

Determinants of Dividend Payout Policy: Evidence from LQ 45 Companies

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Abstract. Dividend payout policy determines the decision of the dividend distribution to the shareholders is an important issue for both the investor and the firm. Income investors tend to buy shares of companies who regularly distribute dividend. On 2018, LQ 45 index as one of the most attractive indexes in Indonesia recorded that 75.5% of LQ 45 companies distributed dividend. Therefore, in order to provide useful investment consideration for income investor, this research will identify the determinants of dividend payout policy in LQ 45 companies. This research employed Dividend Payout Policy measured by Dividend per Share as the dependent variable. The independent variables consist of Leverage measured by Debt to Asset Ratio, Liquidity measured by Current Ratio, Profitability measured by Return on Equity, and Firm Size measured by Total Asset. The sample of this research is taken using purposive sampling. It consists of 19 companies listed in LQ 45 index February - July 2019 period with time horizon from 2009 to 2018. Panel data regression is applied to analyze the data. Estimation model test is held which resulted in Fixed-Effect Model. Classical assumption test is held before running the regression. The data analysis is done by using Stata 14.2. T-test and F-test with confidence interval of 95% are conducted to test the hypothesis. T-test result shows the significant positive relationship between profitability and firm size towards dividend payout policy. This implies that LQ-45 firms with higher profitability and larger firm size tend to distribute more dividend. F-test result implies that all independent variables simultaneously affect dividend payout policy. The adjusted R² value of the model is 0.8569 which indicates that 85.69% of the variability in the dependent variable can be explained by the independent variables while the remaining 14.31% is explained by other variables which are not included in this research.

Keywords: 1 Dividend Payout Policy · 2 Leverage · 3 Liquidity · 4 Profitability · 5 Firm Size

1. INTRODUCTION

One of the most important stakeholder in a company is shareholder, and they expect two kinds of return which are dividend and capital gain. Dividend is important because it could be a signal whether the company's financial performance is good or not. It also affects company's share price and the wealth of shareholders as well (Rehman, 2012). Sighania & Gupta (2012) argue that dividend payout policy determines how much of the earnings of the company is distributed as dividend and how much is retained for reinvestment. This decision related to investment decision that makes dividend payout policy important for both investors and corporation. In Indonesia, public companies are listed in Indonesia Stock Exchange and it has several stock price index in it. One of the index is LQ 45 Index which consists of 45 companies that has the highest liquidity in the market. LQ 45 companies always generate positive income which later on will be allocated into two account, retained earnings and dividend, but the decision of the allocation proportion is influenced by different factors. Paying out dividend is important both to the companies and the investors which may give advantage to avoid information asymmetry, it also maximizes shareholders wealth since LQ 45 is a notable companies and the shareholders put high expectation. However, there is debate about how the company's dividend policy can affect company value. Some researchers believe that dividends can increase shareholder welfare (Gordon, 1963). Some believe that dividends are irrelevant (Miller & Modigliani, 1961) and some believe that dividends actually reduce shareholder welfare (Litzenberger & Ramaswamy, 1979). This study aim to investigate the variables that significantly affect the dividend payout policy of LQ 45 companies period February-

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July 2019. The result would be helpful for income investors to choose a company to invest in. The limitation of this study are regards to the subject which is publicly listed company in Indonesia Stock Exchange that are included in LQ 45 index February – July 2019 period and the historical data that are derived from annual report will have the time horizon from 2009 to 2018. Quantitative method, namely panel data regression analysis will be used to examine the data and generate the analysis. The analysis would expected to be resulted the significance of dividend payout policy proxied by dividend per share with some variables: leverage proxied by debt to asset ratio, liquidity proxied by current ratio, profitability proxied by return on equity, and firm size proxied by total asset.

2. THEORETICAL FOUNDATIONS

2.1. Dividend

Dividend is the company's revenue distributed to shareholders. There are several types of dividend namely cash dividend, stock dividend, property dividend, and liquidation dividend (Darmadji & Fakhrudin, 2006).

2.2. Dividend Policy

Dividend Policy is firm's policy regarding to the form, the amount, and the frequency of dividend distribution. Some of the company's dividend policy are using the ratio of constant dividend payments, dividend per share are constant, also small and regular dividends plus extras (Van Horne & Wachowicz, 2008).

2.3. Dividend Payout Policy Theory

Dividend Irrelevance Theory

According to Miller and Modigliani, the value of the company is only determined by the profitability of the company's assets and the competency of the company's management. In formulating this theory, Miller & Modigliani assumed a perfect capital market, rational behavior of investors, and there was perfect certainty.

- Bird-in-The-Hand Theory

In bird-in-the-hand theory, it is believed that the payment of dividends increases the firm's value. In a world full of uncertainty and imperfect information, dividends are differently valued to capital gains. Investors prefer the "bird in the hand" of cash dividend than "two in the bush" future capital gains (Malkawi, Rafferty, Aldin, Michael, & Phill, 2010).

- Signaling Theory

The signaling theory states that there is an information asymmetry occurs between managers and investors. Managers or the insiders generally have better information about the company's activities and company prospects in the future (Megginson, 1997). Therefore, if the company announces a higher dividend distribution than the market anticipates, this would be interpreted as a signal that the company has a brighter prospect of financial performance in the future than expected.

- Agency Theory

Agency problem occurs because of different interests between shareholders as the principal and management as the agent which cause the rise of agency costs. Dividend can be a mitigation tool to reduce the available funds for managers to be utilized for their own interest. Therefore investors are willing to pay higher prices for firm who pay dividend regularly (Gitman & Zutter, 2015).

- Pecking Order Theory

Pecking order theory explained that the first source of financing is from retained earnings, then debt financing, and lastly external equity financing. This happens because internal financing incurs no cost while debt and equity financing incur cost of debt and cost of equity. Therefore, a firm tends to retain its excess cash to fund the company in the future rather than distributing the excess cash as dividend, thus the dividend payout would be low (Singhania & Gupta, 2012).

2.4. Conceptual Framework

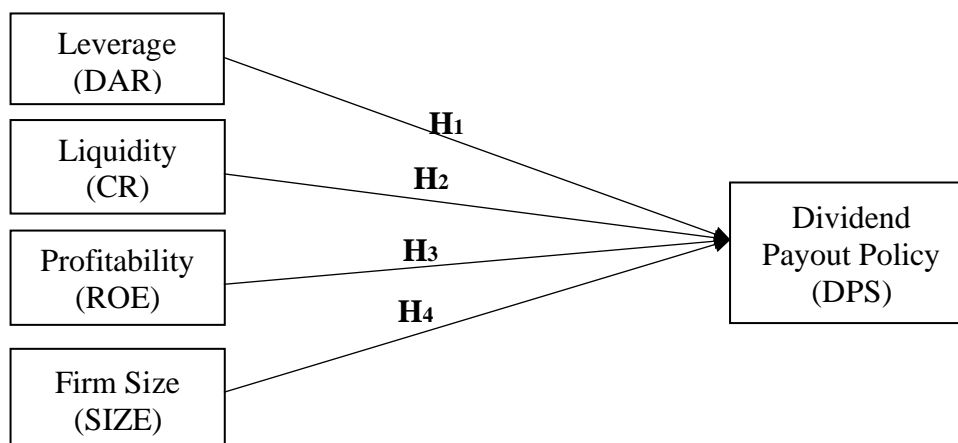


Figure 1: Conceptual Framework

2.5. Hypotheses

H₁ = Leverage has significant effect towards Dividend Payout Policy

H₂ = Liquidity has significant effect towards Dividend Payout Policy

H₃ = Profitability has significant effect towards Dividend Payout Policy

H₄ = Firm Size has significant effect towards Dividend Payout Policy

H₅ = Leverage, Liquidity, Profitability, and Firm Size simultaneously have significant effect towards Dividend Payout Policy

2.6. Variables

The dependent variable is Dividend Payout Policy proxied by Natural Logarithm of Dividend Per Share, while the independent variables consist of Leverage proxied by Debt to Asset Ratio, Liquidity proxied by Current Ratio, Profitability proxied by Return on Equity, and Firm Size proxied by Natural Logarithm of Total Assets.

Table 1: List of Variables

<i>Variable</i>	<i>Equation</i>	<i>Explanation</i>
Dividend Per Share	$\text{Dividend Per Share} = \frac{\text{Sums of dividend over a period of time}}{\text{Ordinary shares outstanding for the period}}$	The dollar amount of cash distributed to the shareholders during the period on behalf of each outstanding share of common stock. (Gitman & Zutter, 2015)
Debt to Asset Ratio	$\text{Debt to Asset Ratio} = \frac{\text{Total Debt}}{\text{Total Asset}}$	Debt to asset ratio is applied as the proxy for leverage following the research by Mui & Mustapha (2016).
Current Ratio	$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$	Liquidity refers to the solvency of firm's overall financial position—the ease with which it can pay its bills. (Gitman & Zutter, 2015)
Return on Equity	$\text{Return on Equity} = \frac{\text{Net Income}}{\text{Shareholder's Equity}}$	Return on equity is a ratio which measures the return obtained from the investment made by shareholders of the firm.

Firm Size	$Firm\ Size = Total\ Asset$	Firm sized is proxied by natural logarithm of total asset following the research by Mui & Mustapha (2016).
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3. METHODOLOGY

3.1. Data Collection

The data derived from financial statements published on the annual reports of LQ-45 Index's company for February – July 2019 period. The time horizon used for this research is ten years starting from 2009 to 2018.

3.2. Sample Selection

The sample selection criteria used in this study is:

- Included in the list of LQ-45 companies for the period 1 February 2019 until 31 July 2019.
- Pay dividends consistently for ten consecutive years from 2009 - 2018.
- Publish audited financial statements for ten consecutive years from 2009 - 2018.
- The companies does not run business in financial sectors.

Below are the list of companies that become the sample of this research:

Table 2: List of Companies

No	Companies Name	Ticker
1	PT Adhikarya (Persero) Tbk.	ADHI
2	Adaro Energy Tbk.	ADRO
3	AKR Corporindo Tbk.	AKRA
4	Astra International Tbk.	ASII
5	Gudang Garam Tbk.	GGRM
6	H. M. Sampoerna Tbk.	HMSA
7	Indofood Sukses Makmur Tbk.	INDF
8	Indocement Tunggul Prakarsa Tbk.	INTP
9	Indo Tambangraya Megah Tbk.	ITMG
10	Media Nusantara Citra Tbk.	MNCN
11	Bukit Asam Tbk.	PTBA
12	Surya Citra Media Tbk.	SCMA
13	Semen Indonesia (Persero) Tbk.	SMGR
14	Pabrik Kertas Tjiwi Kimia Tbk.	TKIM
15	Telekomunikasi Indonesia (Persero) Tbk.	TLKM
16	Chandra Asri Petrochemical Tbk.	TPIA
17	United Tractors Tbk.	UNVR
18	Unilever Indonesia Tbk.	UNVR
19	Wijaya Karya (Persero) Tbk.	WIKA

3.3. Estimation Model Test

- Lagrange-Multiplier Test

Lagrange-Multiplier test executed to determine whether common effect model or random effect model is better to be used. The hypothesis for the test is expressed as follows:

H₀: Model uses Common Effect

H₁: Model uses Random Effect

The result of the test is displayed on *Table 3*

Table 3: Lagrange Multiplier Test Result

Breusch and Pagan Lagrangian multiplier test for random effects

LDPS[ID,t] = Xb + u[ID] + e[ID,t]

Estimated results:

	Var	sd = sqrt(Var)
LDPS	2.470328	1.571728
e	.3536195	.5946591
u	.9474082	.973349

Test: Var(u) = 0

chibar2(01) = 282.15
Prob > chibar2 = 0.0000

The probability value resulted in 0.0000 less than the alpha 0.05. Thus, the null hypothesis is rejected and random effect model is a better estimation model to be used for the regression.

- **Chow Test**

Chow test is executed to determine a better model between common effect model and fixed effect model. The hypothesis of chow test stated as below:

H₀: Model uses Common Effect

H₁: Model uses Fixed Effect

The result of the test displayed as follows:

Table 4: Chow Test Result

Fixed-effects (within) regression		Number of obs =		190	
Group variable: ID		Number of groups =		19	
R-sq:		Obs per group:			
within = 0.1565		min =	10		
between = 0.0376		avg =	10.0		
overall = 0.0263		max =	10		
corr(u_i, Xb) = -0.8732		F(4,167)	=	7.75	
		Prob > F	=	0.0000	

LDPS	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
DAR	.6656113	.7720136	0.86	0.390	-.8585527	2.189775
CR	-.0948015	.05594	1.69	0.092	-.0156393	.2052423
ROE	2.022621	.4855097	4.17	0.000	1.064093	2.981149
LSIZE	-.5052352	.1221068	4.14	0.000	-.2641633	-.746307
_cons	-5.334663	2.34904	-2.27	0.024	-9.972305	-.6970223

sigma_u	3.0421573	
sigma_e	.59465915	
rho	.96319661 (fraction of variance due to u_i)	

F test that all u_i=0: F(18, 167) = 29.74 Prob > F = 0.0000

The probability value shows at 0.000 lower than the alpha 0.05, thus null hypothesis is rejected. Therefore, fixed effect is the better approach to be used for the regression.

- **Hausman Test**

Hausman test is employed to determine a better approach of the estimation model between fixed effect model and random effect model. The hypothesis of the test is stated as follows:

H₀: Model uses Random Effect

H₁: Model uses Fixed Effect

The result of the test is displayed on *Table 5*

Table 5: Hausman Test Result

	Coefficients		(b-B) Difference	sqrt (diag(V_b-V_B)) S.E.
	(b) FIXED	(B) random		
DAR	.6656113	-.7941354	1.459747	.338665
CR	.0948015	.0288663	.0659352	.0139515
ROE	2.022621	1.92093	.101691	.2570744
LSIZE	.5052352	.0172694	.4879658	.1217303

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(4) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 30.35
Prob>chi2 = 0.0000

The probability value scored at 0.000 which is less than the alpha 0.05, thus null hypothesis is rejected. Therefore, fixed effect model is a better approach to be used for the regression. The result of Lagrange Multiplier test, Chow test, and Hausman test shows that fixed effect is the best approach to be used. Thus, fixed effect model is employed for the regression.

3.4. Classical Assumption Test

- Normality Test

Jarque-Bera test is conducted to examine the normality of the residuals. The result of the test shown below:

Jarque-Bera normality test: 3.934 Chi(2) .1398
Jarque-Bera test for Ho: normality:

The p-value scored higher than the at 0.1398, alpha 0.05.
Thus, the value of residual is normally distributed.

Figure 2: Normality Test Result

- Multicollinearity Test

Pair-wise correlation method is employed to check the multicollinearity of the data. The result of the test is shown on *Table 6*

Table 6: Multicollinearity Test Result

	DAR	CR	ROE	LSIZE
DAR	1.0000			
CR	-0.6293	1.0000		
ROE	0.1008	-0.1000	1.0000	
LSIZE	0.3393	-0.0537	-0.0808	1.0000

The result shows that the correlation between all independent variables are smaller than 0.8. Thus, it implies that there is no evidence of multicollinearity in the data.

- Heteroscedasticity Test

Breusch-Pagan / Cook-Weisberg test is employed to examine heteroscedasticity in the data. The result of the test is displayed on *Figure 3*

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of LDPS

chi2(1) = 3.84

Figure 3: Heteroscedasticity Test Result

The result shows that the probability value is above 0.05. Thus, there is no evidence of heteroscedasticity of the data, it indicates that the data is homoscedastic.

- Autocorrelation Test

Wooldridge test for autocorrelation in panel data is employed to assess the presence of autocorrelation within the data. The result of the test displayed on *Figure 4*

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Wooldridge test for autocorrelation in panel data
H0: no first-order autocorrelation
F( 1, 18) = 4.194
Prob > F = 0.0555

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Figure 4: Autocorrelation Test Result

It is shown that the probability value scored at 0.0555 which is higher than the alpha 0.05. Therefore, there is no autocorrelation in the data.

3.5. Regression Analysis

Panel data analysis using Fixed Effect Model is executed and the regression result is stated by the following equation:

$$LDPS = -5.334663 + 0.6656113 DAR + 0.0948015CR + 2.022621ROE + 0.5052352LSIZE + \varepsilon$$

The explanation of the equation above is stated as follows:

- The constant coefficient value is -5.334663. It implies that the value of LDPS will be -5.334663 if the value of independent variables, namely DAR, CR, ROE, and LSIZE are zero. Nonetheless, the value of LDPS can not be negative, thus the value of LDPS under this condition will equal to zero.
- The regression coefficient of DAR equal to 0.6656113. It implies that every one point of increase in DAR will affect in 0.6656113 increase in LDPS, assuming that the value of other independent variables are fixed. When an increase in a portion of firm assets financed by debt or higher degree of leverage, the proportions of dividend earned by the shareholders will increase as well.
- The regression coefficient of CR equal to 0.0948015. It implies that every one point of increase in CR will affect in 0.0948015 increase in LDPS, assuming that the value of other independent variables are fixed. If firm's degree of liquidity increase, the proportions of dividend paid to the shareholders will increase as well.
- The regression coefficient of ROE equal to 2.022621. It implies that every one point of increase in ROE will affect in 2.022621 increase in LDPS. Assuming that the value of other independent variables are fixed. An increase in the firm's earning obtained from the shareholder's investment implies a higher degree profitability will increase the proportions of dividend paid to the shareholders as well.
- The regression coefficient of LSIZE equal to 0.5052352. It implies that every one point of increase in LSIZE will affect in 0.5052352 increase in LDPS. Assuming that the value of other independent variables are fixed. An increase in firm's total asset or higher firm, size will increase the proportions of dividend paid to the shareholders as well.

3.6. Hypothesis Testing

- T-Test

The t-test is conducted to examine the hypothesis related to the significance of the relationship between each independent variable and the dependent variable individually. The result of t-test is shown on *Table 7*

Table 7: T-Test Result

LDPS	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
DAR	.6656113	.7720136	0.86	0.390	-.8585527	2.189775
CR	.0948015	.05594	1.69	0.092	-.0156393	.2052423
ROE	2.022621	.4855097	4.17	0.000	1.064093	2.981149
LSIZE	.5052352	.1221068	4.14	0.000	.2641633	.746307
_cons	-5.334663	2.34904	-2.27	0.024	-9.972305	-.6970223
ID	F(18, 167) =		29.736	0.000	(19 categories)	

The interpretation of the hypothesis of each independent variable is stated as follows:

- The probability value (p-value) of DAR resulted in 0.390, greater than the alpha 0.05. Therefore, H₁ is rejected. It is indicated that Leverage, measured by DAR, has no significant effect towards dividend payout policy as measured by LDPS.
- The probability value (p-value) of CR resulted in 0.092, greater than the alpha 0.05. Therefore, H₂ is rejected. It is indicated that Liquidity, as measured by CR, has no significant effect towards dividend payout policy as measured by LDPS.
- The probability value (p-value) of ROE resulted in 0.000, less than the alpha 0.05. Therefore, H₃ is accepted. It is indicated that Profitability, as measured by ROE, has significant effect towards dividend payout policy as measured by LDPS.
- The probability value (p-value) of SIZE resulted in 0.000, less than the alpha 0.05. Therefore, H₄ is accepted. It is indicated that Firm Size as measured by SIZE has significant effect towards dividend payout policy as measured by LDPS.

• F-Test

In order to test whether all independent variables significantly affect the dependent variable in a simultaneous way, F-Test is employed. The result of the F-test displayed on *Figure 5*:

Number of obs	=	190
F(4, 167)	=	7.75
Prob > F	=	0.0000
R-squared	=	0.8735
Adj R-squared	=	0.8569
Root MSE	=	0.5947

Figure 5: F-Test Result

The probability value of F-statistic in the regression model is 0.0000 which is lower than the alpha 0.05. Hence, it can be concluded that Leverage, Liquidity, Profitability, and Firm Size simultaneously affect Dividend Payout Policy.

• Goodness of Fit Test

The goodness of fit test aims to measure how fit is the model in pursuing the purpose of the research measured by the adjusted R₂ value. The result of the test expressed as follows:

Number of obs	=	190
F(4, 167)	=	7.75
Prob > F	=	0.0000
R-squared	=	0.8735
Adj R-squared	=	0.8569
Root MSE	=	0.5947

Figure 6: Goodness of Fit Test

The adjusted R₂ value of the It indicates that 85.69% of the dependent variable namely Dividend Payout Policy can be explained by the independent variables namely Leverage, Liquidity, Profitability, and Firm Size. Meanwhile, the rest 14.31% variability

Result regression is 0.8569. variability from the

of the dependent variable explained by another variable which is not included in the regression model.

4. RESULT ANALYSIS

- **Significant Positive Relationship between Profitability and Dividend Payout Policy**

From the regression analysis, profitability has a significant positive relationship towards dividend payout policy. It implies that if an increase in the value of return on equity as a proxy of profitability occurs, it also increases the value of dividend per share as the proxy of dividend payout policy. This positive relationship of profitability is relevant as suggested by (Fama & French, 2012) that positive relationship of profitability happens as an action to mitigate the agency problem as enterprises with higher profits have more free cash flows; additionally, more profitable firms can still pay greater dividends without financing investments with risky debt and equity in accordance with the pecking order model. Besides, the positive relationship of profitability towards dividend payout policy is also in accordance with the signaling theory. If the companies can constantly paying dividends due to its profitability for a certain period, it will attract more investors to increase their confidentiality of current shareholders. Therefore, the companies need to perform well in order to be able to generate high profit to be able to distribute dividends and deliver the good signal for their shareholders. From there, it is observed that LQ 45 firm with a higher degree of profitability paid out a greater amount of dividend than the ones which have a lower degree of profitability. This result may give more consideration both to the investors and the firm to pay more attention to profitability. The companies listed in LQ-45 index should maintain their level of profitability to be in accordance with the signal that the companies want to deliver to the investor since the investor perceived the profitability as the signal of dividend payout. While for the investors, to be able to predict the dividend payout policy of LQ-45 firms the investor should take a look at the firm's profitability.

- **Significant Positive Relationship between Firm Size and Dividend Payout Policy**

From the regression analysis, firm size has a significant positive relationship towards dividend payout policy. It implies that if an increase in the value of total assets as a proxy of firm size occurs, it also increases the value of dividend per share as the proxy of dividend payout policy. The positive significant relationship is in accordance with the agency theory. Large companies tend to distribute high dividends to maintain a reputation among investors and to reduce the agency cost, while the small size company tends to distribute lower dividend by allocating a higher proportion of their income as retained earning which later on will be utilized to acquire assets or reinvest in order to grow the company. Higher size of the firm implies that the company tends to be more mature and need less capital to do investment in order to grow the company since the company has entered steady growth level, thus paying a higher amount of dividend would be considerable. Furthermore, it is proven that dividend-averse investors choose to purchase small company stocks. Large companies are purchased by large dividend-loving investors who are attracted by the superior market depth. The size of a large company shows that the company is experiencing good growth and tend to be more mature. Large companies are therefore more likely than small companies to pay dividends. This result may give more consideration both to the investors and the firm to pay more attention to firm size. The companies listed in LQ-45 index should consider the level of firm size to be in accordance with the signal that the companies want to deliver to the investor since the investor perceived the firm size as the signal of dividend payout. While for the investors, to be able to predict the dividend payout policy of LQ-45 firms the investor should take a look at the firm's size.

5. CONCLUSION

This research aimed to identify the variables influencing dividend payout policy. The dependent variable is Dividend per Share as proxy of Dividend Payout Policy. Four independent variables, Debt to Asset Ratio as proxy of Leverage, Current Ratio as proxy of Liquidity, Return on Equity as proxy of Profitability, and Total Assets as proxy of Firm Size. The variables are used for the panel data regression using fixed effect model. The result of T-test shows that profitability is positively

significant towards dividend payout policy. An increase in firm's profitability will increase the dividend payout as well. This result is in accordance with the signaling theory. If the companies can constantly paying dividends due to its profitability for a certain period, it will attract more investors to increase their confidentiality of current shareholders. Based on T-test result, firm size is also positively significant towards dividend payout policy. This result is in accordance with the agency cost theory. Large companies tend to distribute high dividends to maintain a reputation among investors and to reduce the agency cost. The result of F-test indicates that all independent variable are affecting the dependent variable in a simultaneous way. The value of adjusted R^2 is 0.8569. It indicates that 85.69% of the variability from the dependent variable namely natural logarithm of dividend per share can be explained by the independent variable namely debt to asset ratio, current ratio, return on equity, and firm size. Meanwhile, the remaining 14.31% variability of the dependent variable explained by another variable which is not included in the regression model. Based on the research result, income investors are suggested to pay more attention about firm's profitability and firm's size before they invest in LQ 45 companies. For future research, it is suggested to add more variables to increase the ability of the model to explain the variability of the dependent variable.

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