

Financial Reforms of the Pharmaceutical Sector: A Present Indian Scenario

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Abstract

The study on financial reforms of the pharmaceutical sector, but in this paper discussed only the dividend related issue and reforms, on Impact of Dividend Payout on Firm's Financial Performance, on pharmaceutical Sector in India. And the objectives of this study are investigate the relationship between dividend pay-out (net profit) and investigate the relationship between dividend pay-out (cash profit) and company's performance. In this two model used, in the first model the predicted or depend variable is return on assets and predictor or in depend and variable. Constant part is 125.923 in the whole model and x_1 represent the dividend pay-out on the net profit is positively influence to the ROA. On the other hand, x_2 means the dividend pay-out on cash profit is not influence to the ROA. And in second model the predicted or depend variable is net profit margin and predictor or in depend and variable. Constant part is 18.82 in the whole model and x_1 represent the dividend pay-out on the net profit is not influence to the NPM. On the other hand, x_2 means the dividend pay-out cash profit is positively influence to the NPM.

1. Introduction

Dividend policy is a controversial factor for the outsider and decision maker of the company. The lot of academicians had been proved that the determinants of the dividend must be affected on the firm performance. In initially Modigliani and Miller thought about two empirical schools of thought on the dividend policy. Firstly they conclude with the help of few experiments, the dividend policy had irrelevance to the firm's performance. On the other hand, the second school of thought had been express that dividend policy had a relevant to the firm's performance, it may positive or negative.

The amount of profit of a company made available for the distribution among its share holder is called dividend. The dividend may be fixed annual percentage of paid-up capital as in the case of preference shares or it may vary according to the prosperity of the company as in the case of ordinary share. The decision for distributing or paying a dividend is taken in the meeting of Board of Director and is

conformed generally by the annual general meeting of the shareholder. The economic soundness company is generally judge by the amount of dividend declared paid by it by the shareholder. Dividends are cash payments made to stockholders. Decisions about when and how much of earnings should be paid as dividends are part of the firm's dividend policy. Earnings that are paid out as dividends cannot be used by the firm to invest in projects with positive net present values—that is, to increase the value of the firm.

Researchers argue whether there exists an optimal dividend policy. Some academicians argue that a firm's dividend policy does not affect the value of a firm (dividend irrelevance theory); while other argues that the dividend policy is an important factor in the determination of a firm's value (dividend relevance theory).

Dividend is a part of distribution among the shareholder. The basic question before the Board of Director is how much profit should be divided among the share holder the future expansion and distribution of dividend are desirable but two aims are conflict. Hence, allocation of dividend pay - out on the base of net profit and on the base on cash profit.

This study on the financial performance of a company based on the dividend payout, the common thing we know that the company paid dividend two ways: a. dividend payout on the based on net profit and b. dividend payout in the based on cash profit. Dividend pay-out is a controversial point between net profit and cash profit from the point of view of the outsider and decision maker of the company. There are conflicting theories of dividend theories regarding the impact of dividend pay-out decision on the value on the firm with financial performance.

2. Research Questions

Dividend distribution is an important part of the firm; few researchers said that dividend distribution had an effect on firm's performance. On the other hand few researchers said that dividend distribution had not any effect on firm's performance. In this study the question is in case of pharmaceutical company in India, the distributions of dividend have any effect on firm's performance. The purpose of this study only to investigate the relationship of distribution of dividend and firm's performance of pharmaceutical company based on listed to the Bombay Stock Exchange (India).

3. Literature Review with Past Studies on Relationship

1. Mehdi Moradi, Mahdi Salehi & Shahnaz Honarmand (2010) studied on the factor affecting dividend policy and empirical evidence on IRAN. They fitted a model and examine the effects of dividends in relation to profitability, size, and beta rate, the rate of retained earnings, P/E, and debt ratio. They consider the period 2008 from 2008 and sample selected all companies listed in Tehran stock exchange. They showed that relationship between dividend and profitability, reverse relationship of these factors with P/E, beta rate and debt

ratio and furthermore, the results of the study show that there is no meaningful relationship between the dividend policy and a company's size and rate of retained earnings.

2. Pandey (2001) scrutinize the dividend payment behavior in Malaysia. He used sample 248 listed corporations in and time period from 1993 to 2000, included building industries, consumer products, industrial products, agricultural products, real estate, and service enterprises. They found that dividend payment ratios among different industries are different in Malaysia. His finding supported that profitability, firms' size and investment opportunities affect dividend payments, also suggested that larger and more profitable companies pay higher dividends.
3. Arnott and Ashess (2002) found out that relationship between the growth in dividends and revenues. They conclude why the dividend payment ratio decreased but price/earnings per share ratio continued to increase from 1995. The study reported that lower dividend payment ratio and higher price earnings per share ratio (EPS) showed the future growth in revenues.
4. Velnamby.T(2013) studied on the corporate governance and firm performance and used samples of 28 manufacturing companies and times periods of 2007 – 2011 state that determinants of business ethic not correlated to the performance measures of the company. Regression model signify that corporate governance don't affect companies' performance (ROE and ROA).
5. Velnamby.T and Nimalathasan, B. (2009) studied on the relation between organizational growth and profitability of Commercial bank in Sri Lanka the period of the studies 10 years from 1997 to 2006. They found that, sales are positively associated with profitability ratios except operating profit, return on equity and number of depositors are negatively correlated to the profitability ratios except operating profit and return on equity. Likewise, number of advances is also negatively correlated to the return on average shareholders' funds.
6. Amidu (2007) studied on the dividend policy affects firm performance which is measured by the return on assets (ROA). The studied showed that the significant relationship between return on assets (ROA), return on equity (ROE), growth in sales and dividend policy. The results showed that a statistically significant relationship between profitability and dividend payout ratio.
7. Howatt et al. (2009) concluded that positive fluctuated in dividends are associated with positive future changes in earnings per share.

4. Objectives of Study

The objectives of studies are:

- To investigate the relationship between dividend pay-out (net profit) and company's performance

- To investigate the relationship between dividend pay-out (cash profit) and company's performance.
- To examine which one is more effective between cash and net profit dividend for company's performance.

5. Significance of Study

In India few studies have analyzed the relationship between the company's performance and dividend pay-out. Net earnings are divided into two parts – on the based on cash profit and on the base on net profit. The retained earnings of the business may be reinvested and treated as a source of long-term funds. The dividend should be distributed to the shareholders in order to maximize their wealth as they have invested their money in the expectation of being made better off financially. Therefore, the present study mainly analyses how far the level of dividend payout affects the shareholders' wealth, particularly in pharmaceutical company in India.

6. Research Methodology

- Dependent Variables

In this study for the objective of investigate the financial performance affected by the dividend pay-out. So, selected two financial measurement tools first is a return on assets (ROA) and second tools is a net profit margin (NPM).

- Independent Variables

For the purpose of simplifying interpretation in our study used the log value of each observation 1. Log of Dividend payout on net profit 2. Log of Dividend payout on cash profit 3. Log difference of Dividend payout on net profit .4 Log difference of dividend payout on cash profit.

- Models for this Study

MODEL-1

$$ROA_{it} = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \varepsilon_i \text{ ----- (1)}$$

ROA= return of assets

α = constant of the model

β =coefficient of independent variable

x_1 = Log of Dividend payout on net profit (1_DPONP)

x_2 = Log of Dividend payout on cash profit (1_DPOCP)

x_3 = log difference of Dividend payout on net profit (ld_DPONP)

x_4 = Log difference of dividend payout on cash profit (ld_DPOCP)

t= time 14 years i=no. of independent variable

MODEL-2

$$NPM_{it} = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon_i \text{ -----(2)}$$

NPM= net profit margin

α = constant of the model

β =coefficient of independent variable

x_1 = Log of Dividend payout on net profit (1_DPONP)

x_2 = Log of Dividend payout on cash profit (1_DPOCP)

x_3 = log difference of Dividend payout on net profit (ld_DPONP)

x_4 = Log difference of dividend payout on cash profit (ld_DPOCP)

t= time 14 years i=no. of independent variable

- Sample and Data Collection and Period of the Study

The study used only secondary data which are collected from BSE in moneycontral web side. Analytical method is used for interpreting the data. The data collected from this source have been compiled and used with due care as per the requirements of the study

Originally the sample for this study has been planned to choose from the list of companies listed in Bombay Stock Exchange (NSE). Since the number of companies listed in the BSE has been chosen 5 companies according to the highest total assets from 172 listed companies in BSE.

The data used for the analysis are relating to the selected pharmaceutical Companies for the period of Ten years (2004-2017).

- Hypothesis Development

H01: There is no relationship between dividend pay-out (cash profit) and firm’s financial performance (NPM).

H02: There is no relationship between dividend pay-out (net profit) and firm’s financial performance (ROA).

7. Results and Findings

7.1. Summery Statistic:

Table-1: Summary Statistics, using the observations 1:01 - 5:14
 (Missing values were skipped)

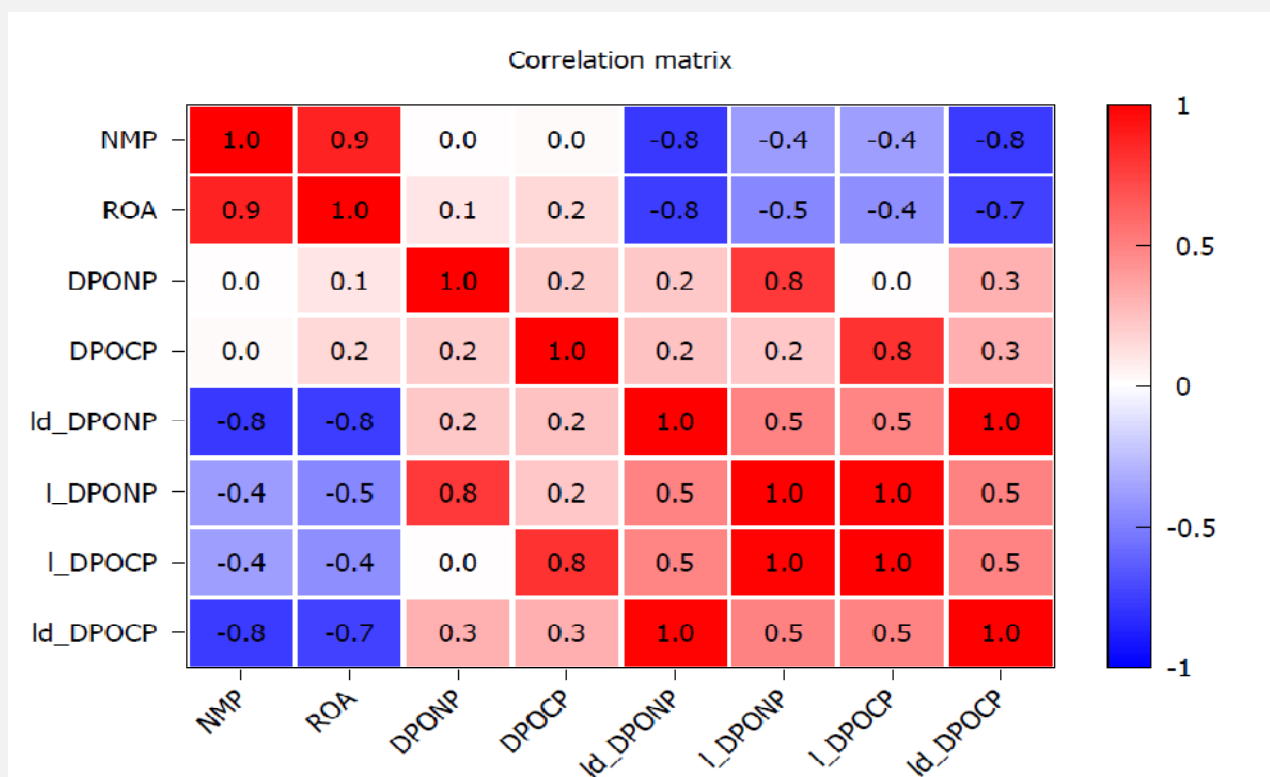
Variable	Mean	Median	Minimum	Maximum
NPM	38.426	16.820	-99.990	1583.5
ROA	12.032	12.270	-20.440	98.100
DPONP	9.6707	18.340	-688.60	231.02

DPOCP	9.4819	14.600	-308.38	145.81
ld_DPONP	0.024629	0.089203	-5.0042	2.7989
l_DPONP	2.8925	2.9922	0.43825	5.4425
l_DPOCP	2.7148	2.8006	0.43178	4.9823
ld_DPOCP	0.0057683	0.093989	-4.5505	2.6161
Variable	Std. Dev.	C.V.	Skewness	Ex. kurtosis
NMP	188.32	4.9008	8.0533	63.629
ROA	12.696	1.0552	4.2135	28.872
DPONP	95.997	9.9266	-5.6022	39.158
DPOCP	52.887	5.5777	-3.7931	20.514
ld_DPONP	0.86848	35.263	-2.9320	19.267
l_DPONP	0.82187	0.28414	0.054692	1.8902
l_DPOCP	0.76466	0.28167	-0.077376	1.5187
ld_DPOCP	0.80629	139.78	-2.7390	17.914
Variable	Missing obs.			
NMP	0			
ROA	0			
DPONP	0			
DPOCP	0			
ld_DPONP	12			
l_DPONP	6			
l_DPOCP	6			
ld_DPOCP	13			

Above table showed the summery statistic of our study where the mean value of the variable, such as Net Profit Margin is 38.426 and median value is 16.820 and also showed the minimum value, maximum, stander deviation, coefficient of variance, skewness and kurtosis values are: 16.820,-99.990, 1583.5, 188.32, 4.9008, 8.0533 and 63.629. And the other hand showed the missing value of the each observation. In this study used five company and period is fourteen years, summery statistic showed that the mean value and stander deviation is a big gap and coefficient of variance is small, so in the data set the values of observation clearly fulfilled the objective of this study. In another conclusion while convert the log and log difference of the observation values automatically negative value are omitted in our calculation so missing value are showed in this study.

Table-2

a. Correlation Matrix



In the table-2 showed the correlation between the variable which consider in this study. In general this study consider the different tolls of financial statement of the company such as; Net Profit Margin (NPM) and Return On Assets (ROA) those variable measure the financial performance of the company, on the other side Dividend Pay- out Ratio on the base of net profit (DPONP) and Dividend pay-out ratio on the based on cash profit (DPOCP) and other four variables are constructed for the study with the help of mathematical tolls of log and log difference. With the help of econometrical software formed a correlation matrix which clearly presents the relationship among the variable between measurement scales of +1 to -1. In table -2 the relation of association between the ROA and DPOC is 0.2 between the +1 to -1.

b. Model 1: Table-3

Pooled OLS, using 57 observations

Included 5 cross-sectional units (57*5=285 data)

Time-series length: minimum 9, maximum 13

Dependent variable: NPM

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
Const	125.923	89.4438	1.408	0.1651	
I_DPONP	64.0223	215.861	0.2966	0.7680	

l_DPOCP	-95.8616	219.994	-0.4357	0.6648	
ld_DPONP	-388.111	259.834	-1.494	0.1413	
ld_DPOCP	231.219	277.608	0.8329	0.4087	
Mean dependent var	47.64965		S.D. dependent var	207.3005	
Sum squared resid	902283.6		S.E. of regression	131.7255	
R-squared	0.625066		Adjusted R-squared	0.596225	
F(4, 52)	21.67281		P-value(F)	1.44-10	
Log-likelihood	-356.4640		Akaike criterion	722.9281	
Schwarz criterion	733.1433		Hannan-Quinn	726.8981	
Rho	0.293338		Durbin-Watson	0.914321	

In the table-3, used the pool ordinary lest square model for the purpose of knowing the impact and relation of association between the respondent variable and predicted variable. The regression model is a Respondent = predicted + error, in his study the respondent variable is net profit margin(NPM) of the company and predicted variable are log and log difference of DPONP and DPOCP. On the other hand dependent variable NPM and independent variables is log and log difference of DPONP and DPOCP. In this model R-squared vale is 0.625 it's a more than the 0.5 means the statistically the model is good explain the regressed and repressor. The table-3 gives some descriptive statistics. The R^2 (the coefficient of determinants) vale =0.625 means about 62% of the variation in NPM is explained by the variation of the explanatory variable. It might be seen that this R^2 vales is rather high, but it keep it mind that we have 285 data observation with varying values of the regressand and regressor. This part also gives the adjusted R^2 value, which are high then the unadjusted R^2 value. Since, we are not comparing our NPM model, the adjusted R^2 is not of particular importance.

In this study the hypothesis that all that all the coefficient in the NPM regression are simultaneously equal near the zero. In the present study this F vale (21.67281) this null hypothesis can be rejected because P value (1.44-10) is very low. In our study suggest that all explanatory variables have an impact on dependent variable. so, first hypothesis is accepted according to the statistic calculation.

The table-3 also list several statistics, such as Akaike criteria, Schwarz criterion and Hannan-Quinn (722.9281, 733.1433 and 726.8981)which are choose among the competing models, Durbin-Watson statistic (0.914321) which is measure of the correlation in the error terms, and the Log-likelihood statistic (-356.4640), which is useful if we used Maximum Likelihood method.

The table -3, shows that the variables log of Dividend payout on net profit, l_DPONP its coefficient value about(64.0), the stander error of the coefficients value (215.861), the t statistic of each coefficient value

(0.2966), which is simply the ratio of the estimated coefficient divided by the standard error and the p value (0.7680) or exact the level of significant of t statistic. For the coefficient, the null hypothesis is that the population value of the coefficient is bigger than the zero. That is, the particular regressor has influence on the regressand, after holding the other regressor value constant.

On the other hand, The table -3, shows that the variables log of Dividend payout on cash profit, *l_DPONP* its coefficient value about(-95.8616), the standard error of the coefficients value (219.994), the t statistic of each coefficient value (-0.4357), which is simply the ratio of the estimated coefficient divided by the standard error and the p value (0.6648) or exact the level of significant of t statistic. For the coefficient, the null hypothesis is that the population value of the coefficient is bigger than the zero. That is, the particular regressor has influence on the regressand, after holding the other regressor value constant.

7.4. Model 2: Table-4

Pooled OLS, using 57 observations
 Included 5 cross-sectional units (57*5=285 data)
 Time-series length: minimum 9, maximum 13
 Dependent variable: ROA

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
Const	18.8293	5.51216	3.416	0.0012	***
<i>l_DPONP</i>	-10.6289	13.3029	-0.7990	0.4279	
<i>l_DPOCP</i>	9.67610	13.5576	0.7137	0.4786	
<i>ld_DPONP</i>	-10.7293	16.0128	-0.6700	0.5058	
<i>ld_DPOCP</i>	0.836421	17.1082	0.04889	0.9612	

Mean dependent var	14.39930	S.D. dependent var	12.20970
Sum squared resid	3426.783	S.E. of regression	8.117861
R-squared	0.589523	Adjusted R-squared	0.557948
F(4, 52)	18.67050	P-value(F)	1.44e-09
Log-likelihood	-197.6248	Akaike criterion	405.2496
Schwarz criterion	415.4648	Hannan-Quinn	409.2196
Rho	0.423654	Durbin-Watson	0.813369

*** means of 10% level of significant

In the table-4, used the pool ordinary least square model for the purpose of knowing the impact and relation of association between the respondent variable and predicted variable. The regression model is a Respondent = predicted + error, in his study the respondent variable is Return on Assets (ROA) of the

company and predicted variable are log and log difference of DPONP and DPOCP. On the other hand dependent variable ROA and independent variables is log and log difference of DPONP and DPOCP. In this model R-squared value is 0.59 it's a more than the 0.5 means the statistically the model is good explain the regressed and regressor. The table-3 gives some descriptive statistics. The R^2 (the coefficient of determinants) value =0.59 means about 59% of the variation in ROA is explained by the variation of the explanatory variable. It might be seen that this R^2 value is rather high, but it keep it mind that we have 285 data observation with varying values of the regressand and regressor. This part also gives the adjusted R^2 value, which are high then the unadjusted R^2 value. Since, we are not comparing our NPM model, the adjusted R^2 is not of particular importance.

In this study the hypothesis that all that all the coefficient in the NPM regression are simultaneously equal near the zero. In the present study this F value (18.67050) this null hypothesis can be rejected because P value (1.44-9) is very low. In our study suggest that all explanatory variables have an impact on dependent variable. So, first hypothesis is accepted according to the statistic calculation.

The table-4 also list several statistics, such as Akaike criteria, Schwarz criterion and Hannan-Quinn (405.2496, 415.4648 and 409.2196)which are choose among the competing models, Durbin-Watson statistic (0.813369) which is measure of the correlation in the error terms, and the Log-likelihood statistic (-197.6248), which is useful if we used Maximum Likelihood method.

The table -4, shows that the variables log of Dividend payout on net profit, l_DPONP its coefficient value about(-10.62), the stander error of the coefficients value (13.30), the t statistic of each coefficient value (-0.7990), which is simply the ratio of the estimated coefficient divided by the stander error and the p value (0.4279) or exact the level of significant of t statistic. For the coefficient, the null hypothesis is that the population value of the coefficient is less than the zero. That is, the particular regressor has influence on the regressand, after holding the other regressor value constant.

On the other hand, The table -4, shows that the variables log of Dividend payout on cash profit, l_DPONP its coefficient value about(9.67), the stander error of the coefficients value (13.55), the t statistic of each coefficient value (.71), which is simply the ratio of the estimated coefficient divided by the stander error and the p value (0.48) or exact the level of significant of t statistic. For the coefficient, the null hypothesis is that the population value of the coefficient is bigger than the zero. That is, the particular regressor has influence on the regressand, after holding the other regressor value constant.

7.4.1 Diagnostic test of pool model-2:

	Coefficient	Std. error	t-ratio	p-value
Const	43.6422	6.19572	7.044	6.30e-09 ***
l_DPONP	-40.4282	13.8802	-2.913	0.0054 ***

ld_DPONP	4.25109	14.5753	0.2917	0.7718
l_DPOCP	31.8989	14.1117	2.260	0.0284 **
ld_DPOCP	-10.7859	15.5690	-0.6928	0.4918

using $n = 5$ cross-sectional units, Fixed effects estimator allows for differing intercepts by cross-sectional unit, Residual variance: $1874.14 / (57 - 9) = 39.0445$, Joint significance of differing group means $F(4, 48) = 9.9415$ with p-value $6.08925e-006$ (A low p-value counts against the null hypothesis that the pooled OLS model is adequate, in favor of the fixed effects alternative.) Omitting group means regression: insufficient degrees of freedom.

7.4.2. Test of overall significance of the regression model-2

	Sum of squares	df	Mean square
Model	4921.52	4	1230.38
Residual	3426.78	52	65.8997
Total	8348.3	56	149.077

$$R^2 = 4921.52 / 8348.3 = 0.589523$$

$$F(4, 52) = 1230.38 / 65.8997 = 18.6705 \text{ [p-value } 1.44-009]$$

8. Conclusion

The study on financial reforms of the pharmaceutical sector, but in this paper discussed only the dividend related issue and reforms, on Impact of Dividend Payout on Firm's Financial Performance, on pharmaceutical Sector in India. And the objectives of this study are investigate the relationship between dividend pay-out (net profit) and investigate the relationship between dividend pay-out (cash profit) and company's performance. To examine which one is more effective between cash and net profit dividend for company's performance. In the model-1, represent the first objective of the study;

$$ROA_{it} = (125.923) + (64.0223)x_1 + (-95.8616)x_2 + (-388.111)x_3 + (231.219)x_4 + \epsilon_i \text{ ----- (1)}$$

In this model the predicted or depend variable is return on assets and predictor or in depend and variable. Constant part is 125.923 in the whole model and x_1 represent the dividend pay-out on the net profit is positively influence to the ROA. On the other hand, x_2 means the dividend pay-out on cash profit is not influence to the ROA.

$$NPM_{it} = (18.82) + (-10.6289)x_1 + (9.67610)x_2 + (-10.7293)x_3 + (0.8364)x_4 + \epsilon_i \text{ ----- (2)}$$

above the model the predicted or depend variable is net profit margin and predictor or in depend and variable. Constant part is 18.82 in the whole model and x_1 represent the dividend pay-out on the net profit is not influence to the NPM. On the other hand, x_2 means the dividend pay-out cash profit is positively influence to the NPM.

Finally, we conclude that in our study we took two financial measurement tools are; ROA and ROE and predictor variable are; dividend pay-out on the net profit and dividend pay-out on cash profit. Showed that one is positive and another is negative impact on company's performance. According to the study, the statistic statement that the dividend pay- out have a significant impact on firm *financial* performance.

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