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

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Abstract: To examine the determinants of dividend policy of Refinery 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 correlation of DPR with ROCE as compared to other independent variable.

Introduction: Dividend policy is one of the crucial policies 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. Shareholders' 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: Refinery industry generally consider as oil refinery which play significant role in the economy of country. As the majority of modern economic activity requires fuel in respect to operate smoothly, the need of this fuel requirement is fulfill by refinery industry. The growth of refinery in reflects in the development of country. In order to achieve high rate of development, refinery industry should work efficiently. Researcher has selected five samples for the data analysis namely: Indian oil

Corporation, Oil and Natural Gas Corporation Ltd., Bharat petroleum corporation Ltd., Reliance Industries Ltd., Gail India Ltd.

Literature Review:

- **Jaspreet Kaur (1994),** Identify the prominent variable which is influencing the dividend policies of companies and to examine the validity of important in Indian condition and extent to which these variable maintain their relative dominance over the period of five years from 1990 -91 to 1994-95. The study covers four industries. The study would be analyses using statistical tool like multiple regression technique, t–test the Coefficient of determination and F-value. The study brings forth that Lintner's model has a good fit in the selected Indian industries.

- **Dr. S. Devaki and Dr. S. Kamalaveni (2012)** examined twenty five companies from hotel industry of India to analyze influence of shareholding pattern on dividend policy. The research use the data for the period of six years from 2000-01 to 2006-07. The data analyzed with the help of time model, panel data and fixed effect firm model and, after used statically techniques research found that time changing factors have less influence on dividend policy. According to their analysis, institutional shareholdings play a crucial role in determining dividend policy than other shareholders' fund.

- **Deepa Bisht , L.K.Singh and P.C.Kavidal (2015),** This study focus on determinants of corporate dividend policy of Indian corporate companies listed on BSE 200 for the period of 2009-2013. The study uses combine evaluation for analyzing the variable that have an impact on dividend decision of the firm viz. firm size, equity per share price , debt equity ratio, profitability coefficient, growth, accumulated earning, percentage of dividend distribution. These factors were then subjected to multiple regression with the dividend rate as the dependent variable. Findings of the study reveal that there was a direct relationship between dividend and profitability the results of the study shows that there was no meaningful relationship between the dividend policy and a company's size and rate of retained earnings.

- **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.

- **Dr.Vinay kandpal and prof. p.c. kavidayal (2015),** To analyzed the dividend behavior of corporate firms and focused on Indian cotton textile industry and manufacturing sector. To analyzed the effect dividend policy on shareholders wealth of 30 selected Indian banks listed and traded in Bombay stock exchange. The analysis is based the financial data from the period 2003-04 to 2012-13. The data would be analyzed using statistical tools like multiple regression techniques, t test, the coefficient of determination and F-value. The results of the data analysis might reveal that there is a significant effect 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.

> **Debt to Equity Ratio**

Debt equity ratio (capital structure) can be considered as another feature which has a strong impact on dividend payout ratios. Karampal and Puja (2007), the demand for external finance by the firms usually arises on account of constraints imposed by its internal resources since the firms cannot continue with the investment opportunities with the limited internal resources. The demand for borrowing will be lesser if the internal flows are given for investment requirements, and vice-versa. The debt equity ratio is expected to be positively relation with dividend payout per share.

> **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

	Mean	Std. Deviation	N
DPR	30.1162	13.48669	50
EPS	39.3488	22.91838	50
DPS	12.0228	7.19704	50
CR	1.1178	.35834	50
QR	.7844	.40016	50
RONW	14.3760	5.35077	50
ROCE	11.0000	4.66201	50
ROA	6.8358	3.07774	50
DE	.5218	.47655	50
RE	66.3864	18.09684	50

The given above table-1 showing descriptive statistics of selected refinery companies for the ten years which is 2008-09 to 2017-18. Dividend payout ratio showing mean of approximately

30%(30.12%). This indicates that selected refineries companies pays dividend of 30 out of 100 and retains 70 out of 100 from the earning after tax.

Earning per share showing mean approximately Rs.39 (Rs.39.35). This indicates that the company earns Rs.39 per share from the investment made by company. Dividends per share showing mean approximately Rs.12 (Rs.12.02). 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.

The average of Current for the selected refinery company is 1.12 which is indicates availability of current asset against its current liability. Standard current ratio is 2:1 and 1 is mean of selected refineries a company which shows weak liquidity position. Quick ratio showing mean of approximately 1 (0.78) which indicates availability of quick asset against its current liability. Standard quick ratio is 1:1 and 1 is mean of selected refineries a company which shows good liquidity position. Company has enough liquidity to pay off current liability.

Return on net worth showing average of 14% (14.38%) 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 11% (11%) 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 7% (6.84%) which indicates profit on total asset invested by the company. Positive return on asset shows companies have enough capability to pay dividend from the earning of current year.

Debt equity ratio showing mean of approximately 0.5 (0.52) which indicates ratio between the amount of liability against equity. It measure companies' ability to repay liability. Standard debt equity ratio is 1:1 and 0.5 is mean of selected refineries companies which show enough liquidity availability. Retained earnings ratio showing mean of approximately 66 (66.39) which indicates company retains 66 from 100 and pays 34 as dividend from 100. Companies have good opportunity to invest and grow rather to declare as dividend. It indicates good growth of company by retaining earning.

Table-2

A Table Showing Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.906[a]	.821	.781	6.31598
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.				

Table- 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. The R coefficient is 0.906; 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 0.821 which is 82.1%, this indicate that model is fits to the data collected and 82.1% impact can be measured of independent variable on dependent variable.

The value of R-square is 82.1%, while the value of Adjusted R-square is 0.781. In the regression model summery table, value of adjusted R^2 shows the expected impact of independent variables on dependent variable in more efficient manner.

Thus, on the basis of this further analysis can be done by the researcher for the selected refinery companies during the study period.

Table: 3

A Table Showing Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7316.987	9	812.999	20.380	.000[b]
	Residual	1595.662	40	39.892		
	Total	8912.649	49			
a. Dependent Variable: DPR						
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 20.380. The Significant value associated with this F-value is 0.000. This Significant value is used to determine that whether the independent variables reliably predict the dependent variable or not.

The significant value is compared with the alpha level (level of significance which is generally 0.05) and if smaller, it can be conclude that the predictors can be used to give a good indicator of performance since the significance value is less than 0.05.

In the above table, significance value is 0.000 which is less than 5% significance 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-5.5 Significance value is 0.000 which is less than 5% level of significance, ANOVA shows that in Refinery 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)	17.318	7.494		2.311	.026
	EPS	-.542	.057	-.922	-9.479	.000
	DPS	1.779	.262	.949	6.787	.000
	CR	-2.945	8.218	-.078	-.358	.722
	QR	3.112	9.255	.092	.336	.738
	RONW	-.804	.683	-.319	-1.177	.246
	ROCE	.600	.494	.207	1.214	.232
	ROA	1.245	1.287	.284	.968	.339
	DE	5.949	4.259	.210	1.397	.170
	RE	.105	.071	.141	1.474	.148
a. Dependent Variable: DPR						

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

DPR: 17.318-0.542*EPS+1.779*DPS-2.945*CR+3.112*QR -0.804 *RONW+0.600 *ROCE + 1.245* ROA +5.949 *DE +0.105 * RE

The below 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.

Earning Per Share (EPS) : The value of coefficient is -0.542, which indicates by increase in one unit of EPS, a -0.542 unit decrease in DPR was predicted, when holding all other variables are constant.

Dividend per Share (DPS): The value of coefficient is 1.779 which means, for one value of increase in dividend per share there is 1.779 value of increase in DPR is predicted when all other variable holding constant.

Current Ratio: The Coefficient (parameter estimate) is -2.945, which indicates that for one value increase in current ratio, a -2.945 value, that means decrease of -2.945 value in DPR is predicated, where all other variables are assume to be constant.

Quick Ratio: The value of coefficient is 3.112, so for every one value increase in Quick Ratio, there is increase of 3.112 in DPR can be predicted when other variables remain constant.

Return on Net worth: the coefficient is 3.112, which shows, for every one point increase in return on net worth, a 3.112 units increase in DPR is predicated, holding all other variables constant.

Return on Capital employed (ROCE): The value of coefficient is 0.600, which indicates by increase in one unit of ROCE; a 0.600 unit increase in DPR was predicted, when holding all other variables are constant.

Return on Assets (ROA): The coefficient is 1.245, so for every one unit increase in ROA, a 1.245 unit increase   in DPR is predicted. When other variables remain constant.

Debt-Equity Ratio: The value of coefficient is 5.949 which means, for one value of increase in debt-equity ratio there is 5.949 value of increase in DPR is predicted when all other variable holding constant.

Retained earnings: The value of coefficient is 0.105, which indicates by increase in one unit of ROCE; a 0.105 unit increase in DPR was predicted, when holding all other variables are constant.

From the above table the researcher found that the all the selected ratio has some impact on DPR due to which the change of DPR can be measured with the help of different ratio. From the table nine are independent variable, thus dividend per share. Quick ratio , return on capital employed, return on assets, debt- equity ratio and retained earnings have positive coefficient whist Earning per share, current ratio and return on net worth are negative associated with dividend payout ratio.

From the table, constant term with estimate of 17.318 is statically significantly 5% level. Earnings per share and dividend per share with coefficient -0.542 and 1.779 respectively are significantly associated with dividend payout ratio. Moreover, among quick ratio, return on capital employed, return on assets debt-equity ratio and retained earnings show positive relation with dividend payout ratio, but they are not significant. On other hand, current ratio and return on net worth show negative relation with negative association with dividend payout ratio, but the relationship were not statically significant at 5% level of significance.

These depict that the main determinants of dividend policy in the refinery industries is Dividend per share. Thus, a unit in dividend per share in the refinery industry increase dividend payout ratio by 1.77.

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.

From the below table-5 correlation table research found the relation of DPR with different selected ratios this table show that ROCE has highest correlation with the DPR which is 0.498 indicate significant positive relation, the second highest correlation with the DPR is -0.462 indicate significant negative relation. In this table EPS, ROCE, RE and DPS show the significant impact on the DPR.

The DPS, RONW, ROCE and ROA are positive relation with DPR which is 42.9%, 36.2%, 49.8% and 23.2% respectively. This means if company increase ROCE and RONW as well as measured the efficiency with which the investment made by the shareholders of the company and creditors is used in this, if company increase these ratios than DPR is also increase.

Table-5

A Table Showing Correlation

		DPR	EPS	DPS	CR	QR	RONW	ROCE	ROA	DE	RE
Pearson Correlation	**DPR**	1.000	-.462	.429	-.086	-.035	.362	.498	.232	-.028	-.451
	EPS	-.462	1.000	.501	.148	.072	.312	.062	.075	.035	.337
	DPS	.429	.501	1.000	-.005	-.041	.695	.578	.269	.022	-.242
	CR	-.086	.148	-.005	1.000	.930	.088	.007	.479	-.495	.297
	QR	-.035	.072	-.041	.930	1.000	.089	.072	.602	-.632	.183
	RONW	.362	.312	.695	.088	.089	1.000	.852	.701	-.239	-.134
	ROCE	.498	.062	.578	.007	.072	.852	1.000	.703	-.396	-.369
	ROA	.232	.075	.269	.479	.602	.701	.703	1.000	-.767	-.123
	DE	-.028	.035	.022	-.495	-.632	-.239	-.396	-.767	1.000	.114
	RE	-.451	.337	-.242	.297	.183	-.134	-.369	-.123	.114	1.000
Sig. (1-tailed)	**DPR**	.	.000	.001	.277	.403	.005	.000	.052	.423	.001
	EPS	.000	.	.000	.153	.310	.014	.335	.303	.405	.008
	DPS	.001	.000	.	.486	.388	.000	.000	.030	.439	.045
	CR	.277	.153	.486	.	.000	.272	.481	.000	.000	.018
	QR	.403	.310	.388	.000	.	.270	.311	.000	.000	.102
	RONW	.005	.014	.000	.272	.270	.	.000	.000	.047	.176
	ROCE	.000	.335	.000	.481	.311	.000	.	.000	.002	.004
	ROA	.052	.303	.030	.000	.000	.000	.000	.	.000	.198
	DE	.423	.405	.439	.000	.000	.047	.002	.000	.	.215
	RE	.001	.008	.045	.018	.102	.176	.004	.198	.215	.
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

Both liquidity ratio is CR and QR show negative relation but not significant. A retained earnings is negative significant relation with the dividend payout ratio which is 45.1%.

Earnings per share and Retained on net worth negative relation as well as significant relation with which is -0.462 and -0.451 respectively. This relation shows that by decreasing the EPS and RE, DPR of the refinery industry is also increase. This means if increasing earning capacity of the company than retained earning good opportunity for the expanse of the business.

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 correlation of DPR with ROCE 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.	.000	Rejected
2	H_0	There is no significant impact of Dividend per share on the dividend payout ratios of selected samples.	.001	Rejected
3	H_0	There is no significant impact of Current Ratio on the dividend payout ratios of selected samples.	.277	Not Rejected
4	H_0	There is no significant impact of Quick Ratio on the dividend payout ratios of selected samples.	.403	Not Rejected
5	H_0	There is no significant impact of Return on Net Worth ratio on the dividend payout ratios of selected samples.	.005	Rejected
6	H_0	There is no significant impact of Return on capital employed ratio on the dividend payout ratios of selected samples.	.000	Rejected
7	H_0	There is no significant impact of Return on assets ratio on the dividend payout ratios of selected samples.	.052	Not Rejected
8	H_0	There is no significant impact of Debt-equity ratio on the dividend payout ratios of selected samples.	.423	Not Rejected
9	H_0	There is no significant impact of Retained Earnings ratio on the dividend payout ratios of selected samples.	.001	Rejected

In the above given table-6 first, second, fifth, sixth and ninth hypothesis is rejected which means that Earnings per share, Dividend per share, Return on Net worth, Return on capital Employed, Retained Earing having impact on Dividend payout ratio of the Refinery Industry. Third, fourth, seventh and eighth null hypothesis not rejected because significance value is more than 5% significance level (0.05) that is 0.277, 0.403, 0.052, 0.423 respectively. Thus current ratio and quick ratio does not having significant impact on DPR of the company.

Conclusion:

This research paper aimed to examine the determinants of dividend policy as well as their impact on dividend policy of Refinery 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 correlation of DPR with ROCE as compared to other independent variable. From the table-4 , constant term with estimate of 17.318 is statically significantly 5% level. Earnings per share and dividend per share with coefficient -0.542 and 1.779 respectively are significantly associated with dividend payout ratio. These depict that the main determinants of dividend policy in the refinery industries is Dividend per share. Thus, a unit in dividend per share in the refinery industry increase dividend payout ratio by 1.77.

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