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DIVIDEND POLICY AND STOCK PRICES

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Abstract:

This study examines how dividend policy impact/effect on stock prices. We estimated this relationship using descriptive statistics, correlation matrix, unit root test and least square method. The least square method used in this study covered the NSE 500 companies form 2019-20 to 2021-22. The study made two contributions. First, the variables DPS, ROE and PAT have contributed positively towards change in the value of MPS. Second, EPS and Retention Ratio have contributed negatively towards the change in the value of MPS.

Keywords: Dividend Pay-outs, Stock Prices, Unit Root Test, Least Square Method, Correlation Matrix.

Introduction:

Dividend policy is one of the most significant topics for the research in the field of corporate finance. Every firm operating in a given industry follows some dividend model or dividend policy and it is considered as a parameter of the financial performance of the firm. An increase in dividend payment is seen as a positive indicator whereas a decrease in dividend payment as a negative indicator on the future earnings prospects of the company, thus leading to an increase or decrease in share prices of the firm. Dividend policy is important for investors, managers, lenders and other stakeholders. It is important for investors because investors consider dividends not only as the source of income but also a way to value the firms from the investment point of view. By having information on dividend payout ratio (DPO), an investor may perform a better and more accurate analysis of the firm's financial performance and Payout ratio (POR) has a strong effect on the company's future earnings growth also. Thus dividend policy may have an influence on share price volatility. In preliminary corporate finance, dividend policy was just concerned with selecting between payments of earnings to shareholders as cash dividends or retaining the profit in firms. It determines the incidence of dividend payments and the amount of dividends.

Review of Literature:

The following literatures were reviewed with respect to the current topic to find out the research gap.

Tsoukalas and Sil (1999) studied on the predictive power of variables such as DYs, dividend growth rate, etc. using the 'information hypothesis' of dividends and concluded that the D/P ratio Granger causes stock returns. It implies predictability which is only inconsistent with the simplest model of market efficiency.

Al-Twaijry (2007) studied on the variables that have an impact on dividend policy and POR in an emergency market and concluded that The current dividends are affected by their pasts and their future performance. PORs do not have a strong effect on the company's future earnings growth but have some significant negative correlation with the company's leverage.

Vijayakumar (2010) concentrated on how to examine the extent to which some indicators of the financial performance influence the stock price and concluded that the selected variables have a positive relationship with the market price and DPS and the P/E ratio have a negative impact on the market price of its equity shares.

Ali and Chowdhury (2010) studied on the impact of dividend announcements on the stock prices and concluded that Stock price does not vary on the announcement of dividends.

Hussainey, Mgbame, and Chijoke-Mgbame (2011) analysed the relation between dividend policy and share price changes in the UK stock market and concluded that DY and stock price changes are positively related while the dividend POR and stock price changes are negatively related.

Hussainey et. al (2011) studied on the relationship between dividend policy and the volatility of stock price and conclude that There is a significant negative relationship between the POR of a firm and the volatility of its stock price and a negative relationship between DY and the volatility of stock price. Also, it is the firm's growth rate, debt level, size and earnings that explain stock price changes.

Abor and Fiador (2013) studied on the impact of corporate governance on the firm's dividend payout policy and they suggest that corporate governancestructures lead to high-dividend payout in the countries under study. However, in Nigeria, there is high-earnings retention or low-dividend payment.

Mehta, Jain, and Yadav (2014) studied on how the market reacts to the stock dividend announcements and concluded that the announcement of stock dividends lessens the viability of returns. This facilitates price stability in the stock market.

Nirmala, Sanju, and Ramachandran (2014) focused on the long-run causal relations between share price and dividends in the Indian market and concluded that there exists bi-directional long-run causality between share price and dividends. Share price and dividend thus influence each other.

Kaźmierska-Jóźwiak (2015) focused on some factors such as profitability, liquidity, size and leverage of the firm affect dividend payout decisions of Polishlisted companies and the results show statistically significant and negative relationships between DPR and two analysed factors: profitability (ROE) and leverage (LEV).

Roy (2015) investigated the relationship between ownership and dividend policy and find out the impact of debt and the firm's characteristics on the dividend policy and the results do not support the insider ownership, and the alignment between different classes of owners is an important factor which influences the dividend policy.

Sattar et al.(2017) investigated the relationship between dividend POR and profitability of a firm and found that There is a significant negative impact of the dividend POR on the next year earnings of a firm.

Anwar, Singh, and Jain (2017) analysed the impact of the announcement of cash dividends on stock price returns and concluded that the cash dividend announcements have positive AARs of the select manufacturing companies. Overall, the results lend support to the signalling and informational content hypotheses of dividends.

Farrukh, Irshad, Khakwani, Ishaque, and Ansari (2017) explored the relationship of dividend policy with share market price; EPS; and firm performance and concluded that the dividend policy is positively associated with EPS and share price. Moreover, dividend policy is also significantly positively linked with ROE.

Felimban, Floros, and Nguyen (2018) examined the effect of dividend announcement on share price and trading volume and they reported some evidence for the stock price reaction that partially supports the signalling hypothesis. Also, the Gulf Cooperation Council (GCC) market is informationally inefficient.

Though many research studies have been undertaken in the field of dividend policy and market price, a few studies explain the effect of dividend policy on the MPSs. Therefore, to fill this research gap and contribute to the literature, the present study attempts to analyse the effect of dividend policy on MPSs with special reference to companies listed under NSE 500 in India.

Objectives of the Study:

1. To study the impact of dividend policy on stock prices.

2. To test the statistical significance of stated variables on market prices.
3. To test the statistical significance of Multiple Regression Model.

Research Methodology:

In this part we concentrate on the variables, research tools and techniques applied in this study.

Data and Variables

The objective of this research is to contribute towards a very important aspect of corporate financial management known as dividend policy with reference to the National Stock Exchange (NSE). In this study the emphasis is on analysing the relationship between dividend policy and MPSs of the companies listed on the NSE 500 for the period of 2020–2022. The selection of the data period and sample size (the number of selected companies) are subject to the availability of required data. The data have been taken from the CMIE Prowess database. The impact of dividend policy on the company's share price is analysed by least square methodology and here MPS is taken as the dependent variable while RR, EPS, DPS, ROE and PAT are taken as independent variables.

MPS = market price per share which represents the end of- the-year price for each of the companies for the sample period.

RR = the retention ratio calculated by dividing the total retained earnings by the total earnings at the end of the financial year and it can be expressed as:

RR = 1 - Dividend Payout Ratio

EPS = earnings per share which is calculated by dividing total earnings by the total number of outstanding shares of a firm′s stock at the end of the financial year.

EPS = Earnings / Number per shares.

DPS = dividend per share which is the sum of declared dividends issued by a company for every equity share outstanding.

DPS = Dividends / Number of shares.

ROE = Return on equity is calculated as

ROE = Earnings available to equity shareholders / Networth

PAT = profit after tax is the net amount earned by a business after all taxation-related expenses have been deducted.

PAT = Operating Income * (1 – tax rate)

Tools and Techniques used for the study: Descriptive Statistics, Correlation Matrix, Unit Root Test, Variance Inflation Factor and Multiple Regression Model - Least Square Method.

ANALYSIS:

Regression Analysis: Pooled Ordinary Least Square

It is a statistical technique used to determine the strength of the relationship between the dependent variable (MPS) and independent variables (Retention Ratio, EPS, ROE and DPS) of Nifty 500 as shown in the following equations.

MPS = f (RR, EPS, DPS, ROE, PAT)

The model is further expressed as

$$\mathbf{Yt = \beta 0 + \beta 1X1t + \beta 2X2t + \beta 3X3t + \beta 4X4t + \beta 5X5t + Et}$$

Where, Yt = Dependent Variable (MPS).

β0= Y Intercept (i.e., value of Y when the influence of all independent variables together is zero)

β1 = Partial regression coefficient of X1 i.e., RR

β2 = Partial regression coefficient of X2 i.e., EPS

β3 = Partial regression coefficient of X3 i.e., DPS

β4 = Partial regression coefficient of X4 i.e., ROE

β5 = Partial regression coefficient of X5 i.e., PAT

Et= Random Error, (with t=1…….10)

Table 1: Descriptive Statistics

	MPS	EPS	DPS	ROE	PAT	RETENTION_RATIO
Mean	1540.817	38.29781	52.27859	9.265543	1159.989	98.41146
Median	292.5032	12.54000	8.014000	4.765672	315.8400	99.43000
Maximum	82254.84	3287.890	1333.390	329.0047	38187.00	100.0000
Minimum	0.000000	-480.3600	-791.2080	-381.9529	-73131.50	69.70000
Std. Dev.	5340.998	165.9847	133.0092	25.30836	5812.422	2.709121
Skewness	8.879261	14.05774	4.209484	-0.695356	-1.294463	-3.782782
Kurtosis	101.9934	253.4567	31.76186	112.4908	49.96124	25.31713
Jarque-Bera	416824.8	2617514.	37010.19	494094.6	91155.33	22882.67
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Sum	1523868.	37876.53	51703.53	9163.622	1147229.	97328.93
Sum Sq. Dev.	2.82E+10	27220320	17479141	632827.0	3.34E+10	7251.262
Observations	989	989	989	989	989	989

Source: CMIE prowess database

Table 2: Correlation Matrix

	MPS	EPS	DPS	ROE	PAT	RETENTION_RATIO
MPS	1.000000	0.835405	0.286380	0.550887	0.025371	0.077827
EPS	0.835405	1.000000	0.349563	0.656626	0.068231	0.019053
DPS	0.286380	0.349563	1.000000	0.285837	0.138085	-0.328614
ROE	0.550887	0.656626	0.285837	1.000000	0.250606	-0.012738
PAT	0.025371	0.068231	0.138085	0.250606	1.000000	-0.117264
RETENTION_RATIO	0.077827	0.019053	-0.328614	-0.012738	-0.117264	1.000000

Source: CMIE prowess database

Table 3: Unit Root Test

Null Hypothesis: MPS has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-34.24767	0.0000
Test critical values:	1% level	-3.436062	
	5% level	-2.863950	
	10% level	-2.568104	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(MPS)
Method: Least Squares
Date: 09/03/22 Time: 13:22
Sample (adjusted): 2 1104
Included observations: 1103 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MPS(-1)	-1.025719	0.029950	-34.24767	0.0000
C	1421.317	157.6218	9.017261	0.0000

R-squared	0.515810	Mean dependent var	-17.85778
Adjusted R-squared	0.515371	S.D. dependent var	7247.513
S.E. of regression	5045.380	Akaike info criterion	19.89215
Sum squared resid	2.80E+10	Schwarz criterion	19.90122
Log likelihood	-10968.52	Hannan-Quinn criter.	19.89558
F-statistic	1172.903	Durbin-Watson stat	2.001775
Prob(F-statistic)	0.000000		

Source: CMIE prowess database

Table 4 : Least Square Method

Dependent Variable: MPS
Method: Least Squares
Date: 09/03/22 Time: 13:20
Sample: 1 1104
Included observations: 989

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-12332.35	3639.401	-3.388565	0.0007
EPS	26.33230	0.774714	33.98968	0.0000
DPS	0.869705	0.802060	1.084339	0.2785
ROE	3.295811	5.064478	0.650770	0.5153
PAT	-0.027218	0.016798	-1.620312	0.1055
RETENTION_RATIO	130.2721	36.84259	3.535910	0.0004

R-squared	0.702843	Mean dependent var	1540.817
Adjusted R-squared	0.701332	S.D. dependent var	5340.998
S.E. of regression	2918.883	Akaike info criterion	18.80184
Sum squared resid	8.38E+09	Schwarz criterion	18.83155

Log likelihood	-9291.509	Hannan-Quinn criter.	18.81313
F-statistic	465.0042	Durbin-Watson stat	1.764262
Prob(F-statistic)	0.000000		

Source: CMIE prowess database

Table 5: Variance Inflation factors

Variance Inflation Factors
Date: 09/03/22 Time: 13:32
Sample: 1 1104
Included observations: 989

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	13245239	1537.526	NA
EPS	0.600183	2.019721	1.917534
DPS	0.643300	1.523867	1.319776
ROE	25.64894	2.160721	1.905113
PAT	0.000282	1.149576	1.105501
RETENTION_RATIO	1357.376	1527.155	1.155262

Source: CMIE prowess database

Findings:

1. The results of descriptive statistics for variables are shown in Table 1. The distributions are non-normal as the values of skewness and kurtosis are non-zero. Among the given variables EPS, MPS and DPS are positively skewed and rest of the variables i.e., ROE, PAT and Retention ratios are negatively skewed. Also, all the variables are leptokurtic in nature. From Table 1, we can see that the probability values for the JB test are zero. Hence, the null hypothesis for residual normality is rejected, implying that the variables are not normally distributed.
2. The correlations between the selected variables are presented in Table 2. The correlation results indicate that Retention ratio negatively correlated with MPS, while other variables such as EPS, DPS, ROE, MPS and PAT are positively correlated with MPS. It is also observed from the results that Retention ratio is negatively correlated with all other variables except EPS, which is found to be positively correlated. Also, EPS shows a high positive correlation while PAT shows a moderate positive correlation with MPS.
3. The given variables are to be stationary before running regression analysis. To test it analytically, ADF and F Statistic are used. It is evident from Table 3 that the null hypothesis of unit root (non-stationarity) is rejected in both of the tests at 5 per cent level of significance. Thus, it is inferred that all the given variables, namely MPS, EPS, DPS, Retention Ratio, ROE and PAT, are stationary at the 5 per cent level of significance.
4. The p-value of F-Statistic (i.e., 0.0000) shown in Table 4 is less than the critical p-value of 0.05 and, therefore, the joint null hypothesis that $\beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = 0$ becomes eligible for rejection. Hence, it is concluded that as per least square method results, the joint effect (i.e., the influence of X_1, X_2, X_3, X_4 and X_5 on MPS together) is significant;

5. The p-values of EPS and Retention Ratio regressors in the Table 4 are less than the threshold p-value of 0.05, the null hypothesis that the rate of influence of EPS and Retention ratio individually on MPS is zero or negative (i.e., $\beta_n \leq 0$) becomes qualified for rejection; and
6. The p-values of DPS, ROE and PAT regressors in the Table 4 are more than the threshold p-value of 0.05, the null hypothesis that the rate of influence of DPS, ROE and PAT individually on MPS is positive (i.e., $\beta_n > 0$) becomes qualified for acceptance.
7. In view of the above results, it is concluded that DPS. ROE and PAT variables have contributed significantly to change in the value of MPS and whereas the EPS and Retention Ratio variables have contributed negatively for the change in the value of MPS.
8. As shown in the Table 5 for all the variables Variance Inflation Factor values are less than 5.

Conclusion:

In this article we studied the effect of dividend policy on market prices by taking Nifty 500 listed companies. For this purpose we analysed the relationship between the stated variables i.e., EPS, DPS, PAT, ROE and Retention ratio on MPS. After analysis it is concluded that the variables DPS, ROE and PAT have contributed positively towards the change in the value of MPS as null hypothesis is rejected. It is also inferred that EPS and Retention ratio have contributed negatively towards the change in the value of MPS.

Limitations of the Study:

The study is confined to an analysis of five independent variables of MPS in the area of finance. Analysis is based on secondary data collected from database for the period of 3years i.e., from 2019-20 to 2021-22.

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