DETERMINANTS OF DIVIDEND POLICY OF PHARMACEUTICAL INDUSTRY: A STUDY OF SELECTED COMPANIES

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Abstract: To identify the determinants of dividend policy of pharmaceutical Industry in India. The main objective of the study analyzes the impact of profitability, leverage and liquidity on dividend payout ratios. The researcher has collect financial data from the period 2008-09 to 2017-18 of selected five company based on secondary data. The dependent variable is dividend payout ratio whereas explanatory variable include profitability, leverage and liquidity ratios. The data has analyzed using correlation and multiple regression analysis.Correlation among variable DPR, Retained earnings, Return on net worth, Earnings per share, Debt-equity Ratio, Quick Ratio, Dividend per share, Return on capital employed, Return on total assets and current ratio is measured by the researcher which shows the highest negative correlation of DPR with Retained earnings as well as highest positive correlation with DPS as compared to other ratio.

Introduction: Dividend policy is one of the crucialpolicies in financial management, not only from the view point of the firm, but also from that of the shareholders, customers, workers, regulatory bodies and the Government. The Shareholders' of the company real wealth is represented in the market price of the firm's common stock, which is the function of the company's investment, dividend and finance decision. Real owners of the company means shareholder would like to get more dividend as it increases their current wealth. But, for the company, retention of profits would be desirable as it provides funds for financing the expansion and growth plans. The most important internal source of the company is reinvestment or retained earnings. The dividend policy must strike a happy balance between retained earnings and Distribution of profit. It should allocate the earnings between dividends and retained earnings in such a way that the value of the firm is maximized. Hence, dividend policy is a crucial area of financial management.

About the Industry: Pharmaceutical is one of the best and highly organized sectors. The sector specializes in respect of quality, technology and range of medicines manufactured. The product range of the industry start with simple headache pills to sophisticated antibiotics as well as complex cardiac compounds. The pharmaceutical industry promotes the sustainable development in the field of medicines through the boosting the quality producers. The growth of pharmaceutical in reflects in the development of country. In order to achieve high rate of development, pharma industry should work efficiently. Researcher has selected five samples for the data analysis namely:

1. Cipla Limited.
2. Dr.Reddy Laboratories
3. Divis Laboratories Limited
4. AurobindoPharma Limited
5. Lupin Limited

Literature Review:

- **A.K.Vaishit, DograBalaram and Shaveta Gupta (2013),**This study investigates whether Lintner model can be used to explain Indian companies dividend payment or not. In this study 172 companies selected as sample in listed with BSE with continuous dividend payments from 2004-2008 have been selected from industrial sector Engineering, FMCG, IT and Textiles. The study brings forth that LIntner'smpdel does have a good fit in the selected Indian companies.**Krunal K. Bhuva and Dr. Vijay H. Vyas (2015)** conducted a study to examine relationship of dividend policy and stock price behavior in Indian capital market. They selected 500 companies from group A1 and group B1 which were related to different industries like Beverage, Mining, Electricity, Food, Non-metallic, Service sector and Textile. The data analyzed with the help of panel data modeling, they revealed that there is a significant associated between dividend policy and stock prices.

- **Habib et al (2012)** conducted a study on dividend policy and share price volatility. To draw & establish relationship between dividend policy and share price volatility with focus on Pakistan stock exchange dividend yield, payout ratio, size, debt, earning and growth were taken as independent variables and share price volatility was taken as dependent variable. Cross sectional regression was utilized for analyzing relationship between share price and dividend yield and payout ratio. They concluded that there is positive relationship between dividend yield and stock prices but payout ratio is negatively related to stock price.
- **Dr.Vinaykandpal and prof. p.c. kavidayal (2015),**To identify the dividend behavior of corporate firms and focused on Indian manufacturing sector and cotton textile industry. To find out the effect dividend policy on shareholders wealth of thirty selected Indian banks listed and traded in BSE. The analysis is based the financial data from the period 2003-04 to 2012-13. The data would be analyzed using statistical tools like Coefficient of the determination and F-value, multiple regression techniques, t test. The results of the data analysis might reveal that there is a significant relation of dividend policy on the share price of selected Indian banks.

Determinants of Dividend policy:

➢ **Dividend payout ratio**

A major aspect of the dividend policy of a business enterprise is its dividend payout (D/P) ratio, (DPS/EPS), that is, the percentage of its net earnings after taxes as dividends. In other words, PSUs has to take the decision regarding the payment of dividend or to retain the funds in the company.

- **Profitability**

Profitability is measured as the ratio of earnings before interest and tax to total assets (EBIT/Total Assets). Pruitt suggested that current year profit after taxes and previous year profits influence the dividend policy.

- **Retained Earnings**

Retained earnings is the internal source of raising funds without any burden on the shoulder of the company and therefore every company thinks of retaining good proportion of its earnings in the business itself. It affects distribution of profit among the owners. Therefore, Retained Earnings can be used an independent variable for the study.

- **Liquidity**

Liquidity is usually measured by the firm's cash flow. It is crucial to compare a firm's liquidity position in relation to its dividend payment. Various researchers have used current ratio and quick ratio as an indicator of liquidity position of the company. And positive relation is expected by the company with regard to the dividend payment.

Objective of the study:

1. To identify the determinants that influencing the dividend policy of selected sample.
2. To understand the relationship between dividend policy and their determinants.
3. To analyze the impact of profitability, leverage and liquidity on dividend payout ratios.

Hypothesis of the study

H0: There is no significant impact of earning per Share on the dividend payout ratios of selected samples.

H0: There is no significant impact of Dividend per share on the dividend payout ratios of selected samples.

H0: There is no significant impact of Current Ratio on the dividend payout ratios of selected samples.

H0: There is no significant impact of Quick Ratio on the dividend payout ratios of selected samples.

H0: There is no significant impact of Return on Net Worth ratio on the dividend payout ratios of selected samples.

H0: There is no significant impact of Return on capital employed ratio on the dividend payout ratios of selected samples.

H0: There is no significant impact of Return on assets ratio on the dividend payout ratios of selected samples.

H0: There is no significant impact of Debt-Equity ratio on the dividend payout ratios of selected samples.

H0: There is no significant impact of Retained Earnings ratio on the dividend payout ratios of selected samples.

Research Methodology:

The collected data has been duly edited, classifies, tabulated according to the needs of the objectives & hypothesis. Mathematical & statistical tools & techniques like Ratio, ANOVA, Simple & multiple correlations have been used.

Data Analysis and Interpretation:

Table-1

A Table Showing Descriptive Statistics

Descriptive Statistics			
	Mean	**Std. Deviation**	**N**
DPR	16.8262	16.41115	50
EPS	41.2304	25.83474	50
DPS	7.8900	6.26820	50
CR	2.5772	1.32611	50
QR	1.7108	.91786	50
RONW	18.9504	7.54754	50
ROCE	18.1728	6.85241	50
ROA	13.0314	5.70729	50
DE	.2516	.33337	50
RE	81.1738	20.01618	50

The above table showing descriptive statistics of selected pharmaceutical companies for the 10 years which is 2008-09 to 2017-18.Dividend payout ratio showing mean of approximately 17% (16.83%). This indicates that selected pharmaceutical companies pays dividend of 17 out of 100 and retains 83 out of 100 from the earning after tax.

The Earnings per share showing the average of Rs.41 which indicates that the company earns Rs.41 per share from the investment made by company.DPS showing mean of approximately Rs.8 (Rs.7.89). This indicates that shareholders return from the investment made by the shareholder. If dividend payout ratio changes, it directly affects to dividend per share in same direction.

Current ratio showing mean of approximately 2.5(2.58) times which indicates availability of current asset against its current liability. Standard current ratio is 2:1 and 2.5 is mean of selected pharmaceutical companies, which shows strong liquidity position of the company.

The Quick ratio showing average of 2 (1.71) which is approximately 2 times that indicates availability of quick asset against its current liability. Standard quick ratio is 1:1 and 2 are mean of selected pharmaceutical companies which show strong liquidity position. Company has enough liquidity to pay off current liability.

Return on net worth showing mean of approximately 19% (18.95%) which indicates profitability of the company, company is earning enough return on the investment made by company. Positive return on net worth shows company is capable to pay dividend from the current year earning.

Return on capital employed showing mean of approximately 18% (18.17%) which indicates company earns enough profit against the investment made in net asset. Positive return on capital employed Shows Company can pay dividend from the earning of current year.Return on asset showing mean of approximately 13% (13.03%) which indicates profit on total asset invested by the company. Positive return on asset shows company has enough capability to pay dividend from the earning of current year.

Debt equity ratio showing mean of approximately 0.25 (0.25) which indicates ratio between the amount of liability against equity. It measure companies' ability to re pay liability. Standard debt equity ratio is 1:1 and 0.5 is mean of selected pharmaceutical companies which show strong liquidity position.Retained earnings ratio showing mean of approximately 81 (81.17) which indicates company retains 81 from 100 and pays 19 as dividend from 100. Company has good opportunity to invest and grow rather to declare as dividend. It indicates good growth of company by retaining earning.

Table-2 showing summary of regression model on this basis table, researcher is able to know how much impact on dependent variable is measured by independent variable.

Table-2

A Table Showing Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.809[a]	.655	.577	10.67544
a. Predictors: (Constant), Retained earnings, Return on net worth, Earnings per share, Debt-equity Ratio, Quick Ratio, Dividend per share, Return on capital employed, Return on total assets, Current Ratio.				

The R coefficient in the above table is 0.809; it is showing significant relationship between the dividend payout ratio and all independent ratios. In this given above regression table, value of R^2 is 0.655 which is 65.5%, this indicate that model is fits to the data collected and 65.5% impact can be measured of independent variable on dependent variable.

The value of R-square is 65.5%, while the value of Adjusted R-square is 0.557.Thus, on the basis of this further analysis can be done by the researcher for the selected Pharmaceutical companies during the study period.

Table-3

A Table Showing Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8638.369	9	959.819	8.422	.000[b]
	Residual	4558.603	40	113.965		
	Total	13196.971	49			
a. Dependent Variable: Dividend payout ratio						

b. Predictors: (Constant), Retained earnings, Return on net worth, Earnings per share, Debt-equity Ratio, Quick Ratio, Dividend per share, Return on capital employed, Return on total assets, Current Ratio.

F and Sig. Value: The F-Value is 8.422. The Significant value associated with this F-value is 0.000. This Significant value is used to determine that whether the explanatory variables reliably predict the dependent variable or not.

In the above table, significance value is 0.000 which is less than 0.05 and it can be stated that the independent variables can predict the dependent variable.

This table is helps in understanding whether the regression model is fit to the collected data or not, for the purpose of checking this, ANOVA on regression is helpful. If the significance value is more than 5% (0.05% level) of significance it shows that regression model is not appropriate fit to the collected data. For which researcher need to evolve further model with the help different variable until it does not fit the model

In above table-3 Significance value is 0.000 which is less than 5% level of significance, ANOVA shows that in pharmaceutical Industry independent variable predict dependent one.

Table-4

A Table Showing Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	**(Constant)**	**58.148**	**13.367**		**4.350**	**.000**
	EPS	-.154	.116	-.243	-1.330	.191
	DPS	1.059	.481	.404	2.201	.034
	CR	-3.374	6.145	-.273	-.549	.586
	QR	2.759	8.141	.154	.339	.736
	RONW	1.644	.839	.756	1.960	.057
	ROCE	-1.084	.792	-.453	-1.369	.179
	ROA	-.745	1.222	-.259	-.609	.546
	DE	-18.282	8.224	-.371	-2.223	.032
	RE	-.449	.111	-.548	-4.060	.000

a. Dependent Variable: Dividend payout ratio

Regression Model:

Y=a+b1*x1+b2*x2+b3*x3+b4*x4+b5*x5+b6*x6+b7*x7+b8*x8+b9* x9

DPR:58.148-0.154*EPS+1.059*DPS-3.374*CR+2.759*QR+1.644*RONW-1.084*ROCE-0.745*ROA-18.282*DE-0.449*RE.

The above equation is estimate the relationship between dependent and independent variable. These estimate measure the amount of increase or decrease in DPR that would be predicated by a one value/point/unit increase in the predictor.

Earnings Per Share (EPS): The value of coefficient is -0.154, which indicates by increase in one unit of EPS, a -0.154 unit decrease in DPR was predicted, when holding all other variables are constant.

Dividend per Share (DPS): The value of coefficient is 1.059 which means, for one value of increase in dividend per share there is 1.059 value of increase in DPR is predicted when all other variable holding constant.

Current Ratio : The value of coefficient is -3.374 which means, for one value of increase in CR there is -3.374 value of decrease in DPR is predicted when all other variable holding constant.

Quick Ratio: The value of coefficient is 2.759, so for every one value increase in Quick Ratio, there is increase of 2.759 in DPR can be predicted when other variables remain constant.

Return on Net worth: the coefficient is 1.644, which shows, for every one point increase in return on net worth; a 1.644 unit's increase in DPR is predicated, holding all other variables constant.

Return on Capital employed (ROCE): The value of coefficient is -1.084, which indicates by increase in one unit of ROCE; a -1.084 unit decrease in DPR was predicted, when holding all other variables are constant.

Return on Assets (ROA): The coefficient is -0.745, so for every one unit increase in ROA, a -0.745 unit decrease in DPR is predicted. When other variables remain constant.

Debt-Equity Ratio: The value of coefficient is -18.282 which means, for one value of increase in debt-equity ratio there is -18.282 value of decrease in DPR is predicted when all other variable holding constant.

Retained earnings: The value of coefficient is -0.449, which indicates by increase in one unit of retained earnings; a -0.449 unit decrease in DPR was predicted, when holding all other variables are constant.

From table 4 above thus, as per the value of coefficient for regression it can be conclude that except DPS, QR and RONW all other ratio has negative impact on pharmaceutical industry during the study period. The inverse relationship between DPR and Debt-equity, if increase in debt than also decrease the DPR of the company.

Dividend per share, Debt-Equity and Retained earnings with coefficient of 1.059, -18.282, -0.449 respectively are significantly associated with dividend payout ratio, thus debt-equity of pharmaceutical industry is negatively associated with dividend payout ratio.

In the Table 5 given below, Pearson Correlation is calculated for this study. A positive values in the table indicate a direct proportional relationship among the variables and negative value indicates an inverse or opposite relationship among the variables.

The dividend payout ratio showing positive correlation with all ratios except Debt-equity and Retained Earing. The negative relation shows that when DE and RE are increase then DPR of the firm is decrease.

Table-5

A Table Showing Correlation

		DPR	EPS	DPS	CR	QR	RONW	ROCE	ROA	DE	RE
Pearson Correlation	DPR	1.000	.219	.528	.183	.200	.117	.134	.168	-.369	-.715
	EPS	.219	1.000	.729	.032	.136	.339	.292	.278	-.021	-.174
	DPS	.528	.729	1.000	.158	.237	.037	.050	.122	-.208	-.467
	CR	.183	.032	.158	1.000	.964	.150	.368	.515	-.551	-.426
	QR	.200	.136	.237	.964	1.000	.092	.321	.433	-.510	-.445
	RONW	.117	.339	.037	.150	.092	1.000	.906	.850	-.078	-.103
	ROCE	.134	.292	.050	.368	.321	.906	1.000	.917	-.335	-.212
	ROA	.168	.278	.122	.515	.433	.850	.917	1.000	-.478	-.208
	DE	-.369	-.021	-.208	-.551	-.510	-.078	-.335	-.478	1.000	.376
	RE	-.715	-.174	-.467	-.426	-.445	-.103	-.212	-.208	.376	1.000
Sig. (1-tailed)	DPR	.	.063	.000	.102	.082	.209	.176	.122	.004	.000
	EPS	.063	.	.000	.413	.173	.008	.020	.025	.442	.114
	DPS	.000	.000	.	.137	.048	.399	.364	.200	.073	.000
	CR	.102	.413	.137	.	.000	.149	.004	.000	.000	.001
	QR	.082	.173	.048	.000	.	.262	.012	.001	.000	.001
	RONW	.209	.008	.399	.149	.262	.	.000	.000	.296	.238
	ROCE	.176	.020	.364	.004	.012	.000	.	.000	.009	.069
	ROA	.122	.025	.200	.000	.001	.000	.000	.	.000	.074
	DE	.004	.442	.073	.000	.000	.296	.009	.000	.	.004
	RE	.000	.114	.000	.001	.001	.238	.069	.074	.004	.
N	DPR	50	50	50	50	50	50	50	50	50	50
	EPS	50	50	50	50	50	50	50	50	50	50
	DPS	50	50	50	50	50	50	50	50	50	50
	CR	50	50	50	50	50	50	50	50	50	50
	QR	50	50	50	50	50	50	50	50	50	50
	RONW	50	50	50	50	50	50	50	50	50	50
	ROCE	50	50	50	50	50	50	50	50	50	50
	ROA	50	50	50	50	50	50	50	50	50	50
	DE	50	50	50	50	50	50	50	50	50	50
	RE	50	50	50	50	50	50	50	50	50	50

From the above table correction table researcher found the relation of DPR with various selected ratio this tables show that RE has highest correlation with DPR which is -0.715 indicate negative significant relation. The DPS only indicates positive as well as significant relation with DPR which is 52.8%. This relation shows that by increasing DPS, company can increase its DPR.

RE shows negative significant relation with DPR which is 71.5%. This relation shows that by decreasing the RE, DPR of Pharmaceutical industry is also increase. This means if increasing RE than good opportunity for the development for the company.

DE Show positive significant relation with DPR which is 52.8%, this relation shows that by increasing the DE, DPR of Pharmaceutical industry is also increase. This indicates that shareholders return from its investment made by the shareholder.

Here also correlation between DPR, Retained earnings, Return on net worth, Earnings per share, Debt-equity Ratio, Quick Ratio, Dividend per share, Return on capital employed, Return on total assets and current ratio is measured by the researcher which shows the highest negative correlation of DPR with Retained earnings as well as highest positive correlation with DPS as compared to other ratio.

Hypothesis Testing:

To test the null hypothesis formulated by researcher, Pearson Correlation analysis is used. If significance value is less than 0.05 (at 5% significance level) then null hypothesis is rejected and if significance value is more than 5% significance level then null hypothesis is Not Rejected. Table given below shows the hypothesis testing.

Table-6

A Table Showing Testing of Hypothesis

Sr. No.	-	Null Hypothesis	Sig. Value	Result
1	H_0	There is no significant impact of Earning Per Share on the dividend payout ratios of selected samples.	.063	Not Rejected
2	H_0	There is no significant impact of Dividend per share on the dividend payout ratios of selected samples.	.000	Rejected
3	H_0	There is no significant impact of Current Ratio on the dividend payout ratios of selected samples.	.102	Not Rejected
4	H_0	There is no significant impact of Quick Ratio on the dividend payout ratios of selected samples.	.082	Not Rejected
5	H_0	There is no significant impact of Return on Net Worth ratio on the dividend payout ratios of selected samples.	.209	Not Rejected
6	H_0	There is no significant impact of Return on capital employed ratio on the dividend payout ratios of selected samples.	.176	Not Rejected
7	H_0	There is no significant impact of Return on assets ratio on the dividend payout ratios of selected samples.	.122	Not Rejected
8	H_0	There is no significant impact of Debt-equity ratio on the dividend payout ratios of selected samples.	.004	Rejected
9	H_0	There is no significant impact of Retained Earnings ratio on the dividend payout ratios of selected samples.	.000	Rejected

In the above given table-6 showing testing of hypothesis. First null hypothesis is not rejected which means that the EPS does not having significant impact on the DPR of the firm. The second, eighth and ninth

hypotheses is rejected which means that DPS, Debt-equity and Retained Earning has a significant impact on the DPR of pharmaceutical Industry. Third, fourth, fifth, sixth and seventh null hypothesis not rejected because significance value is more than 5% significance level (0.05) that is 0.102, 0.082,0.209, 0.176 and 0.122 respectively.

Conclusion:

This research paper aimed to examine the determinants of dividend policy as well as their impact on dividend policy of pharmaceutical industry. The research conclude that correlation among variable DPR, Retained earnings, Return on net worth, Earnings per share, Debt-equity Ratio, Quick Ratio, Dividend per share, Return on capital employed, Return on total assets and current ratio is measured by the researcher which shows the highest negative correlation of DPR with Retained earnings as well as highest positive correlation with DPS as compared to other ratio.Dividend per share, Debt-Equity and Retained earnings with coefficient of 1.059, -18.282, -0.449 respectively are significantly associated with dividend payout ratio, thus debt-equity of pharmaceutical industry is negatively associated with dividend payout ratio.

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