



Effect of Profitability and Leverage on Dividend Policy with Investment Opportunity Set as a Moderating Variables in Manufacturing Companies Listed on BEI Period 2014–2018

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Abstract

This study aims to analyze the effect of profitability and leverage on dividend policy with the investment opportunity set (IOS) as a moderating variable in manufacturing companies listed on the Bursa Efek Indonesia (BEI) from 2014 to 2018. The population in this study amounted to 158 manufacturing companies, 20 manufacturing companies were obtained by using purposive sampling technique, this type of research is associative causal. The technique used in this research is descriptive statistical analysis technique using the SPSS 24 program. The results of this study indicate that profitability has a significant positive effect on dividend policy. Leverage has no effect on dividend policy. The investment opportunity set (IOS) is unable to moderate the relationship between profitability and dividend policy. The investment opportunity set (IOS) is also unable to moderate the relationship between leverage and dividend policy.

Keywords: *Dividend Policy; Profitability; Leverage; Investment Opportunity Set (IOS)*

Introduction

Business development today is marked by increasingly sharp competition. Many companies face competition that offer similar products or services, as well as in dealing with various other problems such as limited capital, economic conditions, market conditions and so on, so that companies try to maintain their survival by winning the competition (Athar, 2016).

Dividend policy is a financial activity that is related to the allocation of profits generated by the company (Wiagustini, 2014). Furthermore, dividend policy can be interpreted as determining the amount of dividends to be paid to shareholders and the amount of retained earnings for reuse by the company. Dividend distribution is usually carried out periodically and as long as the investor owns the shares. Government regulations and supervision, investment opportunities, liquidity, debt, level of asset expansion, and profitability are all factors that have an impact on dividend policy (Hanafi, 2004).

Sutrisno (2013) states that income stability is a factor that affects dividend policy. Companies with stable income tend to pay larger dividends than companies with unstable income. Profitability is the company's ability to make profits (Sartono, 2010). Profitability can be a concern for investors or shareholders because it correlates with the dividends that investors will get.

Leverage is an asset and a source of funds used by the company and has fixed costs with the aim of increasing profit potential (Sartono, 2010). Companies with high leverage tend to reduce the amount of dividends distributed to investors due to the high burden of leverage. Yudiana and Yadnyana (2016) said that leverage has a negative effect on dividend policy. The same thing was expressed by Sari and Sudjarni (2015) who state that leverage has a significant negative effect on dividend policy. Different things were stated by Suyono (2012) who concluded that leverage has a positive effect on company dividends.

The description above shows inconsistent research results. This can happen due to the influence of variables other than the independent and dependent variables. Hartono (2010) explains that the moderating variable is identified through previous studies that have conflicting causal results. It is suspected that there are other variables that moderate this causal relationship. An investment opportunity condition in the company is assumed to moderate the relationship between profitability and leverage on dividend policy.

The mix of assets and existing investment opportunities affects the capital structure, debt and dividend policy (Adam and Goyal, 2008). A high investment opportunity set (IOS) in a company means that the company is likely to have high growth, high growth requires high financing to finance investment activities. A high IOS indicates that the company has a high opportunity to grow, so that it has an impact on reducing dividends (Mulyono, 2009).

IOS in this study is intended as a condition to determine appropriate funding decisions with the company at a certain time. The investment opportunity set weakens the relationship between profitability and dividend policy (Hardiansyah, 2012). Sari et. Al (2019) said that leverage has a significant negative effect on dividend policy. Sutrisno (2013) said that the more open investment opportunities are, the smaller the dividend portion will be, because the funds are used to finance investment.

This study uses a manufacturing company object in order to analyze the effect of profitability and leverage on dividend policy with the investment opportunity set as a moderating variable. the manufacturing sector is used because this sector has a higher activity complexity than other industries. Based on this description, the purpose of this research is to analyze the effect of profitability and leverage on dividend policy with the investment opportunity set as a moderating variable.

Literature Review

In signaling theory, high profitability is a signal to investors that the company is performing well. Taglani (2009) in Ramdhani (2015) states that a company's return on equity (ROE) is the main key in dividend policy. Gitman et.al (2011) in Ramdhani (2015) states that ROE is important because ROE is significantly related to profits, company growth and dividends from a company. Yudiana and Yadnyana (2016) in their research stated that ROE has a positive effect on dividend policy, a similar thing was stated by Azmi and Agung (2014) and Idawati (2014) who said that dividend policy is influenced by ROE in a significant positive manner.

In the trade off theory, debt is used to balance the costs and benefits of debt. The higher the debt, the higher the company's fixed expenses, which will increase the cost of bankruptcy that may occur. If the company decides to pay debts using the profits earned, this will have an impact on reducing the portion of

profits that will be distributed to shareholders in the form of dividends. Permana and Hidayati (2016) and Sari et.al (2019) in their research state that leverage has a significant negative effect on dividend policy.

The higher the ROE of a company, the greater the chance for the company to pay high dividends. However, it is different if the company is found with an investment opportunity condition. Management has the view that using retained earnings to be reinvested will maintain the sustainability of the company (Natalia, 2013). Jensen (1986) in Smith and Watss (1992) suggests that companies that increase the amount of their investment in a certain period will distribute dividends with smaller amounts. Myers and Maljuf (1984) suggest that profitable companies have a desire to pay relatively small dividends in order to fund their investments using internal sources of financing. Hardiansyah (2012) states that IOS can weaken the relationship between profitability and dividend payments to shareholders.

Ginting (2018) said that an increase in corporate debt will affect the net income that the company has to pay dividends. Fistyarini and Kusmuriyanto (2015) state that leverage has a negative effect on dividend policy. Kallapur and Trombley (2011) said that a high IOS will impact on the strict use of company cash by managers which will have an impact on dividend reduction and use of debt.

Method

The population in this study used 20 manufacturing companies listed on the Indonesia Stock Exchange in the 2014-2018 period using purposive sampling.

Table 1. Sampling Criteria

No	Information	Amount
1	Manufacturing companies listed on the Indonesia Stock Exchange for the 2014-2018 period	158
2	Manufacturing companies that do not report Annual report data for the 2014-2018 period	(29)
3	Manufacturing companies that do not pay dividends in a row for the 2014-2018 period	(106)
4	Manufacturing companies that do not have all the variable elements in the research	(3)
Number of companies being sampled		20

Descriptive statistics are statistics that are used to describe or provide an overview of the object under study through sample or population data as it is, without analyzing and making general conclusions. Descriptive statistical analysis in this research is return on equity, debt to equity, dividend payout ratio and market to book value of equity. The classical assumption test is carried out after passing the basic assumption test. The classical assumption consists of several tests used, namely: normality test, multicollinearity test and heterocedasticity test. Moderated linear regression analysis is used to see the relationship between the dependent variable and two or more independent variables at stage 1 (one). Furthermore, in stage 2 (two), linear analysis with moderating variables is used to see the effect of moderation in affecting the relationship between the independent variable and the dependent variable with the following research equation:

$$\text{Regression analysis stage 1. } DPR = \alpha_0 + \beta_1 ROE + \beta_2 DER + e$$

Stage 2 regression analysis.

$$DPR = \alpha_0 + \beta_1 ROE + \beta_2 DER + \beta_3 IOS + \beta_4 (ROE \cdot IOS) + \beta_5 (DER \cdot IOS) + e$$

Result and Discussion

Descriptive Statistical Analysis

The results of the descriptive analysis of this study are shown in Table 3.

Table. 3 Descriptive Statistical Analysis

	N	Minimum	Maximum	Mean	Std. Deviation
ROE (X1)	100	2,00	144,00	26,1400	33,47667
DER (X2)	100	15,00	515,00	84,8300	92,08067
MBVE (Z)	100	11,00	3017,00	443,9800	584,71561
DPR (Y)	100	6,00	177,00	52,4700	31,53079
Valid N (listwise)	67				

ROE is the success rate of a company in making a profit. The average profitability of the manufacturing companies sampled was 26.14 (26.14%). Leverage is the level of the amount of use of debt on assets. The sample DER average of manufacturing companies was 84.83 (84.83%). MBVE is a measure of real assets and future investment options. The sample manufacturing company MBVE average was 443.98 (443.98%). The DPR is an investment return for investors. The average DPR in the manufacturing companies sampled was 54.47 (52.47%).

Classic assumption test

The results of the classical assumption test of this study are shown in Table 4.

Table. 4 Classic Assumption Test

Information	Normality test	Autocorrelation Test	Multicollinearity Test	
			Tolerance	VIF
Asymp. Sig. (2-tailed)	0,129			
Durbin-Watson		1.777		
ROE			0,313	3,199
DER			0,722	1,384
MBVE			0,369	2,711

A data is normally distributed if the significant number is greater than 0.05. In table 4. The magnitude of the Asymp, Sig. (2-tailed) is 0.129, which is greater than 0.05, so it can be said that the data is normally distributed. The Durbin-Watson value in this study was 1.777. This indicates that the regression model is free from autocorrelation because the Durbin-Watson value is between -2 and +2 or $-2 < 1.777 < +2$. The VIF (Variance Inflation Factor) value shows a number below 10 while the tolerance value is above 0.1 so that it can be said that the regression model is free from multicollinearity problems.

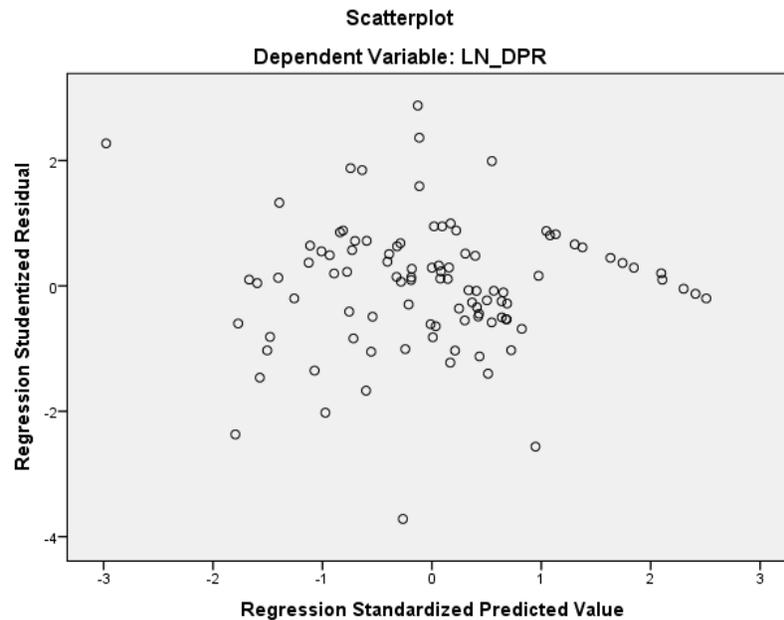


Figure 1. Graph of Heteroscedasticity Test

Figure 1. Above shows that the dots spread below and above the Y axis and there is no regular pattern. So it can be said that the independent variable and moderating variable do not occur heteroscedasticity and this regression model is suitable to be used to estimate the dependent variable.

Stage 1 Regression Analysis

Table 5. Regression analysis stage 1

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2,843	0,298		9,552	0
LN_ROE	0,307	0,067	0,451	4,597	0
LN_DER	0,021	0,076	0,028	0,281	0,779

Table 5 shows the regression results for stage 1, $DPR = 2.843 + 0.307 ROE + 0.021 DER$. From this equation, it can be interpreted as follows:

1. The meaning of a constant is 2,843 means that if the independent variable is profitability (return on equity), leverage (debt to equity ratio) is 0, then the value of the policy dependent variable (dividend payout ratio) is 2.843%.
2. The meaning of the ROE variable regression coefficient is 0.307 with a significance of 0.000. The regression coefficient of 0.307 means that if the profitability (return on equity) increases by 1%, then the dividend payout ratio will increase by 0.307% assuming the other variables are constant. The significance level of $0.000 < 0.05$ means that ROE has a significant effect on dividend policy. Based on these results it can be concluded that profitability has a significant positive effect on dividend policy. This also answers the research hypothesis, namely the first hypothesis which states that the higher the profitability is, the dividend policy paid by the company will increase and is acceptable.
3. The meaning of the DER variable regression coefficient is 0.021 with a significance of 0.779. The regression coefficient of 0.021 means that if the leverage (debt to equity ratio) increases by 1%, the dividend payout ratio will increase by 0.021% assuming the other variables are constant. The

significance of $0.779 > 0.05$ means that leverage does not have a significant effect on dividend policy. This also answers the research hypothesis, namely the second hypothesis which states that the higher the leverage is, the dividend policy paid by the company will decrease.

Stage 2 Regression Analysis

Table 6. Stage 2 moderation regression analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	28.158	5.342		5.271	.000
LN ROE	.444	.161	.471	2.753	.007
LN DER	.030	.034	.087	.872	.385
LN MBVE	.042	.012	.772	3.359	.001
LN ROE.MBVE	-.022	.023	-.459	-.933	.353
LN DER.MBVE	-.006	.014	-.185	-.434	.665

Table 6. Shows the results of stage 2 moderated linear regression test, $DPR = 28.158 + 0.444ROE + 0.030DER + 0.042 MBVE - 0.022 (ROE.MBVE) - 0.006 (DER.MBVE)$. From this equation, it can be interpreted as follows:

1. The meaning of a constant is 28,158 means that the independent variable is profitability (return on equity), leverage (debt to equity ratio), IOS (market to book value of equity), interaction 1 (ROE * IOS) and interaction 2 (DER * IOS) is worth 0, then the value of the dependent variable dividend policy (dividend payout ratio) is 28.158%.
2. The meaning of the ROE variable regression coefficient of 0.444 means that if the profitability (return on equity) increases by 1%, then the dividend payout ratio will increase by 0.444% assuming the other variables are constant.
3. The meaning of the DER variable regression coefficient of 0.030 means that if the leverage (debt to equity ratio) increases by 1%, then the dividend payout ratio will increase by 0.030% assuming the other variables are constant.
4. The meaning of the MBVE variable regression coefficient of 0.042 means that if the MBVE (market to book value of equity) increases by 1%, the dividend payout ratio will increase by 0.042% assuming the other variables are constant.
5. The meaning of the regression coefficient for the interaction variable 1 (ROE * MBVE) is -0.022 and T count is -0.933 and the significance is 0.353. The coefficient of -0.022 means that if the interaction variable 1 (ROE * MBVE) increases by 1%, the dividend payout ratio will decrease by 0.022%. The value of T count $-0.933 < 1.98525$ with a significance level of $0.353 > 0.05$ means that the interaction variable 1 (ROE * MBVE) has no significant effect on dividend policy. Based on these results it can be concluded that the third research hypothesis which says that the greater the investment opportunity set the company has, the weaken the effect of profitability on dividends paid by the company is not proven.
6. The meaning of the regression coefficient for the interaction variable 2 (DER * MBVE) is -0.006 and T count is -0.434 with a significance of 0.665. The regression coefficient of -0.006 means that if the interaction variable 2 (DER * MBVE) increases by 1%, the dividend payout ratio will decrease by 0.006% assuming the other variables are constant. The value of T count -0.434 with a significance of 0.665 means that the interaction variable 2 (DER * MBVE) has no effect on dividend policy. Based on these results it can be concluded that the fourth research hypothesis which says that the greater the company's investment opportunity set, the stronger the effect of leverage on dividends paid by the company is not proven.

Profitability is a reference to determine the company's ability to generate profits. The higher the profitability, it means the higher the company's ability to generate profits and the company's ability to pay dividends will also be high. A company with a high level of return on equity means that the company has a high ratio of total equity to company profits and for investors, this indicates the company's ability to pay dividends is also high. Research conducted by Yudiana and Yadnyana (2016) states that ROE has a positive effect on dividend policy. This means that the higher the profitability of a company, the higher the dividends paid.

In signaling theory, profitability will be a good signal from the company to investors. This will provide information for investors regarding the company's prospects based on the level of profit generated by the company. Profitability also plays an important role in dividend distribution. The greater the profitability the company gets, the more likely it is that dividends will be paid.

Data analysis obtained results with the conclusion that profitability has a significant positive effect on dividend policy. The hypothesis in this study is that the higher the profitability, the dividend policy paid by the company will increase. The results of the data analysis state that profitability has a positive and significant effect on dividend policy. It can be concluded that the first hypothesis is proven.

This is supported by Azmi and Agung (2014) and Idawati and Sudiartha (2014) who state that the higher the profitability, the higher the dividends distributed. The higher the profitability, the greater the company's ability to make a profit. Investors respond to this. The company's ability to pay dividends will also be higher.

Leverage is a reference to find out how much the company needs to spend using debt. In this study, the debt to equity ratio (DER) is a proxy for leverage. DER describes the ratio between total debt owned by the company to the company's equity. The higher the DER, the greater the use of debt in company activities.

The results of the data analysis show that the leverage proxied by DER has no effect on dividend policy. The hypothesis in this study is that the higher the leverage is, the dividends paid by the company will decrease. So it can be concluded that the second hypothesis is not proven (rejecting H₂ and rejecting H₀₂). This is supported by research conducted by Adnan, Gunawan and Candrasari (2014) and Hardjopranoto (2006) which states that leverage has no effect on dividend policy.

The clientele effect theory states that each investor has their own preferences regarding dividend policy, some investors like high dividends, some like low dividends and even don't like dividends. In this case, the company, in determining dividend policy, uses the preferences of investors.

Companies that have good profitability tend to have good dividend policies. The higher the profitability the company has, the higher the chances of paying dividends. However, it is different if the company is faced with a condition that the company has the opportunity to invest.

A high set of investment opportunities is usually owned by companies that have high profitability and pay relatively low dividends. This is due to management using the profits printed by the company to be reinvested in the form of retained earnings to maintain the company's survival (Natalia, 2013). So that companies with high profitability will not necessarily distribute a high share of dividends due to the investment opportunities the company has to grow. Myers and Majluf (1984) say that profitable companies have a relatively low desire to pay dividends because they have internal funds which are mostly used to fund their investment projects.

The results showed that the moderating model used was appropriate for making relationships between variables. The results of tests carried out without using a moderating model or a linear regression model show that the investment opportunity set has a significant positive effect on dividend policy. The test results using the moderation model in this study indicate that IOS is not able to moderate the relationship between profitability and dividend policy and in relation to IOS only as a predictor variable. The hypothesis in this study is that the greater the set of investment opportunities the company has, the weaker the effect of profitability on dividends paid. So it can be concluded that the third research hypothesis is not proven.

Profitability is a variable that is relatively controllable by the company. This is due to the fact that profitability is an internal factor of the company while the investment opportunity set proxied by MBVE is an external variable of the company. MBVE is determined by the investor's assessment of a company. It cannot be controlled by the company. In this case, a company that applies a dividend policy taking into account profitability does not consider the investment opportunity set based on the preferences of investors.

Leverage has the meaning of leverage for the company. It is also defined as debt or fixed expenses that the company has. This is because the company has installments and interest that must be paid to the party providing the loan. The trade off theory explains the use of debt at a certain level to balance the costs and benefits of the debt. The fees in question are fixed interest costs that must be paid by the company as well as bankruptcy costs that may occur if the debt burden is too large. The higher the leverage of a company is assumed to reduce the dividends distributed.

Kallapur and Trombley (2011) state that a high IOS will impact on the strict use of company cash by managers, thereby impacting on dividend reduction and use of debt. Companies that have high investment opportunities will tend to allocate company funds for investment needs so that IOS is expected to be able to strengthen the influence of leverage on dividend policy.

The hypothesis in this study is that the greater the company's investment opportunity set, the stronger the leverage effect on dividend policy. The results of the data analysis state that IOS is unable to moderate the relationship between leverage and dividends paid by the company. In relation to IOS only as a predictor variable. So that the fourth hypothesis is not proven.

In this study, the results of testing the investment opportunity set without using a moderating model or a linear regression model are that the investment opportunity set has a significant positive effect on dividend policy. Leverage in this study does not affect dividend policy. This can be explained by the pecking order theory which states that dividend policy is constant so that debt followed by high investment opportunities does not affect dividend policy.

Conclusion

The conclusions from the results of this study are: 1) Profitability has a significant positive effect on dividend policy. This indicates that the higher the profitability that the company prints, the higher the dividends that the company distributes to shareholders due to the high profits the company gets. 2) Leverage has no effect on dividend policy. This indicates that the company does not take into account the level of debt it has in determining dividend payments. 3) Companies that apply dividend payments that are influenced by profitability do not consider the investment opportunity set. 4) The dividend policy in the company is constant so that the leverage followed by the investment opportunity set does not affect the amount of dividends paid.

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