

Exploring the Correlation Between Green Investment, Financial Performance, and Corporate Value in Indonesian Manufacturing: A Study on 2019-2023 Period

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Abstract

This research investigates the potential impact of green investment and financial performance on manufacturing firm value. Using quantitative methodology and secondary data, this study analyzes a sample of 40 manufacturing companies listed on the Indonesia Stock Exchange (IDX) between 2019 and 2023. Data were collected from annual reports and sustainability reports that are publicly available on the companies' official websites. A purposive sampling technique was used for sample selection. Multiple linear regression analysis was used as the main analytical tool. The findings show that Green Investment and Return on Assets (ROA) have a positive and significant effect on manufacturing firm value. In contrast, Economic Value Added (EVA) shows no affect on firm value in this sector.

Introduction

In an era of globalization and growing economic integration, companies around the world face more complex challenges and opportunities than ever before. To remain competitive, companies need to apply economic principles to their operations, which generally focus not only on maximizing profits, but also on increasing company value and shareholder welfare.

The value of a firm is often evaluated through various indicators, one of the most commonly used being the Price to Book Value (PBV) ratio. A PBV equal to or greater than 1 suggests that the market values the company at or above its recorded book value, potentially reflecting an overvaluation. In contrast, a PBV less than 1 implies that the firm's shares are priced below their book value, signaling a possible undervaluation by the market. Within the manufacturing industry, firm value represents a crucial measure of corporate performance and investment appeal. This sector holds a pivotal role in the broader economy by substantially contributing to national GDP, generating employment, and integrating into international supply chains. However, Indonesia's manufacturing sector faces various challenges, such as volatile raw material costs, intense competition, and the need to comply with increasingly stringent environmental regulations.

Analyzing financial indicators such as Price to Book Value (PBV) is critical to understanding the value dynamics of

manufacturing companies. The increase in PBV over the past few years indicates that companies are successfully attracting investors through innovative and sustainability-focused business strategies. This trend further suggests that the manufacturing sector can increase firm value with the right strategic approach.

Green investment is a potential driver of enterprise value. It represents a company's commitment to reducing its environmental impact, which can improve its competitiveness, reputation, and overall firm value (Nunik Nurmallasari & Sri Dwi Kania, 2024). In the manufacturing industry, embracing green investment can lead to greater operational efficiencies and increased product/service value, thereby increasing the value of the company to investors. Nonetheless, research on this subject yields mixed results; some studies, such as those by Larasati et al. (2023) and Afrilia & Christina Dwi Astuti (2023), conclude that green investment does not affect firm value. Therefore, the impact of green investment on company value remains a relevant topic for further research, particularly in Indonesia's manufacturing sector, which contributes significantly to economic growth while also having a substantial impact on the environment.

A company's value can also be affected by its financial performance, which assesses the company's capacity to generate profits, manage resources efficiently, and fulfill obligations during a certain period. Hartati et al. (2022) define performance as "the achievement of a company in a certain period that reflects the

health of the company." Strong financial performance not only signifies operational success, but also strengthens investor confidence in business stability and future prospects.

Return on Assets (ROA) is a commonly utilized metric in assessing a company's financial efficiency. It reflects the firm's ability to convert its total asset base into net income, calculated by dividing the net income after taxes by the total assets owned by the company. Imam Ghozali (2020) states that ROA illustrates management efficiency in using available assets to create profits. For manufacturing companies, fluctuations in ROA indicate the ongoing dynamics of asset management in generating profits. A consistently high ROA can increase investor confidence and attract market interest, which ultimately contributes to higher company value.

Economic Value Added (EVA) serves as a complementary indicator to Return on Assets (ROA) in evaluating a company's financial performance from a value-based perspective. EVA assesses how much value a company creates for shareholders after taking into account the cost of capital (Simbolon, 2024). A positive Economic Value Added (EVA) reflects the firm's success in generating value for its shareholders, whereas a negative EVA suggests that the company has failed to cover its cost of capital, resulting in the erosion of shareholder value (Andri, 2021).

The observational data reveal variability in firm value, instances of negative green investment, fluctuating ROA, and occurrences of negative Economic Value Added (EVA) among manufacturing firms listed on the Indonesia Stock Exchange (IDX). Furthermore, inconsistencies in prior research findings regarding the relationship between green investment, financial performance, and firm value have created a research gap. These discrepancies underscore the necessity of conducting a comprehensive analysis of the influence that green investment and financial performance exert on firm value within the manufacturing sector. Consequently, this study aims to specifically examine the impact of green investment on the firm value of manufacturing companies listed on the IDX.

Literature Review

Previous Research

Recent empirical investigations have

examined various determinants of firm value, yielding inconsistent findings. Adira and David (2023) identified that carbon emissions disclosure significantly influences firm value, whereas green investment and disclosures related to intellectual capital do not exhibit a significant impact. Similarly, Hafizza and Titik (2023) reported a positive relationship between institutional ownership and firm value, but found no significant effect from carbon emissions disclosure, the presence of an independent board of commissioners, green investment, or audit committee effectiveness.

In terms of financial performance metrics, Ceria et al. (2021) concluded that Return on Assets (ROA) has a significant influence on firm value, while Return on Equity (ROE) does not. Additionally, their study indicated that the debt-to-equity ratio (DER) does not serve as a moderating variable in the relationship between profitability and firm value. Meanwhile, Setyawati and Nugroho (2023) found that Economic Value Added (EVA) exerts a positive yet statistically insignificant effect on firm value. Conversely, Good Corporate Governance (GCG) was shown to have a positive and significant impact, while business risk demonstrated a negative but non-significant influence.

Company Value

Firm value fundamentally reflects a company's overall condition and reputation, shaped over time through its operational performance and the trust it has cultivated with stakeholders (Hery, 2017). In a more concise view, Bambang (2017) characterizes firm value simply as "the price at which goods are sold." Synthesizing both definitions, firm value can be interpreted as the outcome of how effectively management utilizes company resources—serving as a crucial benchmark for investors and the public, particularly in the capital market. In this study, firm value is assessed using the Price to Book Value (PBV) ratio, as it offers a direct measure of the market's evaluation of a firm's book value. PBV compares the market price per share to the book value per share. According to Untung (2016), a company that is managed efficiently is typically expected to have a PBV of 1 or higher, which indicates a market valuation that meets or exceeds its book value. Conversely, a PBV below 1 suggests that the company's shares are undervalued, as their market price falls below the book value.

The Price to Book Value (PBV) formula is:

$$\text{Price to Book Value} = \frac{\text{Stock Price}}{\text{Book Value of Shares}}$$

Book values of shares can be calculated:

$$\text{Book Value per Share} = \frac{\text{Total Capital}}{\text{Number of Shares Outstanding}}$$

Green Investment

Green investment is an activity of capital investment in companies that invest with a commitment to focusing on natural resources (NR), production, and the creation of new and renewable alternative energy sources, the implementation of clean water and air projects, as well as other environmentally friendly investment activities (Rachman, 2018). According to the International Monetary Fund (IMF), green investment plays a vital role in reducing greenhouse gas emissions and air pollution, while maintaining the operational continuity of non-energy sector enterprises, regardless of whether the investments originate from public or private sources (Eyraud, Clements, & Wane, 2013).

Green investment is grounded in the operational practices of environmentally friendly industries. According to Ministry of Industry Regulation No. 88/BPPI/PER/3/2018, green investment should encompass the following elements: Larasati et al. (2023) identify several essential components of green investment practices, which include the utilization of eco-friendly raw materials and cost-efficient inputs, the implementation of the 4R principles, reduce, reuse, recycle, and recovery, alongside operations characterized by low energy intensity. Additionally, the involvement of skilled human resources who possess both technical expertise and a strong commitment to environmental sustainability is emphasized. Other critical aspects include the reduction of water usage in accordance with environmental standards, the adoption of low-carbon technologies, and the use of alternative energy sources.

Green investment performance can be assessed through PROPER (the Environmental Performance Rating Program). According to Hendryan Nur Pratama (2024), the Ministry of Environment and Forestry classifies PROPER ratings into five levels, namely:

Table 1. Proper Ranked

No	Colours of PROPER	Rank
1	Gold	5
2	Green	4
3	Blue	3
4	Red	2
5	Black	1

Sumber : Hendryan Nur Pratama (2024)

Financial Performance

Financial performance refers to the measurable results a company achieves over a defined period, serving as a benchmark to assess the effectiveness of its operational activities and its capacity to maintain sustainable performance. It reflects the organization's efficiency in generating profits and managing resources. To evaluate financial performance, analysts often rely on key indicators such as Return on Assets (ROA) and Economic Value Added (EVA). ROA, as described by Ghazali (2020), measures the company's efficiency in utilizing its total assets to generate net income, calculated using the formula:

$$\text{ROA} = \text{Net Profit} / \text{Total Assets}$$

Meanwhile, EVA represents a value-based performance metric that incorporates the cost of capital to assess whether a company is generating value beyond its capital costs. The formula for EVA calculation, as outlined by Sarapi et al. (2022), provides insight into the company's ability to create economic profit for its shareholders.

$$\text{EVA} = \text{NOPAT} - (\text{WACC} \times \text{Invested Capital})$$

Explanation:

NOPAT: Net Operating Profit After Taxes

WACC: Weighted Average Cost of Capital

Conceptual Framework

The conceptual framework of this study is developed to depict the relationship among the variables examined. Companies that adopt green investment practices not only prioritize sustainability, but also cultivate a positive reputation in the eyes of investors, thereby enhancing market attractiveness and investor confidence. Return on Assets (ROA) serves as a profitability indicator that reflects a company's ability to generate income from its assets. Meanwhile, Economic Value Added (EVA) suggests that a firm not only covers its cost of

capital but also produces residual profits, thereby contributing to the enhancement of the firm's value. Based on this description, the conceptual framework can be illustrated as follows.

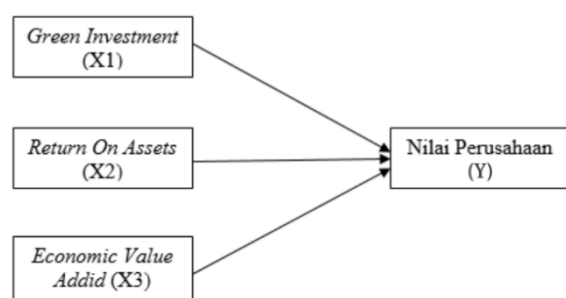


Figure 1. Research Construction

Research Method

In this study, the object of research is This study focuses on the firm value of manufacturing companies listed on the Indonesia Stock Exchange (IDX) for the period 2019–2023. The variables examined include green investment, return on assets (ROA), and economic value added (EVA).

A quantitative research approach is employed in this study. According to Sugiyono (2023), quantitative research is "a method based on positivist philosophy, used to examine specific populations or samples, collect data using research instruments, and analyze the data quantitatively/statistically, with the aim of testing predetermined hypotheses."

The type of quantitative research used is associative, which explores the relationship between two or more variables. There are three types of variable relationships: symmetrical, causal, and interactive/reciprocal (Sugiyono, 2023). This study adopts a causal relationship, which implies a cause-and-effect link, where independent variables influence the dependent variable (Sugiyono, 2023).

The research was conducted on manufacturing firms listed on the IDX between 2019 and 2023. Data were sourced from the official website of the Indonesia Stock Exchange (www.idx.co.id), as well as each company's annual reports and sustainability reports, available on their official websites.

The research took place from April 2025 to June 2025 and included stages of secondary data collection, data processing, and analysis of research findings.

Data were collected through the documentation method, which involves

obtaining information in the form of books, archives, numerical and graphical records, reports, and other relevant documents (Sugiyono, 2018). The data gathered consisted of secondary data obtained from annual reports, sustainability reports, and financial statements of manufacturing companies listed on the IDX during the 2019–2023 period.

The data source utilized in this study is secondary data, which refers to data obtained indirectly by the researcher through intermediaries for research purposes (Sugiyono, 2018).

The method used for sample collection was purposive sampling, which is a non-probability sampling technique. Non-probability sampling is a sampling technique that does not give equal opportunity or chance to every element or member of the population to be selected as a sample. Meanwhile, purposive sampling is a technique for determining samples by making certain considerations (Sugiyono, 2023).

The reason for selecting samples using the purposive sampling technique is that not all samples meet the criteria set by the author. Therefore, the selected samples are determined based on specific criteria set by the author to obtain representative samples, meaning that all characteristics of the population should be reflected in the selected samples.

The criteria for companies selected as samples by the researcher are as follows:

1. Manufacturing companies listed on the Indonesia Stock Exchange during the period 2019-2023.
2. Manufacturing companies that have been listed consecutively from 2019 to 2023 and have never been delisted.
3. Companies that publish annual reports and sustainability reports that are accessible to the public during the period 2019-2023.
4. Companies that did not experience losses during the research period.

The following are the names of companies that have met the criteria and been selected as research samples based on purposive sampling that supports the research, there are 40 companies as an our sample research.

Operational Variables

Dependent Variables

The dependent variable is defined as the variable whose outcome is affected by changes in one or more independent variables. In the

context of this research, firm value serves as the dependent variable.

Firm value is quantified using the Price to Book Value (PBV) ratio, which reflects the proportion between a firm's market price per share and its book value per share. The PBV ratio is calculated using the following formula:

$$\text{Price to Book Value} = \frac{\text{Stock Price}}{\text{Book Value of Stock}}$$

Independent Variables

Independent variables, or free variables, are variables that influence dependent variables or bound variables. In this study, there are three independent variables: green investment ratio, return on assets, and economic value added.

Green Investment

Green investment is an activity of capital investment in companies that invest with a commitment to focus on natural resources (SDA), production, and the creation of new and renewable alternative energy sources, the implementation of clean water and air projects, and other environmentally friendly investment activities (Rachman, 2018). Green Investment will be measured by assigning a ranking score from 1 to 5 based on the color ranking obtained by the company in the PROPER award, as follows:

Score 1 = black ranking

Score 2 = red ranking

Score 3 = blue ranking

Score 4 = green ranking

Score 5 = gold rating

Return On Assets

Return On Assets is a financial ratio used to measure how effectively a company generates profits from its total assets. The formula for calculating ROA is as follows (Imam Ghozali, 2020):

$$\text{ROA} = (\text{Net Profit}) / (\text{Total Assets})$$

Economic Value Added

Economic Value Added is a performance measure that takes into account the cost of capital to determine the extent to which a company creates economic value for shareholders. The formula for calculating EVA is as follows (Sarapi et al., 2022):

$$\text{EVA} = \text{NOPAT} - (\text{WACC} \times \text{Invested Capital})$$

Notes:

NOPAT: Net Operating Profit After Taxes

WACC: Weighted Average Cost of Capital

Results And Discussion

Descriptive Statistical Analysis

According to Imam Ghozali (2016), descriptive statistics provide a summary or general overview of the data based on minimum values, maximum values, mean values, and standard deviations. The results of the descriptive statistical analysis are presented in Table 2 below:

Table 2. Results of Descriptive Statistical Analysis

Descriptive Statistics						
	N	Minimum	Maximum	Sum	Mean	Std. Deviation
Nilai Perusahaan	200	.00001	28.49764	475.82653	2.3791327	3.85906597
Green Investment	200	3	4	625	3.13	.332
Return On Asset	200	.00009	70.58976	187.38244	.9369122	6.00378396
Economic Value Addid	200	-.07570	37.66972	224.47702	1.1223851	4.83564330
Valid N (listwise)	200					

Based on the article above, the descriptive statistical analysis for each variable is as follows:

1. The firm value variable, measured using the price to book value (PBV) ratio, recorded a minimum value of 0.00001, attributed to PT Delta Djakarta Tbk in 2021. This reflects that the company's market share value is significantly lower than its book value. Conversely, the maximum value of 28.49764 was recorded by PT Multi Bintang Indonesia Tbk in 2019, indicating that the company's market valuation far exceeds its book value.
2. The Green Investment variable, measured using the PROPER index, showed a minimum value of 3, observed in 175 cases. A score of 3 corresponds to a blue rating, which signifies that the company has complied with all applicable environmental regulations but has not yet undertaken initiatives that go beyond compliance. Meanwhile, the maximum value is 4, obtained by 25 observations. This value represents a green rating, reflecting that the company not only meets the applicable requirements but has also made additional efforts (beyond compliance) in environmental management, such as energy efficiency, use of environmentally friendly materials, and community involvement in sustainability programs. The average (mean) PROPER rating in the research

sample is 3.13, indicating that, in general, manufacturing companies in Indonesia are still at the basic level of compliance with environmental regulations. The standard deviation value is 0.332, which is smaller than the average value, indicating that the data distribution is even.

3. The financial performance variable measured using Return on Assets (ROA) shows a minimum value of 0.00009, which was recorded by PT Pratama Abadi Nusa Industri Tbk in 2019. This value indicates that the company generated almost no profit compared to its total assets. A very low ROA reflects inefficiency in asset utilization or unstable financial conditions, whether due to declining sales, high operational costs, or low overall asset productivity. Meanwhile, the maximum ROA value of 70.5897 was achieved by PT Nusantara Sawit Sejahtera Tbk in 2020. This very high ROA value indicates that the company is able to generate significant net profits compared to the amount of assets used. The average (mean) ROA across all observations is 0.9369, meaning that, on average, manufacturing companies in the sample are only able to generate net profits of approximately 94% of their total assets. The standard deviation value is 6.003, which is larger than the mean value, indicating that the data distribution is uneven due to the differences between data points being larger than the mean value.
4. The financial performance variable measured using Economic Value Added (EVA) shows a minimum value of -0.07570, which was recorded by PT Delta Jakarta Tbk in 2019. This negative EVA value indicates that the company failed to create economic value for shareholders, as the net profit generated was insufficient to cover the cost of capital. Meanwhile, the maximum EVA value of 37.6697 was achieved by PT Indo Oil Perkasa Tbk in 2020. This value reflects that the company successfully created very high economic value, significantly exceeding its cost of capital. The average (mean) EVA value is 1.1223, meaning that, in general, the manufacturing companies studied successfully created economic value for shareholders. The standard deviation value is 4.8356, which is greater than the mean value, indicating that the data distribution is uneven due to the differences between data points being

larger than the mean value.

Classical Assumption Test

This test was conducted to assess and ensure the validity of the regression model applied in the study. The independent variables included green investment, return on assets (ROA), and economic value added (EVA), while the dependent variable was firm value, measured using the price to book value (PBV) ratio. The classical assumption tests carried out in this study are described below.

Normality Test

There are two main methods for evaluating whether the data is normally distributed: graphical analysis and statistical testing. In this study, graphical analysis was conducted using the normal P-Plot, while statistical testing was carried out through the Kolmogorov-Smirnov (K-S) test. According to Imam Ghozali (2018), the criteria for the K-S test are as follows: if the significance probability value is greater than 0.05, the data is considered normally distributed; conversely, if the significance probability value is less than 0.05, the data is considered not normally distributed.

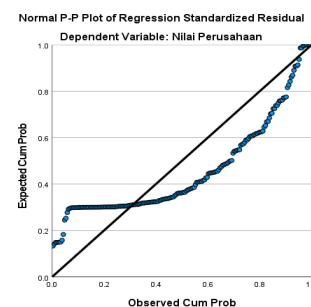


Figure 2. Normality Test

Based on the results of the normality test processed using SPSS and presented in the form of a normal P-Plot graph in Figure 2, it can be concluded that the data points are distributed around the diagonal line and follow a pattern close to the diagonal. Thus, it can be inferred that the data is normally distributed. However, the researcher did not rely solely on the normal P-Plot graph; the Kolmogorov-Smirnov test was also conducted to reinforce the results of the previous analysis.

Table 6. Normality Test
One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		200
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	3.75836339
Most Extreme Differences	Absolute	.231
	Positive	.193
	Negative	-.231
Test Statistic		.231
Asymp. Sig. (2-tailed) ^c		.060
Monte Carlo Sig. (2-tailed) ^d	Sig.	.000
	99% Confidence Interval	Lower Bound .000
		Upper Bound .000

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 926214481.

Based on the results of the Kolmogorov-Smirnov test, the Asymp. Sig. (2-tailed) value is 0.060. Since the Asymp. Sig. value is greater than 0.050 ($0.060 > 0.050$), this indicates that the residuals in the regression model are normally distributed. Therefore, it can be concluded that the regression model in this study meets the normality assumption and can proceed to the next stage of analysis.

Multicollinearity Test

The multicollinearity test is used to determine whether there is any correlation among the independent variables. A regression model is considered reliable if there is no multicollinearity among the independent variables. In this study, the tolerance value is set at ≥ 0.10 , and the variance inflation factor (VIF) must be ≤ 10 .

Table 7. Multicollinierity Test
Coefficients^a

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Green Investment	.995	1.005
	Return On Asset	.997	1.003
	Economic Value Addid	.997	1.003

a. Dependent Variable: Nilai Perusahaan

Based on the results of the Multicollinearity Test presented in Table 7, none of the independent variables in this study have a tolerance value below 0.10; all tolerance values are above 0.10. Likewise, none of the independent variables have a Variance Inflation Factor (VIF) value exceeding 10. Therefore, it can be concluded that there is no multicollinearity in the regression model, and the data used in this study is suitable for further analysis.

Autocorrelation Test

This study employs the Durbin-Watson (DW) test to detect the presence of autocorrelation in the regression model. The decision rule is based on the formula $dU < d < 4 - dU$. If there is evidence of correlation among the residuals, autocorrelation is present. A good regression model is one that is free from autocorrelation.

Table 8. Autocorrelation Test

Model	R	R Square	Model Summary ^b		
			Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.227 ^a	.052	.037	3.78701714	1.930

a. Predictors: (Constant), Economic Value Addid, Return On Asset, Green Investment

b. Dependent Variable: Nilai Perusahaan

Based on the results of the autocorrelation test shown in Table 8, the Durbin-Watson (DW) value is 1.930 at a 5% significance level. The number of samples (n) used in this study is 200, with three independent variables ($K = 3$). Based on this number of independent variables, the lower bound (dL) is 1.7382 and the upper bound (dU) is 1.7990, as obtained from the Durbin-Watson table at the 5% significance level. The value of $4 - dU$ is 2.201. According to Table 4.6, the DW value of 1.930 falls between dU and $4 - dU$, namely $1.7990 < 1.930 < 2.201$.

This indicates that there is no autocorrelation, neither positive nor negative, in the regression model. Therefore, the model used in this study is considered free from autocorrelation.

Heteroscedasticity Test

The heteroscedasticity test is used to determine whether there is a variation in the error variance across observations in the regression model. If the residuals exhibit constant variance across all observations, it is referred to as homoscedasticity. However, if the variance differs, the condition is known as heteroscedasticity.

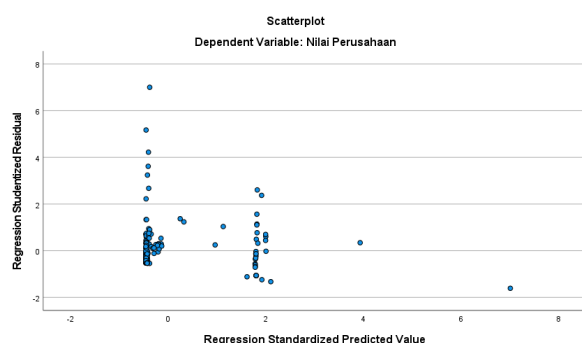


Figure 3. Heteroscedastisity Test

A study is considered free from heteroscedasticity when, in the scatterplot graph, the data points are randomly dispersed both above and below the zero value on the Y-axis. Based on the scatterplot presented in Figure 3, it can be observed that the points are distributed randomly around the zero value on the Y-axis. Therefore, based on the results of the heteroscedasticity test, it can be concluded that there is no indication of heteroscedasticity in this regression model.

Multiple Linear Regression Analysis

Multiple linear regression analysis is a statistical method used to assess the extent to which independent variables influence the dependent variable and to determine the direction of the relationship between them.

Coefficients ^a						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	-3.885	2.556		-1.520	.130
	Green Investment	1.955	.812	.168	2.410	.017
	Return On Asset	.092	.045	.144	2.062	.041
	Economic Value Addit	.059	.056	.074	1.068	.287

a. Dependent Variable: Nilai Perusahaan

Figure 4. Multiple linear regression analysis

Based on the results of the multiple linear regression analysis presented in Figure 4, the multiple linear regression equation in this study is as follows:

$$Y = -3.885 + 1.955X_1 + 0.092X_2 + 0.059X_3 + \varepsilon$$

The regression equation above reflects the findings of this study, showing that the variables Green Investment (X_1), Return on Assets (X_2), and Economic Value Added (X_3) have a positive influence on firm value. Based

on the regression equation, the following conclusions can be drawn:

- The constant value (α) is -3.885, indicating that if Green Investment, Return on Assets, and Economic Value Added are all equal to zero, the predicted firm value would be -3.885.
- The regression coefficient for Green Investment, as proxied by the PROPER rating, is 1.955. This means that a 1% increase in Green Investment is associated with an increase in firm value by 1.955 or 195.5%, assuming that Return on Assets and Economic Value Added remain constant.
- The regression coefficient for financial performance, proxied by the Return on Assets (ROA), is 0.092. This indicates that a 1% increase in ROA would lead to a 0.092 or 9.2% increase in firm value, assuming Green Investment and Economic Value Added remain unchanged.

The regression coefficient for financial performance, proxied by Economic Value Added (EVA), is 0.059. This means that a 1% increase in EVA would result in a 0.059 or 5.9% increase in firm value, assuming Green Investment and Return on Assets are held constant.

Hypothesis Test

Individual Parameter Significance Test

The individual parameter significance test, or t-test, is used to determine the magnitude of the influence of each independent variable on the dependent variable. An independent variable is considered to have a significant effect on the dependent variable if the significance probability value is less than 0.05 or 5%.

Table 9. Individual Parameter Significance Test

Coefficients ^a						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	-3.885	2.556		-1.520	.130
	Green Investment	1.955	.812	.168	2.410	.017
	Return On Asset	.092	.045	.144	2.062	.041
	Economic Value Added	.059	.056	.074	1.068	.287

a. Dependent Variable: Nilai Perusahaan

Based on the results of the individual parameter significance test (t-test), the following conclusions can be drawn:

- According to Table 9, the t-test results indicate that Green Investment has a

positive and significant effect on firm value. The significance value obtained is 0.017, which is less than the 5% significance level ($\alpha = 0.05$). With a t-statistic of 2.410, it can be concluded that Green Investment positively and significantly affects firm value. Therefore, Hypothesis 1 (H1) is accepted.

2. As shown in Table 9, the t-test results also indicate that Return on Assets (ROA) has a positive and significant effect on firm value. The significance value is 0.041, which is below the 0.05 threshold, with a t-statistic of 2.062. Thus, it can be concluded that ROA has a positive and significant effect on firm value, and Hypothesis 2 (H2) is accepted.
3. Table 9 further shows that Economic Value Added (EVA) does not have a significant effect on firm value. The significance value is 0.287, which is greater than 0.05, and the t-statistic is 1.068. Based on this, it is concluded that EVA does not significantly influence firm value, and Hypothesis 3 (H3) is rejected.

Simultaneous Significance Test

The F-test, also known as the simultaneous significance test, is used to determine whether all independent variables jointly have a significant effect on the dependent variable. The model is considered statistically significant if the significance level is less than 0.05.

Tabel 10. Simultaneous Significance Test
ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	152.652	3	50.884	3.548	.016 ^b
	Residual	2810.934	196	14.341		
	Total	2963.586	199			

a. Dependent Variable: Nilai Perusahaan

b. Predictors: (Constant), Economic Value Addid, Return On Asset, Green Investment

Based on Table 10, the simultaneous significance value or F-test result is 3.548 with a significance level of 0.016. Since this value is less than 0.05 ($\alpha = 5\%$), it can be concluded that the variables Green Investment, Return on Assets, and Economic Value Added collectively have a significant effect on firm value.

Coefficient of Determination Test

The coefficient of determination test (R^2) is used to assess how well the independent variables explain the variation in the

dependent variable. The R^2 value ranges from zero to one. A low R^2 value indicates that the independent variables have limited explanatory power, whereas an R^2 value approaching or equal to one suggests that the independent variables provide all the necessary information to predict the dependent variable.

Tabel 11. Determination Coefficient Test
Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.227 ^a	.052	.037	3.78701714

a. Predictors: (Constant), Economic Value Addid, Return On Asset, Green Investment

b. Dependent Variable: Nilai Perusahaan

Based on Table 11, the Adjusted R Square value is 0.037. This indicates that the variables Green Investment, Return on Assets, and Economic Value Added collectively explain 3.7% of the variation in firm value. In other words, the contribution of these three variables to changes in firm value falls within the very weak category. The remaining 96.3% is attributed to other factors not included in this research model. This suggests that numerous other variables may influence firm value. Although the Adjusted R Square value is relatively low, the result remains meaningful, particularly in the context of examining the specific relationship between green investment, financial performance, and firm value.

Discussion

The purpose of this study is to examine the effect of green investment, return on assets, and economic value added on firm value in manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the 2019–2023 period. Based on the hypothesis testing conducted on the independent variables, the following findings were obtained:

The Effect of Green Investment on Firm Value

According to the t-test results, the Green Investment variable, as proxied by the PROPER rating, produced a t-value of 2.410, which is greater than the t-table value of 1.65251, and a significance value of 0.017, which is below 0.05. This indicates that Green Investment has a positive and significant effect on firm value.

Therefore, the hypothesis stating that Green Investment has a positive and significant effect on firm value is accepted. From the perspective of Agency Theory, this finding suggests that managers, acting as agents, perform in ways that align with and support the interests of shareholders as principals. One form of fulfilling these interests is through making socially and environmentally responsible investment decisions. Green investment not only reflects social responsibility, but also signals that management is trying to reduce long-term risks that may have an impact on firm value, such as environmental sanctions, social rejection, or a decrease in corporate reputation (Jensen & Meckling, 1976).

Managers who realize the importance of positive perceptions from investors will be encouraged to make green investment as a form of strategic resource allocation. Thus, investment decisions related to sustainability are not merely viewed as expenses, but rather as strategic efforts to build the company's long-term value in alignment with shareholders' interests. These findings are consistent with the research conducted by Ayu Wijayanti (2024), Wina Yusnia (2024), and Mentari & Dewi (2023), who found that green investment has a positive and significant effect on firm value. However, these results contradict the findings of Larasati et al. (2023), who reported that green investment does not influence firm value.

The Effect of Return on Assets on Firm Value

Based on the hypothesis testing using the t-test, the Return on Assets (ROA) variable yielded a t-value of 2.062, which is greater than the t-table value of 1.65251, and a significance level of 0.041, which is less than 0.05. This indicates that ROA has a positive and significant effect on firm value. Therefore, the hypothesis stating that ROA positively and significantly affects firm value is accepted.

These results suggest that the higher a company's ability to generate profit from its total assets, the greater its perceived value by investors. ROA reflects the efficiency of management in utilizing company assets to generate earnings. Consequently, companies with high ROA are generally seen as having strong future prospects and are considered attractive for investment.

This finding is in line with the studies of

Amelia & M. Sembiring (2023) and Ardelia Fauziah Yudanti (2022), which show that financial performance, as measured by ROA, has a positive and significant impact on firm value. However, it differs from the study by Zamzam Limesta (2021), which found that ROA does not significantly affect firm value.

The Effect of Economic Value Added on Firm Value

Based on the hypothesis testing using the t-test, the Economic Value Added (EVA) variable yielded a t-value of 1.068, which is less than the t-table value of 1.65251, and a significance level of 0.287, which is greater than 0.05. This indicates that Economic Value Added does not have a positive and significant effect on firm value. Therefore, the hypothesis stating that EVA has a positive and significant impact on firm value is rejected.

This finding suggests that although EVA is often regarded as a financial performance indicator that reflects a company's real added value after deducting the cost of capital, it does not have a direct impact on firm value in the context of Indonesian manufacturing companies during the 2019–2023 period. In other words, the creation of economic value through EVA has not become a primary focus for investors when assessing firms, nor is it fully reflected in stock prices or valuation ratios such as Price to Book Value (PBV).

Within the framework of Agency Theory, this result may be explained by the presence of information asymmetry between management and investors. Even if management has made strategic decisions to enhance EVA, such information may not be fully disclosed or understood by the market. Furthermore, investors tend to prioritize more conventional and observable financial indicators, such as ROA, net income, and dividends, over EVA, which involves more complex calculations related to the cost of capital.

This finding aligns with the studies of Sella & Binastuti (2021) and Ishvara & Sugitah (2025), who concluded that EVA does not have a significant effect on firm value. They argue that the limited market understanding of the EVA indicator and the inconsistencies in calculating the cost of capital are key factors contributing to the insignificance of the relationship. However, this result contradicts the findings of Rangkutty et al. (2024), who reported that EVA positively influences firm value.

Conclusion

This study was conducted to analyze the effect of Green Investment, Return on Assets, and Economic Value Added on company value in manufacturing companies listed on the Indonesia Stock Exchange during the period 2019–2023. Based on the findings of this study, the following conclusions can be drawn:

Green Investment has a positive and significant impact on firm value in manufacturing companies listed on the Indonesia Stock Exchange during the period 2019–2023. Return on Assets has a positive and significant impact on firm value in manufacturing companies listed on the Indonesia Stock Exchange during the period 2019–2023. Economic Value Added has no effect on firm value in manufacturing companies listed on the Indonesia Stock Exchange during the period 2019–2023.

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