the funds that could not be used due to lack of investment opportunities would be better as dividend, since shareholders have investment opportunities elsewhere.

Considering time and resource constraints only two commercial banks namely NSBL and NBBL have been selected as sample banks in my study to fulfill the objective of studying dividend policy decision and other factors related to dividend. The study period covers only last five fiscal years from 2062/63 to 2066/67. The available secondary data have been analyzed using various financial and statistical tools in this study. So, the reliability of the conclusions of this study is determined on the accuracy of secondary data.

By this study, it is obvious that:

- (i) Commercial banks represent a robust body of profit earning organization in comparison to the other sectors such as manufacturing, trading etc.
- (ii) Instability of dividend and inconsistent payout ratio is the most applied phenomena of Nepalese dividend distribution practices. None of the banks are guided by an appropriate dividend policy. This is actually affect the market price and goodwill of all such companies in the long run.
- (iii) Shares of the financial institution are actively traded and market prices are increasing in stock market. So, the market prices of shares are significantly higher than net worth.
- (iv) The Shareholders in Nepal don't seem to be investing their capital on the basis of financial performances 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.

From the findings of the study, the following conclusions are drawn.

- (1) Different financial indicators of both the banks show the following results:
 - (i) The average dividend per share of NSBL is higher than NBBL, which means NSBL is paying higher portion of its earning as dividend.
 - (ii) Average earning per share of NBBL is a few greater than NSBL, which means NBBL is relatively more successful than NSBL.
 - (iii) The NSBL leads NBBL in the sense that it has greater average dividend payout ratio and dividend percent than NBBL.

- (iv) Average price earning ratio of NSBL is higher than NBBL, which means NSBL has better performance for enhanced the wealth of shareholders.
 - (v) Average market value per share to book value per share of NSBL is greater than NBBL. So, there is greater chance of higher capital gain to the shareholders of NSBL.
 - (vi) Average dividend yield ratio of NSBL is greater than NBBL, but the average earning yield is smaller than that of NBBL.
- (2) The relationship between dividend per share with earning per share, net profit, net worth and investment are positive while the relationship between dividend per share with market price per share and current ratio are negative in case of NSBL. But in case of NBBL, the relationship between dividend per share with earning per share, net profit, market price per share, net worth and investment are positive while the relationship between dividend per share with current ratio is negative.
 - (3) The relationship between market price per share with last year's dividend per share and dividend pay out ratio are positive while the relationship between market price per share with earning per share, dividend percentage on paid up capital are negative in case of NSBL. In case of NBBL, the relationship between market price per share with last year's dividend per share, earning per share and dividend percentage on paid up capital are positive while the relationship between market price per share with dividend pay out ratio is negative.
 - (4) The relationship between dividend yield and earning yield is positive in both the banks. But the relationship between dividend pay out ratio and percentage of cash and bank balance to current assets is negative in both the banks.
 - (5) When we make slight changes in dividend per share, the effect of changes in dividend per share affects the share prices differently in different banks. Similarly, a change in earning per share, dividend payout ratio and dividend percentage on paid up capital affects market price per share differently in different banks.
 - (6) There is not uniformity in dividend distribution policy and practice in both the sample banks.

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APPENDIX - A

NEPAL SBI BANK LIMITED : AN OVERVIEW

Year	EPS (in Rs.)	DPS (in Rs.)	DP (in %)	DPR (in %)	PE Ratio	EY Ratio	DY Ratio	MPS (in Rs.)	BVPS (in Rs.)	NP (^{'000,000} (in Rs.)	NW (^{'000,000} (in Rs.)	CR	DPS _(t-1)	INV (^{'000,000} (in Rs.)	CBB Ratio (in %)
2062/63	6.15	0	0	0	77.18	1.30	0	474.67	116.22	7.37	139.31	1.15	0	32.41	23.44
2063/64	31.58	20	20	63.33	13.48	7.42	4.70	425.67	130.93	37.89	157.09	1.07	0	374.38	12.12
2064/65	37.45	20.01	20.01	53.43	10.57	9.46	5.05	396	163.85	44.92	196.53	1.06	20	396.82	15.11
2065/66	49.17	20.01	20.01	40.70	8.86	11.29	4.59	435.67	218.66	58.98	262.27	1.05	20.01	681.59	18.79
2066/67	13.97	10	10	71.58	39.78	2.51	1.80	555.67	267.67	16.76	321.06	1.06	20.01	202.58	28.64

A.1: Variables used in Analysis

Years Variables	2062/63	2063/64	2064/65	2065/66	2066/67
X	6.15	31.58	37.45	49.17	13.97
Y	0	20	20.01	20.01	10

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

Output of Regression Results :

a	=	1.1762	ΣXY	=	2504.5662	
b	=	0.4637	Y	=	14	
ΣX^2	=	5050.4712	σ_Y	=	8	
ΣX	=	138.32	X	=	27.66	
ΣY^2	=	1300.8002	σ_X	=	15.65	
ΣY	=	70.02	r	=	0.9065	N = 5

Bivariate regression result of DPS = a+b.EPS
 = 1.1762 + 0.4637.EPS

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

Probable Error (P.E.) = 0.0538
 Coefficient of Determination (r^2) = 0.8217
 Standard Error of Estimate Y on X (SEE) = 3.3780
 Standard Error of Beta Coefficient [SE(B)] = 0.0965
 T value = 4.8052

A.2: Variables used in Analysis

Years Variables	2062/63	2063/64	2064/65	2065/66	2066/67
X ('000,000)	7.37	37.89	44.92	58.98	16.76
Y	0	20	20.01	20.01	10

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

Output of Regression Results :

a	=	1.1751	ΣXY	=	3004.439	
b	=	0.3866	Y	=	14	
ΣX^2	=	7267.3134	σ_Y	=	8	
ΣX	=	165.92	X	=	33.18	
ΣY^2	=	1300.8002	σ_X	=	18.77	
ΣY	=	70.02	r	=	0.9066	N = 5

Bivariate regression result of DPS = a+b.NP
 = 1.1751 + 0.3866. NP

Where, DPS = Dividend Per Share
 NP = Net Profit

Probable Error (P.E.)	=	0.0537
Coefficient of Determination (r^2)	=	0.8219
Standard Error of Estimate Y on X (SEE)	=	3.3762
Standard Error of Beta Coefficient [SE(B)]	=	0.0804
T value	=	4.8085

A.3: Variables used in Analysis

Years Variables	2062/63	2063/64	2064/65	2065/66	2066/67
X	0	20	20.01	20.01	10
Y	474.67	425.67	396	435.67	555.67

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	=	515.4719	ΣXY	=	30711.8167
b	=	-4.1371	Y	=	457.54
ΣX^2	=	1300.8002	σ_Y	=	55.1436
ΣX	=	70.02	X	=	14
ΣY^2	=	1061900.056	σ_X	=	8
ΣY	=	2287.68	r	=	-0.6004
					N = 5

Bivariate regression result of MPS = a+b.DPS
 = 515.4719 - 4.1371.DPS

Where, DPS = Dividend Per Share
 MPS = Market Price Per Share

Probable Error (P.E.) = 0.1929
 Coefficient of Determination (r^2) = 0.3605
 Standard Error of Estimate Y on X (SEE) = 44.0976
 Standard Error of Beta Coefficient [SE(B)] = 2.4650
 T value = -1.6783

A.4: Variables used in Analysis

Years	2062/63	2063/64	2064/65	2065/66	2066/67
X	0	20	20.01	20.01	10
Y	139.31	157.09	196.53	262.27	321.06

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

Output of Regression Results :

a	=	195.0904	ΣXY	=	15532.988	
b	=	1.4397	Y	=	215.25	
ΣX^2	=	1300.8002	σ_Y	=	67.69	
ΣX	=	70.02	X	=	14	
ΣY^2	=	254573.6616	σ_X	=	8	
ΣY	=	1076.26	r	=	0.1702	N = 5

Bivariate regression result of NW = a+b.DPS
 = 195.0904 + 1.4397.DPS

Where, DPS = Dividend Per Share
 NW = Net Worth

Probable Error (P.E.)	=	0.2929
Coefficient of Determination (r^2)	=	0.0290
Standard Error of Estimate Y on X (SEE)	=	66.6967
Standard Error of Beta Coefficient [SE(B)]	=	3.7287
T value	=	0.3861

A.5: Variables used in Analysis

Years Variables	2062/63	2063/64	2064/65	2065/66	2066/67
X ('000,000)	32.41	374.38	396.82	681.59	202.58
Y	0	20	20.01	20.01	10

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

Output of Regression Results :

a	=	3.2697	ΣXY	=	31092.3841	
b	=	0.0318	Y	=	14	
ΣX^2	=	804280.4894	σ_Y	=	8	
ΣX	=	1687.78	X	=	337.56	
ΣY^2	=	1300.8002	σ_X	=	216.59	
ΣY	=	70.02	r	=	0.8604	N = 5

Bivariate regression result of DPS = a+b.INV
 = 3.2697+ 0.0318 INV

Where, DPS = Dividend Per Share
 INV = Investment

Probable Error (P.E.)	=	0.0783
Coefficient of Determination (r^2)	=	0.7403
Standard Error of Estimate Y on X (SEE)	=	4.0769
Standard Error of Beta Coefficient [SE(B)]	=	0.0084
T value	=	3.7857

A.6: Variables used in Analysis

Years Variables	2062/63	2063/64	2064/65	2065/66	2066/67
X	1.15	1.07	1.06	1.05	1.06
Y	0	20	20.01	20.01	10

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

Worked out Results :

$$\Sigma XY = 74.2211$$

$$\Sigma X^2 = 5.8171$$

$$\Sigma X = 5.39$$

$$\Sigma Y^2 = 1300.8002$$

$$\Sigma Y = 70.02$$

$$r = -0.8616 \quad N = 5$$

$$\text{Probable Error (P.E.)} = 0.0777$$

$$\text{Coefficient of Determination (r}^2\text{)} = 0.7424$$

A.7: Variables used in Analysis

Years Variables	2062/63	2063/64	2064/65	2065/66	2066/67
X	1.30	7.42	9.46	11.29	2.51
Y	0	4.70	5.05	4.59	1.80

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

Worked out Results :

$$\Sigma XY = 138.9861$$

$$\Sigma X^2 = 280.0022$$

$$\Sigma X = 31.98$$

$$\Sigma Y^2 = 71.9006$$

$$\Sigma Y = 16.14 \quad r = 0.9250 \quad N = 5$$

$$\text{Probable Error (P.E.)} = 0.0436$$

$$\text{Coefficient of Determination } (r^2) = 0.8556$$

A.8: Variables used in Analysis

Years Variables	2062/63	2063/64	2064/65	2065/66	2066/67
X	0	0	20	20.01	20.01
Y	474.67	425.67	396	435.67	555.67

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	=	450.15354	ΣXY	=	27756.7134	
b	=	0.6150	Y	=	457.54	
ΣX^2	=	1200.8002	σ_Y	=	55.1436	
ΣX	=	60.02	X	=	12	
ΣY^2	=	1061900.056	σ_X	=	9.8012	
ΣY	=	2287.68	r	=	0.1093	N = 5

Bivariate regression result of MPS = $a+b.DPS_{(t-1)}$
 = $450.15354 + 0.6150.DPS_{(t-1)}$
 Where, $DPS_{(t-1)}$ = Dividend Per Share of Last Year
 MPS = Market Price Per Share

Probable Error (P.E.) = 0.2981
 Coefficient of Determination (r^2) = 0.0119
 Standard Error of Estimate Y on X (SEE) = 54.8145
 Standard Error of Beta Coefficient [SE(B)] = 2.5011
 T value = 0.2459

A.9: Variables used in Analysis

Years Variables	2062/63	2063/64	2064/65	2065/66	2066/67
X	6.15	31.58	37.45	49.17	13.97
Y	474.67	425.67	396	435.67	555.67

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

Output of Regression Results :

a	=	523.2989	ΣXY	=	60376.6829	
b	=	-2.3772	Y	=	457.536	
ΣX^2	=	5050.4712	σ_Y	=	55.1436	
ΣX	=	138.32	X	=	27.66	
ΣY^2	=	1061900.056	σ_X	=	15.65	
ΣY	=	2287.68	r	=	-0.6745	N = 5

Bivariate regression result of MPS = a+b.EPS
 = 523.2989 - 2.3772. EPS

Where, MPS = Market Price Per Share
 EPS = Earning Per Share

Probable Error (P.E.) = 0.1644
 Coefficient of Determination (r^2) = 0.4550
 Standard Error of Estimate Y on X (SEE) = 40.7093
 Standard Error of Beta Coefficient [SE(B)] = 1.1632
 T value = -2.0437

A.10: Variables used in Analysis

Years	2062/63	2063/64	2064/65	2065/66	2066/67
X	0	63.33	53.43	40.70	71.58
Y	474.67	425.67	396	435.67	555.67

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

Output of Regression Results :

a	=	445.5022	ΣXY	=	105622.5887	
b	=	0.2627	Y	=	457.536	
ΣX^2	=	13645.6402	σ_Y	=	55.1436	
ΣX	=	229.04	X	=	45.808	
ΣY^2	=	1061900.056	σ_X	=	25.11	
ΣY	=	2287.68	r	=	0.1197	N = 5

Bivariate regression result of MPS = a+b.DPR
 = 445.5022 + 0.2627. DPR

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

Probable Error (P.E.) = 0.2973
 Coefficient of Determination (r^2) = 0.0143
 Standard Error of Estimate Y on X (SEE) = 54.7479
 Standard Error of Beta Coefficient [SE(B)] = 0.9750
 T value = 0.2694

A. 11: Variables used in Analysis

Years	2062/63	2063/64	2064/65	2065/66	2066/67
Variables					
X	0	20	20.01	20.01	10
Y	474.67	425.67	396	435.67	555.67

Note : Values of X represent dividend percentage on paid up capital (in %)
 Values of Y represent market price per share (in Rs.)

Output of Regression Results :

a	=	515.4719	ΣXY	=	30711.8167
b	=	-4.1371	Y	=	457.536
ΣX^2	=	1300.8002	σ_Y	=	55.1436
ΣX	=	70.02	X	=	14
ΣY^2	=	1061900.056	σ_X	=	8
ΣY	=	2287.68	r	=	-0.6004
					N = 5

Bivariate regression result of MPS = a+b.DP
 = 515.4719 – 4.1371 . DP

Where, MPS = Market Price Per Share
 DP = Dividend Percentage on Paid upCapital

Probable Error (P.E.)	=	0.1929
Coefficient of Determination (r^2)	=	0.3605
Standard Error of Estimate Y on X (SEE)	=	44.0976
Standard Error of Beta Coefficient [SE(B)]	=	2.4650
T value	=	-1.6783

A.12: Variables used in Analysis

Years Variables	2062/63	2063/64	2064/65	2065/66	2066/67
X	23.44	12.12	15.11	18.79	28.64
Y	0	63.33	53.43	40.70	71.58

Note : Values of X represent percentage of cash and bank balance to current assets (in %)
 Values of Y represent dividend payout ratio (in %)

Output of Regression Results :

a	=	57.5957	ΣXY	=	4389.6911	
b	=	-0.6008	Y	=	45.808	
ΣX^2	=	2097.9538	σ_Y	=	25.1148	
ΣX	=	98.10	X	=	19.62	
ΣY^2	=	13645.6402	σ_X	=	5.8861	
ΣY	=	229.04	r	=	-0.1408	N = 5

Bivariate regression result of DPR = a+b.CBB Ratio
 = 57.5957 – 0.6008 . CBB Ratio

Where, DPR = Dividend Payout Ratio
 CBB Ratio = Percentage of Cash and Bank Balance to Current Assets

Probable Error (P.E.)	=	0.2957
Coefficient of Determination (r^2)	=	0.0198
Standard Error of Estimate Y on X (SEE)	=	24.8649
Standard Error of Beta Coefficient [SE(B)]	=	1.8892
T value	=	-0.3180

APPENDIX–B:

NEPAL BANGLADESH BANK LIMITED : AN OVERVIEW

Year	EPS (in Rs.)	DPS (in Rs.)	DP (in %)	DPR (in %)	PE Ratio	EY Ratio	DY Ratio	MPS (in Rs.)	BVPS (in Rs.)	NP ('000,000) (in Rs.)	NW ('000,000) (in Rs.)	CR	DPS _(t-1)	INV ('000,000) (in Rs.)	CBB Ratio (in %)
2062/63	-4.16	0	0	0	NA	NA	0	NA	5057	-4.99	60.69	1.05	NA	3	24.15
2063/64	5.46	0	0	0	29.85	3.35	0	163	67.11	6.56	80.53	1.04	0	54.45	21.90
2064/65	17.61	7.50	15	42.59	7.91	12.64	5.38	139.33	87.79	21.14	105.35	1.03	0	6	17.28
2065/66	50.65	15	15	29.62	4.13	24.23	7.18	209	197.59	6079	237.10	0.98	7.50	190.92	17.72
2066/67	68.94	15	15	21.76	7.49	13.35	2.91	516.33	279.51	82.73	335.41	0.87	15	808.70	15.66

B.1: Variables used in Analysis

Years	2062/63	2063/64	2064/65	2065/66	2066/67
Variables					
X	-4.16	5.46	17.61	50.65	68.94
Y	0	0	7.50	15	15

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

Output of Regression Results :

a	=	1.09853	ΣXY	=	1925.925	
b	=	0.2311	Y	=	7.50	
ΣX^2	=	7675.3754	σ_Y	=	6.71	
ΣX	=	138.50	X	=	27.70	
ΣY^2	=	506.25	σ_X	=	27.71	
ΣY	=	37.50	r	=	0.9546	N =

5

Bivariate regression result of DPS = a+b.EPS
 = 1.09853+ 0.2311.EPS

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

Probable Error (P.E.) = 0.0268
 Coefficient of Determination (r^2) = 0.9113
 Standard Error of Estimate Y on X (SEE) = 1.9984
 Standard Error of Beta Coefficient [SE(B)] = 0.0323
 T value = 7.1548

B.2: Variables used in Analysis

Years	2062/63	2063/64	2064/65	2065/66	2066/67
X ('000,000)	-4.99	6.56	21.14	60.79	82.73
Y	0	0	7.5	15	15

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

Output of Regression Results :

a	=	1.0968	ΣXY	=	2311.25	
b	=	0.1926	Y	=	7.50	
ΣX^2	=	11054.5103	σ_Y	=	6.71	
ΣX	=	166.23	X	=	33.246	
ΣY^2	=	506.25	σ_X	=	33.25	
ΣY	=	37.50	r	=	0.9546	N =

5

Bivariate regression result of DPS = a+b.NP
 = 1.0968 + 0.1926. NP

Where, DPS = Dividend Per Share
 NP = Net Profit

Probable Error (P.E.)	=	0.0268
Coefficient of Determination (r^2)	=	0.9113
Standard Error of Estimate Y on X (SEE)	=	1.9984
Standard Error of Beta Coefficient [SE(B)]	=	0.0269
T value	=	7.1599

B.3: Variables used in Analysis

Years Variables	2062/63	2063/64	2064/65	2065/66	2066/67
X	0	0	7.50	15	15
Y	NA	163	139.33	209	516.33

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	=	118.09	ΣXY	=	11924.925	
b	=	14.808	Y	=	256.915	
ΣX^2	=	506.25	σ_Y	=	151.8538	
ΣX	=	37.50	X	=	9.375	
ΣY^2	=	356259.5178	σ_X	=	6.2187	
ΣY	=	1027.66	r	=	0.6064	N = 4

Bivariate regression result of MPS = a+b.DPS
 = 118.09 + 14.808 . DPS

Where, DPS = Dividend Per Share
 MPS = Market Price Per Share

Probable Error (P.E.)	=	0.2132
Coefficient of Determination (r^2)	=	0.3677
Standard Error of Estimate Y on X (SEE)	=	120.75
Standard Error of Beta Coefficient [SE(B)]	=	9.7086
T value	=	1.5252

B.4: Variables used in Analysis

Years Variables	2062/63	2063/64	2064/65	2065/66	2066/67
X	0	0	7.50	15	15
Y ('000,000)	60.69	80.53	105.35	237.10	335.41

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

Output of Regression Results :

a	=	55.9938	ΣXY	=	9377.775	
b	=	14.3763	Y	=	163.82	
ΣX^2	=	506.25	σ_Y	=	105.65	
ΣX	=	37.50	X	=	7.50	
ΣY^2	=	189983.2576	σ_X	=	6.71	
ΣY	=	819.08	r	=	0.9129	N = 5

Bivariate regression result of NW = a+b.DPS
 = 55.9938 + 14.3763.DPS

Where, DPS = Dividend Per Share
 NW = Net Worth

Probable Error (P.E.)	=	0.0503
Coefficient of Determination (r^2)	=	0.8334
Standard Error of Estimate Y on X (SEE)	=	43.1210
Standard Error of Beta Coefficient [SE(B)]	=	2.8741
T value	=	5.0020

B.5: Variables used in Analysis

Years	2062/63	2063/64	2064/65	2065/66	2066/67
X ('000,000)	3	54.45	6	190.92	808.70
Y	0	0	7.50	15	15

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

Output of Regression Results :

a	=	4.2895	ΣXY	=	15039.30	
b	=	0.0151	Y	=	7.50	
ΣX^2	=	693455.9389	σ_Y	=	6.71	
ΣX	=	1063.07	X	=	212.614	
ΣY^2	=	506.25	σ_X	=	305.76	
ΣY	=	37.50	r	=	0.6890	N = 5

Bivariate regression result of DPS = a+b.INV
 = 4.2895 + 0.0151 INV

Where, DPS = Dividend Per Share
 INV = Investment

Probable Error (P.E.)	=	0.1585
Coefficient of Determination (r^2)	=	0.4747
Standard Error of Estimate Y on X (SEE)	=	4.8632
Standard Error of Beta Coefficient [SE(B)]	=	0.0071
T value	=	2.1268

B.6: Variables used in Analysis

Years Variables	2062/63	2063/64	2064/65	2065/66	2066/67
X	1.05	1.04	1.03	0.98	0.87
Y	0	0	7.50	15	15

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

Worked out Results :

$$\Sigma XY = 35.475$$

$$\Sigma X^2 = 4.9623$$

$$\Sigma X = 4.97$$

$$\Sigma Y^2 = 506.25$$

$$\Sigma Y = 37.50$$

$$r = -0.8068$$

$$N = 5$$

$$\text{Probable Error (P.E.)} = 0.1053$$

$$\text{Coefficient of Determination } (r^2) = 0.6509$$

B.7: Variables used in Analysis

Years Variables	2062/63	2063/64	2064/65	2065/66	2066/67
X	NA	3.35	12.64	24.23	13.35
Y	0	0	5.38	7.18	2.91

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

Worked out Results :

$$\begin{array}{lcl}
 \Sigma XY & = & 280.8231 \\
 \Sigma X^2 & = & 936.3075 \\
 \Sigma X & = & 53.57 \\
 \Sigma Y^2 & = & 88.9649
 \end{array}
 \qquad
 \begin{array}{lcl}
 \Sigma Y & = & 15.47 \\
 r & = & 0.9222
 \end{array}
 \qquad
 N = 4$$

$$\begin{array}{lcl}
 \text{Probable Error (P.E.)} & = & 0.0504 \\
 \text{Coefficient of Determination (r}^2\text{)} & = & 0.8505
 \end{array}$$

B.8: Variables used in Analysis

Years Variables	2062/63	2063/64	2064/65	2065/66	2066/67
X	NA	0	0	7.50	15
Y	NA	163	139.33	209	516.33

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	=	128.4839	ΣXY	=	9312.45	
b	=	22.8322	Y	=	256.915	
ΣX^2	=	281.25	σ_Y	=	151.8538	
ΣX	=	22.50	X	=	5.625	
ΣY^2	=	356259.5178	σ_X	=	6.2187	
ΣY	=	1027.66	r	=	0.9350	N = 4

Bivariate regression result of MPS = $a + b \cdot \text{DPS}_{(t-1)}$
 = $128.4839 + 22.8322 \cdot \text{DPS}_{(t-1)}$
 Where, $\text{DPS}_{(t-1)}$ = Dividend Per Share of Last Year
 MPS = Market Price Per Share

Probable Error (P.E.) = 0.0424
 Coefficient of Determination (r^2) = 0.8742
 Standard Error of Estimate Y on X (SEE) = 53.8600
 Standard Error of Beta Coefficient [SE(B)] = 4.3305
 T value = 5.2724

B.9: Variables used in Analysis

Years Variables	2062/63	2063/64	2064/65	2065/66	2066/67
X	-4.16	5.46	17.61	50.65	68.94
Y	NA	163	139.33	209	516.33

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

Output of Regression Results :

a	=	78.2690	ΣXY	=	49525.2215	
b	=	5.0090	Y	=	256.915	
ΣX^2	=	7658.0698	σ_Y	=	151.8538	
ΣX	=	142.66	X	=	35.665	
ΣY^2	=	356259.5178	σ_X	=	25.3481	
ΣY	=	1027.66	r	=	0.8361	N = 4

Bivariate regression result of MPS = a+b.EPS
 = 78.2690 + 5.0090. EPS

Where, MPS = Market Price Per Share
 EPS = Earning Per Share

Probable Error (P.E.) = 0.1015
 Coefficient of Determination (r^2) = 0.6991
 Standard Error of Estimate Y on X (SEE) = 83.2984
 Standard Error of Beta Coefficient [SE(B)] = 1.6431
 T value = 3.0485

B.10: Variables used in Analysis

Years Variables	2062/63	2063/64	2064/65	2065/66	2066/67
X	0	0	42.59	29.62	21.76
Y	NA	163	139.33	209	516.33

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

Output of Regression Results :

a	=	276.1154	ΣXY	=	23359.9855	
b	=	-0.8173	Y	=	256.915	
ΣX^2	=	3164.7501	σ_Y	=	151.8538	
ΣX	=	93.97	X	=	23.4925	
ΣY^2	=	356259.5178	σ_X	=	15.4690	
ΣY	=	1027.66	r	=	-0.0833	N = 4

Bivariate regression result of MPS = a+b.DPR
 = 276.1154 - 0.8173. DPR

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

Probable Error (P.E.)	=	0.3349
Coefficient of Determination (r^2)	=	0.0069
Standard Error of Estimate Y on X (SEE)	=	151.3290
Standard Error of Beta Coefficient [SE(B)]	=	4.8914
T value	=	-0.1671

B. 11: Variables used in Analysis

Years Variables	2062/63	2063/64	2064/65	2065/66	2066/67
X	0	0	15	15	15
Y	NA	163	139.33	209	516.33

Note : Values of X represent dividend percentage on paid up capital (in %)
 Values of Y represent market price per share (in Rs.)

Output of Regression Results :

a	=	163	ΣXY	=	12969.90	
b	=	8.348	Y	=	256.915	
ΣX^2	=	675	σ_Y	=	151.8538	
ΣX	=	45	X	=	11.25	
ΣY^2	=	356259.5178	σ_X	=	6.4952	
ΣY	=	1027.66	r	=	0.3571	N = 4

Bivariate regression result of MPS = a+b.DP
 = 163 + 8.348. DP

Where, MPS = Market Price Per Share
 DP = Dividend Percentage on Paid up Capital

Probable Error (P.E.)	=	0.2943
Coefficient of Determination (r^2)	=	0.1275
Standard Error of Estimate Y on X (SEE)	=	141.8432
Standard Error of Beta Coefficient [SE(B)]	=	10.9191
T value	=	0.7645

B.12: Variables used in Analysis

Years	2062/63	2063/64	2064/65	2065/66	2066/67
Variables					
X	24.15	21.90	17.28	17.72	15.66
Y	0	0	42.59	29.62	21.76

Note : Values of X represent percentage of cash and bank balance to current assets (in %)
 Values of Y represent dividend payout ratio (in %)

Output of Regression Results :

a	=	102.1793	ΣXY	=	1601.5832	
b	=	-4.3111	Y	=	18.794	
ΣX^2	=	1920.6649	σ_Y	=	16.7253	
ΣX	=	96.71	X	=	19.342	
ΣY^2	=	3164.7501	σ_X	=	3.1654	
ΣY	=	93.97	r	=	-0.8159	N =

5

Bivariate regression result of DPR = a+b.CBB Ratio
 = 102.1793 – 4.3111. CBB Ratio
 Where, DPR = Dividend Payout Ratio
 CBB Ratio = Percentage of Cash and Bank Balance to Current Assets

Probable Error (P.E.) = 0.1008
 Coefficient of Determination (r^2) = 0.6657
 Standard Error of Estimate Y on X (SEE) = 9.6703
 Standard Error of Beta Coefficient [SE(B)] = 1.3662
 T value = -3.1555

APPENDIX –C

FORMULAE USED IN ANALYSIS

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

$$Y = \frac{\Sigma Y}{N}$$

$$\sigma_x = \sqrt{\frac{\Sigma X^2}{N} - \frac{(\Sigma X)^2}{N}}$$

$$\sigma_y = \sqrt{\frac{\Sigma Y^2}{N} - \frac{(\Sigma Y)^2}{N}}$$

$$\text{Coefficient of Variation} = \frac{\text{Standard Deviation}}{\text{Mean}} \times 100\%$$

$$r = \frac{N\Sigma XY - \Sigma X \cdot \Sigma Y}{\sqrt{N\Sigma X^2 - (\Sigma X)^2} \sqrt{N\Sigma Y^2 - (\Sigma Y)^2}}$$

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

$$\text{Regression (beta) Coefficient (b)} = \frac{N\Sigma XY - \Sigma X \cdot \Sigma Y}{N\Sigma X^2 - (\Sigma X)^2}$$

$$\text{Regression Constant (a)} = \frac{\Sigma Y - b\Sigma X}{N}$$

$$\text{Standard Error of Regression Coefficient [SE (b)]} = \frac{\sigma_y}{\sigma_x} \times \sqrt{\frac{1-r^2}{N}}$$

$$\text{Standard Error of Estimate Y on X (SEE)} = \sigma_y \sqrt{1-r^2}$$

$$T = \frac{b}{\text{SE}(b)}$$

$$\text{Regression lines, } Y = a+bX \quad \text{-----(i)}$$

$$\text{Normal equations, } \Sigma Y = Na + b\Sigma X \quad \text{----(ii)}$$

$$\Sigma XY = a \Sigma X + b\Sigma X^2 \quad \text{----(iii)}$$

APPENDIX – D

TABULATED VALUE OF T- STATISTIC

Level of Significance :	1%	2%	5%	10%
Tabulated Value :	2.576	2.326	1.960	1.645