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ESG Dimensions and Stock Return Volatility: Empirical Evidence from Shariacompliant Manufacturing Firms

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Abstract

This study aims to analyze the effect of Environmental, Social, and Governance (ESG) dimensions on the stock price volatility of Sharia-compliant companies listed in the Indonesian Sharia Stock Index (ISSI) within the manufacturing sector over the period 2018–2024. This study employs a quantitative approach using panel data regression. ESG is measured based on sustainability report disclosures referring to GRI Standards, while stock price volatility is calculated using the standard deviation of stock returns. The results indicate that the Environmental dimension has a significant negative effect on stock price volatility, whereas the social dimension is only significant at the 10% level and the Governance dimension shows no significant effect. These findings suggest that the market does not respond to ESG as a unified construct, but rather selectively based on the relevance of each dimension to firm-level risk. In the context of the manufacturing sector, the environmental aspect is more dominant due to its direct association with operational risk.

INTRODUCTION

The Islamic capital market in Indonesia has undergone substantial growth, as reflected in the increasing number of issuers and investors participating in the Indonesian Sharia Stock Index (ISSI) (Nevada & Kusumaningtias, 2020). As an index representing all Sharia-compliant stocks listed on the Indonesia Stock Exchange (IDX), the ISSI encompasses a heterogeneous market characterized by diverse sectoral compositions and varying firm risk profiles (Fithriyana et al., 2025). Nevertheless, this growth has not been accompanied by consistent market stability (Fithriyana et al., 2025; Muhtar Kusuma et al., 2022). Stock price volatility within the Sharia equity market remains considerably high, suggesting that price formation mechanisms have yet to achieve full efficiency. In this context, volatility does not merely reflect market risk but also signals the informational constraints faced by investors in making rational decisions (Negi et al., 2025).

This complexity is further amplified by the sectoral heterogeneity that constitutes the ISSI composition. Among the represented sectors, manufacturing occupies a strategically significant position because of its substantial contribution to the national economy and its inherently high operational complexity (Azis & Anisa, 2025; Prabowo, 2025). The sector's dependence on global supply chains, intensive resource utilization, and exposure to environmental and social regulations make it particularly susceptible to multidimensional sources of risk, both financial and non-financial in nature (Thika Tri Aprilia & Susi Sarumpaet, 2023). Accordingly, stock price volatility in the manufacturing sector cannot be attributed solely to conventional economic variables but must also be understood within the broader context of non-financial risk dynamics (Bashir Butt & Mohd. Taib, 2021).

In recent years, the Environmental, Social, and Governance (ESG) framework has gained increasing prominence as an analytical instrument capable of capturing the non-financial

dimensions of firm risk (Lee et al., 2024). ESG is widely regarded as a risk mitigation mechanism that reduces volatility by enhancing corporate transparency, strengthening risk management practices, and reinforcing investor confidence (Sariyer & Taşkın, 2022; Zahid et al., 2022). Sustainability reporting, in particular, serves as a safeguard against extreme downside risks, such as stock price crashes, through improved accountability and disclosure quality (E-Vahdati et al., 2022). While ESG has been reported to reduce information asymmetry and stabilize market responses (Naseer et al., 2024; Zahid et al., 2022), its implementation is not without challenges. Greenwashing practices, for instance, may undermine sustainability credibility and paradoxically amplify downside price risk (I. N. Agustin et al., 2025).

Within the domain of Islamic finance, ESG principles are recognized as fundamentally aligned with the objectives of Maqasid al-Shariah, which emphasize justice, public welfare, and social responsibility. This alignment makes ESG applicable through Islamic financial instruments such as zakat, waqf, and green sukuk as vehicles for sustainable development (Khamisu et al., 2025). Given that market responses to ESG disclosure are not uniformly homogeneous across firms and sectors, ESG warrants empirical examination as an independent variable in analyzing its impact on stock price volatility (J. Chen & Ying, 2023).

Existing literature suggests that ESG not only enhances corporate reputation but also contributes positively to financial stability and firm performance (Aydoğmuş et al., 2022; KILIÇ, 2023). Mohammad and Wasiuzzaman (2021) found that a one-unit increase in the ESG disclosure score is associated with a 4% increase in firm value, implying that higher disclosure quality strengthens investor perceptions of firm credibility and long-term prospects. Similarly, Sidharta and Kim (2024) demonstrated that firms with high ESG performance exhibit lower stock price volatility, as strong ESG signals convey positive information regarding governance quality and business sustainability, thereby enhancing investor confidence. However, when ESG is disaggregated into its individual dimensions, empirical results become inconsistent, particularly with respect to the social dimension.

The environmental dimension tends to exhibit a consistent and significant negative relationship with stock price volatility, indicating that environmental stewardship is positively perceived by market participants and effectively dampens risk, particularly within Sharia sub-indices such as the Jakarta Islamic Index 70 (JII70) (Hasanah et al., 2024). Improved environmental performance enhances investor confidence by signaling more effective risk management, greater operational efficiency, and a more stable long-term growth trajectory (Wahyudyatmika & Astuti, 2024).

In contrast, the social dimension yields divergent and inconclusive results, indicating that not all ESG dimensions carry uniform implications for stock price stability (Wahyudyatmika & Astuti, 2024). Nasrina (2025) corroborates this finding, noting that the social aspects of ESG performance—encompassing employee relations, customer and supplier engagement, human rights, working conditions, and community responsibility—have yet to demonstrate a consistent direct influence on market performance.

A comparable pattern emerges within the governance dimension. Despite the theoretical importance of board structure, shareholder rights protection, transparency, and anti-corruption policies in enhancing managerial quality and investor trust, empirical evidence suggests that

governance performance does not consistently translate into reduced stock price fluctuations within the Indonesian capital market context (Nasrina, 2025; Wahyudyatmika & Astuti, 2024).

These research gaps acquire added significance in the context of the Islamic capital market, where investment principles are guided not only by financial performance objectives but also by ethical values, equity, and sustainability. Conceptually, ESG aligns with the principles of Maqasid al-Shariah, particularly in the areas of environmental stewardship, social responsibility, and trustworthy governance (Khamisu et al., 2025). However, empirical studies that explicitly link ESG dimensions to Sharia stock characteristics remain relatively limited. Furthermore, the predominant use of aggregate ESG scores in prior research has obscured the distinct mechanisms through which individual ESG dimensions influence stock volatility.

Against this backdrop, this study aims to analyze the partial effects of the Environmental, Social, and Governance dimensions on the stock price volatility of Sharia-compliant manufacturing firms listed in the ISSI. By disaggregating ESG into its constituent dimensions, this study seeks to identify asymmetric effect patterns and deepen understanding of the mechanisms linking sustainability factors to market risk. Furthermore, leverage is incorporated as a moderating variable to examine whether firm financial structure amplifies or attenuates the influence of each ESG dimension on stock price volatility.

Within the framework of signaling theory, firms convey information to the market to reduce information asymmetry between management and investors (Spence, 1973). ESG represents one form of non-financial information that investors can use to assess the quality of firm management, particularly in relation to long-term risk exposure (Acharya et al., 2025).

H1: The Environmental dimension has a negative effect on stock price volatility.

The Social dimension reflects a firm's relationships with its stakeholders, including employees, consumers, and the broader community (Putra & Asfiah, 2024). Although this dimension is important in building reputation and ensuring long-term sustainability, its impact on financial performance tends to be indirect.

Social disclosures often lack immediate implications for a firm's operational costs or risk profile, and thus do not consistently constitute a primary consideration for investors in the short term (Broadstock et al., 2021). As a result, the market does not always respond to changes in social performance through stock price fluctuations.

This is consistent with the findings of Feng et al. (2025) and Ardianto & Sukardi (2024), which suggest that the relationship between ESG and financial performance is highly context-dependent and varies across dimensions. Accordingly, the influence of the social dimension on volatility tends to be inconsistent and contingent upon investor perception. The second hypothesis of this study is as follows:

H2: The Social dimension has an effect on stock price volatility.

The Governance dimension pertains to a firm's internal control structures and mechanisms, encompassing transparency, accountability, and shareholder protection (Putra & Asfiah, 2024). Theoretically, sound corporate governance can mitigate conflicts of interest and strengthen investor confidence (Khatri et al., 2025).

In practice, however, governance is often regarded as a baseline standard that firms are expected to meet, and therefore does not consistently produce meaningful differentiation in risk assessment (Kholida et al., 2025). As long as a firm fulfills fundamental governance

requirements investors may not treat it as a primary determinant of stock price volatility. Based on this reasoning, the third hypothesis of this study is:

H3: The Governance dimension has an effect on stock price volatility.

METHOD

This study employed a causal quantitative approach to analyze the effect of Environmental, Social, and Governance (ESG) dimensions on the stock price volatility of Sharia-compliant stocks. This approach was selected because the study examined the causal relationship between ESG variables and stock price volatility among manufacturing firms listed in the Indonesian Sharia Stock Index (ISSI) during the 2018–2024 period. The manufacturing sector was selected because of its high resource utilization intensity and substantial exposure to environmental issues, making it particularly relevant for examining the role of ESG, especially the Environmental dimension.

The data used in this study were secondary data obtained from firms' annual reports, sustainability reports, and stock price data used to calculate volatility. The sample was selected using purposive sampling, with the criteria that firms were consistently listed in the ISSI throughout the study period and had complete ESG disclosure data.

The dependent variable was stock price volatility, measured using the standard deviation of stock returns as a proxy for market risk. The independent variables consisted of the three ESG dimensions, which were measured based on the level of sustainability report disclosure in accordance with the Global Reporting Initiative (GRI) Standards. This study also incorporated several control variables, including board of commissioners size, profitability measured by return on assets (ROA), firm age, and inflation, to minimize potential estimation bias.

The empirical model used in this study was formulated as follows: $VOL_{it} = \beta_0 + \beta_1 ENV_{it} + \beta_2 SOC_{it} + \beta_3 GOV_{it} + \varepsilon_{it}$ where VOL_{it} denotes the stock price volatility of firm i at time t; ENV_{it}, SOC_{it}, and GOV_{it} represent the Environmental, Social, and Governance dimensions, respectively; and ε_{it} denotes the error term.

Data analysis was conducted using panel data regression to accommodate both cross-sectional and temporal variations. The most appropriate model was selected using the Chow test, Hausman test, and Lagrange Multiplier test. Subsequently, classical assumption tests relevant to panel data were performed, including multicollinearity, heteroscedasticity, autocorrelation, and cross-sectional dependence tests, to ensure the validity of the estimated model. Hypothesis testing was then conducted to identify the effect of each ESG dimension on stock price volatility.

RESULTS AND DISCUSSIONS

The descriptive statistics presented in Table 1 are derived from a panel dataset comprising 483 firm-year observations across sharia-compliant manufacturing companies listed in the ISSI over the period 2018–2024.

The dependent variable, Annualized Volatility, records a mean value of 0.4638, with a minimum of 0.0000 and a maximum of 1.4255, and a standard deviation of 0.2439. The relatively high standard deviation indicates substantial cross-sectional variation in stock price

volatility across sample firms, suggesting that risk exposure differs considerably among manufacturing companies in the sharia equity market.

Among the ESG dimensions, Governance exhibits the highest mean disclosure score (0.5563), followed by Social (0.3645) and Environmental (0.3072). This pattern suggests that governance-related disclosures are more widely adopted among sample firms, while environmental disclosure remains the least developed. The standard deviations for all three ESG dimensions range between 0.23 and 0.29, indicating moderate dispersion in disclosure practices across firms, which may reflect differences in firm size, resources, and sustainability commitment.

The Board of Directors variable has a mean of 4.94 members, ranging from 1 to 15, with a standard deviation of 2.44, reflecting variation in board composition across sample firms. Firm Age averages 42.35 years, with a wide range from 9 to 107 years, suggesting that the sample includes both relatively young and well-established firms. The standard deviation of 15.32 further confirms the heterogeneity of firm maturity within the sample.

Inflation records a mean of 0.0273, with a narrow range between 0.0157 and 0.0551 and a standard deviation of 0.0126, indicating relatively stable macroeconomic conditions throughout the study period. Finally, ROA has a mean of 0.0687, with values ranging from -0.2099 to 1.0866 and a standard deviation of 0.1157. The presence of negative minimum values indicates that some firms experienced losses during the observation period, while the high maximum value suggests the existence of highly profitable outliers within the sample.

Table 1. Descriptive Statistics

Variable	Mean	Maximum	Minimum	Std.Dev.	Observation
Annualized_Volatility	0,463756	1,425504	0,000000	0,243857	483
Environmental	0,307243	1,00000	0,000000	0,243198	483
Social	0,364483	1,00000	0,000000	0,228414	483
Governance	0,556299	1,00000	0,000000	0,285293	483
Board of Directors	4,939959	15,00000	1,000000	2,441540	483
Age	42,34783	107,0000	9,000000	15,31939	483
Inflation	0,027271	0,055100	0,015700	0,012600	483
ROA	0,068700	1,086629	-0,209855	0,115689	483

Source: E-Views 12 Output

Table 2 presents the model selection results obtained through two sequential testing procedures: the Chow test and the Hausman test to ensure that the selected model yields consistent and efficient estimates. The Chow test was employed to determine whether the Common Effect Model (CEM) or the Fixed Effect Model (FEM) is more appropriate, while the Hausman test was used to choose between the Fixed Effect Model and the Random Effect Model (Baltagi, 2005).

For Model 1, which examines the direct effect of the Environmental, Social, and Governance dimensions on stock price volatility, the Chow test yielded a statistic of 4.841673 with a probability value of 0.0000. Since this probability is below the 5% significance level, the Fixed Effect Model is preferred over the Common Effect Model, indicating the presence of significant individual firm effects that must be accounted for in the estimation.

Subsequently, the Hausman test was conducted to determine whether the Fixed Effect or Random Effect Model is more appropriate. The test produced a statistic of 0.0000 with a probability of 1.0000, indicating no statistically significant difference between the fixed effect and random effect estimators. A probability value substantially above the 5% significance threshold suggests that the random effect assumption is satisfied specifically, that there is no systematic correlation between individual-specific effects and the independent variables in the model. Accordingly, the Random Effect Model (REM) was selected as the most appropriate specification for both Model 1 and Model 2.

Table 2. Model Selection Results

Test	Statistic	Prob	Selected Model
Chow Test	4,841673	0,0000	FEM
Hausman Test	0,000000	1,0000	REM

Source: E-Views 12 Output

Prior to conducting regression analysis and hypothesis testing, this study performed a series of classical assumption tests to ensure that the estimated model satisfies the criteria for a Best Linear Unbiased Estimator (BLUE). In the context of panel data regression, the normality assumption is not a primary prerequisite, as violations of normality do not introduce bias into coefficient estimates, particularly when the sample size is sufficiently large (Schmidt & Finan, 2018). Accordingly, this study prioritizes the testing of assumptions that directly affect the reliability and validity of the model.

Table 3 demonstrates that the regression models employed in this study satisfy the required estimation criteria. The multicollinearity test, based on the inter-variable correlation matrix, reveals that no correlation coefficient exceeds the critical threshold of 0.80. This indicates that linear relationships among the independent variables do not produce meaningful distortion in the coefficient estimates, and the model is therefore considered free from serious multicollinearity.

The heteroscedasticity test indicates the presence of non-constant residual variance across observations. To address this condition, regression estimation was performed using White cross-section robust standard errors, ensuring that the resulting coefficients remain consistent and unbiased despite violations of the homoscedasticity assumption. The Durbin–Watson statistic yields values of approximately 1.58 and 1.61 for Model 1 and Model 2, respectively. Both values fall within an acceptable range, indicating the absence of serious serial autocorrelation in the residuals, and therefore no additional corrective adjustments are required.

The cross-section dependence test, conducted using the Breusch–Pagan LM and Pesaran CD tests, yields statistically significant results, indicating the presence of residual dependence across cross-sectional units. This condition is commonly observed in panel data drawn from financial markets, where firms are simultaneously exposed to macroeconomic shocks and common market sentiment factors. Nevertheless, the application of White cross-section robust standard errors substantially mitigates potential bias arising from this violation, ensuring that the model remains suitable for hypothesis testing. Based on the overall results of the

assumption tests, the research model is deemed to meet the required criteria for valid and reliable estimation.

Table 3. Classical Assumption Test Results

Test	Method	Results	Interpretation
Multicollinearity	Correlation Matrix	r < 0,80	No serious multicollinearity
Heteroscedasticity	White Cross-Section	White Applied	Robust and consistent estimation
Autocorrelation	Durbin-Watson	1,584814	No serious autocorrelation
Cross-Section Dependence	Pesaran CD/LM	Significant	Cross-section dependence present
Final Model	REM + White	Applied	Robust

Source: E-Views 12 Output

Table 4 presents the results of the panel data regression analysis. Based on the model selection procedures conducted through the Chow test, Hausman test, and Lagrange Multiplier test, the most appropriate panel regression model was identified to estimate the relationship between ESG dimensions and stock price volatility.

Based on the estimation results of Model 1, an F-statistic value of 4.187101 was obtained, indicating that the model is overall statistically significant in explaining the relationship between the Environmental, Social, and Governance (ESG) variables and stock price volatility. However, the Adjusted R-squared value of 0.044238 indicates that the model's explanatory power remains relatively limited, accounting for approximately 4.42% of the variation in stock price volatility. This suggests that additional factors outside the model also contribute to explaining stock price fluctuations.

The Environmental dimension yields a coefficient of -0.276014 with a probability value of 0.0202, indicating significance at the 5% level. This finding demonstrates that the Environmental dimension has a significant negative effect on stock price volatility, and therefore the first hypothesis (H1) is accepted. The Social dimension yields a coefficient of 0.175382 with a probability value of 0.0867, which is significant at the 10% level but fails to reach significance at the 5% level. Accordingly, the second hypothesis (H2) is accepted at the 10% significance level but rejected at the 5% level. The Governance dimension yields a coefficient of -0.023742 with a probability value of 0.6521, indicating that this variable does not exert a significant effect on stock price volatility, and therefore the third hypothesis (H3) is rejected.

Table 4. Data Panel Regression Results

Variable	Coefficient	Std. Error	Prob.
Environmental	-0,276014	0,088083	0,0202**
Social	0,175382	0,085710	0,0867*
Governance	-0,023742	0,050065	0,6521
Board of Directors	-0,008810	0,006738	0,2389
Age	-0,000777	0,000654	0,2795
Inflation	-1,184509	0,946174	0,2572
ROA	-0,052642	0,089721	0,5788
Constant	0,610198	0,072447	0,0002
R-Squared	0,058118		

Variable	Coefficient	Std. Error	Prob.
Adj, R-Squared	0,044238		
F-Statistics	4,187101		
Observations	483		

***p-value < 0,01; **p-value < 0,05; *p-value < 0,10

Source: E-Views 12 Output

The research findings indicate that the Environmental dimension has a negative and significant effect on stock price volatility. This finding suggests that improvements in the quality of environmental management and disclosure are associated with a reduction in stock price instability. Lower volatility reflects decreased market uncertainty, implying that investors respond positively to information perceived as representative of a firm's risk management quality. The Environmental dimension can thus be interpreted as a signal of a firm's ability to manage long-term risks, including regulatory, operational, and business sustainability risks.

This is consistent with the findings of Hu et al. (2025), which suggest that environmental disclosure not only reflects corporate responsibility toward environmental issues but also serves as a strategic mechanism to enhance resilience and sustain long-term competitiveness. When firms consistently disclose sound environmental practices, such information reduces information asymmetry between management and investors, thereby lowering uncertainty as reflected in stock price volatility (Y. Chen, 2025). The market tends to respond to environmental information because it is relatively measurable and directly linked to a firm's risk exposure (Eriandani et al., 2019; Itan et al., 2025; Moussa & Elmarzouky, 2024).

In this context, environmental disclosure is not only perceived as a commitment to sustainability but also as a signal of stability and effective risk control. Furthermore, firms with stronger environmental and overall ESG performance tend to exhibit lower risk levels (Wu et al., 2024). Prior studies also demonstrate that robust ESG performance is often associated with reduced stock price volatility and idiosyncratic risk, as greater transparency enhances investor confidence and mitigates excessive market reactions to external shocks (Sabbaghi, 2026). This is in line with the findings of X. Xu (2023), which show that higher ESG performance contributes to lower stock volatility through improved analyst perception and investor sentiment. Therefore, this study aims to examine whether a similar pattern is observed in Islamic stocks in Indonesia. Based on the results discussed above, the Environmental dimension emerges as the strongest signal in influencing market stability compared to other ESG dimensions.

In contrast, the social dimension is found to affect stock price volatility at the 10% significance level, but not at the 5% level. This suggests that social information has begun to play a role in shaping market responses, although its influence is not yet strong or consistent. This condition can be explained by the nature of social information, which is not directly linked to a firm's core operational risks. Unlike environmental aspects, which are closely associated with production costs, regulatory pressures, and potential sanctions, the social dimension primarily relates to a firm's relationships with employees, customers, and the broader community. The impact of such aspects tends to be indirect, making it more difficult for investors to quickly translate them into short-term risk estimations reflected in stock price volatility. Within the framework of signaling theory, the effectiveness of a signal depends on

its credibility, measurability, and relevance to perceived market risk (L. Agustin & Antony, 2025).

Social information is generally associated with reputation, customer loyalty, and long-term legitimacy, and therefore does not always have a direct relationship with short-term financial risk volatility (Cao, 2023; H. Xu et al., 2024). Consistent with this perspective, the findings indicate that the social dimension is not significant at the 5% level, although it becomes significant at the 10% level. This suggests that the market tends to perceive social information as a long-term reputational factor, whose effects are not immediately reflected in short-term stock price fluctuations.

Research by Asih et al. (2024) also shows that the relationship between ESG components and stock volatility in the Indonesian market produces mixed results, where not all ESG dimensions consistently explain volatility. In addition, the social dimension typically exhibits high heterogeneity in disclosure and is more difficult to quantify compared to Environmental and Governance dimensions (da Cunha et al., 2025). This lack of uniformity may reduce the market's ability to process social information as a consistent risk indicator. Therefore, although social disclosure can enhance perceptions of long-term sustainability, the market does not always interpret it as a direct indicator of risk stability (da Cunha et al., 2025; Darmasaputra et al., 2025).

A similar pattern is observed in the Governance dimension, which does not show a significant effect on volatility. This finding indicates that corporate governance quality is not directly reflected in stock price volatility dynamics. In other words, improvements or declines in governance quality are not accompanied by meaningful changes in stock price fluctuations. This suggests that the market does not always respond immediately to governance-related information, particularly in the context of volatility. Although governance is theoretically associated with transparency, accountability, and internal control, its impact on firm risk tends to be indirect. Investors may require additional time or information to interpret how governance quality truly affects firm performance and stability.

As a result, governance information is not automatically translated into changes in stock price volatility. The Governance dimension functions as a signal of credibility and the quality of a firm's internal control mechanisms (Alqaraleh, 2024). From a signaling theory perspective, strong governance provides a signal that the firm possesses effective oversight, transparency, and risk management mechanisms (Shu et al., 2018). This signal reduces information uncertainty and enhances investor confidence, ultimately contributing to stock price stability. Furthermore, governance is directly related to financial risk, as it influences the quality of managerial decision-making, leverage control, and operational stability (Eriandani et al., 2024). Governance mechanisms such as board meetings, board independence, external audits, and institutional ownership can affect a firm's overall risk level, highlighting the critical role of governance in prudent decision-making and financial risk mitigation (Moridu, 2023). Therefore, compared to the social dimension, governance is theoretically more relevant in influencing volatility, as the signals it provides are more directly linked to firm risk.

From an information efficiency perspective, sound governance practices enhance the credibility of corporate information, thereby reducing noise in stock price formation (Liu & Liu, 2025; Zhang & Wang, 2024). Governance acts as a stabilizing mechanism by increasing investor confidence in the firm's ability to manage risk and sustain performance (Eka et al.,

2024; Safitri et al., 2025; Trisnani et al., 2026). These findings are consistent with Li et al. (2024), which demonstrate that strong corporate governance is associated with lower market risk. This indicates that effective governance mechanisms can reduce market uncertainty and help maintain more stable stock volatility.

Overall, the findings of this study suggest that ESG is not processed as a homogeneous concept by the market. Investors tend to be more responsive to dimensions that are directly linked to a firm's economic risk. In this context, the Environmental dimension emerges as the most relevant factor, particularly in the manufacturing sector, and thus exerts a stronger influence on stock price volatility compared to other ESG dimensions.

CONCLUSION

This study aimed to analyze the effect of Environmental, Social, and Governance (ESG) dimensions on stock price volatility. Based on panel data regression analysis, it was concluded that not all ESG dimensions played the same role in influencing stock price volatility. The Environmental dimension was found to have a negative and significant effect on volatility, indicating that stronger environmental performance was associated with a lower level of uncertainty reflected in stock price movements. This finding suggests that environmental aspects were perceived by investors as a relevant risk factor, particularly in the manufacturing sector, which is closely associated with environmental issues.

Meanwhile, the Social dimension showed only a limited effect, as it was significant at the 10% level but not at the 5% level. This indicates that social aspects had begun to be considered by the market but had not yet become a primary factor in determining volatility. In contrast, the Governance dimension did not exhibit a significant effect, suggesting that corporate governance was not yet perceived as a factor that directly influenced short-term stock price fluctuations.

This study had several important limitations. First, ESG measurement was based on disclosures from annual and sustainability reports, which depended on the level of corporate transparency and therefore may not have fully reflected actual ESG performance. Second, this study focused on manufacturing firms listed in the Indeks Saham Syariah Indonesia (ISSI), which limited the generalizability of the findings to other sectors and non-Sharia markets. Therefore, future research is recommended to employ more comprehensive ESG proxies, expand sectoral coverage, and incorporate additional variables that are more representative in explaining the dynamics of Sharia stock volatility.

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