INFLUENCE OF GREEN INVESTMENT AND FIRM SIZE ON FIRM VALUE OF SECTOR ENERGY FIRM LISTED ON IDX 2018-2022

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Abstract

Firm value is a good perspective from investors to the company for its business activities and prospects in the future where they want to make investment decisions. This study uses the factors of Green Investment and Firm Size to identify their influence on Firm Value. Green Investment is proxied by the rating of the PROPER held by the Ministry of Environment and Forestry of Indonesia and Company Size is proxied by *SizeLn*. This study is used purposive sampling techniques with 5 companies as a sample. The data analysis methods are using multiple linear regression and hypotheses test (partial and simultaneous) The results of this study state that (1) Green Investment has no effect on Firm Value, (2) Firm Size is stated to have an effect on Firm Value, (3) Green Investment and Firm Size simultaneously together have an effect on Firm Value.

Keyword: *Firm Value; Green Investment; PROPER; Firm Size*

A. INTRODUCTION

PROPER is an abbreviate for Public Disclosure Program for Environmental Compliance, a program from Ministry of Environmental and Forestry (MoEF) Indonesia assessment for companies to improve environmental management performance in line with applicable laws. PROPER can lead the company to obtain a new way of firm value. This is because if the company does Green Investment, such as investing in sustainable business models and strategies, It is said to be an indication of the business's potential for the future[1]. Companies that have prospects in the future will get a positive image of the public, because investor will consider investing more in companies that have prospects in the future. Green Investment is investment by company to preserve the environment and bio-diversity. According to Tanasya, Green Investment that invest with commitments that lead to several things, such as natural resource management, development of alternative sources of new and renewable energy, production, and implementation of water-related projects[2]. The companies that already does Green Investment and meet criteria will get an award PROPER.

The size of firm can be measured on their owned total assets[3]. Total assets reflect the size of company, which if they had a large amount of total assets, then it can be said the company is big. The size of a big company will certainly attract more investor to invest in their company. This is due to company can run its business operations better than the small one, and rapid to achieve goals of the company as well as quick to get profit.

As the investors had an interest to invest their money to the company that did Green Investment and had a big size, the stock price will be high (expensive) and demand will be thrive. Thus, the high public demand for a stock can increase the company's value. This motivates the authors to research whether actually the Green Investment and firm size will give an impact to firm value since the previous research by Avelyn & Syofyan(2023)[4], and Hapsoro et al. (2020)[5], their conducted research imply that green investment has no impact on firm value. Meanwhile, this study is different from research conducted by Murwaningsari & Rachmawati(2023)[6] and Tanasya & Handayani(2020)[2] which states that green investment **affects** firm value. Based on research by (Ekadjaja & Sinta Dewi, 2021)[7] and (Reschiwati et al., 2020)[3] which state that firm size affects firm value. However, it is inversely proportionate to the research published by (Avelyn & Syofyan, 2023)[4] and (Wirawati et al., 2020)[8], whose findings indicate no effect of business size on firm value.

B. LITERATURE REVIEW

1. Signalling Theory

Signalling theory is a theory developed for avoiding asymmetry information and explains how the company's financial condition. Signalling theory was originally developed by Spence in 1973 which explains that there is an information asymmetry phenomenon in the market which at that time occurred in the labour market[9]. Company management will provide information about the condition of the

company through reports, dividend meetings, news and others to potential investors. This will reduce information asymmetry or unbalanced information between the company and potential investors. The role of company management in this case is to convey information about the condition of the company.

2. Green Investment

Green Investment is an investment activity that is needed and carried out by the company as a form of effort in reducing the impact of business on the environment, but does not reduce the results or amount of production targeted by the company. According to Eyraud et al, Green investment is the investments required to lower greenhouse gas and air pollution emissions without appreciably lowering the production and consumption of non-energy items[10]. Green Investment is measured with PROPER award issued by Ministry of Environmental and Forestry Indonesia with rank scaled on table below.

Table 2. 1 PROPER Award Rank

No.	*PROPER Assestment Criteria*	*PROPER Award*	*Score*
1	Have not made a compliance	BLACK	1
2	Compliance	RED	2
		BLUE	3
3	Beyond Compliance	GREEN	4
		GOLD	5

Based on the table, the authors make a score for each PROPER award category, the highest is GOLD with 5 score, and the lowest is BLACK with 1 score. It purposed to make the PROPER awards data turn into statistical data and utilise it for analyse the data using analyse tool.

3. Firm Size

Firm size is an indicator of a company's size. It is shown by total assets possessed by the company; the more total assets listed, the larger its scale. According to Reschiwati et al. in their journal explains

$$Size = Ln\ (Total\ Assets)$$

that Firm size reflects a company's total assets[3]. Firm size is measured by using ratio below:

4. Firm Value

According Hirdinis, The bargaining power of the shares reflects the firm's value; if the company is perceived by investors to have good future prospects, the value of its shares will be quite considerable[11]. Firm value is the perception of investor to a company which will have an impact on the bargaining power of shares making the share price increase and the company value will also increase. It is crucial for the company to gain firm value to attract interest of investor so they can obtain more capital.

Firm value in this research is measured using Price to Book Value (PBV) ratio. According to Brigham and Ehrdhardt, the formulation of PBV ratio is shown below.

$$PBV = \frac{Market\ Price\ per\ Share}{Book\ Value\ per\ Share}$$

Book value per share equation:

$$Book\ Value = \frac{Total\ common\ equity}{Shares\ outstanding}$$

5. Theoretical Framework

According to Sekaran and Bougie, A good theoretical framework observes and defines the essential factors in the scenario that are significant to the problem. It then depicts and explains the relationships among these variables[12]. Therefore, the relationship between variables needs to be explained theoretically to find relevance and connection between independent variable(s) and dependent

variable. There are 2 independent variables in the study, namely *Green Investment* (X1) and *Firm Size* (X2) and 1 dependent variable, namely *Firm Value* (Y).

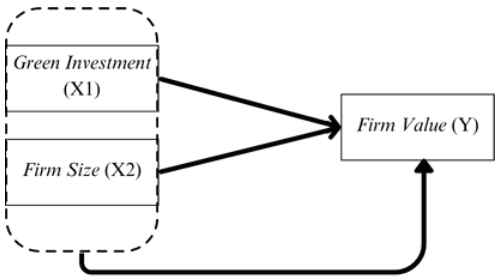

Figure 2. 1*Theoretical Framework*

6. Hypotheses

The following are some hypotheses in this study:
H0 = Green Investment and firm size has no impact on firm value.
H1 = Green Investment has an effect to firm value.
H2 = Firm size has an effect to firm value.
H3 = Green Investment and firm size simultaneously affects firm value.

C. METHOD

This research is used an associative quantitative model. According to I Made Laut, Associative research is research that finds and understands the link between two or more variables[13]. The object of this research is energy sector company that listed in IDX during 2018-2022 period, and the data is obtain from IDX and Stockbit website to get financial statement, and Ministry of Environmental and Forestry Indonesia website to get PROPER awards.Population on energy sector company that listed in IDX during 2018-2022 period is 87 companies, and the sample are 5 out of 87 based on these requirement: (1) Energy sector companies that listed on IDX during 2018-2022; (2) Companies that are consecutively awarded PROPER during the period 2018-2022. The sample are simplified with their stock code, ther are ADRO, AKRA, MEDC, PGAS, and PTBA. Tool for data analysis is using Eviews 13. This research study used semi-annual data, owing to the fact that the sample only 5 companies. Data analysis techniques in this research are multiple linear regression, hypotheses t-Test for partial tests and f-Test for simultaneous test and Common Effect Model (CEM) panel data model used.

D. RESULT AND DISCUSSION

1. Multiple Linear Regression

Table 4. 1 Result of Regression Panel Least Square (PLS)

Dependent Variable: NP
Method: Panel Least Squares
Date: 10/07/24 Time: 17:04
Sample (adjusted): 4/01/2018 10/01/2022
Periods included: 10
Cross-sections included: 5
Total panel (balanced) observations: 50

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	21.50846	2.953137	7.283258	0.0000
GI	0.035081	0.086255	0.406713	0.6861
UP	-0.641170	0.096845	-6.620604	0.0000
R-squared	0.508590	Mean dependent var		1.350600
Adjusted R-squared	0.487679	S.D. dependent var		0.633501
S.E. of regression	0.453439	Akaike info criterion		1.314212
Sum squared resid	9.663521	Schwarz criterion		1.428934

Log likelihood	-29.85530	Hannan-Quinn criter.	1.357899
F-statistic	24.32157	Durbin-Watson stat	0.716851
Prob(F-statistic)	0.000000		

Based on the table above, it can be seen that the multiple regression equation is as follows:

NP = 21.50846 + 0.035081 GI – 0.641170 UP

The definition of the equation is as follows:

1. Constant value = 21.50846. This value illustrates that there is an effect of the predicted value on the firm value (NP) of 21.50846.
2. The coefficient of GI (Green Investment) = 0.035081. This value illustrates that each Green Investment through the PROPER award from the MoEF Indonesia will increase the predicted value of the company value (NP) by 0.035081.
3. The coefficient of UP (firm size) = -0.641170. This value illustrates that each firm size variable will reduce the predicted value of the company value (NP) by -0.641170.

2. Hypotheses Test

a. t-Test (Partial Test)

T-test result can be seen on Probability Column in Table 4.1 above. The Probability outcome for the GI variable is 0.6861, whereas for the UP variable it is 0.0000. At a 5% level of significance, this suggests that the GI variable, which represents Green Investment, has not effect to firm value, however the UP variable, which represents firm size, does.

b. f-Test (Simultaneous Test)

F-test result can be found on F- Statistic Row in the Table 4.1 above. It shows that the value of prob. (F-stat) is 0.000000. The probability (F-stat) value of 0.000000 is less than 5% or 0.05, which indicate that the two independent variables (Green Investment and firm size) have an effect to the dependent variable (firm value).

E. DISCUSSION

The factors that cause Green Investment doesn't affect the value growth depend on the context of Green Investment made by the company. Three out of five companies in the sample are doing Green Investment in context targeting NZE by 2060 or earlier while remains companies has the context of channelling a greener energy transition to the community in an efficient and environmentally friendly manner. This is because Green Investment does not directly affect finance, where green investment focuses more on environmental performance than the company's operational indicators. Minimal literacy by the public regarding green investments that focus on environmental performance is also one of the factors that cause Green Investment not to affect firm value. In this study, the results are the same as research conducted by Avelyn & Syofyan(2023)[4], and Hapsoro et al. (2020)[5] imply green investment does not affect the firm value. Green Investment is considered unable to be an indicator in making investment decisions by investors. Meanwhile, this study is different from research conducted by Murwaningsari & Rachmawati(2023)[6] and Tanasya & Handayani(2020)[2] imply green investment affects firm value.

The influence of the firm size variable has a link between the impact of firm size upon firm value and signaling theory, where potential investors obtain signals from the company's management, who issue annual financial reports to draw the attention of possible investors for the company. If the company is considered good from its financial statements, then prospective investors will certainly buy its shares and will increase the firm value. The increase in firm value will make the share price soar, so that from the investor's side, they will benefit from the excess share price when they buy it and the company benefits in the form of increasing the company's equity which is cheaper than increasing liabilities. This study matches up with study carried out by (Ekadjaja & Sinta Dewi, 2021)[7] and (Reschiwati et al., 2020)[3] which state that firm size affects firm value. This is based on the ease of access to information about the company carried out by large companies, where they have links to their own investor relations web pages to ease the investor to access the company's financial report menu. That way potential investors can easily get positive signals about the company's share price and prospects. This research contradicts the findings of (Avelyn & Syofyan, 2023)[4] and (Wirawati et al., 2020)[8], who found that firm size has not impact to firm value.

F. CONCLUSION AND SUGGESTION

1. Conclusion

The effect of Green Investment and firm size on firm value is the subject of this study. This study uses EViews 13 and a common effect panel data regression model on a sample of 5 energy companies listed on the Indonesia Stock Exchange. Ratio data on the semi-annual financial report for the period 2018-2022 are used. With the result, (1) Green Investment variable does not affect the firm value; (2) Firm size variable affects the firm value; (3) Green Investment and firm size variables affect firm value of Energy Sector companies listed on the IDX for the 2018-2022 period.

2. Suggestion

1. For companies, especially energy sector companies, the author expects company management should be able to socialise to society how important green investment is to be implemented by companies in order to establish a sustainable environment in the future. This can also be useful for shaping a good and sustainable company image in the future. Although it is already on the Investor Relations page on the company's official website, it does not seem to be of interest to the public so that people are less literate about the importance of Green Investment.
2. For future researchers who will examine similar problem formulation, researchers expects that they can add other indicators in variables that are not available in this study, as well as add other variables related to increasing company value.

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