

Constituents of dividend policy and their effect on stock behaviour : An evidence of Indian Manufacturing Sector

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Submitted: 01-06-2021

Revised: 14-06-2021

Accepted: 16-06-2021

ABSTRACT: Declining interest rates of savings bank account and fixed deposit investments have inculcated a tendency among investors to invest more in stocks. Considering the risk appetite, Indian investors try to invest in stocks yielding stable returns and regular dividends. Thus, distribution of dividends has become a catalyst for investors in the investment ecosystem. This paper aims in discovering the effect of dividend distribution acumen on share price behaviour. Dividend per share, retention ratio has been considered as independent variables and return on equity has been considered as control variable. Market price per share is the dependent variable. A sample of ten companies on the basis of market capitalization has been considered on the basis of purposive sampling for this analysis. Correlation analysis, Unit root tests, regression analysis has been used as a part of panel data approach for the above analysis. A significant relationship can be observed between the proxies of dividend policy and the market price per share, which serves as a guide for investors.

Keywords: Dividend policy, stock price, panel data

I. INTRODUCTION

The Manufacturing sector in India has gone through different phases of growth over a long period of time. The current government aims to generate a whopping 100 million new jobs in this sector and also the government's primary target is to reach 25% GDP share in this sector by 2022. Since the independence, the domestic manufacturing industry witnessed huge revolution from the 1950's to the license-permit Raj between 1965 to 1980. In the early 1990's the Indian manufacturing sector witnessed a huge increase in FDI. This sector has also shown growth in the employment rate in the recent years, it has

employed 2 to 3 times more the employers than other sectors in India. In our country where unemployment is a major issue in the recent years, this sector is there to play a crucial role in the increase in the overall employment level in India. Our very own honourable Prime Minister Narendra Modi inaugurated the scheme called The prime Minister's scheme of **Make in India** on 24th September, 2014 which aims to contribution of manufacturing to a GDP of 25%.

A Dividend might be characterized as a settlement made by organizations to its investors, ordinarily as an appropriation of its benefits. An organization can possibly deliver dividend just on the off chance that it procures an adequate measure of benefit and the assertion to appropriate profit is suggested by the governing body in conversation with the organization investors in the yearly general meeting. The admonishment of the board is to be endorsed by the organization investors then the profit gets payable.

II. LITERATURE REVIEW

The study conducted by **Pruitt and Gitman(1991)** is related to risk involved in annual profits which plays a big role in the dividend policy decisions of the firm The stability of the firm's current earnings provides a true and fair view of the organization's future earnings, these are the firms which pay a healthy amount of dividends from the earnings than the firms with uneven earnings.

Hussainey et. al (2011) the portfolio of the firm and the volatility of its stock are negatively related to each other also the dividend yield and volatility of the stocks are negatively related also the growth, debt, market capitalization and earnings explain the stock price of the company.

Zakaria, Muhammad and Zulkifli (2012) the OLS model can only explain 43.43% of the variation of the entity's share prices whereas

dividend yield, growth and earnings volatility influence the corporate entity's share prices.

Abor and Fiador (2013) they suggested that dividend payout is dependent upon the corporate governance of the company

Mehta, Jain and yadav (2014) they said that the payout of dividends lessens the possibility of returns and this causes price stability in stock markets.

Nirmala, Sanju and Ramachandran (2014) they said that the stock prices and dividend payout move in opposite directions hence they both influence each other.

Movalia and Vekariya (2014) factors like profitability, leverage, growth rate and rate of return on dividend payout impacts the dividend per share of the organization.

Kazmierska-Jozwiak (2015) they said that there is always a dysfunctional correlation between DPR(dividend payout ratio) and leverage also with return on net assets(equity).

Harshapriya (2016) said that there is no relation between DY(dividend yield) and price volatility.

Felimban, Floros and Nguyen (2018) They reported that signaling hypothesis partially supports the change in stock prices also the Gulf Cooperation Council market has efficient information related to this.

Objectives of the study

1. To ascertain the impact of retention ratio on stock price of the companies under study.
2. To investigate the link between dividend per share and market price.
3. To show how return on equity impacts the market value of shares.
4. To assist the investors in making their investment decision.

Research Methodology

In this research, ten companies (on the basis of market capitalization and is also listed in the BSE SENSEX) from the manufacturing sector has been taken into consideration. The period of study considered for the purpose is from Financial Year 14-15 to the Financial Year 18-19. The data has been extracted from Moneycontrol.com. Statistical package of Eviews10 has been used and the data is analyzed by panel data approach. The data of financial year 2019-20 has not been taken because Covid-19 had a huge impact on the stock market so the data would have been biased. Market price per share has been taken as the dependent variable while, Retention ratio, dividend per share and Return on equity are taken as experimental

variable. We have used panel data approach in this case.

$$MPS=C+ \beta_1RR+ \beta_2DPS+ \beta_3ROE$$

Here in this equation – C represents the undefined intercept for every company, β are the coefficients for every experimental variable.

Hypothesis for the research –

FE vs OLS	RE vs OLS	Best suited model
Wald Chi Test	Breusch-Pagan Test	
H is accepted then no FE	H is accepted then no RE	OLS model
H is rejected. then FE	H is accepted then no RE	FE model
H is accepted then no FE	H is rejected then RE	RE model
H is rejected then FE	H is rejected then RE	Hausman Test will be done and the best model will be selected

Hausman Test

Result of the Hausman Test	Best suited model
H is accepted then RE	RE model
H is rejected then FE	FE model

Data Analysis and findings

Correlation analysis

	MPS	DPS	RR	ROE
MPS	1			
DPS	0.895133	1		
RR	-0.58771	-0.67634	1	
ROE	0.69727	0.65147	-0.56939	1

Here we can observe that correlation between the experimental variables is not more than 0.8, which indicates absence of multicollinearity. The value between MPS and RR, DPS and RR and RR and ROE are negative this means that both the variables are not related and if a graph is plotted then both the variables will move away from each other and the relationship between MPS and DPS, MPS and ROE and DPS and ROE are positive, this means that both the variables are positively correlated and if a graph is plotted then both the variables will move close to each other.

Unit Root Test

Constituents	LLC	Breitung	IPS	ADF	PP	Inference
MPS	0.0000	0.7257	0.0005	0.0016	0.0018	Stationary
DPS	0.0013	0.4397	0.0000	0.0369	0.0430	Stationary
RR	0.0000	0.8927	0.0219	0.0000	0.0000	Stationary
ROE	0.0000	0.9952	0.0067	0.0000	0.0000	Stationary

The unit root tests or the stationary tests indicate that most of the results are below 5% significance which means all the constituents mentioned are stationary in nature and therefore we can reject the null hypothesis test of non-stationarity.

Table 4 – Pooled ordinary least squares effect

OLS model	
Variable	Coefficient
DPS	80.55204
RR	25.0801
ROE	90.91414
R-squared	0.827525
Adjusted R-squared	0.816277
Log likelihood	-455.5932
F-statistic	73.56867
Prob(F-statistic)	0
Durbin-watson test	1.346505

The above table represents pooled ordinary least squares effect also known as simple linear regression. It's the first step in panel data analysis. Here in this model we can observe that dividend per share is 80.55204 so DPS is having a positive effect on MPS, also RR is 25.0801 and ROE is 90.91414 so all these experimental variables have a positive impact on the MPS. The R-squared value is 0.827525, this means that the model is 82.75% fit for the analysis but the adjusted R-squared value is 0.816277, this means that the experimental variables are 0.011248 or 1.1248% less significant but this isn't a major concern in this analysis. The Durbin-Watson test shows positive auto-correlation among the constituents. Log-likelihood of -455.5932 means that the variables are very much discrete, this means that this research is for those variables whose values are specific and are also responsible for change in the conditional variable (MPS). Here the F-statistic is more than one hence it rejects null hypothesis cause an F-statistic of more than 1 automatically rejects null hypothesis, same case

with prob Fstatistic , its less than 5% hence it rejects null hypothesis

Table 5- Fixed effect model

Variable	Coefficient
DPS	42.59997
RR	12.06056
ROE	-32.76727
	Effects Specification
Cross-section fixed (dummy variables)	
R-squared	0.972468
Adjusted R-squared	0.963538
Log likelihood	-409.721
F-statistic	108.906
Prob(F-statistic)	0
Durbin-watson test	2.388603

Here in the Fixed effect model DPS and RR have a positive impact on the MPS but ROE is having a negative impact on MPS. Here R-squared of 0.972 means that the model is perfect fit for the analysis and the adjusted R-squared valued at 0.963 which tells us that the model is 0.009 is the difference between the R-squared value and adjusted R-squared value, this means that the experimental variables are 0.009 less insignificant which is not a major concern in this test. The Durbin-Watson test shows a value of 2.38 this means there is a low level of auto correlation cause in the previous correlation results only MPS and DPS was more than 8% which indicates multicorrelnearity. The Logarithm likelihood shows us a value of negative -409.7210, this means that the variables are discrete that is – in this research only those variables are taken which are having a specific value and which are also responsible for the change in MPS(conditional variable). The F-stat here is 108.906 which means that it has very high F-stat value thus it automatically rejects null-hypothesis thus the data

is significant also the value of prob(F-statistic) is 0 so here also the null hypothesis is rejected and the data points are significant.

Table 6-Random-effects model

Variable	Coefficient
DPS	59.31628
RR	9.552831
ROE	59.22759
	Effects Specification
	Weighted Statistics
R-squared	0.689446
Adjusted R-squared	0.669192
F-statistic	34.04077
Prob(F-statistic)	0
Durbin-Watson test	1.355552

Here in Random-effect model the DPS, RR and ROE are having a positive impact on MPS. Here R-squared value is 0.689446 that means this model is 68.9446% fit in this analysis which is not a good fit and the adjusted R-squared value is 0.669192 so this means that the experimental variables are 2.0254% less insignificant which is not good for the model. The F-statistic value is 34.04077 hence the value is more than 1 so it rejects null hypothesis also the prob(F-statistic) value is 0 hence it also rejects null hypothesis. The Durbin Watson test shows that the variables are positively auto-correlated

The results of Wald-Chi test, Breusch Pagan test and hausman test are as follows-

Wald chi test	0.000000
Breusch pagan test	0.000000
Hausman test	0.000000

When we are using panel data regression approach for our research then the method of Ordinary least squares model is not a reliable

method to conclude the final panel data regression results hence we apply both fixed effect model and random effect model to analyse the best regression

result out of these 3 models. First we had to get the results of OLS, FE and RE model then we had to apply the OLS results on the wald chi test and the breusch pagan test. . If the p-value of the wald chi test and breusch pagan test is more than 0.05 then OLS method is applicable, if the p-value is more than 0.05 in wald chi test and less than 0.05 in breusch pagan test then Fixed effect model will be applied, if the p-value is more than 0.05 in breusch pagan test and less than 0.05 in wald chi test then random effect model will be applied , lastly if the p-value of both wald chi test and breusch pagan test is less than 0.05 then hausman test will be applied , in hausman test if the p-value is above 0.05 then random effect model will be applied and if it is less than 0.05 then fixed effect model will be applicable. So we can conclude by saying The wald chi test result indicates that p-value is less than 0.05 then the null hypothesis is rejected and the breusch pagan test results are also less than 0.05 hence here also null hypothesis is rejected hence the hausman test was applied and the result was 0.00 which indicates than it is also less than 0.05, which rejects null hypothesis so fixed effect model is the best fit for regression analysis.

III. CONCLUSION AND RECOMMENDATIONS

First of all the the result of the descriptive statistics (table 1 of previous chapter) indicate that the average market price of the 10 companies in the last 5 financial years has been Rs 2219.54, the average dividend paid to the shareholders is Rs 20.59 per share of the 10 companies, which is a good return to the shareholders in the last 5 financial years , the average retention ratio is 76.81% in the last 5 financial years of the 10 companies which is a good retention ratio cause rest 23.19% is paid out to the shareholders , and the average return on equity of the 10 companies in the last 5 years is 18.43% which is good cause many investors in the market say that companies having an ROE between 15-20% is considered as good for the companies. The result of the correlation (table 2) indicates that Dividend per share and Return on equity have a positive impact on Market price of the shares and Retention ratio has a negative impact on the Market price of the shares. The result of the panel data regression analysis (table 4) tells us that DPS, RR are having a positive impact on MPS meanwhile ROE is having a negative impact on MPS. Thus we can advise the shareholders to look for Dividend per share and the Retention ratio of the company and then purchase the shares of the company because we have proved that the dividend policy affects the Market price of the shares of the

companies. Dividend per share is the key factor that the investors should look for cause a company with good fundamentals always payout a health dividend to its shareholders cause they understand the importance of the shareholders trust , also the retention ratio should be between 70-80% cause if it's more than this range then the shareholders will receive less dividend thus it's not good for the company also if the RR is less than that range then this may lead to losses in the company cause it won't be able to invest in its future projects and won't be able to give wages to its internal management and in both ways it affects the market price of the share, if the ROE of the company is between 15-20% then we would likely suggest the investors to purchase its shares. The results are very useful for all the investors, managers, and other stakeholders because it's not only about dividends but also the retention ratio and return on equity of the company which affects the market price of the shares. The outcomes are basic for the administration to define the profit strategy so as to amplify shareholders wealth. There was a further scope of research if the impact of Covid-19 is also studied alongside.

REFERENCES

Article

- [1]. Adnan Ali, Farzand Ali Jan and Ilyas Sharif(2015) "Effect of dividend policy on stock prices"
- [2]. Bezawada, B. and Tati, R.K.(2017) "Dividend policy and firm valuation-A study of Indian electrical equipment manufacturing industry".
- [3]. Dr.Niharika Maharshi and Sarika Malik(2015)"The impact of dividend policy on the market price of the shares and growth of joint stock companies covered in Sensex".
- [4]. Narinder Pal Singh and Aakarsh Tandon (2019) "The Effect of Dividend Policy on Stock Price: Evidence from the Indian Market".
- [5]. Sujata Kapoor (2006) "Impact of dividend policy on shareholders' value: A study of Indian firms".
- [6]. UGVDD Gunarathne, WAN Priyadarshanie and SMRK Samarakoon (2016) "impact of dividend policy on stock price volatility and market value of the firm: evidence from sri lankan manufacturing companies".
- [7]. Upananda Pani "The impact of dividend policy on stock price behavior in Indian Corporate sector".

Websites



- [8]. www.wikipedia.com
- [9]. www.investopedia.com
- [10]. www.moneycontrol.com
- [11]. economictimes.indiatimes.com
- [12]. www.researchgate.net
- [13].

<https://journals.sagepub.com/doi/full/10.1177/2319510X19825729>
- [14].

<https://www.ibef.org/industry/manufacturing-sector-india.aspx>

Annexure

MPS, DPS, RR and ROE of each company from FY 2014-2015 to FY 2018-19

Company Name	Financial Year	MPS	DPS	RR	ROE
Astral polytec	2015	284.16	0.38	93.69	11.25
Astral polytec	2016	246.89	0.4	93.39	9.82
Astral polytec	2017	332.89	0.5	97.29	12.76
Astral polytec	2018	539.29	0.6	93.33	12.56
Astral polytec	2019	705.56	0.7	93.36	12.27
SRF	2015	1047.71	10	81.34	18.7
SRF	2016	1241.2	10	84.55	13.26
SRF	2017	1665.08	12	83.54	13.31
SRF	2018	1974.37	12	83.01	11.75
SRF	2019	2437.64	12	86.66	13.19
Page industries	2015	13741.68	72	59.03	50.68
Page industries	2016	12077.07	107	59.24	46.04
Page industries	2017	14573.99	75	59.78	39.99
Page industries	2018	21544.55	131	61.1	40.95
Page industries	2019	24561.66	344	4.3	50.83
Trident	2015	2.44	0.6	75.62	8.09
Trident	2016	5.16	0.9	80.13	13.58
Trident	2017	8.59	1.5	77.44	12.36
Trident	2018	6.73	1.5	71.24	9.87
Trident	2019	6.77	3	62.9	12.65
Bharat Forge	2015	606.86	7.5	75.71	20.56
Bharat Forge	2016	427.74	7.5	61.62	19.47
Bharat Forge	2017	534.78	7.5	88.06	13.82
Bharat Forge	2018	687.69	4.5	70.37	15.32
Bharat Forge	2019	488.9	5	78.26	19.84
Supreme IND	2015	702.23	9	63.78	28.09
Supreme IND	2016	766.89	7.5	55.29	17.44
Supreme IND	2017	1084.84	15	87.9	24.41
Supreme IND	2018	1214.18	12	44	23.63
Supreme IND	2019	1133.35	13	56.82	23.13
KPR mills	2015	250.59	9	76.77	16.9
KPR mills	2016	413.81	10	66.21	15.91
KPR mills	2017	668.84	0.75	98.41	21.32
KPR mills	2018	628.03	0.75	97.53	16.83
KPR mills	2019	560.02	0.75	98.11	19.13
Jindal Poly Firm	2015	200.19	1	97.25	10.51
Jindal Poly Firm	2016	426.52	1	97.87	11.4
Jindal Poly Firm	2017	413.12	1	95.37	5.25

Jindal Firm	Poly	2018	331.22	1	69.87	0.8
Jindal Firm	Poly	2019	240.39	1	101.24	-24.19
Sundram		2015	182.03	1.75	72.82	15.75
Sundram		2016	175.91	2.15	68.37	20.61
Sundram		2017	392.16	4.5	88.67	24.02
Sundram		2018	583.93	4.6	73.12	23.12
Sundram		2019	557.41	5.1	77.35	22.85
Welspun India		2015	38.07	35.6	79.32	35.6
Welspun India		2016	89.77	34.12	69	34.12
Welspun India		2017	59.46	13.92	98.36	13.92
Welspun India		2018	56.97	12.51	78.52	12.51
Welspun India		2019	57.68	5.69	53.93	5.69