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The Influence of Company's Characteristics to Propensity to Pay Dividend

Keywords: propensity to pay dividend, company's characteristics

Abstract: The study aims at describing and analyzing the influence of company's characteristics to propensity to pay dividend. The units of observation were 4530 companies recorded by Indonesia Stock Exchange from 2008 up to 2017. In analyzing the data, logit regression was implemented. The finding shows that the greater the company's profitability, the greater the propensity to pay dividend will be. Further, the lower the asset growth and market to book ratio, the greater the propensity to pay dividend will be

1 INTRODUCTION

Baker and Wurgle (2004) explained that by having the control of company's characteristics, the company will share the dividend based on the investor's willingness. The manager will always serve the investors' demand by paying the dividend when the investors determine the high price on premium dividend of payers company, and he also determines not to pay the dividend when the

investors prefer non-payers companies to the payers companies (Baker & Wurgler, 2004a).

This theory emphasizes on investors' demand on dividend which is affected by market sentiment. The main estimation of catering theory is that the probability on dividend payment depends on premium dividend. It can be measured by looking at the difference on average logarithm of market to book ratio of payers and non payers companies (Baker & Wurgler, 2004a). The catering theory also states that companies' determination in sharing the dividend is not only influenced by the investors' demand, but also considering the companies' characteristic

Baker & Wurgler (2004b) implemented the company's characteristics as a control variable for explaining the relationship between premium dividend and propensity to pay dividend in their research. Their finding shows that the company's characteristic is influential to the probability of a company in paying the dividend. A company with a firm size, great profitability, low asset growth, and low market to book ratio considers more on the investors' willingness on dividend than a company with a firm size, low profitability and high asset growth, and high market to book ratio. This finding is in line with the research conducted by Baker & Wurgler (2004a), Fama & French (2001), Ferris, Jayaraman, & Sabherwal (2009), Denis & Osobov (2008), Li & Å (2006), and Wang & Lin (2016). The company should not only consider the investor's demand on dividend, but it should also assess the company's characteristic

However, Tangjitprom's research finding (2013) is rather different. It illustrates that high growth of company causes high probability of propensity to pay dividend. The company still pays the dividend although the company's growth is high. This is because the company has high performance. Suranta, Eddy (2010) wrote that profitability and growth opportunities do not influence propensity to pay dividend. Nurhayati (2013) argued that firm size has negative influence to dividend payout ratio, while Situmorang (2017) found that firm size does not influence dividend payout ratio. Moreover, the company size does not impact the number of dividend shared by the company. It has not been able to become a guarantee yet for the company to give high dividend. Then, the company can choose to keep its profitability to fund the company's growth rather than giving the dividend. In fact, there are still research gaps and they can be explored deeper ¹³ to test the impact of company characteristic to propensity to pay dividend in Indonesia.

2 LITERATURE REVIEW

Catering Theory of Dividend

An alternative approach on propensity to pay dividend is dividend ¹ catering theory proposed by Baker & Wurgler (2004a). They argued that dividend demanded by the investors encourage the company to pay the feasible dividend for investors. This market desire is called as "catering incentive". They use proxy to meet the investors' needs on dividend; ⁷ premium dividend is the difference between the average market ratio to book dividend payer and non payer.

Catering theory is developed based on 3 assumptions. First, it is unknown. In other words, it emerges because it may be because of psychological or institutional reasons. Some investors lack of information or stocks need various times to be levied on dividend. Second, arbitrage is failed to avoid the demand to separate the price of payers not the payers. Third, managers rationally meet the investors' demand (Baker & Wurgler 2004a)

Based on above assumption, Baker & Wurgler (2004a) proposed that the decision to pay dividend is motivated by the investors' demand. The manager serve the investors by paying the dividend when they set high price on premium dividend of payers company. Further, the manager chooses not to pay the dividend when the investors prefer non- payers to payers company.

Their study has empirically proven that the changes of dividend paid to shareholders can be explained by looking at the market demand. Specifically, the study reveals the relationship between dividend premi and the company's decision to pay dividend. Besides, dividend premi can clarify the phenomena of dividend lost because of the changes of company's characteristic (Fama & French, 2001). Fama & French (2001) pointed out that payers companies are the companies that have great profitability and size, and low market to book ratio and asset growth. Baker & Wurgler (2004) stated that investors' sentiment influences a company with great profitability and firm size. The relationship between dividend and life cycle can be explained by the theory of life cycle. This theory views that optimum dividend policy issued by the company depends on the life cycle of company. The more mature the company, the higher the dividend payment will be. The

dividend payers are the mature companies that have the high ratio of profitability for capital contribution, while new companies usually have high growth, so that, they do not pay dividend. It can be concluded, mature companies with low growth will have high probability to pay dividend and new companies with high growth will have low probability to pay dividend.

Firm Size

Firm Size illustrates whether the company is small or big. The big and settled company have easy access to the capital market to rise their funds with low cost. Further, new and small companies will have many difficulties to access the capital market (Marietta & Sampurno, 2013). The ease of accessing the capital market means the ability of a company to attract investors to invest. The new fund can motivate the company to pay its duty that includes dividend payment to the shareholders. Wang & Lin (2016) found that firm size influences the probability of propensity to pay dividend positively. The bigger the company, the bigger the probability of company to pay dividend will be. That is also supported by Baker & Wurgler (2004), Fama & French (2001), and Utami (2015).

H1: Size influences propensity to pay dividend positively

Profitability

Profitability is defined as the ability of a company to yield profit for the company. The greater the profit yielded by the company, the greater the probability of dividend shared will be. This aims at giving trust for the investors

(Utami, 2015). That is also supported by Baker & Wurgler (2004), Fama & French (2001), Adi & Kunci (2018), dan Situmorang (2017).

H2: Profitability has positive influence to propensity to pay dividendd

Asset Growth

Growth is company asset, and it is used as operational asset of the company (Marietta & Sampurno, 2013) . Baker & Wurgler (2004a) illustrated that the higher the asset growth of company, the lower probability of company to pay the dividend will be. The growing company needs much fund to develop the company in the future. The company prefers keeping its profit to paying dividend for shareholders as it is stated by Marietta & Sampurno (2013), Fama & French (2001), Wang & Lin (2016), and Chahyadi (2010).

H3: Asset growth influences propensity to pay dividend negatively

Market to Book Ratio

The high chance to invest encourages the company to have the probability for paying fewer dividend. Residual theory says that the company will pay the dividend when they do not have beneficial chance of investment (Utami, 2015). Fama & French (2001), argued that the higher the market to book ratio for a company, the lower the probability of a company to pay dividend will be. This is also supported by Baker & Wurgler (2004 a b), Rahmawati (2017), and Tangjitprom (2013).

H4: Market to book ratio has negative influence to propensity to pay dividend.

METHOD

This study was quantitative. Besides, its design was causality that might have cause and effect between variables. The data for this study was secondary data collected from the financial report of companies recorded at Indonesia Stock Exchange from 2008 up to 2017 and Indonesian Capital Market Directory (ICMD). The samples were 546 companies with 4530 companies as units of observation.

The probability of propensity to pay dividend in this study was measured by using dummy variables that have value of 1(one) for the companies that pay the dividend and 0 (zero) for the companies that do not pay the dividend (Fama & French, 2001).

The independent variables in this study was companies' characteristics that include firm size, profitability, asset growth and market to book ratio. Firm size was measured by looking at the ranking percentage; company percentage that have market capital less or equal to the companies (Fama & French, 2001), (Baker & Wurgler, 2004). Firm size is formulated as follow: Firm size = % rank market capitalization

Profitability was calculated by comparing profit before tax to the total asset owned by a company (Fama & French, 2001), (Baker & Wurgler, 2004).

The profitability is also formulated as follow :

$$Prof = \frac{Prof\ before\ tax}{Total\ Asset}$$

Asset Growth is calculated based on the relationship between total assets (t) minus ¹⁶ total assets before (t-1) to total assets before (t-1) (Fama & French, 2001), (Baker & Wurgler, 2004). Asset Growth is formulated as follow:

$$Asset\ Growth = \frac{Asset\ total - Asset\ total_{-1}}{Asset\ Total_{-1}}$$

¹ Market to book ratio is measured by comparing market value equity plus book value of liability to book value of asse (Baker & Wurgler, 2004). The fomula of Market to book ratio is written bellow

$$MTB = \frac{Market\ value\ of\ equity + Book\ value\ of\ liability}{Book\ value\ of\ assets}$$

Data Analysis

Selection of Estimation Model

This study implemented qualitative respond regression since the dependent variable used was biner(Gujarati, 2013:172). There are three approaches of qualitative respond regressions; they are *Linear Probability Model*, Logit and probit.

The best estimation model can be done by implementing these two ways (1) requirement fulfilment $0 \leq E(Y_i | X_i) \leq 1$, and (2) Normality test.

The *Linear Probability Model* was chosen as estimation if model the two requirements above are fulfilled. Further, the score should be between 0 and 1; and data was normally distributed. However, if one of the requirements can not be

met, the estimation model that should be chosen was logit or probit model. Even though those models can be implemented easily, but there are some weaknesses; they are (1) unnormal residual (galat μ_i), (2) heteroskedasticity (3) the possibility of Y value is not at the range of 0-1, and (4) R^2 is usually low (Gujarati, 2013:175).

The model of logit estimation interprets the results by using the value of odd ratio. While the model of probit estimation interprets the results by using standard normal table to transform the Z score to the opportunity. Basically, the difference between logit and probit is Logit means Cumulative standard logistic distribution (F), while Probit means Cumulative standard normal distribution (Φ). However, those two models actually have the same result

Regression Model

Regression analysis with logit model in Eviews 9 was used in this study.

The regression equation used is written below

$$\text{PTPi} = \ln\left[\frac{P_i}{1-P_i}\right] = \beta_1 + \beta_2 X_1 + \beta_3 X_2 + \beta_4 X_3 + \beta_5 X_4 + \mu_1$$

Explanation:

PTPi = Dependent Variable (= 1 if the company pay dividend and has 0 value, if the company does not pay dividend)

Pi = probability of a company to pay dividend

X₁ = Firm size

X₂ = Profitability

X₃ = Asset Growth

X₄ = Market to book ratio

μ_i = error standard

Goodness-of-Fit Test

Feasibility Test can be done by two ways; they are by looking at (1) Hosmer value and Lemeshow's Goodness-of-fit-test statistic, and (2) value of McFadden R-Square (3) multicollinearity test

Hypothesis Test

In testing the hypothesis, H_a on the estimation of logit or probit regression, and the estimation of *maximum likelihood* (ML), not OLS were implemented. The significance level applied was 0,05 ($\alpha= 5\%$). This means that researchers believed 100% on samples. The probability of samples that did not have the population's characteristics was 5%. The hypothesis, H_a was accepted if the significance value was less than 5. This means that **dependent variables influences dependent variables**

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4. FINDINGS AND DISCUSSION

Table 2. The Percentage of Payers Company

Year	Payers	Non-Payers	Total	Payers
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2008	144	216	360	40.00%
2009	143	226	369	38.75%
2010	158	233	391	40.41%
2011	186	234	420	44.29%
2012	190	250	440	43.18%
2013	204	267	471	43.31%
2014	208	289	497	41.85%
2015	215	294	509	42.24%
2016	183	344	527	34.72%
2017	217	329	546	39.74%

Sources: The Processed Secondary Data

The above table illustrates the percentage of companies that pay the dividend from 2008 to 2017. The number of payers companies are fluctuated each year. Generally, the trend decreases. The lowest percentage was in 2014 which was amounted to 34.72% and the highest was in 2011 which reached 44.29%. The average percentage of payers company from 2008 up to 2017 was 40.85% and it could not reach 50% of the total companies listed at Indonesia Stock Exchange

Descriptive Statistics

Tabel 3. The descriptive Statistics of Variables

Variabel	Mean	Median	Maximum	Minimum	Std. Dev.
SIZE	0.099944	0.023	1	0.0001	0.184859
PROF	0.002486	0.0378	170.5933	-265.1907	4.98726
GROWTH	16.28846	0.0956	65767.7	-12.3	977.9695

MTB	2.4399	1.0901	885.0296	0.0045	18.51255
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Sources: The Processed Secondary Data

Based on the data description, the growth of companies under study have greater various data than MTB, size and profitability.

Table 4. Hosmer and Lemeshow's

H-L Statistic	Prob. Sq(8)	Chi-
263.2044	0.000	

Source: The Processed Secondary Data

Table 4 shows that the value of H-L statistic is 263.204 with the significance value less than 0.01 (0.000<0.01). It can be said that the model is not accepted (the model is not fit), so that the above independent variables can not be used to estimate the status of propensity to pay dividend.

Table 5. McFaddenR-squared Testing

Dependent Variable: PTP	
Method:	ML-Binary Logit
McFadden R-squared	0.079457
LR statistic	486.7106
Prob (LR statistic)	0.0000

Source: The processed Secondary Data

Table 5 illustrates the value of McFadden R Square that is at 0.079457. This means that dependent variables can be explained by independent variables, 7.94 %. Generally, all of independent variables have significant impacts to

propensity to pay dividend as they are shown by the statistic of LR value, 486.7106 with the probability of less than 5%.

Hypothesis Test

Based on table 5, it can be seen that all significance values of independent variables are less than 5% ($\alpha=0.05$). This means that all firm size variables, profitability, asset growth and market to book ratio have significant impact to the probability of propensity to pay dividend.

The coefficient of firm size and profitability are positive. This means that the greater the firm size and the profitability, the higher the probability of company to pay dividend will be, and vice versa. The asset growth coefficient and market to book ratio are negative. This means that the probability of company to pay dividend will be lower

Table 6. The Result of Logit Regression

Variable	Coefficient	Std. Error	z-Statistic	Prob.	Odds Ratio/Exp (β)
SIZE	2.06722	0.20043	10.31383	0	7.9132
PROF	4.46632	0.33591	13.29611	0	87.2818
GROWTH	-0.13293	0.03578	-3.71521	0.0002	0.8755
MTB	-0.16202	0.02239	-7.23489	0	0.8503
C	-0.506964	0.045465	-11.1506	0	0.6021

Source: The Processed Secondary Data

Based on above table, a regression equation can be formulated; and it is written as follow:

$$li = \ln \frac{P}{1-P} = -0.507 + 2.067 \text{ Size} + 4.466 \text{ Prof} - 0.133 \text{ Growth} \\ - 0.162 \text{ MTB} + u$$

The interpretation of logit model equation uses odd ratio or $\text{Exp}(\beta)$ (See Table 5). From the equation, it can be seen that the coefficient of firm size is 2.06722 with the odd ratio value of 7.9132. This means the probability of company to pay the dividend increases as many as 7.9132 times when there is a rise of 1 unit on firm size.

Firm Size to Propensity to Pay Dividend

The findings show that firm size influences positively and significantly to the probability of propensity to pay dividend. The greater the firm size, the greater the total assets will be. Further, the lower the investment to meet the needs of asset, the greater the probability of propensity to pay dividend will be. These findings are in line with the researches conducted by Baker & Wurgler (2004 a b), Elisabete & Neves (2018), Tangjitprom (2013), and Utami (2015). The companies with great total assets may have lower possibility to purchase more asset. Then, the profit can be allocated to the dividend share

Profitability to Propensity to Pay Dividend

The findings show that the profitability influences the probability of propensity to pay dividend positively and significantly. The higher the profitability gained by a company, the higher the probability of propensity to pay dividend. The aim is for getting investors' trust. This finding is in line with

Utami(2015), (Tangjitprom, 2013), Ferris, Jayaraman, & Sabherwal (2009), and Denis & Osobov (2008).

The company with high profitability is usually at mature stage, so that, it does not need much fund for investment. It will impact on the probability of higher dividend payment

Asset Growth to Propensity to Pay Dividend

The finding shows that asset growth has negative and significant impact to the probability of propensity to pay dividend. The company with high growth needs money to fund the growth of company in the future both investment and expansion, so that, the probability of company to share the dividend is low. Those are also argued by Chahyadi (2010), Fama & French (2001), Baker & Wurgler (2004), and Simbolon & Sampurno (2017). A company with high growth needs much fund for investment, so that, the probability to pay the dividend is low

Market to book ratio to Propensity to Pay Dividend

The finding explains that ⁵ market to book ratio of a company influences the propensity to pay dividend significantly and negatively. The higher the ⁵ market to book ratio of company, the lower the probability of propensity to pay dividend. It is suitable with the residual theory that says a company will pay the dividend if it does not have an opportunity to have beneficial investment. In other words, the companies with high opportunities to expand will keep their current asset as their profit will be kept and allocated more for investment than dividend sharing as it is

stated by Fama & French (2001), Tangjitprom (2013), and Ferris, Jayaraman, & Sabherwal (2009).

5. IMPLICATION

The greater the firm size, the higher the probability of a company to pay dividend will be. The higher the ⁶ asset growth, and the market to book ratio of a company, the lower the probability of company to pay dividend will be. These findings support Baker & Wurgler (2004a) that is about **trade-off**. When the investor will increase the value of a company at the market because of dividend sharing, then, the company should pay the dividend. However, if the investors prefer non-payer to payer, then the company do not need to pay the dividend. This study does not only discuss how much dividend that should be paid, but also the possibility of company to pay the dividend. As trade-off matter, the company will consider the characteristic of company

REFERENCES

- Adi, A. R., & Kunci, K. (2018). Karakteristik Finansial dan Kecenderungan Pembayaran Cash Dividen pada Perusahaan di Bursa Efek Indonesia, *9*(1), 1–12.
- Baker, M., & Wurgler, J. (2004). A Catering Theory of Dividends, *LIX*(3).

Baker, M., & Wurgler, J. (2004). Appearing and disappearing dividends : The link to catering incentives \$, 73, 271–288. <https://doi.org/10.1016/j.jfineco.2003.08.001>

Chahyadi, C. S. (2010). Not paying dividends ? A decomposition of the decline in dividend payers, (April). <https://doi.org/10.1007/s12197-010-9132-0>

Denis, D. J., & Osobov, I. (2008). Why do firms pay dividends ? International evidence on the determinants of dividend policy \$, 88(1), 62–82. <https://doi.org/10.1016/j.jfineco.2007.06.006>

Elisabete, M., & Neves, D. (2018). Payout and firm ' s catering. <https://doi.org/10.1108/IJMF-03-2017-0055>

Fama, E. F., & French, K. R. (2001). Disappearing dividends : changing " rm characteristics or lower propensity to pay ? \$, 60, 3–43.

Ferris, S. P., Jayaraman, N., & Sabherwal, S. (2009). Catering effects in corporate dividend policy: The international evidence. *Journal of Banking and Finance*, 33(9), 1730–1738. <https://doi.org/10.1016/j.jbankfin.2009.04.005>

Gujarati, D. N. dan D. C. P. (2013). *Dasar-dasar Ekonometrika*. Jakarta: Salemba Empat.

Li, W., & Å, E. L. (2006). Dividend changes and catering incentives \$, 80, 293–308. <https://doi.org/10.1016/j.jfineco.2005.03.005>

Marietta, U., & Sampurno, D. (2013). Analisis Pengaruh Cash Ratio , Return On

Assets , Growth , Firm Size , Debt to Equity Ratio Terhadap Dividend Payout Ratio : (Studi Pada Perusahaan Manufaktur Yang Terdaftar di Bursa Efek Indonesia Tahun 2008-2011), 2(1999), 1–11.

Nurhayati, M. (2013). *Jurnal Keuangan dan Bisnis* Vol. 5, No. 2, Juli 2013, 5(2).

Rahmawati, C. H. tri. (2017). Pengaruh Set Kesempatan Investasi dan Kepemilikan Manajemen terhadap Pembayaran Dividen pada Perusahaan yang Terdaftar di Bursa Efek Indonesia 37, (1), 37–48.

Simbolon, K., & Sampurno, D. (2017). Analisis Pengaruh Firm Size , DER , Asset Growth , ROE , EPS , Quick Ratio dan Past Dividend terhadap Dividend Payout Ratio (Studi pada Perusahaan Manufaktur yang Terdaftar di BEI Tahun 2011- 2015), 6, 1–13.

Situmorang, A. . (2017). “ pengaruh profitabilitas, debt to equity ratio , firm size , growth , dan cash ratio terhadap devident payout ratio pada sektor barang konsumsi yang terdaftar di bursa efek indonesia periode 2011-2014 ,” 5.

Suranta, Eddy, et all. (2010). EFFECT OF DIVIDEND CATERING THEORY TO THE COMPANY’S DIVIDEND PAYOUT PROPENSITY. *Malaysia-Indonesia International Conference on Economics, Management and Accounting*, 25–26.

Tangjitprom, N. (2013). Propensity to pay dividends and catering incentives in Thailand. *Studies in Economics and Finance*, 30(1), 45–55.
<https://doi.org/10.1108/10867371311300973>

Utami, G. K. dan R. (2015). ANALISIS FAKTOR-FAKTOR YANG
MEMPENGARUHI. *Jurnal Manajemen*, 15(1), 41–58.

Wang, M., & Lin, F. (2016). Dividend policy and the catering theory : evidence
from the Taiwan Stock Exchange. <https://doi.org/10.1108/MF-05-2015-0132>

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