

THE EFFECT OF GREEN INVESTMENT AND RETURN ON ASSETS ON FIRM VALUE (STUDY ON BANKS LISTED IN THE SRI-KEHATI INDEX FOR THE PERIOD 2019 TO 2024)

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Abstract

Company value is very important for companies that have gone public because high company value encourages the desire for business. The step taken to increase the value of the company is for the company to contribute to society and the environment. For this reason, in banking it is necessary to have environmentally friendly bank practices (green investment) and return on assets. This study aims to determine the effect of green investment and return on assets on firm value in banks listed on the SRI-Kehati Index for the period 2019 to 2024. Disclosure of Green Investment as a variable projected by the calculation of environmental costs incurred with total assets, variables related to firm value projected by Price to Book Value. This research is quantitative research with secondary data in the form of published annual reports. Data samples were obtained using saturated sampling techniques and multiple regression data analysis. The results showed that partially green investment has no effect on firm value and return on assets has a significant effect on firm value. Simultaneously green investment and return on assets have a positive effect on firm value. Future research can use financial performance variables that focus more on the long term on firm value and the addition of data from the latest year.

Keywords: Green Investment, Return on Asset, Firm Value, SRI-Kehati, Banks

INTRODUCTION

Banks are *profit-oriented* entities. However, the value of the company is not only seen from the performance in generating *profit* or profit, but also seen from how the company pays attention to the environment and the community involved in it (Utomo, 2016). Banking and the environment are quite different, even contradictory. Despite the stark differences between these two ideas, both are related to *sustainability*. Therefore, by combining the environmental and social management components mentioned in the financial statements, these two components must work together to achieve *sustainability* (Nurmalia, 2021).

In 2019, Jakarta became the city with the 3rd worst air pollution in the world after Santiago, Chile and Chongqing, China (DLH Jakarta, 2019). Marked by the emergence of the covid-19 pandemic phenomenon, which significantly drives a shift in global priorities towards sustainable investment, one of which is *green investment*, as companies face increasing pressure to manage environmental and social risks. This situation reflects the increasing awareness of the importance of sustainability as an integral part of business strategy in facing global challenges.

To keep creating environmentally friendly activities, Bank Indonesia has issued environmental guidelines (Bank Indonesia). Bank Indonesia Regulation No.14/15/PBI/2012 regarding the assessment of the environmental management of prospective debtors as a condition in applying for loans to banks. The Financial Services Authority (OJK) also supports the implementation of *green investment* with the Financial Services Authority Regulation (POJK) Number 51/POJK/03/2017

regarding the Implementation of Sustainability Finance, which encourages Financial Services Institutions (FSIs), issuers, and public institutions to provide adequate funding sources for sustainable development and climate change.

Previous studies have shown that *green investment* is commonly studied in the energy and mining sectors, as they are considered to be major contributors to carbon emissions and natural resource exploitation. However, the banking sector also plays a vital role in promoting sustainable development through its financial intermediation function. Thus, it is important to expand the study of *green investment* to the banking sector to explore the ESG (*Environmental, Social, and Governance*) approach in its operations.

Another indicator that affects firm value is *Return on Asset*. *Return on Asset* is one type of profitability ratio that evaluates how well a company can generate profits from its total assets (Syafina, 2019). A positive ROA shows that the total assets applied to company operations can generate profits for the company. Conversely, if ROA is negative, it means that the total assets used are not profitable. Therefore, the better the financial performance it shows, the better it will be followed by an increase in the share price of the company (Setiawan & Kurnia, 2024).

High profitability will have an impact on high financial performance and be a positive signal for investors resulting in an increase in stock prices and an increase in company value. In Indonesia, the Bank Health Level Assessment has been regulated in Bank Indonesia Regulation Number 13/1/PBI/2011. This regulation states that *Return on Asset* is said to be safe if it has $ROA > 1.5\%$. This means that if the profitability value (ROA) of the bank is below the predetermined ROA standard, then this can indicate that the health condition of a bank is not good.

Green investment and ROA provide legitimacy and positive signals that support each other in strengthening the company's position in the eyes of stakeholders. Through green investment, the company shows its commitment to long-term sustainability, not merely oriented towards momentary profits. If the investment is able to drive an increase in ROA, then it reflects that sustainability performance also has an impact on efficiency and profitability. This signal strengthens investor confidence and creates a positive image in the market. Finally, the combination of social legitimacy and financial performance signals will lead to an increase in overall firm value.

LITERATURE REVIEW AND HYPOTHESIS FORMULATION

LITERATURE REVIEW

Legitimacy Theory

Legitimacy theory focuses on the relationship between the company and society which shows that it can carry out its activities according to the norms that exist in the company's environment (Dowling & Pfeffer, 1975). The existence of legitimacy from society is a strategic factor for companies to develop their business in the future. Legitimacy continues to change in line with changes in society and the environment, where companies must be able to balance these changes in terms of products, methods, and goals. Legitimacy can be achieved when the company's existence is in line with the values upheld by society and the environment and does not cause disturbance to both.

Signaling Theory

Signaling Theory was first coined by Michael Spence in 1973. Investors can interpret the increase in company value using signal theory, which is the way in which management communicates this information to shareholders or readers of financial statements (Tanasya & Handayani, 2020). *Signaling* theory is based on the assumption that the information received by each party is not the same. This theory relates to the imbalance of information between company management and several parties who have an interest in requiring transparency measures. Therefore, managers need to provide relevant information to stakeholders through the preparation of financial reports (Qotimah et al., 2023).

Firm Value

Every company runs its business the company has a company value that is different from other companies. Each company must be able to optimize the assets it has, the higher the assets owned by the company, the higher the company value so that the company will be considered to have potential by many investors. This research is proxied by price to book value (PBV) which is a comparison between the share price and the company's book value (Qotimah et al., 2023). The results of the comparison can be seen that the condition of the company's share price is located in a position above or below the value of the share book. To measure the Price to Book Value ratio in this study, namely:

$$1. \text{ Price to Book Value} = \frac{\text{Harga pasar per saham}}{\text{Nilai buku per lembar}} \dots\dots\dots (1)$$

Green Investment

The measurement of green investment variables refers to the study conducted by Zhang and Berhe (2022). The green investment variable is measured as the ratio between green investment made by a company and the company's total assets at the end of each year. To measure the ratio of green investment in this study, namely:

$$2. \text{ Green Investment} = \frac{\text{Biaya Investasi Hijau}}{\text{Total Asset}} \dots\dots\dots (2)$$

Return on Asset

Return On Asset serves as an indicator to assess the extent of a company's effectiveness in generating profits from its assets. By comparing net income with the company's total assets (Fauji & Karniawati, 2021). To measure ROA in this study, namely:

$$3. \text{ Return On Asset} = \frac{\text{Laba bersih}}{\text{Total aktiva}} \times 100\% \dots\dots\dots (3)$$

HYPOTHESIS FORMULATION

H1: The effect of Green Investment on Company Value

When companies make *green* investments, it shows that they are committed to environmental issues that are of global concern. Thus, companies can strengthen their positive image, increase public trust, and attract more investors who care about sustainability (*sustainable investing*). Suchman (1995) states that companies must operate within the boundaries of norms and values accepted by society in order to maintain their business sustainability. Research conducted by Wijayanti (2024) shows that *green investment* affects firm value. This is because *green investment* increases social legitimacy by demonstrating compliance with environmental norms. Research researched by Larasati, et al (2024) shows that *green investment* does not have a significant positive impact on firm value. Mubarak & Oktaviani (2024) also show that there is no effect of *green investment* on firm value. However, studies researched by Chariri et al (2018) and Mentari & Dewi (2023) show that *green investment* affects firm value.

H2: The Effect of Return on Asset on Firm Value

Profitability as measured by ROA reflects the company's effectiveness in managing assets to generate profits. The company's main goal is to increase the company's value, which can be achieved sustainably if financial performance continues to improve. If the company's financial performance is indicated by high ROA, the company's value will also increase, because this value depends on the company's ability to generate profits through the utilization of its assets (Mumtazah & Purwanto, 2020). Research researched by Sofiani & Siregar (2022) revealed that *return on assets* has a positive effect on firm value. Supported by Jaya'(2020) s research shows that there is a positive influence of ROA on firm value. However, research researched by Yulfitri & Sutarjo (2021) shows that *return on assets* has no significant effect on firm value.

H3: The Effect of Green Investment and Return on Asset on Firm Value

According to Indriastuti & Chariri (2021) *green investment* contributes positively to increasing company value. Paramita & Ali (2023) added that disclosure of *green investment* in companies listed

on the SRI-Kehati index has a positive influence on firm value. However, research conducted by Gunawan, et al (2024) revealed that *green investment* has no effect on firm value. Similarly, Purba & Mahendra(2022) 's research and Jaya'(2020) s research state that *return on assets* has a positive effect on firm value. While the study researched by Ali, et al (2021) concluded that ROA has a negative and significant effect on firm value.

RESEARCH METHODS

This research focuses on companies in the banking sector listed on the Indonesia Stock Exchange (IDX) during the period 2019 to 2024, and the *saturated sampling* technique is used for sample selection. The data used in this study is secondary data, which is obtained from the annual reports and sustainability reports of companies available during the period. These reports can be accessed through the IDX website, www.idx.co.id, as well as the official websites of each company. The data collected will be analyzed using SPSS data processing software.

Data Collection Technique

This research has quantitative characteristics, which means that the focus is on processing data in the form of numbers, starting from the collection process, interpretation, to analyzing the results. Statistical methods are used as a framework in conducting this research. The data sources used are sourced from secondary data obtained from publishers. In data collection efforts, documentation techniques are used to investigate and record important information from various relevant sources. The subject of this research involves all mining companies listed on the IDX in the period 2019 to 2024.

Data Analysis Technique

The research data was analyzed using multiple regression analysis. The equation used is :

$$4. \hat{Y} = a + \beta_1 X_1 + \beta_2 X_2 + e \dots\dots\dots (4)$$

Description:

$\hat{Y}$	= Company Value (<i>Price to Book Value</i>)
a	= Constant
X_1	= <i>Green Investment</i>
X_2	= <i>Return On Asset</i>
β_1	= <i>Green Investment Regression Coefficient</i>
β_2	= <i>Return On Asset Regression Coefficient</i>
e	= <i>research error</i>

The t test is to test how the influence of each independent variable partially on the dependent variable. This test can be done by comparing t count with t table or by looking at the significance value of each t count, The criteria as a guideline for the t test are as follows (Ghozali, 2016):

H0 is accepted if $-t_{table} \leq t_{count} \leq t_{table}$ and significant > 0.05

Ha is accepted if $-t_{count} < -t_{table}$ Or $t_{count} > t_{table}$ and significant ≤ 0.05

The F test is a test to see if all the independent variables together have an effect on the dependent variable. The (Ghozali, 2016):F test can be done by comparing F count with F Table with the following criteria

H0 is accepted if $F_{count} < F_{table}$ and significant > 0.05

Ha is accepted if $F_{count} > F_{table}$ and significant ≤ 0.05

RESULTS AND DISCUSSION

1. *Green investment for the 2019-2024 period* is between 0.0396 and 0.3956. The *mean* value is 0.183592 and the standard deviation is 0.0998453.
2. *Return on assets for the 2019-2024 period* is between 0.50 and 4.03. The average value (*mean*) is 2.8779 and the standard deviation is 0.88001.

3. The Company Value for the 2019-2024 period is between 1.0 and 4.8. The average value (*mean*) is 2.504 and the standard deviation is 1.2757.

Table1 . Descriptive Statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
X1_GI	24	.0396	.3956	.183592	.0998453
X2_ROA	24	.50	4.03	2.8779	.88001
Y_PBV	24	1.0	4.8	2.504	1.2757
Valid N (listwise)	24				

Classical Assumption Test Results

Based on the results of the normality test using *one sample* Kolmogorov-Smirnov, the data in this study are normally distributed because a significant value of 0.200 is obtained, which is greater than 0.05. Based on these results, it can be concluded that the data used in this study are normally distributed.

Multicollinearity test is the second requirement after normality. To see if there is no correlation between the independent variables, the tolerance and VIF values can be seen. From the multicollinearity test results, it shows that there is no multicollinearity and there is no correlation between the independent variables used, because the tolerance value of all variables is > 0.10 with the VIF value of all variables < 10 .

For the Heteroscedasticity test in this study using the Glejser test. From the results of the heteroscedasticity test, it shows that this research data does not occur heteroscedasticity because the significant value of the two independent variables ROA, CR and DAR is greater than the significant value limit of 0.05. This research data is a time series which must be tested for autocorrelation. From the results of the run test, it can be concluded that there is no autocorrelation in this study seen from the significant value of $0.144 > 0.05$.

Multiple Linear Regression Analysis Test Results

Based on the results of the analysis, the similarities of this study are:

$$\text{Company Value} = 0.313 + 0.060\text{GI} + 0.603\text{ROA}$$

The explanation of the equation is:

1. The constant of 0.313 states that if the independent variable is constant or worth 0, the company value (PBV) is 0.313 units.
2. The X1 coefficient of 0.060 states that each increase in Green Investment by 1 unit will result in an increase in the dependent variable firm value by 0.060 units.
3. The X2 coefficient of 0.603 states that each increase in ROA by 1 unit will result in an increase in the dependent variable of firm value by 0.603 units.

Table2 . Equation of Multiple Linear Analysis Results

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.313	.377		.830	.416
	Green Investment	.060	.174	.063	.342	.735
	Return on Asset	.603	.202	.547	2.990	.007
a. Dependent Variable: Price to Book Value						

Hypothesis Test Results

Table3 . Results of the t-test

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.313	.377		.830	.416
	Green Investment	.060	.174	.063	.342	.735
	Return on Asset	.603	.202	.547	2.990	.007
a. Dependent Variable: Price to Book Value						

Based on the t table at the 0.05 probability level with a 2-way significance test and df (21) is 2.07961. Then the partial t test results are as follows:

1. *Green Investment* has a t_{count} value (0.342) < $t_{\text{(table)}}$ (2.07961) with a significance value of 0.735 > 0.05, it means that variable X_1 in this study, namely *Green Investment*, partially has no effect on the value of companies in the banking sector listed on the SRI-Kehati Index for the period 2019 to 2024.
2. *Return On Asset* has a t_{count} value (2.990) > $t_{\text{(table)}}$ (2.07961) with a significance value of 0.007 < 0.05, it means that variable X_2 in this study, namely *Return On Asset*, partially affects the value of companies in the banking sector listed on the SRI-Kehati Index for the period 2019 to 2024.

Table4 . F Test Results

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.696	2	.848	4.489	.024 ^b
	Residuals	3.967	21	.189		
	Total	5.663	23			
a. Dependent Variable: Price to Book Value						
b. Predictors: (Constant), Return on Asset, Green Investment						

By looking at the F table for df 1 (2) and df 2 (21), the F table is 3.47. Thus F count (4.489) > F table (3, 47) and significance 0.024 < 0.05, H_a is accepted, meaning that *green investment* and *return on assets* simultaneously affect the value of companies in the banking sector listed on the SRI-Kehati Index for the period 2019 to 2024.

Table5 . Determination Coefficient Test Results

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.547 ^a	.299	.233	.43463
a. Predictors: (Constant), Return on Asset, Green Investment				

Based on table 4, it can be seen that the effect of the two independent variables, namely *green investment* and *return on assets* on firm value in the banking sector, is 0.233 or 23.3%, where 76.7% is influenced by other factors outside the study.

DISCUSSION

The Effect of *Green Investment* on Company Value

The results of this test show that there is no relationship or impact of *green investment* on firm value as indicated by a significant value of 0.735 > 0.05. The findings of this study are in line with

research conducted by Larasati, et al (2024) which reveals that it does not have a positive and significant influence on firm value in mining companies listed on the Indonesia Stock Exchange in 2017-2022. Research by Yusnia, et al (2024) and (Mubarok & Oktaviani, 2024) also states that the implementation of *green investment* has a negative effect on firm value. This indicates that *green investment* can cause a decrease in company value in the short and long term, due to the lack of literacy regarding the implementation of *green investment* in Indonesia so that *stakeholders* do not respond to the practice and disclosure of *green investment* that has been carried out by banks.

The Effect of *Return On Asset* on Company Value

The results of this test show that there is an influence and significant ROA variable on firm value, which is indicated by a significant value of $0.007 < 0.05$. The results of this study are supported by research reviewed by Purba and Mahendra (2022) which reveals that *Return on Asset* has a positive effect on firm value in Property and Real Estate companies on the Indonesia Stock Exchange for the 2017-2020 period. Research reviewed by Jaya (2020) and Mumtazah and Purwanto (2020) also states that ROA disclosure has a positive effect on firm value. An increasing ROA indicates an increase in net profit from the use of existing assets, this increase shows the company's ability / success in managing finances which is part of the company's goal of maximizing shareholder welfare or company value.

CONCLUSION

Based on the results of the discussion of the analysis above, the conclusions regarding the effect of *green investment* and *return on assets* on firm value in banks listed on the SRI-Kehati index for the 2019-2023 period are as follows:

1. *Green Investment* partially has no effect on firm value in banks listed on the SRI-Kehati index for the period 2019 to 2024.
2. *Return On Asset* partially affects the value of companies in banks listed on the SRI-Kehati index for the period 2019 to 2024.
3. *Green Investment* and *Return on Asset* simultaneously affect the value of companies in banks listed on the SRI-Kehati index for the period 2019 to 2024.

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