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# Do dividends still matter? The role of investment opportunities on the ability of dividends to predict future earnings

Sila Ninin Wisnantiasri

## Abstract

**Research aims:** This study investigates the role of firm characteristics explained by the investment opportunity (IO) on the ability of dividends to predict future earnings.

**Design/Methodology/Approach:** This study performed an empirical study on firms listed in the consumer goods sub-sector on the Indonesian Stock Exchange, divided into companies with strong and weak IO categories to clearly see the role of IO by comparing the variable dividend coefficients of the two sample categories. Through purposive sampling, the researcher determined the research sample, totaling 42 firm samples for the weak IO category and 48 firm samples for the strong IO category. Then, the multiple regression analysis utilizing IBM SPSS Statistic Version 23 was employed to analyze the relationship between variables.

**Research findings:** Surprisingly, companies with weak IO showed a more remarkable ability to predict future earnings than companies with strong IO because the dividend coefficient of companies with weak IO was higher than that of strong IO, denoting that the number could explain the strength of ability.

**Theoretical contribution/Originality:** The result provides alternative explanations to the previous inconsistent results from the dividend's ability to predict future earnings. The result also supports the argument that the companies with weak IO may use dividends to convey information signals and compensate the investor for unsatisfied performance, which is called counter-signal when strong IO refrain from doing so and rely on additional information.

**Practitioner/Policy implication:** Investors should notice companies' characteristics, such as investment opportunities, while considering dividends as a signal for future performance to make an investment decision.

**Research limitation/Implication:** The research did not fully capture all companies in Indonesian Stock Exchange, but specifically for the companies' sub-sector that aggressively paid the dividend. Thus, future research is hoped to provide empirical studies for other sector companies listed on Indonesia Stock Exchange to enrich alternative explanations.

**Keywords:** Dividend; Dividend signaling; Investment opportunities; Future earnings



## AFFILIATION:

Accounting Study Program, Faculty of Economics, Universitas Terbuka, Banten, Indonesia

## CORRESPONDENCE:

[sila.wisnantiasri@ecampus.ut.ac.id](mailto:sila.wisnantiasri@ecampus.ut.ac.id)

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## Introduction

In classical dividend theory, the information provided by dividends increases with the investment opportunities (IO) (Rock & Miller, 1985). However, recent research has uncovered differences in signaling impact between weak and strong IO companies. Dividends can signal stronger for

companies with weak IO (Kaplan & Pérez-Cavazos, 2022); on the other hand, companies with strong IO rarely share dividends.

Companies with weak IO also tend to require less cash so that dividends can be distributed in a larger number and proportion of profits. Meanwhile, companies with strong IO prefer to reserve their profits (Kaplan & Pérez-Cavazos, 2022). Berkshire Hathway, led by Warren Buffet, chose not to distribute dividends because they prefer to reinvest the company's net income and believe that in the long term, investors will be more profitable even if they do not receive dividends (Wijayanti, 2022), increasing value of the company. In assessing investment opportunities in various financial literature, Tobin's Q proxy (Tobin, 1969) based on market value has been widely used (Erickson & Whited, 2011).

Moreover, leading technology companies like Google, Facebook, and Amazon are predicted to share dividends in the next few years. However, they had an accumulative cash value of USD 290 billion in 2020 (Said, 2021). They used their capital to invest in long-term growth. In this case, the value of cash holdings becomes one of the proxies in investment opportunities because it reflects the company's ability to maintain cash used to finance investments (Kaplan & Pérez-Cavazos, 2022).

On the other hand, in Indonesia, several companies continue to distribute dividends even though they are in a loss position, such as PT Saratoga Investama (Wareza, 2019), PT Indika Energy Tbk (Ulfah, 2020), and PT Suya Toto Indonesia Tbk (Rahmawati, 2021). They shared dividends from retained earnings in previous years or generated income from other entities. In recent years, many companies have also postponed dividend payments due to the impact of the pandemic. Dividends themselves are considerations in choosing an investment depending on the type of investor. Particularly, short-term investors expect large dividends (Melani, 2021). Meanwhile, the survey revealed that Indonesian people invested in stocks for long-term investment (Lidwina, 2021). These investors do not mind smaller dividends if the company keeps expanding. The dividend yield itself is also one of the investor's considerations since it provides a large rate of return. In companies with high dividend yields, company value is attributable to dividend growth (Kaplan & Pérez-Cavazos, 2022). In Indonesia, companies with the highest dividends are also indexed in the "IDX High Dividend 20." This index measures the price performance of 20 companies that have distributed cash dividends for the last three years and have high dividend yields. At the end of 2019, 20 companies were included in this index, and 25% came from the consumer goods sector, as shown in Table 1, which are companies with stock codes UNVR, GGRM, HMSP, KLBF, and INDF. It indicates that companies in this sector are the most aggressive in paying dividends.

The number of Indonesian investors has proliferated since 2018 (PT Kustodian Sentral Efek Indonesia, 2021). As of February 2021, the number of investors has reached more than 4 million. Indonesian investors are currently dominated by local investors (Olavia, 2022). Unfortunately, the behavior of individual investors in the Indonesian capital markets tends to be irrational in investing (Sumani et al., 2017). The first ranking variable consideration in investment decisions is news or reviews in the media, while dividends are ranked 21 of 33 criteria (Christanti & Mahastanti, 2011). It raises questions about

whether Indonesian investors correctly take the company's signals. Additionally, research on dividends in Indonesia still focused on the effect of dividend policy or changes in dividends on profits or changes in profits with inconsistent results (Anggara, 2020; Gultom, 2018; Widsatrya & Subroto, 2014), but no one provided an explanation of the company's characteristics based on investment opportunities. Therefore, this research seeks to provide alternative explanations for these inconsistencies. This study used Tobin's Q as the primary measurement of investment opportunities because it has been widely used in the financial literature (Kaplan & Pérez-Cavazos, 2022).

**Table 1** IDX High Dividend 20

Code	Earnings					Dividends Payout (%)				
	FY15	FY16	FY17	FY18	FY19	FY15	FY16	FY17	FY18	FY19
ITMG	63	131	253	262	129	100	100	100	100	80
PTBA	2,036	2,006	4,476	5,024	4,057	30	30	75	75	75
LPPF	1,781	2,020	1,907	1,097	1,367	70	70	70	85	0
ADRO	152	335	483	418	404	50	30	53	48	48
TLKM	15,489	19,352	22,145	18,032		60	70	75	90	
UNTR	3,853	5,002	7,403	11,126	11,312	66	40	45	40	40
INDF	2,968	4,145	4,168	4,166	4,908	50	50	50	50	50
HMSP	10,363	12,762	12,671	13,538	13,722	100	98	99	101	100
GGRM	6,436	6,677	7,754	7,792	10,881	78	75	65	64	46
BBRI	25,398	26,228	28,997	32,351	34,373	30	40	45	50	60
BMRI	20,335	13,807	20,640	25,015	27,482	30	45	45	45	60
INTP	4,357	3,870	1,860	1,146	1,835	35	88	139	177	80
UNVR	5,852	6,391	7,005	9,109	7,393	100	100	100	99	100
ASII	14,464	15,156	18,881	21,673	21,707	50	45	40	40	40
CPIN	1,837	2,213	2,465	4,6002		26	42	37	42	
TOWR	2,958	3,040	2,100	2,200		0	23	57	55	
PGAS	5,256	304	1,990	3,454	939	42	45	39	40	40
BBNI	9,067	11,339	13,616	15,015	15,384	25	35	35	25	25
KLBF	2,004	2300	2,404	2,457	2,507	44	45	49	50	50
BBCA	18,019	20,606	23,310	25,855	28,565	22	24	27	32	20

Source: Bloomberg, IDX, MiraeAsset Sekuritas Indonesia Research

Based on the background of the problems, the problem can be formulated on how the influence of investment opportunities on the ability of dividends to predict earnings levels by using investment opportunities proxies, Tobin's Q (Kaplan & Pérez-Cavazos, 2022). Further, this research was conducted to provide benefit as a literature that describes the role of investment opportunities in the ability of dividends to predict future earnings levels. It allows stakeholders, especially investors, to map the company's condition based on investment opportunities. Then, they can conclude whether dividends are the right signal to predict company performance in the future so that the decision-making process increases accuracy due to relevant instruments. The researcher focused on consumer goods companies since they aggressively pay dividends, as presented in Table 1.

## Literature Review and Hypotheses Development

In the early study, Miller and Modigliani (1961) found that dividend policies are important factors in determining stock prices, so companies are expected to manage dividend policy properly. Besides, the signaling theory was first introduced by Spence (1973) to explain the job-market signaling model. Then, the idea was developed around the idea that profits convey information and companies incur costs to convey that information to the market. Companies with strong profits can bear these costs, whereas less strong companies cannot (Bhattacharya, 1979; DeAngelo & DeAngelo, 2006).

Based on signaling theory, researchers (e.g., Bhattacharya, 1979; John & Williams, 1985; Kaplan & Pérez-Cavazos, 2022; Rock & Miller, 1985) support the notion that dividend policy allows firms to signal to the market the true type of firms based on their future perspectives. The announcement of an increase (decrease) in the dividend rate will mean that the company is making improvements (decrease) in the company's prospects. As a result, the market usually is sensitive to this decision by revising stock prices. However, the idea that markets react to dividends because of earnings information is rejected by researchers in favor of alternative explanations (Allen & Michaely, 2003; DeAngelo & DeAngelo, 2006; Farre-Mensa et al., 2014). The rejections of this point of view stem from two reasons: several studies have concluded that dividends do not convey information about the earnings (Grullon et al., 2005), and the results of studies on less mature companies are increasingly facing signal costs (John & Williams, 1985).

Specifically, companies with weak investment opportunities need to hold less cash to manage dividends more aggressively and deliver a larger portion of permanent income to the market. Conversely, companies with strong investment opportunities prefer to save a portion of permanent income that could otherwise be used to pay dividends. From an informational perspective, this conservative dividend policy limits investors' inferences about dividend earnings.

In Indonesia, the findings of dividend role in predicting future earnings still bring inconsistent results. Dividend changes are related to the company's earnings changes in the future (Gultom, 2018; Prasetyanta, 2014) and stock prices (Riyani & Andriana, 2019; Widsatrya & Subroto, 2014). Rejecting roles in predicting future earnings have also been found (Anggara, 2020). Even though the result also rejects dividends payment in financial performance, companies that offer low dividend rates positively impact the company's financial performance (Nuriksani & Sari, 2022). These findings suggest another explanation for inconsistent results from the characteristics of companies.

Because of inconsistent results of dividend roles, the researcher attempted to find an alternative explanation, as Kaplan and Pérez-Cavazos (2022) promoted, that differentiates companies from investment opportunities and compare the result from different group companies. The researcher also considered the COVID-19 pandemic influencing firms' earnings. Through the development of these hypotheses, the following are research frameworks depicted in Figure 1.

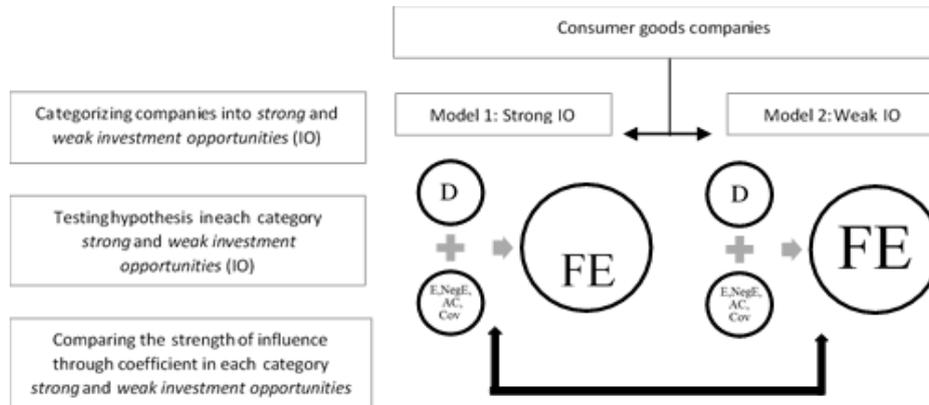


Figure 1 Research Frameworks

The research equation is described in the equation:

$$FE_t = \alpha_0 + \alpha_1 D_1 + \alpha_2 E_t + \alpha_3 NegE_t + \alpha_3 AC_t + \alpha_4 Cov_t + \epsilon \quad (1)$$

The explanation for each component of the equation is as follows: FE stands for future earning which is based on next year's net income (t+1) where dividends payment and earnings in the corresponding year (t) are denoted by the symbols D and E. NegE is a dummy variable for earnings where AC is an accrual derived from the difference between net income and cash flow from operations and Cov is the COVID-19 pandemic.

Based on the description, the hypothesis in this study was put forward as follows:

**H<sub>1</sub>:** Companies with weak investment opportunities have a stronger predictive ability on earnings levels than those with strong investment opportunities.

**H<sub>0</sub>:** Companies with weak investment opportunities have no stronger predictive ability on earnings levels than those with strong investment opportunities.

## Research Method

### Population, Samples, and Data

The population of this study was all companies in the consumer goods subsector listed on the Indonesia Stock Exchange during 2018-2020 and the most aggressive companies in sharing dividends. In addition, Indonesia was chosen as the population because of the specific characteristics of Indonesian investors that tend to be irrational when investing (Sumani et al., 2017). It will provide different explanations for the enrichment of alternative elucidations. Data resources were supported by the Indonesian Capital Market Institute (TICMI).

### **Research Model and Variables**

This study used the quantitative method to investigate the role of investment opportunities in the relationship between dividends ability and future earnings level from each firm category. Therefore, the researcher compared the dividend coefficient of each category to draw conclusions about which category had a stronger ability. First, the researcher categorized firms into strong IO and weak IO through the value of Tobin's Q in each firm. Second, the researcher run hypothesis tests for model 1 with strong IO company samples and model 2 with weak IO samples.

### **Data Collection Technique**

Then, this study employed the purposive sampling criteria, including (1) consumer goods companies listed on the Indonesia Stock Exchange (IDX) in the study period (2018-2020) and (2) the companies with complete information regarding this study's requirement for analysis. Based on the criteria above, the samples obtained were from 48 firm years for companies with strong IO and 42 firm years for companies with weak IO. Using the quartile method, the firms were then categorized into three groups based on Tobin's Q value: weak IO, medium IO, and strong IO. The researcher also used only two groups, strong IO and weak IO, to analyze.

### **Operational Definition and Measurement of Variables**

Operational variables used in this study were as utilized in (Kaplan & Pérez-Cavazos, 2022) and modified with COVID-19 pandemic variables as presented in Table 2.

### **Data Analysis**

This study utilized the IBM SPSS Statistic Version 23. SPSS is a computer package specializing in quantitative data analysis and is widely used by market researchers (Mooi & Sarstedt, 2019). Then, the researcher used multiple regression to analyze data because the equation included multiple independent variables. First, regression analysis needed data requirements to determine if regression analysis could be used through assumptions of normality, multicollinearity, heteroscedasticity, and autocorrelation tests. To test the hypothesis, the researcher run tests with regression analysis to predict causalities correlations in model 1 for companies with strong IO and model 2 for companies with weak IO. Finally, the researcher compared the dividends coefficient between model 1 with strong IO samples and model 2 with weak IO samples to find whether the criteria had a stronger ability to predict future earnings.

The steps taken in the regression analysis (Mooi & Sarstedt, 2019) are presented in Figure 2.

## Results and Discussion

### Descriptive Analysis

Before running a regression analysis to test the hypothesis, the researcher prepared data requirements, including sample size, to be acceptable. The object of this research was consumer goods sector companies selected based on predetermined criteria. The researcher then divided firm years of consumer sector companies in 2018-2020 into three categories based on investment opportunities (IO) proxies by Tobin's Q score: strong IO, medium IO, and weak IO. Then, the researcher used only strong IO and weak IO for better comparison. After removing outlier data, the final samples were from two categories: model 1 for strong IO companies amounting to 48 firm years and model 2 for weak IO companies as many as 42 firm years.

**Table 2** The Operationalization of Variables

Variable	Measurement	Data Resources
<b>Category Reference</b>		
Investment Opportunities (IO)	Consisting of Tobin's Q (Q) proxies: the natural logarithm of 1 + the market of equity plus total liabilities divided by total assets $\text{LOG}(1+\text{MVE}+\text{LT})/\text{AT}$	The Indonesia Capital Market Institute (TICMI)
<b>Dependent Variable</b>		
Future Earning (Earning levels ( $E_{t+1}$ ))	Net income in year+1	The Indonesia Capital Market Institute (TICMI)
<b>Independence Variable</b>		
Dividend (D)	Dividend payment during the year	The Indonesia Capital Market Institute (TICMI)
<b>Control Variables</b>		
Earning (E)	Net income	The Indonesia Capital Market Institute (TICMI)
NegE	Indicator variable that assumes the value of 1 if net income is lower than zero	Based on net income collected from the Indonesia Capital Market Institute (TICMI)
Accruals (AC)	Difference between net income and cash flows from operations (NI-OANCF)	The Indonesia Capital Market Institute (TICMI)
COVID-19	Indicator variable that assumes the value of 1 for the existence of the COVID-19 pandemic and the value of zero for otherwise	Based on the year declaration of the COVID-19 pandemic from the WHO and Indonesia Government

In Table 3, the amount value of the dividend paid in both categories obtained a minimum value of 0, meaning that the firms did not pay the dividend in the observed period. In these models, the researcher included dividend 0 payment since the researcher not only compared the magnitude of dividends but also emphasized the existence of dividend signaling. Kaplan and Pérez-Cavazos (2022) also included dividend 0 firms in their study.

In this regard, the researcher assumed that not paying dividends was a signal to future earnings. In addition, the maximum dividend value paid was 13.935 billion in strong IO categories. The strong IO companies also had a greater mean of dividends of 1.378 billion. Besides, the standard deviation of strong IO was higher than the weak IO companies, signifying that deviations were broader.

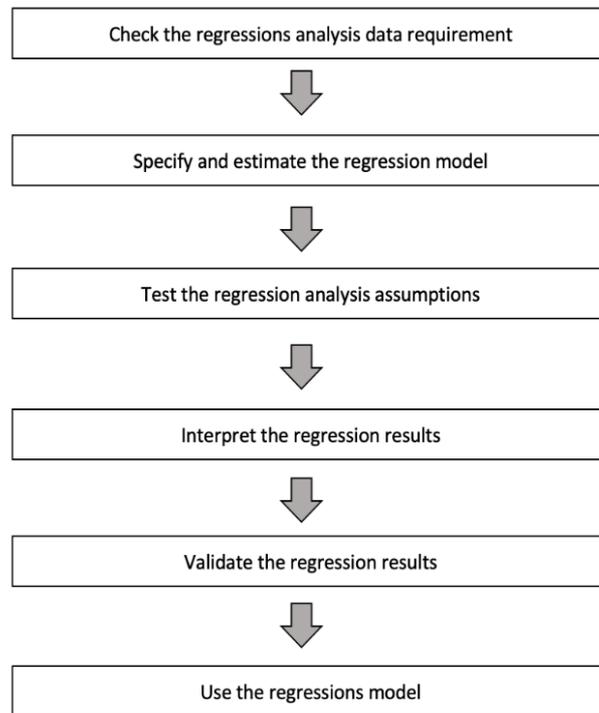


Figure 2 Steps Taken in Regression Analysis

On the other hand, the earnings in weak IO companies had a minimum value of -203 and a maximum value of 834, smaller than strong IO. It denotes that weak IO had more loss and less profit company. The means of earning and standard deviation of weak IO were also much smaller than strong IO, showing that strong IO had a greater profit average. It was strengthened with the mean value of NegE greater than strong IO. Hence, more NegE implies that companies had more losses.

Furthermore, the mean of strong IO's accruals value was much greater than weak IO, indicating that strong IO companies had positive operating cashflows. In contrast, weak IO companies had negative accruals mean value. Therefore, the future performance of strong IO companies is brighter than weak IO since the mean value of strong IO is much greater than weak IO.

According to the regression analysis assumption test described in Table 4, the researcher could conclude that both model 1 in companies with strong IO and model 2 in companies with weak IO had normal data, no collinearity problem, homoscedasticity data, and no autocorrelation. It implies that regression models were ready to interpret.

**Table 3** Descriptive Statistics for Companies with Strong IO and Weak IO

Variables	Minimum	Maximum	Mean	Standard Deviation
Companies with Strong IO (N=48)				
Dividend (billions)	0	13.935	1.378	3.263
Earning (billions)	(42)	13.722	2.132	3.478
NegE	0	1	0.13	0.33
Accruals (billions)	(8.098)	12.450	139	3.130
Future Earning t+1 (billions)	(84)	8.581	1.184	2.159
COVID	0	1	0.31	0.46
Companies with Weak IO (N=42)				
Dividend (billions)	0	551	48	97
Earning (billions)	(203)	834	50	155
NegE	0	1	0.36	0.48
Accruals (billions)	(657)	1.869	(33)	364
Future Earning t+1 (billions)	(509)	1.035	115	279
COVID	0	1	0.33	0.48

### Hypothesis Test Results

After evaluating the models, the researcher tested the hypothesis by interpreting multiple regression results to answer the research question. Hypothesis testing was carried out on companies with strong IO and then on companies with weak IO. The regression results for testing are demonstrated in Table 5.

First, the researcher interpreted the regression model by examining the model fit through *F*-test. Table 5 reveals that both model 1 and model 2 had *p*-values of 0.000, clearly lower than 0.05. Then, the researcher interpreted the model's *R*<sup>2</sup>. Model 1 for companies with strong IO showed an R-Square value of 0.572 or 57.2%, and model 2 for companies with weak IO had an R-Square value of 0.483 or 48.3%. Both model 1 and model 2 were moderate but still satisfactory.

On companies with strong IO, the significance test on multiple regression by IBM SPSS version 23 was carried out on the effect of dividend (D), earnings (E), NegE, accruals (AC), and COVID (Cov) on future earnings level (FE). It indicates that with a significance level of 5%, the variables that showed a significant relationship among companies with strong IO were dividends (D) with a Sig value of 0.034, earnings (E) with a Sig value of 0.004, and accruals (AC) with a Sig value of 0.012.

Furthermore, the regression results on companies with weak IO by IBM SPSS version 23 were also conducted on the effect of dividend (D), earnings (E), NegE, accruals (AC), and COVID (Cov) on future earnings level (FE), as obtained in Table 5. With a significance level of 5%, the variables that uncovered a significant relationship were dividend (D) with a *p*-value of 0.009 and earnings with a *p*-value of 0.001.

**Table 4** Regression Analysis Assumption

Test	Value		Parameter	Results	
	Strong IO	Weak IO		Strong IO	Weak IO
Normality	0.58	0.117	< 0.05	Normal data	Normal data
Multicollinearity	D (2.627) E (2.814) NegE (1.065) AC (2.123) Cov (1.619)	D (1.125) E (1.475) Neg (1.386) E AC (1.085) Cov (1.136)	VIF < 10	No collinearity problem	No collinearity problem
Heteroscedasticity	Uniformly distributed	Uniformly distributed	Scatterplot analysis	Homoscedasticity	Homoscedasticity
Autocorrelation	2.127	1.553	(dU < d < 4 dU)	No auto correlation	No auto correlation

To conclude hypothesis testing, the researcher tested the effect of IO on the ability of dividends to predict future earnings by comparing the dividend coefficient in each model. The comparing results are presented in Table 6.

**Table 5** The Regression Results

Variable	Strong IO		Weak IO	
	Coefficient	Sig	Coefficient	Sig
D	0.224	0.034	0.946	0.009
E	0.250	0.004	0.862	0.001
NegE	7.472E+9	0.991	9.377E+10	0.226
AC	-0.252	0.012	-0.130	0.175
Cov	9.025+11	0.114	3.652E+10	0.605
F-test	0.000		0.000	
R-Square	0.572		0.483	

Based on the comparative coefficient value of the two categories obtained from the coefficient of variable dividend value in each model shown in Table 6, it can be concluded that hypothesis H1 was accepted and H0 was rejected. It is because the dividend coefficient value in companies with weak IO of 0.946 was greater than the coefficient value of companies with strong IO of 0.224. It implies that companies with weak investment opportunities had a stronger effect on predicting future earnings.

**Table 6** Result of Comparing Dividend Ability

Model	Companies with strong IO (Model 1)	Companies with weak IO (Model 2)	Result
Dividend coefficient (D)	0.224	0.946	Weak IO > Strong IO H1 => accepted

The hypothesis testing result revealed that the ability of dividends to predict future earnings in companies with weak IO was stronger than that of dividends to predict future earnings in companies with strong IO. These results indicate similarities to the study results of Kaplan and Pérez-Cavazos (2022). This similar result illustrates consistency with the previous theory that companies with strong (weak) IO are less (more) willing to pledge

a larger fraction of their permanent earnings as dividends, which from an information perspective, decreases (increases) the earnings predictability of dividends.

Firms with weak investment opportunities tend to respond to earnings shocks by paying dividends, allowing their dividends to convey future earnings information to the market. The stronger signal of dividends is because they have a stronger valuation incentive to communicate earning information. In that case, it is suspected that dividends will be compensated because companies cannot provide an expected signal from profit, which is called a counter-signal (Aghamolla et al., 2021). Otherwise, companies with strong profitability and growth opportunities refrain from doing so (Kaplan & Pérez-Cavazos, 2022). They choose not to signal earnings with dividends but rely on additional information to differentiate them from other types of companies to avoid noisy information signals and shun their standard signal (Feltovich et al., 2002).

Nevertheless, these results differ from classical signaling models of dividends. The previous theory argues that there is a stronger signal in companies with stronger investment opportunities because higher cost allows the signal to convey more information (John & Williams, 1985; Rock & Miller, 1985).

From the investor characteristic viewpoint, in Indonesia, dividends are variable in investment decisions making (Christanti & Mahastanti, 2011). Dividends can be used as a signal that conveys information to the market (Rock & Miller, 1985) and contains information about future changes (Ham et al., 2020). Hence, the rank of dividends considerations in Indonesia is 22 of 33 criteria, not higher than fundamental criteria, such as financial statements, earnings, and reputation (Christanti & Mahastanti, 2011). It reinforces that investors also rely on additional information besides dividends.

The descriptive analysis also showed that companies with strong IO had a greater average profit than weak IO. This data supports by companies' profile explanations. From this data, it can be implied that companies with strong IO have the flexibility to distribute dividends and bear the signal cost that arises (Bhattacharya, 1979; DeAngelo & DeAngelo, 2006) but chooses not to use this kind of signal. In contrast, companies with weak IO are suspected of having unfavorable fundamental conditions because of the lower Tobin's Q value. Companies with weak IO are still likely to distribute dividends. Furthermore, Indonesia's investor profile is dominated by individual investors (Olavia, 2022), which can also explain this result since individual investors have an investment goal in the form of dividend yields. In addition, Indonesian people invest in stocks for long-term investment (Lidwina, 2021).

In Indonesia, dividend policy is an essential factor influencing stock prices (Riyani & Andriana, 2019), so companies with good fundamental conditions prioritize dividend distribution and allocating funds for long-term investments. Corporate earnings divided into a permanent component of earnings and transitory earnings will be beneficial in estimating the company's future value, which will be helpful in the decision-making stock return (Putra, 2008). Dividend changes also convey information about earnings changes (Prasetyanta, 2014). However, there are opposite predictions about the role of dividends

in conveying future earnings because dividend policy has no positive effect on future earnings (Anggara, 2020). The finding of this research also explains inconsistent results of the effect of dividends by an alternative explanation from the companies' characteristic viewpoint: investment opportunities.

## Conclusion

In conclusion, companies with weak IO have a stronger dividend signal than those with strong IO. Weak IO prefers to choose the dividend that conveys information about future earnings to the market, whereas strong IO refrains from doing so. This result contributes an alternative explanation of the inconsistency of previous results. Hence, investors investing in the Indonesia Stock Exchange should notice companies' characteristics, i.e., investment opportunities, while considering dividends as a signal for better investment decision-making. As a result of this, investors must better understand and categorize firms from IO characteristics from investment opportunities proxies by Tobin's Q score.

The limitation of this study is that the research samples were too specific based on aggressiveness in paying dividends, and only one firm characteristic was studied. Different company sectors may have another result and explanation. Therefore, future research is expected to provide a sample from other sectors or different firm characteristics to enrich the alternative explanations.

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