Dividend Policy and Its Impact on The Share Price: An Empirical Study with Reference to Nationalised Banks in India

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Abstract - This paper examines the impact of dividend policy on market price per share and share price volatility based on pooled cross-sectional analysis of secondary data of four Nationalized banks of India with 24 observations for the period of 2014-15 accounting year to 2019-20 accounting year as the sample size. The quantitative analysis will be done based on secondary data with respect to market price per share and share price volatility is selected as the dependent variable for the study. Earnings per share, retained ratio, dividend pay-out ratio and dividend yield ratio are the explanatory variables which is considered for the detailed analysis of the study. Return on equity, profit after tax, liquidity, growth of total assets, size of total assets and leverage are used as the control variables. The secondary data will be collected from the supervision report of Reserve Bank of India and annual reports of four Nationalised Banks in India. Different published articles, reports and concerned banks in some cases. The multiple regression models are applied to test the significance and impact of dividend policy on market price per share listed in the Bombay Stock Exchange (BSE) and National Stock Exchange (NSE).

Key words: Dividend policy, dividend pay-out ratio, Market price per share, share price volatility, earing price per share, retained ratio, return on equity, dividend yield ratio, growth of total assets and leverage.

I.   INTRODUCTION

The most important policies in corporate financing is the dividend policy and it is essential for decision making from the viewpoint of the shareholders, the consumers, the workers, the regulatory bodies and the government. Dividend policy may affect the areas such as financial structure of the firm, funds flow, stock prices, investors satisfaction, growth of the firm, etc., Decision of dividend policy may impact on other decisions of the firm namely investment decision and financing decision. The dividend relevance theory holds a view that there is a direct relationship between dividend policy of the company and value of a firm. Dividend policy is the pay-out policy that managers follow in deciding the size and pattern of cash distributions to shareholders over time. Dividend policy decisions affect a firm's stock price is widely researched topic in the field of investments and finance but still it remains a mystery that whether dividend policy affects stock prices or not. One school of thought advanced by **Miller and Modigliani (1961)** referred to as the **"dividend irrelevance theory"** believes that dividend is irrelevant and has no effect on the valuation of the firm. They viewed that the value of firm depends solely on its earnings power and is not influenced by the manner in which its earnings split between dividends and retained earnings. The second school of thought is advanced by **Gordon (1962)** referred to as the **"dividend relevance theory"** He viewed that dividend are relevant in making valuation of firm.

II.   OBJECTIVES

- To test the significance and impact of dividend policy on market price per share.

- To examine earnings per share, retained ratio, dividend pay-out ratio and dividend yield ratio.

- To study several issues pertaining to dividends to explain corporate dividend behaviour.

- To study on dividend policy for Nationalized banks of India as a major sector of the economy.

III.   CONCEPTUAL ASPECTS

1) **Market price per share:** Market Price of a share refers to the price that one pays in an open market to purchase one share in the company

Formula: $P = D/Ke + (r/K)(E-D)/Ke$

2) **Share price volatility:** Volatility is a statistical measure of the dispersion of returns for a given security or market index. In most cases, the higher the volatility, the riskier the security. For example, when the stock market rises and falls more than one percent over a sustained period of time, it is called a "volatile" market. Volatility is often calculated using variance and standard deviation. The standard deviation is the square root of the variance.

- Find the mean of the data set.

- Calculate the difference between each data value and the mean.

- Square the deviations.

- Add the squared deviations together.

- Divide the sum of the squared deviations by the number of data values.

3) **Earnings per share:** EPS shows the rate of earnings per share of common stock. Preferred dividends are deducted from net income to get the earnings available to common stockholders. H1: Earnings per share is positively related to market price share.

Formula: Earnings per Share = (Net Income - Preferred Dividends) ÷ Average Common Shares Outstanding

4) **Retained ratio:** The retention ratio is the proportion of earnings kept back in the business as retained earnings. The retention ratio refers to the percentage of net income that is retained to grow the business, rather than being paid out as dividends. It is the opposite of the pay-out ratio, which measures the percentage of profit paid out to shareholders as dividends. The retention ratio is also called the plowback ratio. H2: Retained ratio is negatively related to with market price per share.

Formula: 1-Payout Ratio

5) **Return on equity:** It measures the percentage of income derived for every rupee of owners' equity.

Formula: **Return on equity = Net Income ÷ Average equity**

6) **Profit after tax:** It is the percentage of revenue remaining after all operating expenses, interest, taxes and preferred stock dividends (but not common stock dividends) have been deducted from a company's total revenue. In other words, it is also known as Net Profit.

Formula: **(Total Revenue – Total Expenses)/Total Revenue = Net Profit**

7) **Quick ratio or Acid test ratio:** Quick ratio or acid test ratio is another liquidity ratio that determines a company's current available liquidity. Easily convertible (in cash) marketable securities and present holding of cash are considered while calculating the quick ratio. Hence, inventories are excluded when acid test ratio is concerned.

Formula: **Quick ratio = (marketable securities + available cash and/or equivalent of cash + accounts receivable) / current liabilities**

8) **Dividend pay-out ratio:** It determines the portion of net income that is distributed to owners. Not all income is distributed since a significant portion is retained for the next year's operations.

Formula: **Dividend Pay-out Ratio = Dividend per Share ÷ Earnings per Share**

9) **Dividend yield ratio:** It measures the percentage of return through dividends when compared to the price paid for the stock. A high yield is attractive to investors who are after dividends rather than long-term capital appreciation.

Formula: **Dividend Yield Ratio = Dividend per Share ÷ Market Price per Share**

10) **Growth of total assets:** The growth in the book value of assets could be very valuable for investors. Asset growth is a prime requirement for a healthy, profitable investment portfolio. The earning assets to total assets ratio is a formula that banks commonly use to evaluate the proportion of a company's assets that are actively generating income. It provides the bank with insight into how likely the company is to generate a profit.

Formula: **Earnings Assets to Total Assets = Avg. Earning Assets / Avg. Total Assets**

11) **Size of total assets:** Asset size is the total market value of the securities in a fund. It can also be referred to as assets under management. Funds regularly report total assets which can be affected by supply, demand and market return. total assets the combined amount of a company's fixed assets and current assets as recorded in the company's balance sheet. This shows all the assets used by a company regardless of how they are financed. Compare net assets.

Formula: **Assets = liabilities + stockholders' equity.**

12) **Leverage:** Leverage ratios are used to determine the relative level of debt load that a business has incurred. These ratios compare the total debt obligation to either the assets or equity of a business.

Formula: **Leverage = total company debt/shareholder's equity.**

IV.   LITERATURE SURVEY

Lintner (1956) referred to as the "dividend relevance theory". They hold a view that there is a direct relationship between dividend policy of the company and value of firm. They viewed that dividend are relevant in making valuation of firm. Dividend policy is the pay-out policy that managers follow in deciding the size and pattern of cash distributions to shareholders over time. The determinants of changes in dividends are current earnings and the dividends distributed in the past are subject to mitigate the dividend cash flow relationships. Firms have target pay-out ratios and adjust dividends to earnings with a lag, the target pay-out is the result of an unspecified decision process within the firm.

Miller and Modigliani (1961) referred to as the "dividend irrelevance theory" believes that dividend is irrelevant and has no effect on the valuation of the firm. They viewed that the value of firm depends solely on its earnings power and is not influenced by the manner in which its earnings are split between dividends and retained earnings.

Gordon (1962) argued that the required rate of return used by investors to discount dividends expected in future increases with time. The implication of Gordon's argument is that the required rate of return rises with the proportion of earnings retained. As a result, investors would value current dividends over capital gains. Gordon gave another view about the dividend policy by presenting the concept of dividend relevance theory. Investors always prefer secure and current income as dividends over capital gains.

Van Horne and McDonald (1971) The dividend irrelevance doctrine implies that investors with a preference for current income above the current dividends can always sell stock to obtain additional income.

Jensen and Meckling (1976) Although, under the Miller and Modigliani proposition, there are no priori reasons for enterprises to follow any systematic dividend policy, there are also no penalties if they choose to do so. In addition, managers need to decide dividend decision on a regular basis that involves with whether to pay-out earnings to shareholders to reduce agency problem.

Thakor (1989) The dividend policy has remained a contentious issue ever since the early stage of corporate development, making it one of the unresolved puzzles in corporate finance theory. The payment of dividends despite adverse personal taxation is a puzzle with a long-standing tradition in finance.

Olowe (1998) Financial managers make inter-alia three decisions pertaining to financing, investment and dividends simultaneously. While financing decision is influenced by the dividend decision through retained earnings, the investment decision depends on the amount of retained earnings and the amount that can be raised externally.

Manandhar (1998) found that dividend per share and return on equity have positive impact on market capitalization while earning per share, price earnings ratio and dividend yield have negative impact. It also found a positive relationship between dividends and market capitalization. Dividend payment is more important as opposed to retained earnings in Nepal.

Allen et al (2000) Dividends are taxed twice, once at the corporate level since enterprises pay dividends from after-tax earnings, and then again at the level of the investor, who must pay tax on dividends received. Dividends are taxed more heavily than capital gains in the United States and many other countries.

Pradhan (2003) The customary strong dividends effect and a very weak retained earning effect indicating the attractiveness of dividends among Nepalese investors. The findings of the study suggest that Nepalese stock market has not started recognizing the impact of retained earnings.

Chhetri (2008) There are differences in financial position of high dividend paying and low dividend paying companies. The study revealed that there is a positive relationship between dividends and stock prices. Further, the coefficient of dividends is higher as compared to the coefficient of retained earnings.

Salih, alaa A (2010) The Effect of Dividend Policy on Market Value UK An Empirical Study. the dividends policy is one of the financial topics, it could be examined and discussed through another approach of operational research that is the subject of game theory. Considering cash dividends as the most important type of dividends and the most common and applicable as well emanate from being a cash flow out, making it an interesting situation, especially during the period of the global financial crisis that began in 2008.

Acharya, Biswaroy and Mahapatra (2012) found that there was a strong and significant relation between earnings per share and dividend policy per share.

Ranpreet Kaur (2014) investigated the concept and scope of dividend policy and to study the irrelevance theory (Modigliani-Miller Model) dividend theory and to know the relationship between dividend policy approach and share prices (companies listed in CNX Dividend opportunities Index was chosen as population universe) and for sample 5% companies listed in index was considered.

Samvad (2016) A Comparative Analysis of Dividend Policy of Public and Private Sector Banks in India. The present research endeavour shows that, Private sector and Public sector banks do not differ as far as DPR is concerned.

Ch. Balaji, P. Satish Kumar (2017) A comparative study on dividend policy of selected banks in India. Since reduction in dividend may create a negative impression in the mind of shareholders which will affect the credit position of the company so it is suggested to the companies that dividend raised should not be reduced. The study reveals that in most of the companies least related variable do not have influence on dividend payout and in some of the companies least related variable do have influence on dividend payout.

Ajay H Shukla (2018) An analysis of dividend policy of companies listed in Sensex. the trend in their dividend should be changed a little and they should try to increase in dividend so that there would be increase in number of

investors which will ultimately lead to increase in profit and increase in funds which will help in expansion of firm.

Problem Statement (Identify The Problem)

- The purpose of this study is to analyse the relationship between dividend policy and its impact on price of the shares listed in the national stock exchange.

- It examines the impact of earnings per share, retained ratio, return on equity, profit after tax, liquidity, dividend pay-out ratio, dividend yield ratio, growth of total assets, size of total assets and leverage on market price per share and volatility of share price.

- The remainder of this paper is organized as follows. Section one describes abstract, introduction, Literature review and operational definitions. Section two describes the sample, data and methodology.

- Section three presents the empirical results and the final section draws conclusions and discusses the implications of the study findings.

V.   RESEARCH METHODOLOGIES

This study is based on secondary data which will be gathered from 13 Nationalized banks in India. The main source of data are supervision report of RBI and Annual reports of 13 Nationalized banks. The collected data will be utilised for the calculation of market price per share, earnings per share, retained ratio, return on equity, profit after tax, liquidity, share price volatility, dividend pay-out ratio, dividend yield ratio, growth of total assets, size of total assets and leverage such as total debt to equity ratio.

The pooled cross-sectional data analysis has been undertaken in the study. The research design adopted in this study is casual comparative type as it deals with relationship of dividend policy and control variables with bank performance. More specifically, the study examines earnings per share, retained ratio, dividend pay-out ratio and dividend yield ratio. These data were collected for the period 2015-2020. The following table shows the number of Nationalized banks of India are selected for the study period and number of observations.

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Table 1	Number of Nationalized banks considered for the study.
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Table 4	Computation of Karl Pearson's coefficients of correlations of share price volatility.

Table 1: Number of Nationalized banks considered for the study

Sr. No	Name of the Nationalized Bank	Annual Reports	Number of Observations
01	State Bank of India	2014-15 To 2019-20	06 years annual reports
02	Bank of Baroda	2014-15 To 2019-20	06 years annual reports
03	Bank of India	2014-15 To 2019-20	06 years annual reports
04	Bank of Maharashtra	2014-15 To 2019-20	06 years annual reports
		Total	**24 annual reports**

1.5.1   Methodological Aspects

Model: The model estimated in this study assumes that market price per share and share price volatility depends on several explanatory variables and control variables. The explanatory variables considered as earnings per share, retained ratio, dividend pay-out ratio and dividend yield ratio. The control variables considered are return on equity, profit after tax, liquidity, leverage, growth of total assets and size of total assets.

Table 2: Descriptive Statistics

Varia bles	Abbrevi ation	N	Mini mum	Maxi mum	Me an	SD
Marke t Price per Share	MPS	24	25.08	176.08	105. 46	40. 34
Share Price Volati lity	PV	24	100.18	266.14	169. 02	49. 40
Earnin gs Per Share	EPS	24	-84.58	42.32	- 4.74	30. 93
Retain ed Ratio	RR	24	1.04	100.04	88.7 1	22. 89

Return on Equity	ROE	24	-4.46	11.17	3.95	4.07
Profit After Tax	PAT	24	-13.59	52.25	15.97	20.31
Liquidity	LID	24	0.73	3.62	1.79	0.76
Dividend Pay-out Ratio	DPR	24	0.00	25.06	6.72	10.03
Dividend Yield Ratio	DYR	24	-17.64	20.03	5.08	8.47
Leverage	LEV	24	8.16	82.54	20.55	18.55
Growth	G	24	-1.17	84.59	47.29	36.20
Size	SZ	24	79.53	91.54	88.16	3.17

Table 2: shows the descriptive statistics. Clearly, Market price per share ranges from 25.08 to Rs. 176.08, leading the average market price per share to Rs. 105.46 while the share price volatility ranges from 100.18 to 266.14, leading the average share price volatility of 169.02.

The table provides descriptive statistics for dependent variables market price per share and price volatility. The independent variables are earning per share, retained ratio, return on equity, profit after tax, liquidity, dividend pay-out ratio, dividend yield ratio, leverage, growth and size. N is the number of observations.

The Earnings Per Share varies from -84.58 to Rs.42.32 leading to average of Rs. -4.74. Likewise, Retained Ratio ranges from 1.04 to 100.04, leading to the average of 88.71; Return on Equity ranges from negative 4.46 percent to 11.17 percent, leading to the average of 3.95 percent. Profit After Tax ranges from negative Rs.13.59 to Rs. 52.25 leading to the average of Rs.15.97; Liquidity ranges from 0.73 percent to 3.62 percent leading to the average of Rs. 1.79.

Dividend Pay-out Ratio ranges from zero percent to 25.06 percent leading to the average of 6.72 percent. Similarly, dividend Yield Ratio ranges from negative 17.64 to 20.03 percent, leading to the average of 5.07 percent. Leverage ranges from 8.16 percent to 82.54, leading to the average 20.55 percent. Size of total assets ranges from 79.53 percent to 91.84 percent, leading to the average 88.16 percent and Growth of the total assets ranges from negative 1.07 percent to 84.49 percent, leading to the average growth of 47.29 percent.

Table 3: Computation of Karl Pearson's Coefficient of Correlations of Market Price per Share.

	MPS	EPS	RR	ROE	PAT	LID
MPS	1					
EPS	.252	1				
RR	.159	-.426 *	1			
ROE	-.044	.001	-.411	1		
PAT	-.347	.363	.057	-.610 **	1	
LID	-.239	-.087	.440 *	-.792 **	.633 **	1

** Correlation is significant at 0.01 level

*Correlation is significant at 0.05 level

Table 3: shows the Karl Pearson's Coefficients of Correlations of Market Price per Share have been computed and the results are presented. The highest correlation has been observed to be 0.252 between Market Price per Share and Earnings Per Share. The lowest correlation of negative 0.758 has been observed between Return on Equity and Liquidity. The Market Price per Share positively related to Retained Ratio, Earnings Per Share and Negatively related to Return on Equity, Profit After Tax and Liquidity. The higher the Earnings Per Share and Retained earnings, higher would be the Market Price per Share. Lower the Return on Equity, Profit After Tax and Liquidity, Lower would be the Market Price per Share. The positive correlation between retained ratio and market price per share indicates that the higher retained earnings of the banks, higher would be the market price per share. Lower the liquidity of the bank, higher would be the market price per share.

Table 4: Computation of Karl Pearson's Coefficient of Correlations of Share Price Volatility.

	PV	DPR	DYR	LEV	G	SZ
PV	1					
DPR	.348	1				
DYR	.029	.607 **	1			
LEV	.667 **	-.057	-.106	1		
G	.892 **	.107	-.261	.416 *	1	
SZ	.251	-.202	-.557 **	.227	.325	1

** Correlation is significant at 0.01 level

* Correlation is significant at 0.05 level

Table 4 shows the Pearson's Correlation Coefficients of share price volatility have been computed and the results are presented. Among all the correlations the highest correlation observed to be 0.892 between share price volatility and growth of total assets and positively related to dividend pay-out ratio, dividend yield ratio, Leverage, Growth and Size of the total assets. The positive correlation between dividend pay-out ratio and share price volatility indicates that higher the dividend pay-out ratio, higher would be the volatility of share price. The result also indicates that higher the growth of total assets, higher would be the volatility of the share price. It is also observed that positive dividend yield ratio, higher would be the volatility of the share price. Similarly, Positive result of the size of total assets, higher would be the volatility of the share price.

VI. FINDINGS

- It is accepted fact that the issue of dividend policy is considered as one of the most puzzling contests since the existence of the modern commercial corporations.

- It remains the most debated issue in finance for the professionals, academicians and practitioners as well a number of attempts have been made by the researchers to study several issues pertaining to dividends and formulate theories and models to explain corporate dividend behaviour.

- It is deduced that dividend enigma has not only been an enduring issue in finance but also remains unresolved. The dividend policy of a Nationalized bank determines what proportion of earnings is paid to shareholders by way of dividends and what proportion is ploughed back for reinvestment purposes.

- The dividend policy has assumed a greater significance and India is no exception. In India, the listing of shares in stock exchange and their trading in the stock market is gradually became very popular.

VII. CONCLUSION

- This study on dividend policy has been undertaken on Nationalised banks in India because Indian banking sector has gone sweeping changes and is emerging as a major sector of the economy.

- This study examined the impact of dividend policy on market price per share listed in the National Stock Exchange.

- This study has determined the effect of earnings per share, retained ratio, return on equity, profit after tax, liquidity, dividend pay-out ratio, dividend yield ratio, growth of total assets, size of total assets and leverage on market price per share and volatility of share price.

- The study conducted based on pooled cross-sectional analysis of secondary data of 13 Nationalised -banks of India for the period 2015 to 2020. As a first approximation to the theory.

- This study hypothesizes that share price depends on the explanatory and control variables such as earnings per share, retained ratio, return on equity, profit after tax, liquidity, dividend pay-out ratio, dividend yield ratio, growth of total assets, size of total assets and leverage.

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