

The Effect of Environmental, Social, and Governance on Firm Value of Banking Sector with Firm Size as a Moderating Variable

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ABSTRACT

The goal of this research is to determine whether the environmental, social, and governance pillars have a significant impact on firm value as measured by Tobin's Q, and whether firm size, as measured by total assets, can attenuate the impact of each pillar. This study's sample consists of banking businesses listed on the Indonesia Stock Exchange from 2017 to 2023 that have received Refinitiv's environmental, social, and governance pillar ratings. The sample was selected using purposive sampling. This study uses multiple linear regression with panel data and moderation regression analysis to test moderation variables. The findings revealed that the environmental pillar has a negative but insignificant effect on firm value, the social pillar has a significant negative effect on firm value, the governance pillar has a negative and insignificant effect on firm value, and the environmental, social, and governance pillars all have a significant positive effect on firm value. Firm size cannot attenuate the effect of environmental, social, and governance pillars on firm value, but it has the potential to do so.

INTRODUCTION

A firm is established to achieve the value of the firm through increasing the prosperity of stakeholders. The company is managed by management who are authorized by shareholders to run the wheels of its activities in order to achieve high company value. According to theory of the firm, the company's objective is to identify and optimize both short- and long-term earnings in order to achieve the expected company value. In particular, the primary objective of companies that are publicly listed is to to increase the prosperity of the owners or stakeholders by maximizing the firm's value through the stock price.

Nowadays, investment decisions by stakeholders and investors extend beyond purely financial considerations. One of the important aspects to consider when investing is sustainability aspect or called Sustainable Investing. According to Stobierski (2022), Sustainable Investing is a series of investor practices in achieving their financial objectives that consider environmental or social values in the long term. Integrating traditional investment strategies with Environmental, Social and Governance factors will provide comprehensive analysis and better investment decisions for investors (Stobierski, 2022). The growing interest from investors and global awareness on risks related to the environment issues, along with other non-financial factors, such as social responsibility and good governance, driving companies to enhance their focus on these non-financial elements. Investors, employees, suppliers, customers and governments place expectations on companies to be interested in all these areas (Aydogmus, Gulay, and Ergun, 2022). The ESG propositions can enhance more firm value through 5 keys areas: Cost reduction, regulatory and legal risk minimization, personnel productivity improvement, and capital investment and expenditure optimization (Henisz, Koller, & Nuttall, 2019). Over the past few decades, there has been an increasing demand for corporate transparency and accountability in ESG reporting, prompting companies to improve their internal operations by adopting sustainable and socially responsible practices, which they disclose to remain competitive (Rahman & Alsayegh, 2021). Data from a *survey* conducted by Klynveld Peat Marwick Goerdeler (KPMG) globally in 2022, shows that Sustainability Reporting has grown steadily in the past decade. 10 years ago, 64 percent of N100 group companies (top one hundred revenue companies) had developed Sustainability Reporting. By 2022, 79 percent of N100 group companies will have submitted Sustainability Reporting. In addition, by 2022, 96 percent of G250 group companies (the world's 250 largest companies) will have reported Sustainability Reporting.

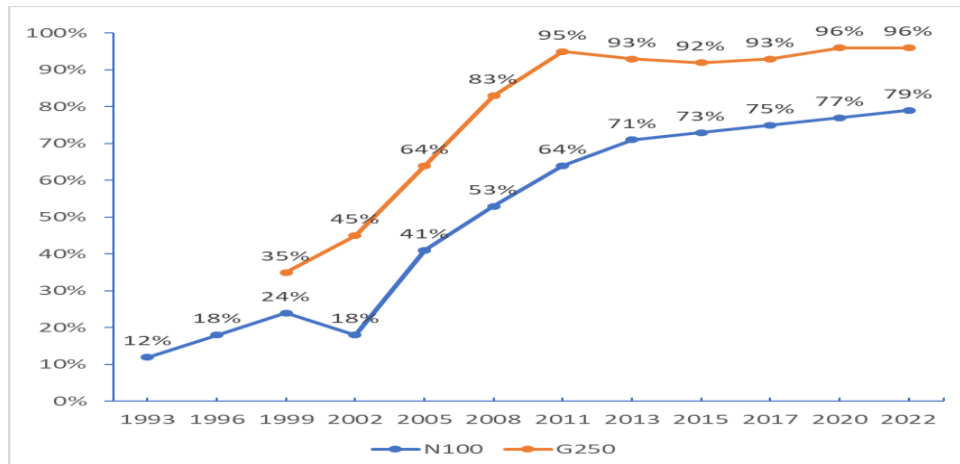


Figure 1 Worldwide Sustainability Reporting Rates (1993-2022)
Source: KPMG (2023)

The practice of ESG implementation in Indonesia continues to grow. Various efforts from both regulators (government) and companies have been made in the context of ESG implementation. The Minister of Finance urges this ESG standard to be implemented more widely in the services provided by the Ministry of Finance (Ministry of Finance, 2021). The Otoritas Jasa Keuangan (OJK) responded positively by issuing regulation (number 51/POJK.03/2017) concerning the Implementation of Sustainable Finance for Financial Services Institutions, Issuers, and Public Companies, as well as the Financial Services Authority (OJK)'s Sustainable Finance Roadmap Phase II. Since their introduction in 2014, the number of ESG-themed mutual funds and Exchanged-Traded Funds (ETFs), have increased significantly. Based on data compiled by OJK as of December 2020, there are ESG-based mutual fund and ETF products with a total managed fund value of Rp3,062 trillion.

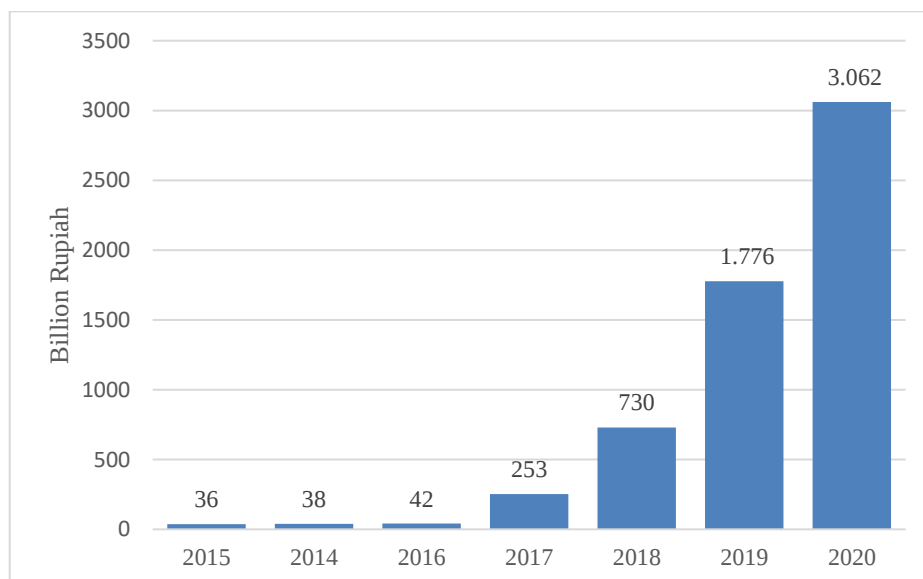


Figure 1 ESG Themed Managed Funds (2014-2022) Source: *databooks.katadata.co.id* (2023)

Research on the effect of ESG disclosure on firm value and performance shows varied results. Ersoy et al. (2022) found an U-shaped inverse relation between market value and ESG and SPS, and a U-shaped relation between market value and EPS in US commercial banks. In Asia, Melinda and Wardani (2020) and Chang et al. (2021) found the Environmental, Social, and Governance (ESG) score exerts a favorable influence on firm value and the bank's cost-efficiency. However, in Europe, Chiaramonte et al. (2021) showed higher ESG ratings reduce banks' vulnerability during the crisis, while Lamanda and Tamásné Vőneki (2024) found no relationship between banks' operational and financial performance and ESG disclosure. In Indonesia, Gutiérrez-Ponce and Wibowo (2023) found ESG performance to be negatively related to financial performance, although the social Pillar had a significantly positive impact on ROA-ROE, and Governance had a significantly negative impact on Tobin's Q. In Indonesia, climate and environmental matters indicated a significantly negative impact on the financial performance of commercial banks (Kartadjudena & Rodgers, 2019).

The influence of firm size on ESG disclosure and firm value has been found to differ across various studies. Specifically, the findings indicate that firm size amplifies the impact of ESG and CSR disclosures on firm value (Yoon, 2022; Wedayanti & Wijaya, 2019). Furthermore, firm size has been found to moderate the relationship between ROA disclosure, CSR, GCG, institutional ownership, and firm value (Yusuf et al., 2022). Similarly, Ahmad, Mobarek, & Raid (2023) indicated that firm size moderates the link between firm performance during the global financial crisis and ESG. However, Biduri et al. (2023) found that firm size does not moderate the effect of governance on sustainability disclosure, while the results of research by Shakil (2022) stated that firm size is not significant in moderating ESG stock price volatility. The research gap that emerges from these studies suggests the need for further research to understand the conditions and context in which firm size moderates the relationship between ESG disclosure and firm value, to gain a more comprehensive understanding of the influence of ESG on firm value.

Referring to the disparate results of previous studies, this study seeks to analyze the impact of the environmental pillar (E), social pillar (S), and governance pillar (G) on firm value, proxied by Tobin's Q, which is moderated by firm size.

LITERATURE REVIEW

Stakeholder Theory

The basic premise of stakeholder theory is that the stronger a company's relationship with its stakeholders, the more successful its business will be. Conversely, a poor relationship with a stakeholder is indicative of a poor relationship with the company. Building strong stakeholder relationships is based on the pillars of trust, respect and collaboration. This strategic management concept is designed to help companies strengthen relationships with external entities and develop competitive advantage (Freeman, 2010). This theory challenges the conventional perspective that the primary objective of a company is to maximize short-term profits for shareholders alone. Stakeholder

theory propose that a firm/company is an entity that engages with various interested parties, internal and external, including employees, customers, creditors, suppliers, and the local community where the company operates.

The link between stakeholder theory and ESG is that both emphasize the importance of considering the long-term impact of business decisions on various stakeholders, not just shareholders. As such, stakeholder theory and ESG can be considered as the basis for implementing a stakeholder-oriented governance model, which intend to create sustainable value for all parties involved (Martin Lipton, Wachtell, Lipton, Rosen & Katz, 2022).

Legitimacy Theory

Legitimacy pertains to the broadly accepted perception that an entity's behaviors align with what is deemed proper, suitable, or acceptable, based on socially established norms, values, beliefs, and interpretations ((Suchman, 1995). According to legitimacy theory, management wields the capacity to shape the general public's perception of the firm. This theory posits that firms have significant control over their legitimate actions. Managing legitimacy can be achieved in various ways, including adjusting activities to align with societal expectations, thereby influencing public perceptions and assessments of the company (Melinda & Wardhani, 2020). Companies can initiate changes in their activities to align more closely with societal expectations, thereby shaping public perceptions and evaluations of the organization (Melinda & Wardhani, 2020).

Companies obtain societal approval to possess, utilize, lease, and manage resources and are accountable to society for their operations, as it is society that grants them the authority to own and employ these resources (Deegan, 2004). Donovan (2002) defines legitimacy theory as the belief that in order to continue operating successfully, businesses must adhere to the norms established by society as socially acceptable behavior. Legitimacy theory is presently the prevailing viewpoint in the ESG literature for explaining or forecasting some sustainable reporting management behaviors (Rahman & Alsayegh, 2021).

Companies are granted societal approval to possess, utilize, lease, and operate resources, and are accountable to society for their operations because society authorizes them to possess and use the resources it owns (Deegan, 2004). Legitimacy theory asserts that for companies to sustain successful operations, it is imperative that they operate to the boundaries delineated by society as socially acceptable behaviors (Donovan, 2002). Legitimacy theory is currently the dominant perspective in the ESG literature for explaining or predicting certain sustainable reporting management practices (Rahman & Alsayegh, 2021).

Signalling Theory

The signaling theory was developed based on Akerlof's research from 1970, which focused on asymmetric information. The theory posits that managers of publicly traded companies possess superior knowledge regarding the quality of their enterprises compared to external investors. Due to imperfect information, investors face challenges to differentiate between companies of varying quality. Therefore, higher-quality firms may opt to reduce their prices to signal true worth. This phenomenon was further elaborated upon by Spence (1978), who

developed the concept of Signaling Theory. The objective of corporate reporting is to convey the company's value to investors and analysts (Spence, 1978). Managers confident in their firm's quality are likely to engage in reporting, as the costs of signaling would be much greater for lower-quality companies.

Managers engage in signaling because they possess information that is exclusive to the company, which they consider relevant and valuable to disclose. Consequently, managers choose to reveal this information since it is not available to external parties. The objective of such disclosure is to convince these external stakeholders of the company's distinct performance or capabilities compared to others within the same sector. By providing specific details, companies aim to signal to investors that they outperform competitors, thereby attracting investment and enhancing their reputation. Previous studies have shown that voluntary disclosure is associated with firm value and the cost of equity (Hamrouni, Miloudi, & Benkraiem, 2015).

Environmental, Social, Governance (ESG)

ESG is the consideration of environmental, social, and governance aspects, as well as financial factors, while making investment decisions (MSCI, 2020). ESG assessments capture additional aspects of a company's performance that are not included in financial reporting (Tarmuji et al, 2016). Unlike CSR, which focuses primarily on a company's environmental and social actions, ESG takes a more comprehensive approach by integrating environmental and social activities with the company's governance practices

ESG is divided into three pillars: environmental, social, and governance. A summary of the ESG score (Stobierski, 2022) is provided below: 1) Environmental: This evaluates a company's environmental impact, including carbon emissions, waste management, water usage and conservation efforts, and the use and development of clean technologies within its supply chain; 2) Social: This component encompasses the extent to which a company or investment fund impacts society, as well as its advocacy for social good and transformation. Analysts evaluate a company's engagement with and approach to social matters, including human rights, diversity in hiring and inclusion efforts, employee health and safety measures, and contributions to the community; 3) Governance: focuses on assessing how the company's organizational structure and management practices are designed to promote favorable outcomes. Factors such as management and board effectiveness, executive compensation, diversity, shareholder rights, transparency, anti-corruption policies, and political contributions are considered (Megasanti and Riwayati, 2023).

ESG Rating (Score)

ESG assessments and ratings have gained prominence in recent years, particularly following the establishment of the Sustainable Development Goals (SDGs) in 2015 by the United Nations. These ratings aim to assess how companies manage ESG risks and opportunities that are financially relevant. These ratings offer substantial advantages for both companies and investors. By incorporating ESG factors into decision-making, companies can enhance long-term earnings, reduce operating costs, strengthen supply chains, ensure compliance with

regulations, and improve employee engagement and productivity. ESG scores serve as a significant indicator of a company's consideration of environmental, social, and governance factors, impacting its creditworthiness and reputation with financial institutions. ESG assessments for stakeholders can provide valuable insights into individual preferences and improve transparency and communication, ultimately leading to more reliable composite indicators (Luque-Vílchez et al., 2023). In this study, the authors utilized ESG data provided by Refinitiv, a subsidiary of the London Stock Exchange Group (LSEG). The ESG data of Refinitiv encompasses over 7,000 global companies, representing approximately 70% of the global market capitalization. Refinitiv offers a comprehensive set of over 400 ESG metrics, encompassing the three core pillars of environmental, social, and corporate governance.

Refinitiv's ESG Score is calculated using 10 categories, which are grouped under three main pillars: Environmental, Social, and Governance. From each of these pillars, a combined ESG Score will be obtained. The resulting ESG Score serves as a metric for evaluating a company's ESG performance, commitment, and effectiveness, with the understanding that such evaluations are based on publicly reported information. The ESG pillar scores are determined by aggregating the weighted scores of the relevant categories, with the weights assigned to environmental and social factors varying according to the industry. In contrast, governance weights remain constant across industries. These pillar weights are subsequently standardized into a percentage range from zero to one hundred.

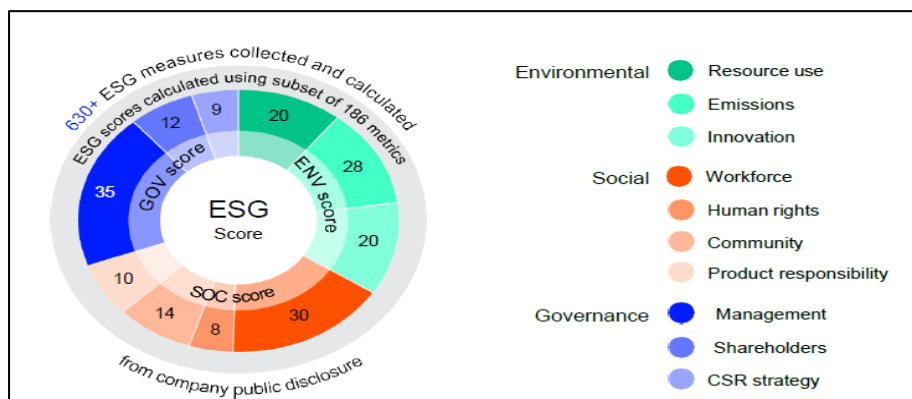


Figure 1 ESG Score Calculation Formulation
Source: LSEG (2023)

Company Value

The definition of firm value is the same as market value. If the company's share price rises, firm value can increase to maximize shareholder wealth. Firm value reflects the performance of the stock price, which is determined by demand and supply in the capital market and reflects investor valuation. Firm value is very important, this is because with high firm value, it will be followed by high shareholder prosperity. The higher the share price, the higher the value of the company. The wealth of shareholders and companies is represented by the market price of shares which is a reflection of investment, funding and asset management decisions. An alternative used in assessing company value is to use

Tobin's questions. Professor James Tobin was responsible for developing this ratio. In the literature, Tobin's Q is commonly employed to represent business value. This measure can be formulated in a variety of ways, but the results are generally consistent. In this study, the calculation of Tobin's Q is formulated as follows: $(\text{Equity Market Value} + \text{Total Liabilities}) / \text{Total Assets}$.

Firm Size

Firm size is defined as the magnitude of a company, determined by various factors including total assets, total sales, total profit, and tax burden, among others (Brigham & Houston, 2019). The impact of firm size on company value is a subject of considerable interest. It is widely acknowledged that companies of a larger scale tend to have more straightforward access to funding sources, both from within their own organizational structure and from external sources. Firm size represents the total assets a company possesses, and larger firms often attract more investor interest, potentially increasing their value. Consequently, larger firms frequently garner investors interest due to their potential effect on the enterprise's overall valuation. In this study, firm size is measured using the natural logarithm of total assets, as referenced in the research of Bon and Hartoko (2022), Abdi, Li, & Turull (2022), Melinda (2020), and Makhdalena (2018).

The hypothesis proposed in this study is predicated on the extant theoretical framework and the findings of prior studies that have substantiated the theory. The hypothesis can be formulated as follows:

- H₁: Environmental factors have a significant positive effect on firm value.
- H₂: Social factors have a significant effect on firm value.
- H₃: Governance factors have a significant effect on firm value.
- H₄: Environmental factors moderated by firm size have a significant positive effect on firm value.
- H₅: Social factors moderated by firm size have a significant positive effect on firm value.
- H₆: Governance factors moderated by firm size have a significant positive effect on firm value.

METHODOLOGY

This study examines the link between variables using associative research methodologies. The factors in this study include the following: The ESG score is the independent variable, which includes the environmental, social, and governance pillar scores. The dependent variable is Tobin's Q, which measures firm value, and the moderator variable is firm size, which is calculated as the natural logarithm of total assets. The research is centered on testing hypotheses with the use of secondary data, which is analyzed to generate insights and provide answers to the proposed hypotheses.

The population for this research consists of banking subsector companies listed on the Indonesia Stock Exchange (IDX) during the 2017-2023 period, totaling 47 companies. The sample was selected using a purposive sampling technique based on the following criteria: 1) listed on the IDX, 2) actively operating during the 2017-2023 period, 3) publishing annual and financial reports

for the same period, and 4) possessing an ESG score rating from Refinitiv. The application of these criteria resulted in the selection of six companies for the purpose of the study

This study utilizes a multiple linear regression approach with panel data, which combines both time series and cross-sectional data. The software utilized in this study is E-views 13. The research will adhere to a systematic methodological framework, encompassing the following stages: the compilation of descriptive statistics, the execution of a classical assumption test, the selection of panel data regression, and the undertaking of hypothesis testing.

RESEARCH RESULTS AND DISCUSSION

Through the calculation of descriptive statistics, the data can be summarized, providing insights into Tobin's Q as the dependent variable; the ESG Score (with its Environmental, Social, and Governance Pillars) as independent variables; and Firm Size (ln(Total Assets)) as the moderating variable. This summary includes values such as the minimum, maximum, mean, median, and standard deviation. The outcomes of this statistical analysis are presented in Table 1.

Table 1 Descriptive Analysis

	TOBINQ	ENV	SOC	GOV	ESG	SIZE
Mean	1.135123	66.09887	77.86575	73.67338	72.02650	34.2200
Median	1.032012	70.10957	81.28087	77.47866	72.68223	34.4786
Maximum	1.702053	87.08916	93.93726	90.47895	87.94127	35.3154
Minimum	0.884397	32.08658	35.21903	47.87734	44.65554	32.8142
Std. Dev.	0.240255	17.40626	13.98898	12.70334	10.48006	0.79929
Skewness	1.142259	-0.762119	-1.573233	-0.538801	-0.601637	-0.54817
Kurtosis	3.055135	2.435164	5.026429	2.083820	2.898425	1.88239
Jarque-Bera	9.138605	4.624099	24.51166	3.501067	2.551826	4.28926
Probability	0.010365	0.099058	0.000005	0.173681	0.279176	0.11711
Sum	47.67515	2776.153	3270.362	3094.282	3025.113	1437.24
Sum Sq. Dev.	2.366620	12422.09	8023.356	6616.366	4503.094	26.1940
Observations	42	42	42	42	42	42

Source: Output E-views 13

The average Tobin's Q, used as a proxy for firm value, stands at 1.13, indicating that the market value of the sampled banks during the 2017-2023 period generally exceeds the book value of their assets. The lowest Tobin's Q is 0.88 owned by Bank Danamon Tbk in 2021, while the highest Tobin's Q is 1.70 owned by Bank Central Asia Tbk in 2019. The Environmental score averaged 66.09, reflecting satisfactory performance and moderate transparency in disclosing relevant environmental data to the public. The lowest Environmental score of 32.09 was owned by Bank Danamon Tbk in 2021, while the highest Environmental score of 87.09 was owned by Bank BRI in 2018. The Social score averaged 77.74, suggesting relatively strong social performance and high transparency. The lowest social score of 35.22 was owned by Bank Danamon Tbk in 2018, while the highest social score of 93.94 was owned by Bank Central Asia Tbk in 2021. The Governance score averaged 73.67, indicating very well governance and high perform transparency. The lowest governance score of 47.88 was owned by Bank Tabungan Negara (Persero) Tbk in 2019, while the highest governance score of 90.48 was owned by Bank Mandiri (Persero) Tbk in 2021. The average combined ESG score of 72.02 indicates that the banks in the

research sample exhibited commendable performance in terms of ESG during the 2017-2023 period. This finding suggests a notable level of transparency in the disclosure of key ESG data to the external stakeholders.. The lowest combined ESG score of 44.66 was owned by Bank Danamon Tbk in 2018, while the highest combined ESG score of 87.94 was owned by Bank BCA in 2020. The average firm size of 34.22 indicates that the average sample banking company is a large company with large assets. The smallest firm size of 32.81 was owned by Bank Danamon Tbk in 2017, while the largest firm size of 35.31 was owned by Bank Mandiri (Persero) Tbk in 2023

The Goodness of Fit test is employed to evaluate whether the independent variables in the model significantly affect the dependent variable (F test) and the extent to which an independent variable influences changes in the value of the dependent variable (R^2 test). The outcomes of the Goodness of Fit Test are presented in Table 2.

Table 2 Goodness of Fit Test

R-squared	0.984617	Mean dependent var	1.125710
Adjusted R-squared	0.978464	S.D. dependent var	0.248772
S.E. of regression	0.036508	Akaike info criterion	-3.536125
Sum squared resid	0.033320	Schwarz criterion	-3.052272
Log likelihood	74.65024	Hannan-Quinn criter.	-3.367247
F-statistic	160.0187	Durbin-Watson stat	2.044043
Prob(F-statistic)	0.000000		

Source: Output E-views 13

The F-statistic's probability value is 0.000000, which is lower than the significance threshold of 0.05. This indicates that all independent variables are appropriate for explaining the dependent variable. In other words, the Environmental (E), Social (S), and Governance (G) variables collectively exert a substantial impact on firm value. The adjusted R^2 value of 0.9785 signifies that the environmental (E), social (S), and governance (G) variables collectively exert a substantial influence on Tobin's Q, accounting for 97.85% of the variability, with the remaining 2.154% accounted for by factors not included in this regression model.

Table 3 Partial Hypothesis Test (t-Test)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.863038	3.368363	0.256219	0.7999
ENV	0.000290	0.001472	0.197152	0.8453
SOC	-0.005332	0.001504	-3.545719	0.0016
GOV	-0.000720	0.000740	-0.972912	0.3399
SIZE	0.020813	0.098646	0.210985	0.8346
AR(1)	0.587047	0.160100	3.666745	0.0012

Source: Output E-views 13

The findings of the panel data regression analysis indicate that the impact of the environmental pillar on firm value is not significant, as evidenced by the probability value of 0.8453, which exceeds the significance value of α (0.05). It can

be concluded that the environmental pillar does not exert a substantial influence on firm value. Thus, H_1 is rejected. The social pillar's impact on firm value shows a probability of 0.0016, which is lower than the significance level α (0.05), and the negative t-statistic suggests that the social pillar negatively impacts firm value. Consequently, H_2 is also rejected. The negative t-statistic for the social pillar's influence on Tobin's Q indicates that a higher social score corresponds to a lower Tobin's Q. the governance pillar's effect on firm value has a probability of 0.3399, which exceeds the significance level α (0.05), implying that the governance pillar has no effect on firm value, and H_2 is therefore rejected.

Moderating Regression Analysis

The results from the Moderating Regression Analysis (MRA) examining the influence of firm size on the relationship between the Environmental pillar and firm value are displayed in Table 4.

Table 4 Environmental MRA Test Results Estimation 1

Dependent Variable: TOBINQ				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.069364	3.407996	-0.020353	0.9839
ENV	-0.000891	0.001547	-0.576174	0.5693
SIZE	0.036304	0.099882	0.363467	0.7191
AR(1)	0.487403	0.132895	3.667570	0.0011
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.975642	Mean dependent var	1.125710	
Adjusted R-squared	0.968425	S.D. dependent var	0.248772	
S.E. of regression	0.044205	Akaike info criterion	-3.187647	
Sum squared resid	0.052760	Schwarz criterion	-2.791767	
Log likelihood	66.37764	Hannan-Quinn criter.	-3.049474	
F-statistic	135.1857	Durbin-Watson stat	2.341806	
Prob(F-statistic)	0.000000			

Source: Output E-views 13

Table 5 Environmental MRA Test Results Estimation 2

Dependent Variable: TOBINQ				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.582025	5.423747	0.476059	0.6380
ENV	-0.031853	0.048388	-0.658281	0.5161
SIZE	-0.041960	0.159557	-0.262979	0.7946
ENV*SIZE	0.000912	0.001425	0.640464	0.5275
AR(1)	0.484226	0.134867	3.590406	0.0013

Source: Output E-views 13

The initial estimation results in Table 4 demonstrate that the environmental and size variables exert no influence on Tobin's Q, as evidenced by the probability value exceeding the significance level α (0.05). In the second estimation, presented in Table 5, the interaction between size and environmental factors (ENV*SIZE) yields a probability of 0.5275, which is also greater than α (0.05), indicating that the interaction between these variables does not affect firm value. The interaction of environmental and size variables leads to a shift in the

environmental probability value, causing it to deviate from the significance value of α (0.05). Furthermore, the adjusted R^2 value is reduced from the original 0.9684 to 0.9677. this indicates that firm size weakens the environmental pillar's impact on firm value. The probability values for both firm size and its interaction with environmental factors in both estimations are insignificant, which suggests that firm size could be a potential moderator (Homologizer Moderator). Therefore, based on these findings, H_4 is rejected.

The results of the Moderating Regression Analysis (MRA) test of firm size on the influence of the social pillar on firm value are as follows:

Table 6 Social MRA Test Estimation 1

Dependent Variable: TOBINQ

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.193852	3.005292	0.397250	0.6943
SOC	-0.005031	0.001351	-3.724366	0.0009
SIZE	0.009467	0.087211	0.108552	0.9144
AR(1)	0.566511	0.128422	4.411332	0.0001

Source: Output E-views 13

Table 7 Social MRA Test Estimation 2

Dependent Variable: TOBINQ

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.887325	4.895596	0.998311	0.3273
SOC	-0.052060	0.049464	-1.052489	0.3023
SIZE	-0.100433	0.144632	-0.694405	0.4936
SOC*SIZE	0.001395	0.001469	0.950224	0.3507
AR(1)	0.521843	0.144602	3.608813	0.0013

Source: Output E-views 13

Table 6 shows that the probability value for the social variable is 0.0009, which is less than the significance level α (0.05), whereas the probability value for size is 0.9144, which is more than the significance level α . These findings show that social characteristics have a considerable effect on Tobin's Q, whereas size has no meaningful effect. The second estimation result, as shown in Table 7, the interaction of social and size variables (SOC*SIZE) obtained a probability of 0.3507 greater than the significance value α (0.05), indicating that the interaction variable of social and size has no effect on firm value. The interaction between social factors and firm size causes the probability value for the social variable to rise above the significance threshold, and the adjusted R^2 value decreases slightly from 0.9792 to 0.9790, suggesting that firm-size weakens the effect of the social pillar on firm value. The probability value of size and its interaction with social variables in both estimates show that both are insignificant, which can be categorized as a potential moderator (Homologizer Moderator). Based on these findings, H_5 is rejected.

The findings from the Moderating Regression Analysis (MRA) test of firm size on the influence of the Governance pillar on firm value, as follows:

Table 8 MRA Governance Test Estimation 1

DependentVariable: TOBINQ

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.178177	3.588925	0.049646	0.9608
GOV	-0.000265	0.000896	-0.295785	0.7697
SIZE	0.027861	0.104880	0.265649	0.7925
AR(1)	0.504903	0.130108	3.880640	0.0006

Source: Output E-views 13

Table 9 MRA Governance Test Estimation 2

DependentVariable: TOBINQ

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.783438	4.746083	0.797171	0.4326
GOV	-0.044541	0.039756	-1.120349	0.2728
SIZE	-0.077010	0.138451	-0.556228	0.5828
GOV*SIZE	0.001287	0.001155	1.113769	0.2756
AR(1)	0.485709	0.135369	3.588046	0.0014

Source: Output E-views 13

Based on Tables 8 and Table 9, the governance variable, with a probability above the significance level α (0.05), does not exert an influence on firm value. The interaction of size in the first estimate (0.7925) and the interaction of governance and size (GOV*SIZE) in the second estimate (0.2756) are both insignificant at the 0.05 level. The interaction of governance and size variables is found to result in a decline in the probability value of governance from 0.7697 to 0.2728, which approaches the significance level of α (0.05). Additionally, the adjusted R^2 value increases from 0.9681 to 0.9683, indicating that company/firm size strengthens the influence of governance on firm value. However, the probability values for firm size and its interaction with governance in both estimates show are insignificant. This can be categorized as a potential moderator (Homological Moderator), which means that the variable is not a moderator and only has the potential to become a moderating variable. Based on these findings, H6 is rejected.

Environmental factors do not have a significant influence on firm value, suggesting that the focus of banking institutions on environmental issues does not directly impact their market or firm value. This result may be attributed to various factors, such as limited attention or investment from banks in environmental initiatives or the fact that environmental effects may not be immediately reflected in short-term financial performance. From the perspective of stakeholder theory, banks may not yet feel compelled by their stakeholders to prioritize environmental concerns, while legitimacy theory suggests that environmental issues are not yet a top priority in this sector, so environmental-based legitimacy is not yet strong. Signalling theory also explains that companies' efforts to send positive signals about environmental responsibility have not been able to attract the attention of investors, who are more focused on profitability.

These findings are consistent with the study by Ersoy et al. (2022), which examined the U.S. banking sector and found a U-shaped relationship between firm value and environmental scores, indicating that the impact of environmental factors is insignificant at certain points. The outcomes of this study are consistent with the findings of Kartadjumena and Rodgers (2019) reported a negative relationship between climate and environmental concerns and the financial performance of Indonesian banks. However, the findings of this study contradict those of research conducted by Nizam et al. (2019) and Melinda & Wardani (2020), which demonstrate that financial institutions that prioritize social and environmental sustainability can enhance corporate performance.

Social factors exert a negative impact on firm value, which can be attributed to investor perceptions that social initiatives, such as corporate social responsibility (CSR) programs, entail significant costs that diminish short-term profitability. Investor orientation is towards short-term profitability, so social activities are considered high costs that do not provide immediate benefits and do not increase company value. From a stakeholder theory perspective, although companies are expected to fulfill their social responsibilities, investors may not consider this as they are more focused on profits. In terms of legitimacy theory, although social activities can build reputation, this negative result shows that social-based legitimacy is not fully appreciated in the Indonesian market. In signaling theory, social activities are not strong enough to send positive signals about corporate sustainability to the market. The findings of this research align with those of Tandelilin & Usman (2022), who reported a negative relationship between social impact and CSR efforts on the performance of banks in ASEAN developing countries. Similarly, Buallay (2019) found that the social pillar does not significantly affect firm value. However, these results contrast with the findings of Melinda & Wardani (2020), which asserted that the social pillar has a positive effect on firm value.

The study's findings indicated the corporate governance pillar exerts no substantial influence on firm value. This suggests that the implementation of good governance practices has yet to influence investor evaluations within the Indonesian banking sector. According to the Stakeholder Theory perspective, good governance should influence the positive perceptions of stakeholders and investors. However, in this context, the lack of influence may be due to the understanding that good governance is already considered standard in the banking sector, thus providing no additional competitive advantage. According to Legitimacy Theory, good corporate governance can strengthen a company's legitimacy in the eyes of the public. However, if the market perceives that good governance is an obligation and does not provide added value, then its impact on firm value will be insignificant. In terms of Signal Theory, good governance should send positive signals to investors about risk management and corporate sustainability. However, if governance is seen as a basic requirement that is already fulfilled by all companies in the industry, the signal becomes less relevant. The results of this study align with the findings of Peng Huang (2020) and Gupta et al. (2009), which suggest that corporate governance does not have a significant impact on firm value. However, these results differ from those of

Aydogmus et al. (2022), who concluded that the Governance factor has a positive effect on firm value.

Despite its potential as a moderator, firm size does not moderate the impact of environmental, social, and governance (ESG) factors on firm value. Although large companies have more capacity to invest in ESG, the challenge in proving the real impact of social investment in the short term makes firm size not an effective moderator in this sector. The findings suggest that although firm size does not directly moderate the effect of social factors on firm value, it still holds potential to act as a moderator. This finding aligns with the research by Shakil (2020), which found that firm size does not moderate the link between ESG, including social factors, and company stock price volatility. However, this study diverges from the findings of research conducted by Adhi & Cahyonowati (2023) and Prayogo et al. (2023), which suggest that firm size can moderate the impact of ESG factors on firm value.

CONCLUSIONS AND RECOMMENDATION

Based on the research findings and debate addressing the influence of the Environmental, Social, and Governance (ESG) pillars on business value, with firm size (measured by total assets) serving as a moderating variable, the following conclusions can be made:

The environmental and governance pillars have no substantial impact on the firm value of banking subsector companies listed on the Indonesia Stock Exchange from 2017 to 2023. In contrast, an increase in the social pillar is related with a decline in firm value for these companies. Furthermore, firm size (Tobin's Q) reduces the impact of the environmental, social, and governance pillars on the firm value of banking subsector companies listed on the Indonesian Stock Exchange during this period.

The study's findings suggest that the social aspect in ESG has a considerable negative impact on business value. As a result, management must give more attention to social issues such as employee happiness, social responsibility, and community relations. Improving programs related to corporate social responsibility (CSR) and creating an inclusive work environment can help change the negative impact. In addition, although the environmental and governance factors do not have a significant influence individually, management needs to continue to prioritize sustainable practices in environmental management and corporate governance, because the three ESG factors together have a positive effect on firm value. Strengthening ESG integration in the company's long-term strategy can support sustainability and improve competitiveness. The results of this study indicate that investors need to be more selective in considering ESG factors, especially in observing corporate social performance. Investors can use ESG information as a factor in their investment decision-making process, particularly with regard to social aspects that have the capacity to influence firm value. In addition, it is important for investors to pay attention to company size as a moderating factor that can provide potential in the long run, although the current results are not significant.

ADVANCED RESEARCH

This research still has limitations, including: 1) The sample companies used are only banking subsectors; 2) Many banking companies have not submitted sustainability reports and did not receive ESG ratings from Refinitiv, so they could not be sampled; 3) The research period includes the pandemic period so that anomalous activities may occur in the research sample. This study does not consider the presence or absence of the influence of the COVID-19 pandemic.

This study can be a reference for future research, it is recommended that similar studies can expand the sample outside the banking sector to see if these results also apply in other industrial sectors. In addition, research can consider using other variables as moderators, such as ownership structure or leverage, to see if they have a stronger moderating impact on the relationship between ESG and firm value.

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