Green Banking and Firm Value: Examining the Effects of Firm Age, Firm Size, and Return on Assets in Indonesian Publicly Listed Banks

Pinker Defano[1*]
Yusnita Octafilia[2]
Suharti[3]
Dhoni Rizky Widya Mahardika[4]

Management Study Program, Faculty of Business, Institut Bisnis dan Teknologi Pelita Indonesia, Indonesia[1,2,3]
Management Study Program, Universitas YPPI Rembang, Indonesia[4]
yusnita.octafilia@lecturer.pelitaindonesia.ac.id[1]

ABSTRACT

This study aims to analyze the effect of green banking, firm age, firm size, and return on assets (ROA) on firm value in the banking sector listed on the Indonesia Stock Exchange during the 2019–2023 period. This research employs a quantitative method and utilizes secondary data obtained from financial statements accessed through idx.com and the official websites of the respective banks. The population of this study consists of 46 banking companies listed on the Indonesia Stock Exchange. The sampling technique used is a census (saturated sampling), in which all members of the population are included as the sample. The data analysis method applied in this study is path analysis using SPSS software. The analysis includes descriptive statistics, normality test, multicollinearity test, autocorrelation test, heteroscedasticity test, multiple regression analysis, F-test, coefficient of determination (R²) test, and hypothesis testing (t-test). The results indicate that green banking has a significant negative effect on firm value, while firm age, firm size, and ROA have positive but insignificant effects on firm value in the banking sector listed on the Indonesia Stock Exchange during the 2019–2023 period.

Keywords: Green Banking; Firm Age; Firm Size; Return on Assets (ROA); Firm Value.

1. Introduction

The banking sector is a subsector of the financial sector under the industrial classification implemented by the Indonesia Stock Exchange (IDX), following the adoption of the new classification system on January 25, 2021. Based on the latest data, there were 44 listed banking companies on the IDX as of 2021. According to the IDX Statistics 2021, banking companies continue to dominate market capitalization rankings. In 2021, three banking institutions were included among the top five companies with the highest market capitalization: Bank Central Asia Tbk. (BBCA) ranked first with 10.79%, followed by Bank Rakyat Indonesia (Persero) Tbk. (BBRI) at 7.47%, and Bank Mandiri (Persero) Tbk. (BMRI) in fourth position with 3.93%. A similar pattern was observed in the 2020, 2019, and 2018 IDX statistical reports (Simanungkalit & Mayangsari, 2020).

According to data from idx.com, the Composite Stock Price Index (IHSG) closed at 6,299.54 in 2019, declining by 0.47%. In 2020, the index fell further to 5,979.07 (–0.95%). However, in 2021 the index recorded a positive performance, rising by 10.08% to 6,581.5. As of December 28, 2022, IHSG reached 6,850.52, increasing by 4.09% compared to December 2021, and strengthened by 6.16% in 2023. These developments indicate the resilience of Indonesia's capital market, with the banking sector playing a strategic role.

The financial sector is one of the primary sectors within the Indonesian capital market, and banking constitutes a fundamental industry within this sector. The banking industry plays a crucial role as an intermediary institution that channels funds between surplus and deficit units,

contributing to economic stability and national development. As of February 2021, banking companies occupied four out of the ten largest market capitalization positions on the IDX. This reflects the significant scale and attractiveness of the banking industry to investors (Galyani & Henny, 2022).

Firm value is one of the key determinants influencing investment decisions. Investors' confidence in a company is reflected in its firm value, which represents the market's overall assessment of the company's assets and prospects. A higher firm value indicates stronger investor trust and reflects the company's ability to maximize profits and enhance stakeholders' welfare (Galyani & Henny, 2022). Firm value is commonly proxied by Price to Book Value (PBV), which compares market price to book value and provides a stable and comparable measurement across firms (Rousilita Suhendah, 2020).

Firm size, firm age, and profitability are important indicators considered by shareholders when assessing firm value. Larger firms tend to have greater access to internal and external funding sources, which support operational activities and potentially increase stock prices (Rousilita Suhendah, 2020). Consequently, firm value is closely associated with stock performance in the capital market.

In recent years, global warming and climate change have become major global concerns. Rising carbon emissions have driven the development of the green economy concept. Although banking institutions do not directly generate environmental pollution, they play a crucial indirect role through financing activities. In Indonesia, POJK No. 51/POJK.03/2017 mandates financial institutions to implement sustainable finance practices, encouraging banks to manage environmental impacts arising from their financing activities. This regulation has fostered the adoption of green banking practices (Hastuti & Kusumadewi, 2023). Additionally, Bank Indonesia Regulation No. 14/15/PBI/2012 promotes environmentally responsible lending by requiring environmental feasibility assessments for prospective borrowers.

Green banking refers to environmentally responsible banking practices that incorporate sustainability considerations into credit allocation and operational processes. By directing financing toward environmentally sustainable projects, banks contribute to environmental protection while maintaining financial performance.

Empirical studies on ESG and green banking show mixed findings regarding their impact on firm value and banking performance. Azmi et al. (2021) find that ESG activities positively influence banking performance in emerging markets. Similarly, Ersoy (2022) reports that ESG scores significantly affect bank market value in the U.S. banking industry. Miralles-Quirós et al. (2021) also provide cross-country evidence that environmental performance and ESG disclosure influence bank valuation.

Further evidence suggests that the market responds to green credit policies and environmental disclosures. Tian et al. (2023) show that capital markets value banks' green credit performance. Galletta et al. (2024) find that environmental disclosure and controversies significantly affect bank value. Likewise, Degryse et al. (2022) demonstrate that green credit policies influence credit risk and bank valuation mechanisms. Wang et al. (2022) and Li et al. (2023) highlight that green credit policies improve green investment efficiency and innovation quality, indirectly enhancing firm performance. Su et al. (2022) further document that green credit contributes to environmental improvement through financing mechanisms. Moreover, Cantero-Saiz et al. (2024) emphasize that ESG performance affects bank asset quality, which in turn influences financial stability and valuation.

Despite growing international evidence supporting ESG and green finance practices, empirical findings in Indonesia remain inconsistent. Hastuti and Kusumadewi (2023) find that green banking has a positive and significant effect on firm value, whereas Tiara and Jayanti (2022) report no significant effect. Similarly, Dewi and Susanto (2022) find that firm age has a negative significant effect on firm value, while Anggasta and Suhendah (2020) report no significant influence. Jaya (2020) concludes that firm size does not affect firm value, whereas

Nugraha et al. (2021) find a significant positive effect. In addition, Anggraini and Yudiantoro (2023) show that ROA has a negative but insignificant effect on firm value, and Kartika et al. (2022) find no significant effect of ROA on firm value.

The inconsistencies in previous findings indicate the existence of a research gap. While international studies largely demonstrate that ESG and green banking practices influence bank value and performance, domestic evidence remains inconclusive. Therefore, examining the impact of green banking, firm age, firm size, and profitability (ROA) on firm value in the Indonesian banking sector during 2019–2023 becomes both relevant and necessary.

2. Literature Review

Green Banking

The concept of green banking emerged as a response to increasing public pressure on financial institutions to actively contribute to addressing the escalating environmental crisis. Banks encourage society to enhance environmental awareness and actively participate in environmental preservation through green banking programs and initiatives. Green banking represents an effort by banking institutions to conduct sustainable economic activities as a demonstration of their environmental responsibility.

Firm Age

Firm age refers to the length of time a company has been established. According to Yulianto and Widyasari (2020), firm age is an indicator of how long a company has been operating. Agustia and Suryani (2018) define firm age as the period from the company's establishment until an indefinite point in time. Similarly, Ashari and Putra (2016) argue that firm age represents the duration since a company was founded, has operated, and maintained its business continuity up to the present (Dewi & Susanto, 2022). Firm age reflects how long a company has been established or how long it has operated prior to observation (Saputra, 2020). The longer a company has been operating, the greater its likelihood of providing broader and more comprehensive information compared to newly established firms (Noveliana, 2022). Company age also indicates how well a firm can survive in the competitive business environment. Older firms tend to possess greater business experience, better understanding of market challenges, and more optimal policy decisions.

Firm Size

Firm size indicates the magnitude of assets owned by a bank. Companies with large total assets demonstrate financial feasibility and operational stability. Large-scale firms reflect substantial asset ownership, enabling them to operate more stably and access capital markets more easily. In efforts to increase firm value, management manages funds obtained from investors, which are often influenced by company size. Firm size can be measured through total assets, annual revenue, market capitalization, or other financial indicators (Santoso & Junaeni, 2022). Large companies signal growth and success, which enhances firm value. An increase in total assets exceeding total liabilities indicates strong firm value and financial stability.

Return on Assets (ROA)

Return on Assets (ROA) is a profitability ratio used to assess a company's ability to generate profits from its total assets. Investors generally prefer companies with high profitability levels, as these firms are assumed to have a greater capacity to generate higher returns. Higher profitability can increase stock prices and firm value. Profitability reflects a company's ability to generate consistent earnings over time. More profitable companies tend to have higher firm value because strong earnings signal good performance, growth potential, and the ability to

generate stable cash flows (Aldi et al., 2020). Higher profitability also increases the likelihood of dividend payments, which may attract investors and further enhance market value.

Firm Value

Firm value represents the price offered to investors for investing in a company. It is a crucial factor in investment decision-making within capital markets. Stock prices formed in the market reflect firm value, representing public evaluation of a company's actual performance. Firm value is often defined as market value because it maximizes shareholder wealth when stock prices increase. Various managerial policies aim to enhance firm value by increasing shareholder prosperity, as reflected in stock price performance.

The Relationship Between Green Banking and Firm Value

Green banking encourages companies to invest in sustainable and environmentally friendly projects. This may lead to higher efficiency, reduced operational costs, and improved product innovation. Consequently, a company's financial performance may improve, leading to increased firm value (Hossain et al., 2020; Mahmudah et al., 2023). However, empirical findings remain inconsistent. Tiara and Jayanti (2022), Simanungkalit and Mayangsari (2022), and Kusumadewi et al. (2023) find that green banking does not significantly affect firm value. In contrast, Murwaningsari and Rachmawati (2023) and Hastuti and Kusumadewi (2023) find that green banking positively influences firm value. Based on theoretical development, the proposed hypothesis is:
H1: Green banking has a positive effect on firm value.

The Relationship Between Firm Age and Firm Value

Older firms tend to have stronger market recognition and reputation, which may provide competitive advantages and enhance firm value. Customers, investors, and business partners generally place greater trust in companies that have operated for a longer period. However, the relationship between firm age and firm value is not always linear or positive (Brigham & Houston, 2019). Some studies suggest that excessively mature firms may face challenges in adapting to rapid environmental changes, may become less innovative, or resistant to change. Therefore, the impact of firm age on firm value may vary depending on contextual and industry-specific factors. Anggasta and Suhendah (2020) find that firm age positively affects firm value. In contrast, Tiara and Jayanti (2022) and Dewi and Susanto (2022) report a negative effect. Thus, the proposed hypothesis is:
H2: Firm age has a positive effect on firm value.

The Relationship Between Firm Size and Firm Value

Larger firms often possess broader business diversification. Diversification may reduce risks associated with specific industries or markets. In this context, firm size may positively relate to firm value because effective diversification enhances income stability and reduces financial performance volatility (Brigham & Houston, 2019). Several studies (Tiara & Jayanti, 2022; Rousilita Suhendah, 2020; Nugraha et al., 2021; Bita et al., 2021; Novelia et al., 2020) find that firm size positively affects firm value. Conversely, Kusumadewi et al. (2023) find a negative effect, while Jaya (2020), Ferdila et al. (2023), and Artamevia and Almalita (2021) find no significant effect. Therefore, the proposed hypothesis is:
H3: Firm size has a positive effect on firm value.

The Relationship Between Return on Assets (ROA) and Firm Value

ROA reflects how efficiently a company utilizes its assets to generate profit. A high ROA indicates efficient asset utilization, resulting in higher earnings. Strong financial performance enhances market perception and firm value (Brigham & Houston, 2019). Empirical findings show

mixed results. Kusumadewi et al. (2023), Rousilita Suhendah (2020), Jaya (2020), Bita et al. (2021), Novelia et al. (2020), Artamevia and Almalita (2021), and Atrianingsih and Nyale (2022) find a positive effect of ROA on firm value. Meanwhile, Dewi and Susanto (2022) and Kartika et al. (2022) report no significant effect, and Anggraini and Yudiantoro (2023) find a negative effect. Based on theoretical arguments, the proposed hypothesis is:

H4: Return on Assets (ROA) has a positive effect on firm value.

Conceptual Framework

Based on the research background, objectives, theoretical foundations, and conceptual development, the conceptual framework is illustrated as follows:
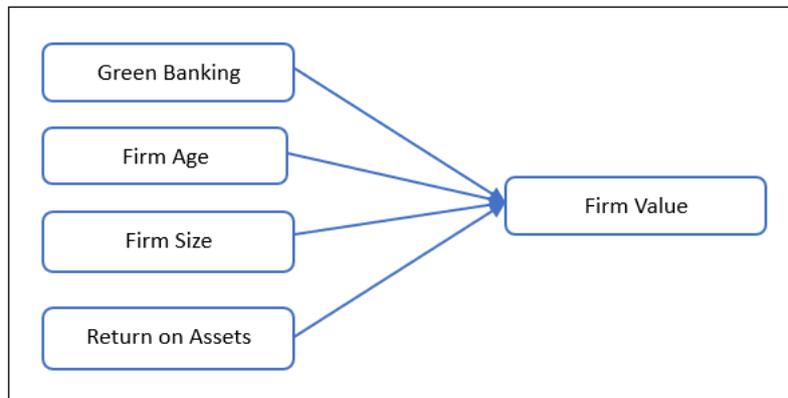

Figure 1. Conceptual Framework

3. Research Methods

This study was conducted on banking companies listed on the Indonesia Stock Exchange (IDX). The research period spanned from September 2023 to May 2024, while the financial data analyzed covered the 2019–2023 period.

The population of this study consisted of all banking companies listed on the Indonesia Stock Exchange, totaling 46 firms. This study employed a census (saturated sampling) technique, in which all members of the population were included as the research sample. Therefore, the final sample comprised 46 banking companies.

Data were collected using the documentation method. Secondary quantitative data were obtained from annual reports and financial statements of the sampled banking companies. These reports contained financial summaries and stock performance information and were accessed through the official website of the Indonesia Stock Exchange (www.idx.co.id) and the respective official websites of the banking companies. The data were collected and processed for each company over the 2019–2023 observation period.

This study utilized five variables: green banking, firm age, firm size, return on assets (ROA), and firm value. Green banking was measured using a dummy variable, where a value of 1 was assigned if the company implemented green banking practices and 0 otherwise (Kusumadewi et al., 2023). Firm age was calculated as the difference between the year of observation and the year the company was established (Dewi & Susanto, 2022). Firm size was measured using the natural logarithm of total assets (Tiara & Jayanti, 2022). Return on Assets (ROA) was calculated as net profit divided by total assets (Artamevia & Almalita, 2021). Firm value was proxied by Price to Book Value (PBV), reflecting the market's valuation of the company relative to its book value (Novelia et al., 2020).

The data analysis technique employed in this study was multiple linear regression analysis to examine the effect of the independent variables on firm value. Prior to hypothesis testing, several classical assumption tests were conducted. Descriptive statistical analysis was performed to provide an overview of the data distribution, including minimum, maximum,

mean, and standard deviation values. The normality test was conducted using the Kolmogorov–Smirnov test to determine whether the data were normally distributed. Multicollinearity was tested using the Variance Inflation Factor (VIF) to identify correlations among independent variables. The Durbin–Watson test was applied to detect autocorrelation in the regression model. Heteroscedasticity testing was also conducted to ensure homogeneity of residual variance.

Hypothesis testing included the F-test to assess the joint significance of the independent variables on the dependent variable. A significance level of 5% ($\alpha = 0.05$) was used as the decision criterion. The coefficient of determination (R^2) was used to measure the explanatory power of the model in explaining variations in firm value. Finally, the t-test was conducted to examine the partial effect of each independent variable on firm value.

4. Results and Discussion

Result
Descriptive Statistics Test

Table 1. Results of Descriptive Statistics Test

	N	Minimum	Maximum	Mean	Std. Deviation
Green Banking	230	0	1	.30	.461
Firm Age	230	16	129	53.76	26.228
Firm Size	230	27.58	35.32	31.3792	1.72714
ROA	230	-18.06	9.10	.5241	2.58229
Firm Value	230	.14	27.77	1.4372	2.44715
Valid N (listwise)	230				

Source: Processed data, 2024

Table 1 shows the description or overview of the data from the variables used in this study.

1. Green Banking in this study has a minimum value of 0 and a maximum value of 1. The mean value of Green Banking is 0.30 with a standard deviation of 0.461.
2. Firm Age in this study has a minimum value of 16 by company BRIS and a maximum value of 129 by company BBRI. The mean value of Firm Age is 53.76 with a standard deviation of 26.228.
3. Firm Size in this study has a minimum value of 27.58 by company BBSI in 2019 and a maximum value of 35.32 by company BMRI in 2023. The mean value of Firm Size is 31.3792 with a standard deviation of 1.72714.
4. Return on Assets (ROA) in this study has a minimum value of -18.06 by company AGRO in 2021 and a maximum value of 9.10 by company BTPS in 2019. The mean value
5. Firm Value in this study has a minimum value of 1.57 by company PTPP in 2019 and a maximum value of 46.52 by company UNVR in 2018. The mean value of ROA in this study is 9.6031 with a standard deviation of 9.30595.

Normality Test

Table 2. Results of Normality Test
One-Sample Kolmogorov-Smirnov Test

	Unstandardized Residual
N	230
Normal Parametersa,b Mean	.0000000
Std. Deviation	.90918752
Most Extreme Differences	

Absolute		.102
Positive		.093
Negative		-.102
Kolmogorov-Smirnov Z		1.250
Asymp. Sig. (2-tailed)		.088

Source: Processed data, 2024

The results of the normality test indicate that all research variables have significance values greater than 0.05; therefore, it can be concluded that the residuals are normally distributed.

Multicollinearity Test

Table 3. Results of Multicollinearity Test

Model	Collinearity Statistics	Description
	Tolerance	VIF
1 (Constant)		
Green Banking	.475	2.104
Firm Age	.767	1.304
Firm Size	.329	3.042
ROA	.567	1.764

Source: SPSS 21 processed data, 2024

The multicollinearity test results in Table 3 show that all independent variables have tolerance values greater than 0.10 and VIF values less than 10. Therefore, it can be concluded that the regression model does not suffer from multicollinearity.

Autocorrelation Test

Table 4. Results of Autocorrelation Test

Model	Durbin-Watson	du	4-du	Description
1	1.9223	1.8104	2.1896	Free from autocorrelation

Source: SPSS 21 processed data, 2024

Based on Table 4, the DW value is 1.9223, which is greater than du (1.8104) and less than (4 – du) (2.1896), or (1.8104 < 1.9223 < 2.1896). The result was obtained from the DW table with 230 samples (n) and 4 independent variables (k = 4). This indicates that there is no autocorrelation in the regression model; therefore, the regression equation model is appropriate for use.

Heteroscedasticity Test

Table 5. Results of Heteroscedasticity Test

Model	t	Sig.	Description
(Constant)	0.870	0.386	No heteroscedasticity
Green Banking	-2.040	0.093	No heteroscedasticity
Firm Age	-1.884	0.062	No heteroscedasticity
Firm Size	-0.272	0.786	No heteroscedasticity
ROA	2.335	0.061	No heteroscedasticity

Source: Processed data, 2024

Based on the Glejser test results in Table 5, none of the independent variables significantly affect the absolute residual value (ABS_RES). This is indicated by significance values above the 5% level. Therefore, it can be concluded that the regression model does not contain heteroscedasticity.

Multiple Linear Regression Analysis

Table 6. Results of Multiple Linear Regression Analysis

Model	Unstandardized Coefficients	Standardized Coefficients
	B	Std. Error
(Constant)	0.652	0.648
Green Banking	-0.178	0.061
Firm Age	0.001	0.001
Firm Size	0.010	0.022
ROA	0.019	0.030

The regression equation of the dependent and independent variables from Table 6 is:

Y = 0.652 – 0.178 Green Banking + 0.001 Firm Age + 0.010 Firm Size + 0.019 ROA + ε

F-Test

Table 7. Results of F-Test

Model	Df	F-statistic	F-table	Sig.	α	Description
Regression	5	2.976	2.449	0.014	0.05	Not significant effect

Source: Processed data, 2024

Based on Table 7, the significance value is 0.014, which is smaller than 0.05. This indicates that green banking, firm age, firm size, ROA, and DER simultaneously affect firm value.

Coefficient of Determination Test

Table 8. Results of Coefficient of Determination Test

Model	R	R Square	Adjusted R Square
1	0.742	0.551	0.536

Source: Processed data, 2024

Based on Table 8, the Adjusted R Square value is 0.536. This indicates that 53.6% of the variation in firm value can be explained by Green Banking, Firm Age, Firm Size, and ROA, while the remaining 46.4% is explained by other variables outside the model.

Hypothesis Testing (t-Test)

Table 9. Results of Hypothesis Testing (t-Test)

Variable	T-statistic	T-table	Sig.	α	Result
Green Banking	-2.917	2.015	0.004	0.05	Significant negative effect
Firm Age	0.660		0.510		No effect
Firm Size	0.437		0.663		No effect
ROA	0.653		0.515		No effect

Source: Processed data, 2024

The analysis results show that the significance value of 0.004 < 0.05 with a negative coefficient indicates that green banking affects firm value. Based on the hypothesis testing results above, it can be concluded that H1 is rejected, meaning that green banking has a significant negative effect on firm value.

Discussion

The following is the discussion of the results obtained in this study:

The Effect of Green Banking on Firm Value

The analysis results show that the t-significance value is 0.004 < 0.05 with a negative coefficient, indicating that green banking affects firm value. Based on the hypothesis testing

results, it can be concluded that H1 is rejected, meaning that green banking has a significant negative effect on firm value.

These results indicate that the implementation of Green Banking does not positively contribute to increasing the value of banking companies. Investors and other stakeholders appear not to respond positively to the implementation of Green Banking by banks. This may occur because many banks, including publicly listed ones, have not fully implemented or disclosed Green Banking practices. Public sector banks appear to experience a stronger negative impact from Green Banking implementation compared to foreign banks. Therefore, stakeholders need to consider the implementation of Green Banking in financial decision-making. This may occur because banks that adopt green banking practices tend to engage in product and service innovation. This creates opportunities for differentiation in an increasingly competitive market, attracting environmentally conscious customers, and potentially increasing market share and firm value.

Research conducted by Murwaningsari & Rachmawati (2023) and Hastuti & Kusumadewi (2023) shows that green banking has a positive effect on firm value. This is consistent with Bose et al. (2021), who state that green banking positively affects firm value. The implementation of green banking is perceived as positive by society because it indicates that banks are concerned about environmental issues. With increased public trust in banks that implement green banking, customers and investors will also develop positive perceptions, thereby increasing the firm value of the bank.

The Effect of Firm Age on Firm Value

The analysis results show that the t-significance value is $0.510 > 0.05$ with a positive coefficient, indicating that firm age does not affect firm value. Based on the hypothesis testing results, it can be concluded that H2 is rejected with a positive direction, meaning that firm age does not influence firm value.

In general, firm value is more influenced by financial and operational performance, such as revenue growth, profitability, and risk management, rather than merely by company age. Newly established companies may experience rapid and profitable growth, while older companies may experience stagnation or declining performance.

Research by Rousilita Suhendah (2020) finds that firm age positively affects firm value. Firm age reflects the company's ability to survive and compete in the business environment (Suryani, 2018). The longer a company operates, the more assets investors are willing to invest compared to newly established firms, as older firms are perceived as more stable and reliable, leading to higher stock prices due to investor confidence.

However, research by Tiara & Jayanti (2022) and Dewi & Susanto (2022) finds that firm age has a negative effect on firm value. Younger companies may adopt strategies that enhance performance, particularly in digital transformation, thereby attracting higher investor interest. For example, banks such as BBTN implemented digital innovations including Portal BTN Properti, BTN Solusi, Portal Rumah Murah BTN, BTN Mobile Banking, and the Batara Spekta program. Additionally, PT Bank Sinar Mas Tbk (BSIM) strengthened its digital development through the SimobiPlus application.

The Effect of Firm Size on Firm Value

The analysis results show that the t-significance value is $0.663 > 0.05$ with a positive coefficient, indicating that firm size does not affect firm value. Based on the hypothesis testing results, it can be concluded that H3 is rejected with a positive direction, meaning that firm size does not influence firm value.

Although large companies may benefit from economies of scale and operational efficiency, not all large firms are automatically more efficient or profitable than small or

medium-sized firms. Efficiency and productivity are often more determined by internal factors such as effective management and appropriate technology utilization.

Research by Jaya (2020), Ferdila et al. (2023), and Artamevia & Almalita (2021) finds that firm size does not affect firm value. Large firms may act more cautiously in making policies because information disclosed to the public may significantly influence market responses. Therefore, firm size does not necessarily affect investor interest.

Conversely, research by Tiara & Jayanti (2022), Rousilita Suhendah (2020), Nugraha et al. (2021), Bita et al. (2021), and Novelia et al. (2020) finds that firm size positively affects firm value. Larger firm size reflects growth and stability, which attracts investors and increases firm value. However, Kusumadewi et al. (2023) find that firm size negatively affects firm value, which is inconsistent with signaling theory, which suggests that larger firms should gain greater external trust.

The Effect of Return on Assets (ROA) on Firm Value

The analysis results show that the t-significance value is $0.128 > 0.05$ with a positive coefficient, indicating that ROA does not affect firm value. Based on the hypothesis testing results, it can be concluded that H4 is rejected with a positive direction, meaning that ROA does not influence firm value.

Firm value is not only influenced by historical performance reflected in ROA but also by future growth prospects and potential improvements. Companies with low current ROA but strong future growth potential may still have high firm value.

Research by Dewi & Susanto (2022) and Kartika et al. (2022) also shows that ROA does not affect firm value. Shareholders may focus more on market conditions and short-term capital gains rather than profitability indicators when making investment decisions.

Meanwhile, research by Kusumadewi et al. (2023), Rousilita Suhendah (2020), Jaya (2020), Bita et al. (2021), Novelia et al. (2020), Artamevia & Almalita (2021), and Atrianingsih & Nyale (2022) finds that ROA positively affects firm value. Higher ROA reflects better performance and increased profitability, which can enhance firm value.

However, Anggraini & Yudiantoro (2023) find that ROA negatively affects firm value. Investment asset value may not significantly impact net income if total expenses increase. Thus, high ROA does not necessarily improve firm value (Latief, 2022). This finding is consistent with Wedayanthi & Darmayanti (2016), who report a negative and insignificant relationship between ROA and firm value.

5. Conclusion

This study examined the effect of Green Banking, Firm Age, Firm Size, and Return on Assets (ROA) on firm value in banking companies listed on the Indonesia Stock Exchange during the 2019–2023 period. The findings reveal that Green Banking has a significant negative effect on firm value, indicating that the market has not fully responded positively to the implementation of environmentally oriented banking practices. Meanwhile, Firm Age, Firm Size, and ROA do not have a significant effect on firm value. These results suggest that investors in the Indonesian banking sector may place greater emphasis on other financial and strategic factors beyond sustainability initiatives, company maturity, size, or short-term profitability indicators when assessing firm value.

This study has several limitations. First, the sample is limited to banking companies listed on the Indonesia Stock Exchange, which may restrict the generalizability of the findings to other sectors or countries. Second, the measurement of Green Banking was based on a dummy variable, which may not fully capture the depth, quality, and intensity of sustainability practices implemented by each bank. Third, the observation period was limited to five years (2019–2023), which may not adequately reflect long-term sustainability impacts or structural changes in the

banking industry. Additionally, other potential determinants of firm value, such as corporate governance, risk management, macroeconomic conditions, and ESG ratings, were not included in the model.

Future studies are encouraged to expand the research scope by including companies from multiple sectors or conducting cross-country comparisons to enhance external validity. Researchers may also refine the measurement of Green Banking by using ESG scores, sustainability disclosure indices, or content analysis approaches to provide a more comprehensive evaluation. Extending the observation period and incorporating additional variables such as corporate governance mechanisms, digital transformation, capital structure, and macroeconomic indicators may provide deeper insights into the determinants of firm value. Furthermore, employing alternative analytical methods, such as panel data regression or structural equation modeling, could improve robustness and offer a more nuanced understanding of the relationships among sustainability practices and firm value.

References

Amin, N. F., Garancang, S., & Abunawas, K. (2023). Konsep umum populasi dan sampel dalam penelitian. *Jurnal Pilar, 14*(1), 15–31. https://doi.org/10.26618/whw41w62

Anggraini, A., & Yudiantoro, D. (2023). Pengaruh return on assets (ROA), return on equity (ROE), net profit margin (NPM), dan debt to equity ratio (DER) terhadap nilai perusahaan (PBV) pada perusahaan sektor industri tekstil dan garmen yang terdaftar di Bursa Efek Indonesia periode 2018–2021. *Encyclopedia of Finance, 4*(2), 233–233. https://doi.org/10.1007/0-387-26336-5_1737

Artamevia, J., & Almalita, Y. (2021). Pengaruh return on assets, debt to assets ratio dan faktor lainnya terhadap nilai perusahaan. *E-Jurnal Akuntansi TSM, 1*(3), 313–324. http://jurnaltsm.id/index.php/ejatsm

Atrianingsih, S., & Nyale, M. H. Y. (2022). Pengaruh debt to equity ratio (DER) dan return on asset (ROA) terhadap nilai perusahaan dengan sales growth sebagai variabel moderasi. *JIIP – Jurnal Ilmiah Ilmu Pendidikan, 5*(7), 2700–2709. https://doi.org/10.54371/jiip.v5i7.746

Azmi, W., Hassan, M. K., Houston, R., & Karim, M. S. (2021). ESG activities and banking performance: International evidence from emerging economies. *Journal of International Financial Markets, Institutions & Money, 70*, 101277. https://doi.org/10.1016/j.intfin.2020.101277

Bita, F. Y., Hermuningsih, S., & Maulida, A. (2021). Pengaruh profitabilitas, likuiditas, dan ukuran perusahaan terhadap nilai perusahaan. *Jurnal Syntax Transformation, 2*(3), 298–306. https://doi.org/10.46799/jst.v2i3.233

Brigham, E. F., & Houston, J. F. (2019). *Dasar-dasar manajemen keuangan*. Salemba Empat.

Cantero-Saiz, M., Polizzi, S., & Scannella, E. (2024). ESG and asset quality in the banking industry: The moderating role of financial performance. *Research in International Business and Finance, 69*, 102221. https://doi.org/10.1016/j.ribaf.2024.102221

Dewi, C., & Susanto, L. (2022). Pengaruh profitabilitas, solvabilitas, kepemilikan institusional, dan umur perusahaan terhadap nilai perusahaan manufaktur. *Jurnal Multiparadigma Akuntansi, 4*(2), 540–549. https://lintar.untar.ac.id/repository/penelitian/buktipenelitian_10199014_5A110722145459.pdf

Ersoy, E. (2022). The impact of ESG scores on bank market value? Evidence from the U.S. banking industry. *Sustainability, 14*(15), 9527. https://doi.org/10.3390/su14159527

Ferdila, F., Mustika, I., & Martina, S. (2023). Pengaruh firm size, likuiditas, leverage dan profitabilitas terhadap nilai perusahaan pada perusahaan manufaktur sub sektor barang konsumsi yang terdaftar di Bursa Efek Indonesia. *Owner, 7*(4), 3274–3284. https://doi.org/10.33395/owner.v7i4.1883

Galletta, S., Goodell, J. W., Mazzù, S., & Paltrinieri, A. (2024). The impact of environmental disclosure and controversies on bank value. *Journal of Economics and Business, 134–135*, 106221. https://doi.org/10.1016/j.jeconbus.2024.106221

Galyani, Z. M., & Henny, D. (2022). Determinasi faktor yang mempengaruhi nilai perusahaan pada perusahaan perbankan. *Jurnal Ekonomi Trisakti, 2*(2), 1401–1410. https://doi.org/10.25105/jet.v2i2.14775

Hastuti, T., & Kusumadewi, R. K. A. (2023). Pengaruh green banking terhadap nilai perusahaan: Peran pemediasi efisiensi bank. *Reviu Akuntansi dan Bisnis Indonesia, 7*(2), 380–393. https://doi.org/10.18196/rabin.v7i2.18312

Hossain, M. A., Rahman, M. M., Hossain, M. S., & Karim, M. R. (2020). The effects of green banking practices on financial performance of listed banking companies in Bangladesh. *Canadian Journal of Business and Information Studies, 2*(6), 120–128.

Jaya, S. (2020). Pengaruh ukuran perusahaan (firm size) dan profitabilitas (ROA) terhadap nilai perusahaan pada perusahaan sub sektor property dan real estate di Bursa Efek Indonesia (BEI). *Jurnal Manajemen Motivasi, 16*(1), 38–46. https://doi.org/10.29406/jmm.v16i1.2136

Kartika, O., Tanjung, R., & Halawa, S. (2022). Pengaruh return on assets dan return on equity terhadap nilai perusahaan pada perusahaan manufaktur sektor otomotif dan komponennya yang terdaftar di Bursa Efek Indonesia. *Jurnal Neraca Agung, 12*(1), 1–8. https://doi.org/10.46930/neraca.v12i1.1448

Kusumadewi, N. L. G. L., Paramitadewi, H. D. S. L., & Madyakusumawati, S. (2023). Green banking, kepemilikan asing, profitabilitas, firm size, pengaruhnya terhadap firm value. *Widya Manajemen, 15*(2), 373–394. https://doi.org/10.25170/wpm.v15i2.5042

Mahmudah, H., Yustina, A. I., Dewi, C. N., & Sutopo, B. (2023). Voluntary disclosure and firm value: Evidence from Indonesia. *Cogent Business & Management, 10*(1), 2182625. https://doi.org/10.1080/23311975.2023.2182625

Murwaningsari, E., & Rachmawati, S. (2023). The effect of green banking and green investment on firm value with eco-efficiency as moderation. *IJOSMAS: International Journal of Social and Management Studies, 4*(2), 141–150. https://doi.org/10.5555/ijosmas.v4i2.300

Nugraha, N. M., Susanti, N., & Setiawan, M. R. (2021). Pengaruh struktur modal, perputaran modal kerja, dan ukuran perusahaan terhadap nilai perusahaan. *Owner, 5*(1), 208–218. https://doi.org/10.33395/owner.v5i1.383

Rousilita Suhendah, G. A. (2020). Pengaruh ukuran perusahaan, profitabilitas, dividen dan umur perusahaan terhadap nilai perusahaan. *Jurnal Paradigma Akuntansi, 2*(2), 586–597. https://doi.org/10.24912/jpa.v2i2.7623

Simanungkalit, A. A., & Mayangsari, S. (2020). Pengaruh diversifikasi gender, kepemilikan manajerial dan green banking terhadap nilai perusahaan perbankan. *Jurnal Ekonomi Trisakti, 2*(2), 451–466. https://doi.org/10.25105/jet.v2i2.14472

Tiara, C., & Jayanti, D. (2022). Pengaruh green banking, firm age dan firm size terhadap nilai perusahaan. *JPAK: Jurnal Pendidikan Akuntansi dan Keuangan, 10*(2), 230–239. https://doi.org/10.17509/jpak.v10i2.44526

Wang, H., Qi, S., Zhou, C., Zhou, J., & Huang, X. (2022). Green credit policy, government behavior and green innovation quality of enterprises. *Journal of Cleaner Production, 331*, 129834. https://doi.org/10.1016/j.jclepro.2021.129834

Wulandari, B., Albert, A., Harianto, F., & Sovi, S. (2021). Pengaruh DER, ROE, SG, NPM, CR, DPR terhadap nilai perusahaan sektor industri yang terdaftar di BEI. *Owner, 5*(1), 96–106. https://doi.org/10.33395/owner.v5i1.326