



Environmental, Social, and Governance (ESG), Green Finance, and Firm Value: Evidence from Banking Sector in ASEAN Countries

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Abstract

Studies examining the moderating role of green finance in the relationship between ESG and firm value in the banking sector across ASEAN countries remain relatively limited. Therefore, this study analyses the effects of environmental, social, and governance (ESG) and green finance on firm value, while also testing the moderating role of green finance on the relationship between ESG and firm value in the banking sector across the ASEAN-5 (Indonesia, Malaysia, Singapore, Thailand, and Philippines) from 2020 to 2024. The sample consists of 46 banks with 177 unbalanced panel observations. Data were obtained from LSEG Workspace and sustainability reports. Firm value is proxied by Tobin's Q, while PBV is used as a robustness test. Panel data regression analysis using a fixed-effects model and interaction analysis were employed to test the hypotheses. The results show that ESG, ESG pillars individually, and green finance do not have a significant positive effect on firm value. However, green finance significantly moderates the relationship between ESG and firm value. These findings indicate that green finance acts as a mechanism that enhances the effectiveness of ESG implementation in creating firm value, thereby enriching the literature on the relationship between ESG and firm value in the ASEAN banking sector.

Lingkungan, Sosial, dan Tata Kelola (ESG), Keuangan Hijau, dan Nilai Perusahaan: Bukti dari Sektor Perbankan di Negara-Negara ASEAN

Abstrak

Studi yang mengkaji peran moderasi keuangan hijau dalam hubungan ESG dan nilai perusahaan pada sektor perbankan di negara-negara ASEAN masih relatif terbatas. Oleh karena itu, studi ini menganalisis pengaruh lingkungan, sosial, dan tata kelola (ESG) serta keuangan hijau terhadap nilai perusahaan, sekaligus menguji peran moderasi keuangan hijau terhadap hubungan antara ESG dan nilai perusahaan pada sektor perbankan di ASEAN-5 (Indonesia, Malaysia, Singapura, Thailand, dan Filipina) pada periode 2020 hingga 2024. Sampel terdiri 46 bank dengan 177 observasi panel tidak seimbang. Data diperoleh dari LSEG Workspace dan laporan keberlanjutan. Nilai perusahaan diprosikan dengan Tobin's Q, sedangkan PBV digunakan sebagai uji robustness. Analisis regresi data panel dengan fixed effect model dan analisis interaksi untuk menguji hipotesis. Hasil penelitian menunjukkan bahwa ESG, masing-masing pilar ESG, dan keuangan hijau tidak berpengaruh positif signifikan terhadap nilai perusahaan. Namun, keuangan hijau secara signifikan memoderasi hubungan antara ESG dan nilai perusahaan. Temuan ini menunjukkan bahwa keuangan hijau berperan sebagai mekanisme yang meningkatkan efektivitas implementasi ESG dalam menciptakan nilai perusahaan, sehingga memperkaya literatur mengenai hubungan ESG dan nilai perusahaan pada sektor perbankan di ASEAN

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INTRODUCTION

A crucial indicator for a company is its firm value, which reflects the market's assessment of the company's performance, prospects, and quality of corporate governance. For investors, corporate value is a key consideration in investment decision-making (Daromes & Kawilarang, 2020). As global investment trends evolve, investor attention is no longer focused solely on financial performance but also on sustainability aspects, which are seen as capable of creating long-term value (Aydogmus et al., 2022; Alatas, 2023). Among various sustainability issues, climate change has become one of the most pressing global challenges due to rising carbon emissions from human activities (Quynh et al., 2022; Kusumawati et al., 2023). These conditions are driving companies to integrate sustainability strategies into their business operations as a means of enhancing investor confidence while strengthening firm value.

The urgency of climate change is becoming increasingly critical for the ASEAN region, which is among the areas most vulnerable to the impacts of the climate crisis. In this context, the banking sector plays a strategic role as an intermediary institution that channels financing in both developing and developed countries to support sustainable development and the transition to a low-carbon economy (Yan et al., 2022; Pangaribuan & Indrianita, 2024). Therefore, banks are not only required to maintain financial performance but also to integrate sustainability aspects into their operations and governance to meet the expectations of investors, regulators, and stakeholders.

In response to these demands, Environmental, Social, and Governance (ESG) has evolved into the primary framework for assessing corporate sustainability performance. Investors are increasingly considering ESG practices, particularly

in the banking sector, as companies with strong ESG performance are viewed as having lower long-term risk, better governance, higher levels of transparency, and more sustainable growth prospects (Rathor, 2023). Therefore, companies are encouraged to disclose ESG information as a demonstration of their commitment to sustainable business practices and as a positive signal to stakeholders (Pangaribuan & Indrianita, 2024). Consequently, companies with better ESG performance and disclosure are expected to boost investor confidence, thereby increasing firm value (Lee & Isa, 2022).

Previous research has shown that Environmental, Social, and Governance (ESG) factors are among those that can increase a firm's value. Some studies have revealed that ESG has a positive effect on firm value (Aydogmus et al., 2022; Giannopoulos et al., 2022; Yu & Xiao, 2022; Yu, 2024; Ahmed & Khalaf, 2025; Habib et al., 2025). However, other studies have shown different results, that ESG does not have a significant effect on firm value (Yeye & Egbunike, 2023; Rohendi et al., 2024; Ningrum et al., 2025). These differing findings indicate that the relationship between ESG and firm value remains inconclusive. Furthermore, most previous studies have focused on the direct impact of ESG on corporate value, conducted on public companies in general, the non-financial sector, or specific countries such as Norway, China, and Nigeria. Consequently, they have not extensively explored factors that could strengthen this relationship, particularly within the banking sector in the ASEAN region. Therefore, research is needed that not only examines the impact of ESG on corporate value but also considers other factors that could potentially strengthen this relationship.

One factor that has the potential to strengthen the relationship between ESG and firm value is green finance. In the context of the banking sector, the implemen-

tation of green finance reflects financial institutions' commitment to supporting sustainable development by providing funding for environmentally friendly activities. As investor attention toward sustainability grows, the implementation of green finance is also seen as capable of enhancing corporate reputation, expanding access to funding, and strengthening investor confidence, which ultimately leads to an increase in firm value (Wang & Zhi, 2016; Yan et al., 2022). Previous research has shown that the adoption of green finance can increase firm value (Lai et al., 2022; Habib et al., 2025). However, other studies have yielded differing findings, suggesting that green finance has not yet been able to increase firm value and may even potentially decrease it (Alfikri & Susyani, 2024; Erwanto, 2024). This inconsistency in findings suggests that the relationship between green finance and firm value has not yet yielded consistent evidence. Furthermore, the majority of previous studies have treated green finance solely as an independent variable. As a result, its role as a factor that can amplify the impact of ESG on firm value remains relatively limited, particularly in the ASEAN banking sector.

Theoretically, the relationship between ESG and firm value can be explained through signalling theory, which states that ESG disclosures send a positive signal regarding a company's commitment to sustainability, thereby increasing market confidence. Furthermore, stakeholder theory and legitimacy theory explain that the adoption of green finance reflects a tangible manifestation of a company's commitment to meeting stakeholder expectations and achieving social legitimacy. Therefore, the adoption of green finance is expected to strengthen the effect of ESG on firm value. This argument is supported by research findings showing that green finance indicators can amplify the impact of ESG on firm value in China (Habib et al., 2025). Nevertheless, most previous

studies have examined ESG and green finance separately as independent variables, while research exploring the role of green finance as a moderating variable remains relatively limited, particularly in the banking sector across the ASEAN region.

Referring to the discussion above, this study aims to evaluate the impact of environmental, social, and governance (ESG) factors, as well as green finance, on firm value in the banking industry in the ASEAN region. In addition, this study examines the moderating effect of green finance on the influence of ESG on firm value. By employing a research framework that integrates these two concepts, this study expands the empirical literature on the factors that determine firm value. It is expected to enrich the literature on the integration of ESG and green finance in enhancing firm value, provide empirical evidence specific to the ASEAN banking sector, and offer insights to banks and policymakers in promoting the implementation of sustainable finance practices.

Hypothesis Development

The Influence of Environmental, Social, and Governance (ESG) on Firm Value

The ESG concept reflects the extent to which a company fulfills its responsibilities regarding environmental, social, and corporate governance aspects. Optimal implementation of ESG can increase investor confidence, strengthen a company's reputation, and reduce long-term risks, thereby contributing to an increase in firm value. According to the stakeholder theory proposed by Freeman (1984), a company is not only accountable to shareholders but also to all stakeholders. Therefore, the implementation of ESG serves as a means for companies to fulfill their responsibilities toward various stakeholder groups, which ultimately creates long-term value for the company. Additionally, the signalling theory proposed by Spence (1973), states that the disclosure of ESG infor-

mation sends a positive signal to investors regarding the company's quality, growth prospects, and commitment to sustainability.

In addition to these two theories, the legitimacy theory explains that companies seek to obtain and maintain legitimacy by aligning their business activities with societal norms, values, and expectations (Dowling & Pfeffer, 1975). Thus, ESG not only meets stakeholder expectations and sends positive signals to investors but also enhances corporate legitimacy, which ultimately contributes to an increase in firm value.

A study conducted by Buallay et al. (2021), found that ESG has a significant positive relationship with tobin's Q. Similar findings were also demonstrated by studies conducted by Aydogmus et al. (2022), Giannopoulos et al. (2022), Yu & Xiao (2022), and Habib et al. (2025), which found that ESG has a significant positive relationship with firm value. Furthermore, Yu & Xiao (2022) also found that each ESG pillar exerts a significant positive influence on firm value. These findings indicate that companies capable of effectively implementing ESG tend to garner higher investor confidence, thereby increasing firm value. Based on this, the following hypotheses are formulated for this study:

H1: Environmental, Social, and Governance (ESG) have a positive effect on Firm Value

H1a: Environmental has a positive effect on Firm Value

H1b: Social has a positive effect on Firm Value

H1c: Governance has a positive effect on Firm Value

The Influence of Green Finance on Firm Value

Companies utilize green finance as a form of commitment to supporting various sustainability-oriented activities and investments. The implementation of green finance, as reflected through various envi-

ronmentally friendly practices, can shape investors' positive perceptions of the company's commitment to applying sustainability principles, thereby potentially increasing firm value.

This aligns with stakeholder theory, which explains that companies investing in environmentally friendly projects are viewed as capable of meeting stakeholders' expectations regarding social and environmental responsibility. Additionally, signaling theory explains that the implementation of green finance sends a positive signal to investors regarding the company's commitment to sustainable business practices. Furthermore, the legitimacy theory explains that companies strive to obtain and maintain legitimacy by aligning their business activities with societal norms, values, and expectations. In this context, the adoption of green finance reflects a company's genuine commitment to supporting sustainable business practices, thereby reinforcing positive signals and enhancing the company's legitimacy in the eyes of investors and stakeholders, ultimately increasing trust in the company and contributing to an increase in firm value.

According to Ifadhoh & Yuliana (2024), green finance can also influence corporate value by enhancing the company's reputation, facilitating access to funding, reducing risk, increasing investor interest, and ensuring regulatory compliance. This statement is supported by findings from previous research indicating that green finance has a positive impact on firm value (Yusnia et al., 2024; Lai et al., 2022; and Jain et al., 2024). These results indicate that the implementation of green finance can increase investor confidence and strengthen market perceptions of a company's prospects, thereby contributing to an increase in firm value. Therefore, the following hypothesis is formulated:

H2: Green finance has a positive effect on firm value

The Role of Green Finance in the Influence of ESG on Firm Value

One indicator that reflects a company's commitment to sustainability is ESG disclosure, which boosts investor confidence and ultimately leads to an increase in firm value. However, the effectiveness of ESG implementation in enhancing firm value is also influenced by the extent to which a company supports that commitment through the adoption of green finance. Based on stakeholder theory, the implementation of green finance demonstrates that a company not only discloses its sustainability commitments through ESG but also puts them into practice through investments and activities that support sustainable development, thereby meeting stakeholder expectations. From the perspective of Signaling Theory, green finance sends an additional signal to investors that the company's ESG commitments are backed by concrete actions, thereby enhancing the credibility of ESG information and reducing information asymmetry. Furthermore, legitimacy theory explains that the implementation of green finance strengthens a company's legitimacy by demonstrating alignment between its business practices and societal norms, values, and expectations regarding sustainability. Thus, green finance is expected to amplify the impact of ESG on firm value.

Research conducted by Habib et al. (2025), shows that green finance can strengthen the relationship between ESG and corporate performance, as proxied by tobin's Q. This occurs because green finance can enhance the credibility of ESG implementation while simultaneously reducing corporate risk. Additionally, research by Albitar et al. (2020). Thus, green finance amplifies the influence of ESG on firm value by demonstrating a more substantial and verifiable commitment to sustainability to investors. Therefore, the researchers propose the following hypothesis:

H3: Green finance moderates the impact of ESG on firm value

METHOD

Population and Sample

The study population consists of 114 banks in the ASEAN-5 countries, specifically Indonesia, Malaysia, Singapore, Thailand, and Philippines, which are listed in the LSEG Workspace database for the period 2020–2024. The banking sector was selected because it plays a strategic role in supporting the implementation of Environmental, Social, and Governance (ESG) and green finance. The sampling technique used purposive sampling, with the following criteria: 1) banks that disclose ESG performance scores in the LSEG database for the 2020-2024 period; 2) banks that publish sustainability reports for the 2020–2024 period; and 3) banks for which data is available in the LSEG Workspace database in accordance with the study's requirements. Based on these criteria, 46 banks were selected from the 114 banks in the ASEAN-5. However, since not all banks had complete data for every year of observation, the number of observations used in this study was 177 firm-year observations. Therefore, this study employs unbalanced panel data. The use of an unbalanced panel data set allows all observations that meet the sampling criteria to be retained without excluding banks with incomplete observations for certain years.

Variables and Operational Definitions

This study uses Environmental, Social, and Governance (ESG) factors as independent variables, with data obtained from LSEG Workspace in the form of an index. Green finance is measured using the Green Coin Rating (GCR), which consists of six indicators: carbon emissions, green rewards, green buildings, reuse/recycle/refurbish, paperless, and green investment (Nath et al., 2014). The measurement is

conducted through content analysis of each bank's sustainability report for the 2020–2024 period. Each indicator is assigned a score of 1 if disclosed and a score of 0 if not disclosed. The scores are then aggregated to obtain the GCR index. Meanwhile, firm value is used as the dependent variable with tobin's Q as the primary

proxy, while the control variables consist of bank size and Return on Equity (ROE), with data obtained from LSEG Workspace. Table 1 presents a summary of the research variables, variable codes, measurement methods, and measurement scales used in this study.

Table 1. Presents variables, codes, measurements, and scales

Variables	Codes	Measurement	Scales	Data Source
Firm Value	TQ	Tobin's Q = (Market Value of Equity + Total Liabilities) / Total Assets (Yu & Xiao, 2022) and (Habib et al., 2025)	Ratio	LSEG Workspace
ESG	ESG	ESG Score	Index	LSEG Workspace
Environmental	ENV	Environmental Score	Index	LSEG Workspace
Social	SOC	Social Score	Index	LSEG Workspace
Governance	GOV	Governance Score	Index	LSEG Workspace
Green Finance	GF	Green Coin Rating index consists of six indicators: carbon emission, green rewards, green building, reuse/recycle/refurbish, paperless, and green investment (Nath et al., 2014). Measured using content analysis with a score of 1 if disclosed and 0 otherwise. The scores are aggregated into an index.	Index	Sustainability Reports
Bank Size	Bsize	Ln (Total Assets) (Habib et al., 2025)	Ratio	LSEG Workspace
Return on Equity	ROE	ROE = Net Income / Total Equity (Jirwanto et al., 2024)	Ratio	LSEG Workspace

Source: Authors (2026)

Techniques of Data Analysis

This study employs panel data regression analysis with an unbalanced panel design. Data processing was conducted using Eviews software through several stages of analysis. The first stage involved descriptive statistics aimed at obtaining an overview of the characteristics and distribution of the data for each variable in this study. Next, tests for multicollinearity and heteroscedasticity were conducted, which

are part of the classical assumption tests (Napitupulu et al., 2021). Subsequently, model selection was performed to determine the most appropriate models, such as common effects, fixed effects, or random effects. The next stage involved hypothesis testing for the three panel data regression models to examine the presence of partial effects and interactions. Hypothesis testing was conducted using a 10% significance level to provide a more comprehensive

interpretation of the empirical results, as is common in economic and financial research, particularly in studies using panel data with a relatively limited number of observations. As a final step, a robustness test was conducted to assess the consistency of the research results by replacing the firm value proxy from Tobin's Q with Price-to-Book Value (PBV). The use of PBV as an alternative proxy aims to ensure that the research results remain consistent even when using a different measure of firm value.

RESULT AND DISCUSSION

Descriptive Statistics

To understand the characteristics of each research variable, a descriptive statistical analysis is required, including the minimum, maximum, mean, and standard

deviation. Table 2, which presents the descriptive statistics for all research variables, shows that ESG has a mean of 65.17 and a standard deviation of 12.22. In each ESG pillar, the social pillar recorded the highest mean score 69.61, followed by the governance pillar 63.43, and environmental pillar 57.14. This indicates that the social aspect has a relatively high level of disclosure compared to the other two ESG pillars among the sample banks. Additionally, green finance has a mean value of 78.24, indicating a relatively high level of green finance implementation among the sample banks. Meanwhile, tobin's Q as a proxy for firm value has an average of 1.05 with a standard deviation of 0.31, indicating that, in general, the market value of the banks in the sample is slightly higher than their book value.

Table 2. Descriptive Statistics

	Mean	Maximum	Minimum	Std. Dev.	Observations
ESG	65.17887	88.22466	28.58493	12.22454	177
ENV	57.14460	94.86811	2.072920	24.48829	177
SOC	69.61395	93.74025	27.86568	15.64642	177
GOV	63.43330	96.75170	25.23706	18.33598	177
GF	78.24859	100.0000	16.66667	19.11577	177
ESGxGF	5143.266	8822.466	903.0614	1689.043	177
Bsize	24.52097	27.13003	19.53289	1.373934	177
ROE	0.096877	0.245600	-0.230360	0.054192	177
TQ	1.055535	3.923553	0.829656	0.312763	177

Source: Processed Data (2026)

Model Selection

Model selection was conducted through three stages of testing to identify the most appropriate model. The model used in this study was the fixed-effects model (FEM), following tests using Chow test and Hausman test. Meanwhile, the Lag-

range Multiplier (LM) test was not performed because in the Chow and Hausman tests, the probability values were below 0.05, pointing toward the FEM. The results of the model selection are presented in Table 3.

Table 3. Model Selection for the Fixed-Effects Panel Regression Equations 1, 1a, and 2

	Panel 1		Panel 1a		Panel 2	
	p-value	Results	p-value	Results	p-value	Results
Chow Test	0.0000	FEM	0.0000	FEM	0.0000	FEM
Hausman Test	0.0001	FEM	0.0005	FEM	0.0002	FEM

Source: Processed Data (2026)

Hypothesis Testing

The hypothesis testing consists of three panels, Panel 1 for the partial effects of ESG and green finance, Panel 1a for the effects of each ESG pillar, and Panel 2 for the moderating or interaction effects between ESG and green finance. A hypothesis is accepted or supported if the p-value is less than 0.10, while a hypothesis is rejected or not supported if the p-value is greater than 0.10.

As presented in Table 4, the results of Equation 1 show that ESG (H1) and green finance (H2) have negative coeffi-

cients and p-values greater than 0.10. Therefore, Hypotheses 1 and 2 are not supported. Table 5, which presents the results of Equation 1a, examines the ESG pillars individually. The environmental (H1a), social (H1b), and governance (H1c) pillars have p-values greater than 0.10. Meanwhile, the coefficients for the environmental (H1a) and governance (H1c) pillars are negative, while the social pillar (H1b) has a positive coefficient. Thus, it is concluded that Hypotheses 1a, 1b, and 1c are not supported.

Table 4. Hypothesis Testing for Panel Regression Equation 1

	Coefficients	t-statistic	Prob. < 0.10	Results
C	16.4144	4.2333	0.0000	
ESG	-0.0010	-0.5064	0.6134	Not significant
GF	-0.0000	-0.2920	0.7707	Not significant
BSize	-0.6245	-3.8940	0.0002	
ROE	0.4355	1.4839	0.1403	
Adj.R2	0.8422			

Source: Processed Data (2026)

Table 5. Hypothesis Testing for Panel Regression Equation 1a

	Coefficient	t-statistic	Prob. < 0.10	Results
C	16.1046	4.1904	0.0001	
ENV	-0.0004	-0.4881	0.6263	Not significant
SOC	0.0003	0.1871	0.8518	Not significant
GOV	-0.0011	-1.0172	0.3110	Not significant
GF	-0.0003	-0.3900	0.6971	
BSize	-0.6114	-3.8498	0.0002	
ROE	0.4596	1.5521	0.1403	
Adj.R2	0.8410			

Source: Processed Data (2026)

Table 6. Hypothesis Testing for Panel Regression Equation 2

	Coefficient	t-statistic	Prob. < 0.10	Results
C	17.5266	4.5223	0.0000	
ESG	-0.0094	-2.0026	0.0474	Significantly Negative
GF	-0.0077	-1.9872	0.0491	Significantly Negative
ESGxGF	0.0001	1.9698	0.0511	Significantly Positive
BSize	-0.6484	-4.0767	0.0001	
ROE	0.3346	1.1356	0.2583	
Adj.R2	0.8457			

Source: Processed Data (2026)

The interaction test in Equation 2, presented in Table 6, shows that the interaction between ESG and green finance (H3) has a positive coefficient of 0.0001 and a p-value of 0.05, which is below the significance level of 0.10. Therefore, it is concluded that Hypothesis 3 is supported, meaning that green finance moderates the relationship between ESG and firm value.

Robustness Test

This study conducted an additional analysis to reinforce the findings of the main analysis through a robustness test. The robustness test was conducted by replacing the proxy for the dependent variable, namely firm value, from tobin's Q to Price-to-Book Value (PBV).

Based on the results presented in Table 7, Equation 1 shows results consistent with the main analysis. ESG (H1) and green finance (H2) have p-values greater than 0.10; therefore, Hypothesis 1 and Hypothesis 2 are not supported. These results indicate that neither ESG nor green finance has an effect on firm value as measured using the PBV proxy. Table 8 presents the results of Equation 1a, which tests each ESG pillar individually. The test results show that the environmental (H1a), social (H1b), and governance (H1c) pillars have p-values greater than 0.10. Thus, Hypothesis 1a, Hypothesis 1b, and Hypothesis 1c are not supported.

Table 7. Robustness Test of the Panel Regression Equation 1

	Coefficient	t-statistic	Prob. < 0.10	Results
C	18.6885	2.7032	0.0078	
ESG	-0.0002	-0.0740	0.9411	Not significant
GF	-0.0003	-0.2221	0.8246	Not significant
BSize	-0.7212	-2.5219	0.0129	
ROE	2.0776	3.9703	0.0001	
Adj.R2	0.9418			

Source: Processed Data (2026)

Table 8. Robustness Test of the Panel Regression Equation 1a

	Coefficient	t-statistic	Prob. < 0.10	Results
C	7.2902	4.1904	0.0001	
ENV	0.0003	0.1790	0.8581	Not significant
SOC	0.0007	0.2350	0.8144	Not significant
GOV	-0.0006	-0.3140	0.7463	Not significant
GF	-0.0009	-0.6121	0.5413	
BSize	-0.2588	-3.0718	0.0025	
ROE	1.9525	3.7718	0.0002	
Adj.R2	0.0763			

Source: Processed Data (2026)

Meanwhile, the results of Equation 2 presented in Table 9 show that Hypothesis 3 is not supported in the robustness test. These results differ from the findings in the main analysis. This discrepancy is likely due to the characteristics of the firm

value proxy used. Tobin's Q is considered more responsive to investor expectations regarding future firm value resulting from ESG implementation supported by green finance. In contrast, PBV is based on historical book value and is therefore less

sensitive to capturing market expectations regarding the benefits of ESG implementation. Consequently, the moderating effect of green finance on the relationship

between ESG and firm value was not significantly detected when firm value was proxied using PBV.

Table 9. Robustness Test of the Panel Regression Equation 2

	Coefficient	t-statistic	Prob. < 0.10	Results
C	20.3162	2.9254	0.0041	
ESG	-0.0126	-1.4910	0.1384	Not significant
GF	-0.0113	-1.6191	0.1079	Not significant
ESGxGF	0.0001	1.6087	0.1102	Not significant
BSize	-0.7562	-2.6530	0.0090	
ROE	1.9300	3.6548	0.0001	
Adj.R2	0.9426			

Source: Processed Data (2026)

Discussion

The Influence of Environmental, Social, and Governance (ESG) on Firm Value

Based on the results of the hypothesis 1 test presented in Table 4, ESG does not have a significant effect on firm value in the banking sector across the ASEAN-5 during the 2020–2024 period. This suggests that although sustainability practices are a concern for investors, ESG performance has not yet become a primary factor in determining firm value. In other words, the market has not yet fully incorporated the ESG information disclosed by banking companies into increased firm valuations. These findings do not support expectations based on stakeholder theory, signaling theory, and legitimacy theory. However, the non-significant results of this study do not entirely contradict these three theories. Nevertheless, these findings indicate that stakeholder support, the credibility of sustainability signals, and legitimacy are not necessarily directly reflected in market assessments, particularly in the banking sector in ASEAN.

One possible explanation for these findings relates to the characteristics of ESG implementation in the banking sector across ASEAN. Based on the results of descriptive statistics (Table 2), the average ESG score indicates that the banks in the sample have integrated sustainability

practices into their operational activities. However, the variation in ESG scores remains relatively high, indicating that the level of ESG implementation across banks is still uneven. This suggests that the sustainability signals received by investors are inconsistent, meaning ESG has not yet become a fundamental basis for evaluating companies. Furthermore, differences in regulations, sustainability reporting standards, and the level of ESG implementation in each ASEAN country also have the potential to undermine the credibility of ESG information. Consequently, investors do not yet fully trust that ESG information accurately reflects a company's sustainability commitments, which ultimately means that ESG has not yet become a primary consideration in investment decisions.

The findings indicate that the impact of ESG on firm value remains highly dependent on how investors perceive the quality and relevance of the sustainability information disclosed by companies. These findings are consistent with the research by Ningrum et al. (2025), which found that ESG does not significantly affect firm value because investors tend to focus more on financial indicators than on sustainability considerations. Furthermore, Rohendi et al. (2024), argue that the limited positive response from investors and stakeholders to ESG implementation may explain

why ESG has not yet been able to significantly increase firm value. However, these findings differ from those of Habib et al., (2025), who studied companies in Chinese and found that ESG can increase firm value because it is perceived as relevant information for decision-making. These differing research results are believed to be influenced by differences in institutional quality, regulations, the maturity of capital markets, and the quality of sustainability reporting between developed countries and ASEAN countries, leading to varying investor responses to ESG information.

The Influence of ESG components on Firm Value

The environmental (ENV) in this study was found to have no significant positive effect on firm value. These results indicate that environmental performance and environmental disclosure have not yet become key factors considered by investors in evaluating banking firms in ASEAN. From the perspective of legitimacy theory, firms that implement environmentally friendly practices are expected to gain greater social legitimacy, thereby increasing firm value. However, in the banking sector, these benefits have not yet been reflected in an increase in firm value. One possible reason is that the banking industry has a relatively low direct environmental impact compared to the manufacturing, mining, or energy sectors. Consequently, investors likely pay less attention to environmental information during the company valuation process. This finding aligns with the research by Rosa & Noveria (2025), which also revealed that environmental factors do not have a significant impact on firm value. However, a different finding by Yu & Xiao (2022), indicates that environmental aspects do influence firm value across all companies in China. This discrepancy is likely influenced by differing industry characteristics and varying levels of investor attention to sustainability issues.

These findings indicate that the influence of social aspects (SOC) does not have a significant positive impact on firm value. These findings do not support the expectations of stakeholder theory, which states that companies that prioritize social aspects, such as employee well-being, community relations, and corporate social responsibility, will gain support from stakeholders, which will ultimately enhance the firm value and reputation. However, the results of this study indicate that the benefits of social activities have not yet directly become a primary factor for the market in increasing firm value. One reason for this is that the benefits of social programs tend to be long-term and are first reflected in improvements in corporate reputation or relationships with stakeholders before influencing investor assessments. This finding differs from the study conducted by Yu & Xiao (2022), which revealed that social aspects have a significant positive influence on firm value. This discrepancy stems from the characteristics of the research sample and the fact that, in the ASEAN banking sector, the benefits of social programs are more long-term in nature and thus have not yet been directly reflected in firm value.

Furthermore, this study reveals that corporate governance (GOV) does not have a significant positive effect on firm value. This finding does not support the expectations of signaling theory and legitimacy theory, which suggest that corporate governance can send positive signals and strengthen a firm's legitimacy, thereby increasing firm value. This suggests that the benefits of implementing good corporate governance are not necessarily directly reflected in market valuations within the banking sector in ASEAN. One possible reason is that corporate governance practices in the banking sector are strictly regulated by each country's regulators, resulting in a relatively uniform level of implementation. Consequently, the variability of cor-

porate governance data is limited, making its impact on firm value statistically insignificant. This finding aligns with research conducted by Rosa & Noveria (2025), who found that corporate governance does not have a significant effect on firm value.

The Influence of Green Finance on Firm Value

The results of this study show that green finance does not have a significant effect on firm value in the banking sector in ASEAN. These findings indicate that green finance practices have not yet become a factor that significantly influences investors' assessments of companies. These findings do not support expectations based on stakeholder theory, signalling theory, and legitimacy theory. Theoretically, green finance is expected to increase stakeholder trust, send positive signals regarding a company's commitment to sustainability, and strengthen a company's legitimacy, which ultimately increases firm value. However, the non-significant results of this study indicate that the benefits of green finance have not yet been directly reflected in increased firm value in the banking sector in ASEAN.

One possible cause is that the implementation of green finance in ASEAN countries remains at varying stages of development, both in terms of regulations and practical application. This situation means that the economic benefits of green finance have not yet been fully recognized by the market as information capable of enhancing firm value. Furthermore, projects funded through green finance schemes provide long-term benefits, so their impact on firm value cannot yet be directly observed within the study period.

The results of this study support the findings of Alfikri & Susyani (2024) and Ningsi et al. (2024), which indicate that green finance does not affect firm value. However, these findings differ from those of Jayathilake (2019), who states that the adoption of green finance can inc-

rease firm value. These differing research results are likely influenced by variations in sample characteristics, industry sectors, research periods, and the level of green finance policy implementation in each country. Compared to countries or sectors with more mature green finance practices, the implementation of green finance in the banking sector across ASEAN still shows varying levels of development. Therefore, the resulting economic benefits and sustainability signals are not yet perceived uniformly by investors.

The Role of Green Finance in the Influence of ESG on Firm Value

The results of this study show that green finance strengthens the impact of ESG on firm value in the banking sector in ASEAN. These findings indicate that the implementation of ESG will have a greater impact on firm value when supported by the adoption of green finance. Theoretically, these findings support expectations based on stakeholder theory, signaling theory, and legitimacy theory. The adoption of green finance demonstrates a company's commitment to meet stakeholder expectations, strengthens the credibility of ESG information by showing that sustainability commitments are not merely a formality but are also reflected in financing and investment decisions, and reinforces the company's legitimacy by demonstrating alignment between its business activities and societal demands and expectations.

The adoption of green finance indicates that sustainability aspects have been integrated into business strategy, so that ESG is no longer merely a formality disclosed in sustainability reports. This situation can increase investor confidence in the company's commitment to creating long-term value while managing environmental and social risks. Thus, green finance serves as a mechanism that enhances the effectiveness of ESG implementation in increasing firm value.

These findings are consistent with previous studies conducted by Albitar et al. (2020), Habib et al. (2025), and Habib & Asif (2025), which show that green finance can strengthen the impact of ESG on firm value by enhancing the credibility of sustainability initiatives and mitigating corporate risks. Furthermore, it strengthens market confidence and supports more efficient capital management for companies.

However, based on the results of the robustness test (Table 9) using Price-to-Book Value (PBV) as an alternative proxy for firm value, the moderating effect of green finance becomes insignificant. This discrepancy in results indicates that the moderating effect of green finance is sensitive to the proxy used for firm value. Tobin's Q better reflects market expectations regarding a firm's future growth prospects, while PBV better reflects firm value based on its book value. Therefore, green finance likely influences investors' perceptions and expectations regarding a firm's sustainability prospects before it increases firm value as reflected in book value.

CONCLUSION AND RECOMMENDATION

This study aims to analyse the impact of Environmental, Social, and Governance (ESG) factors and green finance on firm value, as well as to examine the role of green finance as a moderating variable in the relationship between ESG and firm value in the banking sector across the ASEAN-5 countries for the period 2020–2024. The results show that ESG, ESG pillars individually, and green finance do not affect firm value. Meanwhile, green finance was found to strengthen the relationship between ESG and firm value, indicating that green finance acts as a mechanism that enhances the effectiveness of ESG implementation in increasing firm value in the

banking sector across the ASEAN-5.

Theoretically, the findings of this study contribute by demonstrating that green finance acts as a moderating variable in the relationship between ESG and firm value in the ASEAN-5 banking sector. These findings enrich the literature on ESG, green finance, and firm value and provide empirical support for stakeholder theory, signaling theory, and legitimacy theory in explaining the creation of firm value through sustainability practices. Practically, they have implications for regulators to strengthen policies and standards related to ESG and green finance; for banking institutions to integrate ESG and green finance into their business strategies, and for policymakers to develop regulations and incentives that support the implementation of sustainable finance.

This study has several limitations. First, the study covers only the banking sector in the ASEAN-5 countries, so the findings cannot yet be generalized to other sectors or regions. Second, green finance was measured using the GCR from sustainability reports employing content analysis, which primarily reflects the level of disclosure. Therefore, future research is advised to broaden the scope of the study, use alternative measures of green finance, and extend the observation period.

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