ISSN PRINT 2319 1775 Online 2320 7876

Research paper Volume 11, Iss 12, 2022

Determinants of Dividend policy for select Manufacturing Companies in India: An empirical analysis

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DOI : 10.48047/IJFANS/V11/ISS12/1041

ABSTRACT

The purpose of this paper is to make an analysis of the determinants of dividend policy for select manufacturing companies in India. This research topic is one of the advanced topics in corporate finance, and It has its worth doing research in the area of Dividend policy. In this research paper, a sample of four manufacturing companies listed at Bombay stock exchange has been selected using convenience sampling and were considered for analysis. This study re-examines the association between the various factors that have bearing on the dividend decision of the firm on the basis of annual reports of the companies listed in Bombay stock exchange for the period of 2015-2020 by using statistical methods. From the review of the literature, the researcher identified the factors like price earnings ratio, age of the firm, leverage ratio, return on equity, return on equity and earnings per share which affect the dividend pay-out ratio of the company. The empirical evidence from this study reveals that price earnings ratio, leverage ratio, earnings per share have significant impact on the equity dividend and also good predictors of equity dividend in the manufacturing sector.

Key words: dividend**,** manufacturing industry, dividend pay-out ratio, P/E ratio, leverage ratio, earnings per share.

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1. INTRODUCTION

Dividend decision is considered as one of the three major decisions of financial management (financial, investing, dividend decision). The decision regarding dividend pay-out is a crucial decision as it determines the amount to be distributed among shareholders of the firm and the amount to be retained by the firm itself for reinvestment purpose. Here, the important internal source to the firm is retained earnings which plays a crucial role in the growth of the firm. The sharing of the available and accumulated profits among the existing shareholders is known as Dividend. The dividend decision will be greatly influenced by investment opportunities available to the firm and value of the firm. Every firm has its own dividend policy having a classification of the Dividend distribution and the retained earnings to ultimately having optimum mix of the both in achieving the maximisation of the wealth to the shareholders, which results finally in the form of high share price. Earnings are one of the most important factors that decide the quantum of dividend to be paid. In general, higher the earnings, will result in higher the level of the dividends. Dividend payment decisions are signals to the investor regarding what the incumbent management thinks about the future of the firm. The payment of a high dividend is considered a positive symptom and vice-versa, which may result in an up or down of the share price. There are so many determinants affect the dividend payment, and they communicate valuation of the firms. It is not challenging task to pick out the variables which impact the dividend payment decisions, however, but difficult to determine is how these factors interrelate among themselves. Since a large number of factors are influencing the level dividend of a company, in this study has researchers attempt to identify the factors that affect the dividend in select companies which belong to the manufacturing industry

The rest of the paper is organized as follows: section 2 presents a brief background of the manufacturing industry in India. Section 3 reviews of the existing literature. Section 4 presents need for the study. Section 5 objectives of the present study. Section 6 describes hypothesis of study. section 7 research methodology. Section 8 discussion. Finally, section 9 conclusion.

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2. BRIEF BACKGROUND OF INDIAN MANUFACTURING INDUSTRY

The manufacturing sector in India went through various phases of development which had a tremendous impact on the Indian economy. Since 1947, the manufacturing sector has gone through the following phases; they can be like from 1950 to 19560 , a basic industrial foundation, between the 1960 to 1980 government interference and the Government holding of the major strategic and the Non-strategic sectors in the manufacturing sector, from 1990s, the P.V.Narasimha Rao government had come up with LPG model to liberalise, Privatise, and globalise the Indian industrial sector, which can be known as turning point to the enhanced development of the Indian economy along with enhanced contribution from service sector to the GDP during the last two decades.(source). Generally, Employment creation is an important integral part of the policy formations in a nation like India which may help in achieving Inclusive growth. Recently, the Prime Minister of India has come up with a new initiative to create purposeful employment opportunities as well as with an objective of achieving part of the contribution to be made by the industrial sector to GDP is 25% which was named as Make in India flagship scheme in the year 2014(source).

This initiative has created a new phase to several sectors, and also opportunities to Indian companies along with enhanced investments. Those can be categorised into various manufacturing, research and development, partnerships and collaborations or joint ventures, etc. Due to this scheme, both internationalisation and localisation were made possible by reaching the nook and corner of the country. The other factors that attracted the investors are, the huge Market base, Middle class growth phase, demographic dividend and the political stability that made India a trustworthy destination for investments. MII has made all the start-ups to come forward to encash their new ideas and to make India sustainable. The upcoming prospectus of the Indian manufacturing sector contribute majorly towards the GDP as a whole. The shift of the scenario of the world economy, and the international market is going

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to bring a profound impact on the Indian manufacturing sector in the short, medium, and long run.

3. REVIEW OF LITERATURE:

Krishna(1963) said that a bird in the hand theory related to dividend distribution. Based on this theory investors are risk free in nature and their prefer dividend income rather than capital gain. The fundamental reason for equity market are uncertain and also information imbalance in the equity market system because investors are prefer dividend payment and not think about capital gains .

Husam et al(2007) scrutinize the determinants of corporate dividend policy in the context of Jordanian companies .this research attempt found that dividend payment decision are mainly dependent determinants on shareholders' interest and the government and further determinants are profitability of company, age of firm and size of firm

Bhattacharya(1979) did not accept the bird in hand theory because compared to dividend capital gains give more advantage to investors and also suggested that the level of dividend depends on the firm's accepted risk.

Mistry (2011) endeavoured to discover the influence of the factors affecting dividend decision of Indian cement industry a division of time from 2004-05 to 2008-09 based on secondary information of 28 out of 36 listed public firms listed NSE. This study shows that selected factors are significantly influence the dividend decision and also identify that confidently effect the chance in total assets and profitability of firm's and changes in the inventory turnover ratio and retained earnings of the company adversely affect dividend decision.

Rao and Sarma (1971) administered determinants of dividends of public and private limited enterprises -an empirical study. This study attempt revealed that the basic Lintner

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model was adequate to describe the dividend behaviour in the case of the majority of the industries such as coal mining, sugar, jute textiles, chemicals and cement industries.

4.NEED FOR THE STUDY

A number of studies talk about the determinants of corporate dividend policy. This study focuses on the various factors and the determinants of the dividend. There is a positive correlation between the profitability of the company and the dividend paid by the company, that is the direct relationship. But here the profitability is being influenced by both the internal factors and the external factors relating to the company. These factors are useful and important for investors and managers. The awareness of adopting dividend policy is very important for investors and managers because the investors are interested in the information about dividend policies, managers will also tend to predict annual dividend and its distributable percentage so that they can forecast their cash budget and investment policies. This study may be useful to the investors for evaluating the efficiency of the companies for investment purposes, and also sensitize the shareholders about the company's stand regarding the profits. The results of the study help the top-level management to understand the o determinants of the dividend in a better manner, so the researcher has considered the topic as advancing in nature. This study tries to contribute to the existing literature through finding out the determinants of dividend policy in the manufacturing sector. The study also focuses on finding out the factors that might influence the determinants of dividend payment in select manufacturing companies.

5. OBJECTIVES OF THE STUDY

The main objective of this study is to empirically analyse the determinants of dividend policy. The following are the specific objectives of the paper.

1. To analyse the dividend determinants of select companies in the Indian manufacturing sector.

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2. To analyse the variation in the impact of price earnings ratio, age of the firm, leverage and profitability on the dividend policy of select companies in India manufacturing sector.

6. HYPOTHESISES OF THE RESEARCH

H01: There is no significant impact of price earnings ratio on dividend policy.

H02: There is no significant impact of leverage ratio on dividend policy.

H03: There is no significant impact of Earnings per share on dividend policy.

7. RESERCH METHODOLOGY;

Variables used in this research dividend pay-out ratio of the firm is taken as the dependent variable, whereas age of the firm, price earnings ratio, leverage and profitability are taken as the independent variables.

$$\text{Dividend pay-out ratio} = \frac{Cash\ Dividend}{Net\ Profit} \times 100$$

The dividend pay-out ratio provides an idea of how well earnings support the dividend payment. Age of the firm is the number of the activity years of the company which is acquired through the difference between the current year of the establishing the company.

$$\text{Price earnings ratio} = \frac{Market\ value\ per\ share}{Earnings\ per\ share}$$

Higher price earnings ratio indicates that investors are anticipating higher growth in the future.

$$\text{Leverage} = \frac{Total\ debt\ (short\ term\ and\ long\ term\ debts)}{Total\ share\ holder's\ fund}$$

Profitability of the firm is measured by three parameters i.e., return on equity (ROE), Return on assets (ROA), Earnings per share (EPS).

$$\text{ROE} = \frac{Net\ profit\ after\ preference\ dividend}{Book\ value\ of\ equity\ capital}$$

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$$\text{ROA} = \frac{Net\ Profit}{Total\ asstes}$$

$$\text{EPS} = \frac{Net\ Profit}{Number\ of\ Equity\ shares\ out\ standing}$$

8. DISCUSSION

For the present study a sample of four manufacturing companies listed at Bombay stock exchange (BSE) has been selected using convenience sampling for the period of five years i.e., 2015-16 to 2019-20. Every year is taken to mean an accounting year of the company consisting of twelve months. The companies considered for analysis in this study are Asian paints ltd, Ultra tech ltd, GHCL ltd, Titan ltd. The data have been collected from money control.com and companies' website.

Empirical Results:

Table-1: Model Summary:

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F-Value	P-value
1	.991[a]	.982	.930	1.10073	18.600	0.168[b]
2	.946[a]	.894	.577	2.69772	2.819	0.407[b]
3	.996[a]	.991	.965	6.87720	37.786	0.119[b]
4	.725[a]	.526	-.895	27.552319	3.721	0.024[b]

1. Predictors: (Constant), Return on Assets, Leverage ratio, Earnings per share
2. Predictors: (Constant), Price earnings ratio, Earnings per share, Return on Assets
3. Predictors: (Constant), Return on Assets, Earnings per share, Leverage ratio
4. Predictors: (Constant), Return on Assets, Leverage ratio, Earnings per share

The models for dividend pay-out ratio based Return on Assets, Leverage ratio, Earnings per share, Price earnings ratio are formulated based primary data and shown in the above table. In the above table, the first model has shown for Asian paints. Here, the dependent variable is "dividend pay-out ratio" and independent variables are "Return on Assets, Leverage ratio, Earnings per share". It is observed from the above table that there is a positive correlation

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(0.991) dependent and independent variable. The R-square value (0.982) represents that the model can explain 98.2 percent of the data.

The second model has shown for GHCL. Here, the dependent variable is "dividend pay-out ratio" and independent variables are "Price earnings ratio, Earnings per share, Return on Assets". It is observed from the above table that there is a positive correlation (0.946) dependent and independent variable. The R-square value (0.94.6) represents that the model can explain 98.2 percent of the data.

The third model has shown for Ultratech. Here, the dependent variable is "dividend pay-out ratio" and independent variables are "Return on Assets, Earnings per share, Leverage ratio". It is observed from the above table that there is a positive correlation (0.996) dependent and independent variable. The R-square value (0.991) represents that the model can explain 99.1 percent of the data.

The fourth model has shown for Titan. Here, the dependent variable is "dividend pay-out ratio" and independent variables are "Return on Assets, Leverage ratio, Earnings per share". It is observed from the above table that there is a positive correlation (0.725) dependent and independent variable. The R-square value (0.526) represents that the model can explain 52.6 percent of the data.

Combined Regression of Return on assets:

In the table below, the regression model for "dividend pay-out ratio" based on "Return on assets, Price earnings ratio, Earnings per share, Leverage ratio, Age of the firm" by considering all the select companies together. It is observed that the correlation between dependent and variables is 0.755.

Table-2: Model summary of Return on assets

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F-Value	P-value
1	.755[a]	.571	.417	19.749237	3.721	.024[b]

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a. Predictors: (Constant), Return on Assets, Price earnings ratio, Earnings per share, Leverage ratio, Age of the firm

The table shows a model description of regression analysis. The R-Square statistic is a widely used metric for assessing model fit. The R-square is equal to 1 minus the residual uncertainty ratio. The modified R^2, also known as the coefficient of multiple determinations, is the percentage of variation in the dependent variable explained by the independent variables independently or jointly. The ability to estimate Return on assets was discovered in the learning and growth section (R^2 = 57.1). The R^2 value in this model suggests that the Return on assets will explain 57.1 percent of the reported differences in return on assets. The remaining 42.9 percent is unaccounted for, suggesting that the remaining 42.9 percent of the return on assets is attributed to causes not found in the model. The F value (F=3.721 and P 0.024) indicates that this variation is extremely important. It gives the specifics of the model parameters (the beta values) as well as their importance. It indicates that $ß_0$ was the Y-intercept and that this is the constant's value ß. So, according to the table, $ß_0$ is -96.86 which means that when no predictors exist (when X=0), the model assumes that the $ß_0$ will be -96.86. Since $ß_1$, an improvement in one unit of investment results in a 0.429 fold increase in total return. Other variables of ß values are 0.414, 21.54 and so on.

Table-3: Un-standardized Coefficients

Model		Un-standardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-96.865	61.977		-1.563	.140
	Age of the firm	.429	.519	.305	.826	.422
	Price earnings ratio	.414	.260	.386	1.592	.134
	Leverage ratio	21.546	20.218	.320	1.066	.305
	Earnings per share	.445	.154	.751	2.901	.012 *
	Return on Assets	314.385	235.136	.586	1.337	.203
a. Dependent Variable: Dividend pay-out ratio						

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* Significance at 0.05.

9. CONCLUSION:

This paper aims to understand the determinants of dividend policy of the manufacturing sector in India. The paper was based on a sample of four manufacturing companies; these are Asian paints ltd, Ultratech ltd, GHCL ltd and Titan ltd. The study uses combined evaluation for analysing the variables that have an impact on dividend pay-out ratio of the firm viz. price earnings ratio, leverage ratio, earnings per share. These factors were then subjected to multiple regression analysis with the dividend pay-out as the dependent variable and further it is observed that there is significant impact of divided pay-out is on Earnings per share. Thus, it is important to determine the deterministic element in dividend because it helps in deduction of investor risk in the expected receipt yield and on the other hand managers will adopt dividend policies with more awareness. Since the dividend policy affects many elements, these elements could be found in empirical research in the stock market on account of prevailing conditions on these stock markets.

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ANNEXURES: DATA TAKEN FOR REGRESSION

1. Data for Asin Paints:

Asian paints	Dividend pay-out ratio	Age of the firm	Price earnings ratio	Leverage ratio	Earnings per share	Return on Assets
2015 – 16	46.62	73	52.009	1.4723	16.92	0.184
2016 – 17	47.03	74	57.074	1.4694	18.80	0.190
2017 – 18	55.97	75	56.962	1.4859	19.75	0.182
2018 – 19	54.07	76	67.026	1.4798	22.26	0.143
2019 - 20	77.29	77	57.101	1.4373	27.67	0.199

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.991[a]	.982	.930	1.10073
a. Predictors: (Constant), Return on Assets, Leverage ratio, Earnings per share				

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	67.607	3	22.536	18.600	.168[b]
	Residual	1.212	1	1.212		
	Total	68.819	4			
a. Dependent Variable: Dividend pay-out ratio						
b. Predictors: (Constant), Return on Assets, Leverage ratio, Earnings per share						

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2. Data for GHCL:

GHCL	Dividend pay-out ratio	Age of the firm	Price earnings ratio	Leverage ratio	Earnings per share	Return on Assets
2015 – 16	8.60	32	4.653	2.814	25.57	0.087
2016 – 17	12.88	33	6.826	2.566	38.82	0.111
2017 – 18	9.29	34	7.00	2.234	37.32	0.101
2018 – 19	13.44	35	6.670	2.051	36.88	0.090
2019 - 20	19.01	36	1.999	1.922	41.51	0.095

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.946[a]	.894	.577	2.69772

a. Predictors: (Constant), Price earnings ratio, Earnings per share, Return on Assets

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	61.541	3	20.514	2.819	.407[b]
	Residual	7.278	1	7.278		
	Total	68.819	4			

a. Dependent Variable: Dividend pay-out ratio

b. Predictors: (Constant), Price earnings ratio, Earnings per share, Return on Assets

3. Data for Ultratech

Ultratech	Dividend pay-out ratio	Age of the firm	Price earnings ratio	Leverage ratio	Earnings per share	Return on Assets
2015 – 16	11.32	32	40.416	1.825	79.25	0.0574
2016 – 17	11.82	33	41.612	1.640	95.74	0.066
2017 – 18	14.62	34	50.695	2.097	81.27	0.0415
2018 – 19	73.67	35	47.551	2.482	84.33	0.0346
2019 - 20	84.91	36	16.907	1.875	189.15	0.0752

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.996[a]	.991	.965	6.87720

a. Predictors: (Constant), Return on Assets, Earnings per share, Leverage ratio

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ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5361.401	3	1787.134	37.786	.119[b]
	Residual	47.296	1	47.296		
	Total	5408.697	4			
a. Dependent Variable: Dividend pay-out ratio						
b. Predictors: (Constant), Return on Assets, Earnings per share, Leverage ratio						

4. Data for Titan

Titan	Dividend pay-out ratio	Age of the firm	Price earnings ratio	Leverage ratio	Earnings per share	Return on Assets
2015 – 16	55.87	31	41.509	1.814	7.95	0.110
2016 – 17	0.465	32	54.195	1.928	8.58	0.091
2017 – 18	23.85	33	73.282	1.809	13.10	0.123
2018 – 19	28.91	34	74.289	1.855	15.48	0.119
2019 - 20	35.28	35	51.117	1.932	17.90	0.115

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.725[a]	.526	-.895	27.552319
a. Predictors: (Constant), Return on Assets, Leverage ratio, Earnings per share				

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	843.004	3	281.001	.370	.801[b]
	Residual	759.130	1	759.130		
	Total	1602.134	4			
a. Dependent Variable: Dividend pay-out ratio						
b. Predictors: (Constant), Return on Assets, Leverage ratio, Earnings per share						

Combined Regression:

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.755[a]	.571	.417	19.749237
a. Predictors: (Constant), Return on Assets, Price earnings ratio, Earnings per share, Leverage ratio, Age of the firm				

ANOVA[a]

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Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7257.025	5	1451.405	3.721	.024[b]
	Residual	5460.453	14	390.032		
	Total	12717.478	19			
a. Dependent Variable: Dividend pay-out ratio						
b. Predictors: (Constant), Return on Assets, Price earnings ratio, Earnings per share, Leverage ratio, Age of the firm						

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