

THE EFFECT OF ENVIRONMENTAL, SOCIAL, AND GOVERNANCE DIMENSIONS ON FINANCIAL PERFORMANCE: EVIDENCE FROM SMEs FIRMS LISTED ON THE INDONESIA STOCK EXCHANGE ACCELERATION BOARD

Tongam Sinambela^{1*}, Christina Tri Setyorini², Kiky Srirejeki³

¹⁻³Accounting Department, Jenderal Soedirman University, Indonesia

*Email corresponding author: tongam.sinambela@mhs.unsoed.ac.id

Article Information: Received: June, 25 2026, *Published: August, 10 2026*

Abstract

This study examines the impact of Environmental, Social, and Governance (ESG) dimensions on financial performance of Small and Medium Enterprises (SMEs) listed on the Indonesia Stock Exchange (IDX) Acceleration Board. Using a quantitative approach, this study employs panel data regression analysis on secondary data collected from 18 SMEs over the period 2023–2024, resulting in 36 firm-year observations. ESG performance is measured using a content analysis approach based on disclosure scores for each dimension, while financial performance is proxied by Return on Assets (ROA). Firm size and leverage are included as control variables. The results of the Fixed Effect Model (FEM) indicate that the environmental, social, and governance dimensions do not have a significant effect on financial performance. In contrast, firm size shows a positive and significant effect on ROA, while leverage does not exhibit a significant relationship. These findings suggest that ESG practices in SMEs are still in an early stage and tend to be compliance-driven, thus not yet contributing to financial performance. Additionally, the results highlight that internal firm characteristics, particularly firm size, play a more dominant role in determining financial outcomes. This study contributes to the literature by providing empirical evidence on the ESG–financial performance relationship in SMEs within an emerging market context, particularly those operating under regulatory frameworks such as the IDX Acceleration Board. The findings offer important implications for policymakers, investors, and SME managers regarding the strategic implementation of ESG practices.

Keywords: Environmental, Social, and Governance (ESG), Financial Performance, SMEs, Acceleration Board

INTRODUCTION

The growing global emphasis on sustainability has reshaped the way firms assess performance, shifting from purely financial indicators toward a broader framework encompassing Environmental, Social, and Governance (ESG) dimensions (Gholami et al., 2022; Zhu & Huang, 2023). ESG is increasingly recognized as a strategic tool for enhancing long-term firm value, mitigating risks, and strengthening stakeholder trust (Esposito De Falco et al., 2021; Li et al., 2025). This trend is particularly relevant in emerging markets, including Indonesia, where sustainability practices are progressively embedded within regulatory and capital market frameworks (Quintiliani, 2025; Rahman et al., 2025).

In Indonesia, the importance of ESG in SMEs is reinforced by regulatory developments, particularly the issuance of POJK No. 53/POJK.04/2017, which aims to provide broader access for small and medium-sized enterprises to obtain funding through capital markets. This regulation requires SMEs conducting public offerings to fulfill several key requirements, including audited

financial statements, transparency in disclosure, and commitments to governance structures. Furthermore, the establishment of the Acceleration Board by the Indonesia Stock Exchange facilitates the listing of SMEs that have not yet met the requirements of the main board, while still enforcing accountability, disclosure obligations, and minimum governance standards.

Empirical studies provide mixed evidence regarding the relationship between ESG and financial performance, especially within SMEs. Several studies highlight the positive role of ESG in improving financial outcomes and attracting investment. For instance, (Zhou & Rahat, 2026) find that higher ESG performance significantly increases private equity investment in European SMEs, particularly through environmental and governance dimensions. Similarly, (Li et al., 2025) show that ESG practices positively influence sustainable performance and competitiveness. In the Indonesian context (Narotama et al., 2023). find that ESG significantly enhances firm value among publicly listed SMEs.

However, other studies suggest that the ESG–performance relationship is not always linear or uniformly positive. (Gjergji et al., 2021) report that ESG disclosure may increase the cost of capital in SMEs, while (Truc & Hoa, 2025) identify a nonlinear relationship between ESG and financial risk. These findings indicate that ESG implementation may impose short-term costs, particularly for SMEs with limited resources and capabilities.

Another important issue lies in the heterogeneity of ESG dimensions. (Zhou & Rahat, 2026) show that environmental and governance dimensions have significant effects, while the social dimension tends to be insignificant. (Kim et al., 2025) further emphasize the critical role of governance in enhancing both environmental and financial performance. Similarly, (Dubey & Das, 2022) highlight that governance structures influence SME performance, although the effects vary across contexts. These findings suggest that analyzing ESG as a single composite index may obscure the distinct impact of each dimension.

Despite the growing literature, several research gaps remain. First, most ESG studies focus on large firms, while SMEs remain underexplored despite their significant economic contribution (Horsley & Ahmed, 2011; Wanze et al., 2025). Second, many studies rely on aggregated ESG measures, limiting insights into the individual effects of environmental, social, and governance dimensions. Third, empirical evidence from emerging markets, particularly Indonesia, remains limited. Finally, studies focusing specifically on SMEs listed on the Indonesia Stock Exchange Acceleration Board are still scarce, even though these firms operate under unique regulatory and governance conditions.

Based on these gaps, this study aims to examine the impact of Environmental, Social, and Governance dimensions on financial performance in SMEs listed on the Indonesia Stock Exchange Acceleration Board. By disaggregating ESG into its individual components, this study provides a more comprehensive understanding of how each dimension contributes to financial performance within a regulated SME environment.

This study contributes to the literature in several ways. First, it extends ESG research into the context of publicly listed SMEs in an emerging market. Second, it incorporates a regulatory perspective by highlighting how capital market rules shape ESG practices. Third, it provides empirical evidence on the differential impact of ESG dimensions, offering practical insights for policymakers, investors, and SME managers.

LITERATURE REVIEW AND HYPOTHESIS FORMULATION

Theoretical Background

The relationship between ESG and financial performance can be explained through several theoretical perspectives. First, Stakeholder Theory (Freeman, 1984) posits that firms must consider the interests of all stakeholders, including investors, customers, employees, and society, to achieve long-term sustainability. ESG practices reflect firms' efforts to meet these stakeholder expectations, thereby enhancing reputation and financial outcomes.

Second, Legitimacy Theory suggests that firms engage in ESG activities to align with societal norms and gain legitimacy (Deegan, 2002; Suchman, 1995). ESG disclosure and sustainability practices serve as mechanisms to maintain social approval, which can improve firm value and access to capital (Gholami et al., 2022).

Third, the Resource-Based View (RBV) argues that ESG practices can be considered strategic resources that provide competitive advantage. Firms that effectively implement ESG may develop unique capabilities such as innovation, operational efficiency, and risk management, which contribute to superior performance (Kim et al., 2025; Zhu & Huang, 2023). Additionally, Institutional Theory explains that regulatory pressures and market expectations drive firms, including SMEs, to adopt ESG practices. In the context of listed SMEs, compliance with capital market regulations reinforces ESG adoption, particularly in governance and transparency aspects.

ESG and Financial Performance in SMEs

The relationship between ESG and financial performance has been widely examined, yet findings remain mixed. Several studies provide evidence of a positive relationship. For example, (Zhou & Rahat, 2026) show that higher ESG performance enhances investment attractiveness in SMEs. Similarly, Narotama et al. find that ESG significantly improves firm value among Indonesian SMEs. ESG adoption is also associated with improved sustainable performance and competitiveness (Li et al., 2025).

However, other studies highlight potential drawbacks. (Gjergji et al., 2021) find that ESG disclosure may increase the cost of capital for SMEs, indicating inefficiencies or market skepticism. Likewise, (Truc & Hoa, 2025) reveal a nonlinear relationship between ESG and financial risk, suggesting that ESG benefits may only emerge after reaching a certain threshold. These mixed findings indicate that the ESG–financial performance relationship is complex and context-dependent, particularly for SMEs that face resource constraints and operational limitations.

Environmental Dimension and Financial Performance

The environmental dimension focuses on firms' efforts to manage ecological impacts, including emissions reduction, energy efficiency, and sustainable resource use. From the RBV perspective, environmental practices can improve operational efficiency and reduce long-term costs. Empirical evidence supports this argument. (Kim et al., 2025) demonstrate that environmental performance, supported by governance mechanisms, positively influences financial outcomes in SMEs. Similarly, (Wang, 2024) highlights the importance of environmental policies and governance in improving sustainability performance.

Moreover, (Zhou & Rahat, 2026) find that the environmental dimension significantly influences investment decisions, indicating its importance in attracting external financing. This suggests that environmental practices can enhance firm credibility and financial performance. However, environmental initiatives may also require substantial investment, which could burden SMEs in the short term. Despite this, the long-term benefits are expected to outweigh the costs.

H1: Environmental performance has a positive effect on financial performance.

Social Dimension and Financial Performance

The social dimension reflects firms' relationships with stakeholders, including employees, customers, and communities. According to Stakeholder Theory, strong social engagement can enhance reputation, customer loyalty, and employee productivity. Several studies support the importance of social practices. (Rahman et al., 2025) show that ESG adoption, including social aspects, improves sustainability performance in SMEs. (Wanze et al., 2025) also find that CSR activities contribute positively to SME sustainability.

However, empirical findings on the social dimension are less consistent. (Zhou & Rahat, 2026) report that the social dimension does not significantly influence investment decisions. Similarly,

some studies suggest that social initiatives may not directly translate into financial performance, particularly in SMEs with limited resources. This inconsistency indicates that the impact of social performance may depend on firm context, stakeholder expectations, and the level of implementation.

H2: Social performance has a positive effect on financial performance.

Governance Performance and Financial Performance

Governance refers to the structures and processes that ensure accountability, transparency, and effective decision-making. From an Agency Theory perspective, strong governance reduces information asymmetry and agency conflicts, thereby improving financial performance.

Empirical evidence consistently supports the importance of governance. (Zhou & Rahat, 2026) find that governance significantly influences investment decisions, reflecting investor preference for transparency. (Kim et al., 2025) show that governance mechanisms enhance both environmental and financial performance. Furthermore, (Dubey & Das, 2022) highlight that governance structures influence SME growth and market access. In the Indonesian context, regulatory requirements for listed SMEs further strengthen governance practices, making governance a critical factor in financial performance.

H3: Governance performance has a positive effect on financial performance.

Control Variables: Firm Size and Leverage

In addition to the main variables, this study includes firm size and leverage as control variables to account for firm-specific characteristics that may influence financial performance. Firm size is often associated with greater access to resources, economies of scale, and stronger market power. Larger firms are more likely to implement ESG practices effectively and achieve better financial performance. Prior studies suggest that firm size has a positive relationship with financial performance (Gholami et al., 2022).

Leverage reflects the extent to which a firm relies on debt financing. High leverage may increase financial risk and interest obligations, potentially reducing financial performance. However, leverage can also improve performance through tax benefits and optimal capital structure. Empirical findings on leverage are mixed, particularly in SMEs (Dubey & Das, 2022).

RESEARCH METHODS

Research Design

This study employs a quantitative research approach using secondary data to examine the impact of Environmental, Social, and Governance (ESG) dimensions on financial performance. The research design is explanatory, aiming to test the causal relationship between ESG variables and firm financial performance. The analysis uses panel data regression, which combines cross-sectional and time-series data to provide more robust and efficient estimations.

Population and Sample

The population of this study consists of Small and Medium Enterprises (SMEs) listed on the Indonesia Stock Exchange (IDX), specifically those included in the Acceleration Board.

The sampling technique used is purposive sampling, with the following criteria:

1. SMEs consistently listed on the Acceleration Board during the observation period
2. Companies that publish complete financial statements for the years 2023–2024
3. Companies with available ESG-related data

Based on these criteria, the final sample consists of 18 companies, observed over a 2-year period (2023–2024), resulting in a total of 36 firm-year observations.

Data Source

This study uses secondary data obtained from:

1. Annual reports and financial statements of SMEs listed on the IDX Acceleration Board
2. Company disclosures related to ESG practices
3. Official IDX and company websites

Variables and Measurement

This study employs one dependent variable, three independent variables, and two control variables. Financial performance is measured using Return on Assets (ROA), which reflects the firm's ability to generate profits from its total assets. The independent variables consist of Environmental (ENV), Social (SOC), and Governance (GOV) dimensions, which are measured using ESG disclosure scores based on content analysis. Meanwhile, firm size and leverage are included as control variables to account for firm-specific characteristics that may influence financial performance. The operational definitions and measurements of each variable are presented in Table 1.

The measurement of ESG variables in this study follows prior literature. Financial performance is proxied by Return on Assets (ROA), which is widely used in ESG-related studies (Gholami et al., 2022). The Environmental (ENV), Social (SOC), and Governance (GOV) dimensions are measured using disclosure based indices derived from content analysis. The ESG scoring framework in this study adopts a checklist of 50 disclosure items adapted from established sustainability reporting standards, particularly the Global Reporting Initiative (GRI Standards), as well as prior empirical studies (Wanze et al., 2025; Zhou & Rahat, 2026). These indicators cover key aspects such as environmental management, social responsibility, and corporate governance practices.

Each item is scored using a dichotomous approach, where a value of 1 is assigned if the item is disclosed and 0 otherwise. The ESG score for each dimension is calculated as the proportion of disclosed items to the total number of items within that dimension. Firm size is measured using the natural logarithm of total assets, while leverage is proxied by the debt-to-asset ratio (Dubey & Das, 2022; Gholami et al., 2022).

Data Analysis Technique

This study employs panel data regression analysis, which includes three alternative models: Common Effect Model (CEM), Fixed Effect Model (FEM), Random Effect Model (REM).

Classical Assumption Tests

To ensure the validity of the regression model, the following classical assumption tests are performed Normality test, Multicollinearity test, Heteroscedasticity test, Autocorrelation test.

Hypothesis Testing

Hypothesis testing is conducted using panel data regression analysis. The data are processed using EViews 12. The statistical tests employed include:

t-test to examine the partial effect of each independent variable,

F-test to examine the simultaneous effect of all variables, and

the Coefficient of Determination (R^2) to measure the explanatory power of the model.

RESULTS AND DISCUSSION

Based on the descriptive statistical analysis of 36 firm-year observations, the results indicate that the average financial performance, measured by Return on Assets (ROA), is negative (-0.055). This finding suggests that, on average, SMEs listed on the Acceleration Board experience financial losses, although the positive median value indicates that some firms are still able to generate

profits. The high variability and non-normal distribution of ROA reflect the unstable financial condition typical of SMEs in the early growth stage.

In terms of ESG dimensions, the Environmental (ENV) variable has the lowest mean value (0.366), indicating that environmental disclosure among SMEs remains relatively limited. This finding is consistent with prior studies suggesting that environmental practices require substantial investment and are often not prioritized by SMEs (Wang, 2024; Zhou & Rahat, 2026).

The Social (SOC) dimension shows a higher mean value (0.674), indicating that firms tend to pay more attention to social aspects, such as employee welfare and community engagement. This aligns with findings by (Wanze et al., 2025), which highlight that SMEs are more likely to adopt social practices due to their direct impact on stakeholder relationships.

Meanwhile, the Governance (GOV) dimension records the highest mean value (0.873), reflecting strong governance practices among SMEs listed on the Acceleration Board. This condition can be attributed to regulatory pressures that require firms to comply with disclosure and governance standards, as also noted by (Gholami et al., 2022).

For control variables, firm size (SIZE) shows relatively low variation, indicating homogeneous firm scale among sampled SMEs. Leverage (LEV) has an average value of 0.279, suggesting a moderate level of debt usage, which is consistent with typical SME financing structures (Dubey & Das, 2022). Overall, these findings indicate that while SMEs exhibit relatively strong governance and social practices, environmental performance remains limited, and financial performance is still unstable.

Model Selection

Model selection in this study is conducted using the Chow test and Hausman test. The Chow test results indicate that the Fixed Effect Model (FEM) is more appropriate than the Common Effect Model (CEM), while the Hausman test confirms that FEM is preferred over the Random Effect Model (REM). Therefore, the Fixed Effect Model is selected as the most suitable model for this study, indicating the presence of firm-specific effects.

The selection of the appropriate panel data regression model was conducted using the Chow test and Hausman test. The Chow test results show a probability value of 0.0000 ($p < 0.05$), indicating that the Fixed Effect Model (FEM) is preferred over the Common Effect Model (CEM).

Furthermore, the Hausman test yields a probability value of 0.0053 ($p < 0.05$), confirming that FEM is more appropriate than the Random Effect Model (REM). These results indicate that there are significant differences across firms and that individual effects are correlated with the independent variables. Thus, the Fixed Effect Model is selected as the most suitable model, suggesting that firm-specific characteristics play an important role in explaining financial performance.

Classical Assumption Tests

The normality test using the Jarque-Bera method shows a probability value of 0.7538 (> 0.05), indicating that the residuals are normally distributed. This result is supported by skewness and kurtosis values that approach the characteristics of a normal distribution.

The multicollinearity test results indicate that all correlation coefficients among independent variables are below 0.80, suggesting that there is no serious multicollinearity problem. Although a moderate correlation exists between environmental and social variables (0.658), it remains within acceptable limits.

The heteroskedasticity test initially indicates the presence of heteroskedasticity, particularly in the firm size variable. To address this issue, the model is adjusted using White cross-section robust standard errors. After adjustment, all variables become statistically reliable, indicating that the heteroskedasticity problem has been effectively resolved.

The Durbin Watson statistic of 3.789 suggests potential negative autocorrelation. However, considering the short observation period and the use of robust standard errors, the impact of this issue is minimized. Therefore, the model estimates remain reliable, although the results should be interpreted with caution.

Hypothesis Testing

Partial Test (t-test)

The results of the t-test indicate that the Environmental (ENV), Social (SOC), and Governance (GOV) variables do not have a statistically significant effect on financial performance (ROA), as all probability values exceed 0.05.

This finding suggests that ESG practices have not yet translated into improved financial performance among SMEs listed on the Acceleration Board. One possible explanation is that ESG implementation in SMEs is still at an early stage and tends to be driven by compliance rather than strategic value creation. This is consistent with (Gholami et al., 2022), who argue that ESG practices in SMEs often lack the resources necessary to generate immediate financial benefits.

Furthermore, the absence of a significant relationship may reflect the time-lag effect of ESG, where the benefits of sustainability practices are realized only in the long term (Truc & Hoa, 2025). Similar findings are reported by (Gjergji et al., 2021), who find that ESG disclosure does not always improve financial performance and may even increase costs in the short term.

In contrast, firm size (SIZE) shows a positive and significant effect on financial performance ($p < 0.05$). This indicates that larger firms tend to achieve better financial outcomes, likely due to greater access to resources, economies of scale, and more efficient operations. This finding is consistent with the Resource-Based View and supported by empirical evidence from (Gholami et al., 2022).

Meanwhile, leverage (LEV) does not have a significant effect on financial performance. This suggests that the level of debt does not play a decisive role in determining profitability among SMEs, which may reflect the moderate and cautious use of debt financing in this sector (Dubey & Das, 2022).

Simultaneous Test (F-test)

The F-test is used to examine the joint effect of all independent variables on financial performance. The results show that the model is statistically significant, indicating that the independent variables collectively influence financial performance.

The F-test results show a probability value of 0.0000 ($p < 0.05$), indicating that all independent variables jointly have a significant effect on financial performance. This finding suggests that, although individual ESG dimensions are not significant, their combined effect, along with control variables, contributes to explaining variations in financial performance.

Coefficient of Determination (R^2)

The coefficient of determination (R^2) is 0.979, while the adjusted R^2 is 0.943. This indicates that 97.9% of the variation in financial performance can be explained by the model, including both the independent variables and firm-specific fixed effects. The high R^2 value may be attributed to the use of the Fixed Effect Model, which captures unobserved heterogeneity across firms and reduces unexplained variation (Wooldridge, 2010). However, this value should be interpreted with caution, as it may also reflect limited variation due to the relatively short observation period (Gujarati, 2012).

DISCUSSION

The findings of this study reveal that Environmental, Social, and Governance (ESG) dimensions do not have a statistically significant effect on financial performance among SMEs listed on the Indonesia Stock Exchange Acceleration Board. This result indicates that ESG practices have not yet become a key driver of profitability within this segment, despite increasing regulatory and stakeholder pressures.

The insignificant effect of the environmental dimension suggests that environmental practices are still limited and have not translated into measurable financial benefits. This finding is consistent with (Zhou & Rahat, 2026), who report that while environmental factors are valued by investors, their impact on firm outcomes may depend on the firm's capacity and strategic implementation. In the context of SMEs, environmental initiatives often require substantial financial investment and technological capability, which may exceed the resource capacity of smaller firms. As highlighted by (Wang, 2024), environmental sustainability efforts in SMEs are frequently constrained by financial and operational limitations, making their short-term financial impact less observable.

Similarly, the social dimension does not show a significant relationship with financial performance. This suggests that social initiatives, such as employee welfare and community engagement, may not directly contribute to profitability in the short term. This finding aligns with (Zhou & Rahat, 2026), who find that social factors are less influential in investment decisions compared to environmental and governance aspects. Additionally, (Wanze et al., 2025) emphasize that while social responsibility enhances long-term sustainability, its immediate financial impact is often indirect and difficult to quantify, particularly in SMEs.

The governance dimension also does not exhibit a significant effect on financial performance, despite having the highest average score among the ESG components. This finding is particularly interesting, as prior studies generally highlight governance as a critical determinant of financial performance. For instance, (Kim et al., 2025) demonstrate that governance mechanisms can improve both environmental and financial performance, while (Dubey & Das, 2022) show that governance structures influence SME growth and market access. However, in this study, the lack of significance may be explained by the fact that governance practices among SMEs listed on the Acceleration Board are largely driven by regulatory compliance rather than strategic initiatives. As such, governance may function as a "minimum requirement" rather than a competitive advantage.

Another important explanation for the insignificant ESG results is the time-lag effect. ESG investments typically yield benefits over a longer horizon, whereas this study uses a relatively short observation period (2023–2024). This is supported by (Truc & Hoa, 2025), who find that the impact of ESG on financial outcomes may only become significant after reaching a certain threshold over time. Therefore, the absence of a significant relationship in this study does not necessarily imply that ESG is unimportant, but rather that its financial benefits have not yet materialized within the observed period.

In contrast, firm size is found to have a positive and significant effect on financial performance. This result indicates that larger SMEs tend to perform better financially, likely due to greater access to resources, economies of scale, and more efficient operations. This finding is consistent with the Resource-Based View (RBV), which emphasizes the role of internal resources in achieving competitive advantage. Empirically, (Gholami et al., 2022) also find that firm size positively influences financial performance, as larger firms are better positioned to leverage both financial and non-financial resources.

Meanwhile, leverage does not have a significant effect on financial performance, suggesting that debt levels do not play a decisive role in determining profitability among SMEs. This result may reflect the relatively moderate level of leverage observed in the sample, indicating that firms are not heavily reliant on debt financing. This finding is in line with (Dubey & Das, 2022), who argue that the impact of leverage on SME performance is context-dependent and may not always be significant.

Furthermore, the use of the Fixed Effect Model (FEM) indicates that firm-specific characteristics play an important role in explaining financial performance. This implies that internal factors, such as managerial capability and operational efficiency, are more influential than ESG practices. This finding is consistent with the Resource-Based View (Barney et al., 2001) and supported by (Kim et al., 2025), which emphasize the importance of internal capabilities in determining financial performance.

This result also confirms that SMEs are highly heterogeneous, where performance is largely shaped by internal conditions rather than external sustainability practices (Horsley & Ahmed, 2011; Wanze et al., 2025).

Overall, the findings indicate that the ESG–financial performance relationship is not universal and depends on firm characteristics and context. Prior studies show that ESG has a stronger impact on large firms, while its effect on SMEs is often limited or inconsistent (Gholami et al., 2022; Gjergji et al., 2021). Moreover, ESG adoption in SMEs tends to be at an early stage and driven by compliance rather than strategic objectives, resulting in limited short-term financial impact (Ben Noamene, 2026; Lee & Jung, 2025).

CONCLUSION

This study examines the impact of Environmental, Social, and Governance (ESG) dimensions on the financial performance of SMEs listed on the Indonesia Stock Exchange Acceleration Board. The findings reveal that the environmental, social, and governance dimensions do not have a significant effect on financial performance, indicating that ESG practices in SMEs have not yet translated into measurable financial benefits. This result suggests that ESG implementation in SMEs is still at an early stage and tends to be compliance-driven rather than strategically oriented (Gholami et al., 2022; Gjergji et al., 2021).

In contrast, firm size is found to have a positive and significant effect on financial performance, highlighting the importance of internal resources and operational capacity in driving profitability, consistent with the Resource-Based View (Barney et al., 2001; Gholami et al., 2022). Meanwhile, leverage does not significantly influence financial performance, indicating that debt usage is not a dominant factor in determining SME profitability within this context (Dubey & Das, 2022).

Overall, the results emphasize that internal firm characteristics play a more critical role than ESG practices in influencing financial performance in the short term. The findings also support the presence of a time-lag effect, where the benefits of ESG implementation may only materialize over a longer period (Truc & Hoa, 2025). This is in line with prior studies suggesting that ESG outcomes in SMEs are often delayed and context-dependent (Zhou & Rahat, 2026).

This study contributes to the literature by providing empirical evidence on the ESG financial performance relationship in SMEs within an emerging market context, particularly under the regulatory framework of the Acceleration Board, where ESG adoption is often driven by institutional pressure (Deegan, 2002; Suchman, 1995).

From a practical perspective, these findings imply that SME managers should focus on integrating ESG into core business strategies rather than treating it merely as a compliance requirement. A more strategic and value oriented approach to ESG implementation is necessary to generate long-term financial benefits.

However, this study has several limitations, including a relatively small sample size and a short observation period, which may limit the generalizability of the findings. Future research is encouraged to extend the observation period, incorporate additional performance measures, and explore alternative ESG measurement approaches to better capture the long-term impact of sustainability practices (Li et al., 2025; Wanze et al., 2025).

Equation

To examine the impact of Environmental, Social, and Governance (ESG) dimensions on financial performance, this study employs the following panel data regression model:

$$ROA_{it} = \beta_0 + \beta_1 ENV_{it} + \beta_2 SOC_{it} + \beta_3 GOV_{it} + \beta_4 SIZE_{it} + \beta_5 LEV_{it} + \mu_i + \varepsilon_{it}$$

Where:

ROA_{it} = Financial performance of firm i in year t

β_0 = Constant term

$\beta_1 - \beta_5$ = Regression coefficients

ENV_{it} = Environmental score

SOC_{it} = Social score

GOV_{it} = Governance score

$SIZE_{it}$ = Firm size (Ln total assets)

LEV_{it} = Leverage (Debt to Asset Ratio)

μ_i = Unobserved firm-specific effect (time-invariant heterogeneity)

ε_{it} = Error term

This study employs a Fixed Effect Model (FEM) to control for unobserved firm-specific heterogeneity that may influence financial performance. The inclusion of μ_i captures time-invariant characteristics of each firm, such as managerial quality, organizational culture, and business strategy. Alternatively, fixed effects can be represented using firm-specific dummy variables to control for time-invariant heterogeneity. By using FEM, this study isolates the impact of ESG dimensions and control variables on financial performance while accounting for differences across firms, which is particularly important in the context of SMEs.

Figures and Tables

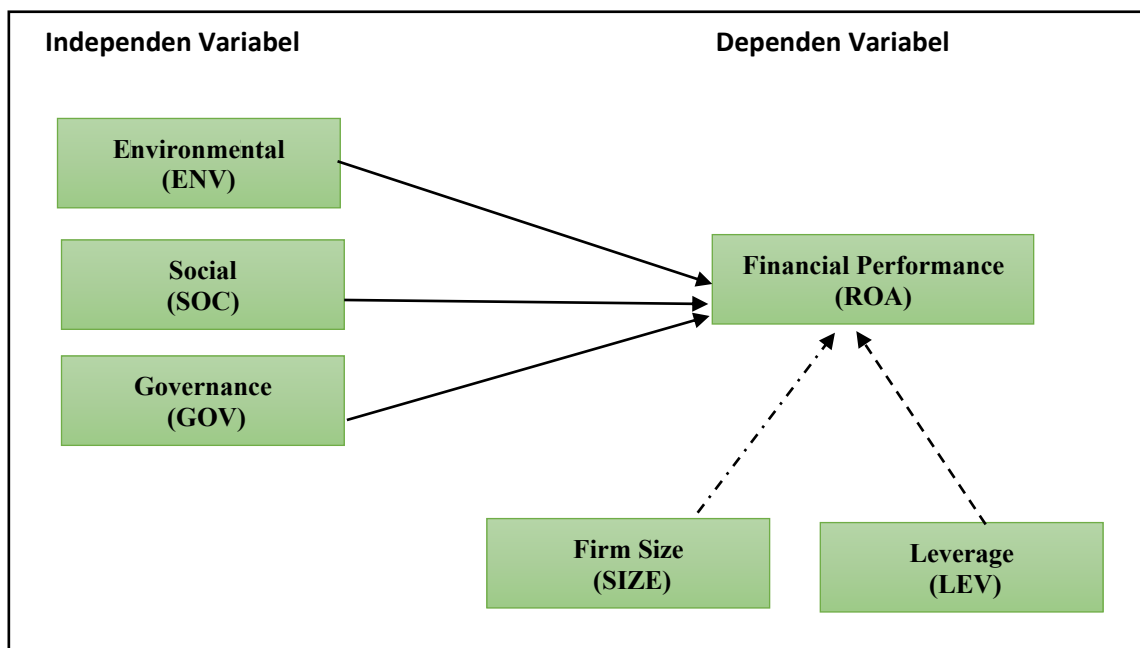


Figure 1: Conceptual Framework

Table 1. Variable and Measurement

Variable	Type	Measurement	Indicator	Scale
----------	------	-------------	-----------	-------

Financial Performance (ROA)	Dependent	Net Income / Total Assets	Profitability ratio	Ratio
Environmental (ENV)	Independent	ESG disclosure score (Environmental dimension)	Energy usage, emissions, waste management, environmental policy	Index (0–1)
Social (SOC)	Independent	ESG disclosure score (Social dimension)	Employee welfare, community involvement, customer responsibility	Index (0–1)
Governance (GOV)	Independent	ESG disclosure score (Governance dimension)	Board structure, ownership, transparency, audit	Index (0–1)
Firm Size (SIZE)	Control	Ln (Total Assets)	Company scale	Ratio
Leverage (LEV)	Control	Total Debt / Total Assets	Capital structure	Ratio

Source: Global Reporting Initiative, (Gholami et al., 2022; Wanze et al., 2025; Zhou & Rahat, 2026)

Tabel 2. Descriptive Statistics

Variable	Mean	Min	Max	Std. Dev
ROA	-0.055	-1.010	0.100	0.239
ENV	0.366	0.000	0.670	0.206
SOC	0.674	0.150	1.000	0.228
GOV	0.873	0.270	1.000	0.180
FSIZE	2533.5	2234.0	2665.0	91.75
LEV	0.279	0.020	0.600	0.180

Source: Data Processed from Eviews 12 (2026)

Table 3. Chow test

Test	Value	Prob.
Cross-section F	15.404646	0.0000
Cross-section Chi-square	109.849738	0.0000

Source: Data Processed from Eviews 12 (2026)

Table 4. Hausman test

Statistic	d.f.	Prob.
16.614.797	5	0.0053

Source: Data Processed from Eviews 12 (2026)

Table. 5 t-test

Variable	Coefficient	t-Statistic	Prob.	Sig.
ENV	-0.0471	-0.3691	0.7180	
SOC	-0.0758	-0.6111	0.5517	
GOV	0.1417	1.4991	0.1577	
FSIZE	0.0050	6.8412	0.0000	***
LEV	-0.1091	-0.5808	0.5713	

*** significant at α 1% ($p < 0.01$)

Source: Data Processed from Eviews 12 (2026)

Table 6. F test

Statistic	Value	Sig.
F-statistic	27.57540	***
Prob (F-statistic)	0.000000	

*** significant at α 1% ($p < 0.01$)

Source: Data Processed from Eviews 12 (2026)

Table 7. Coefficient of Determination (R^2)

Statistic	Value
R-squared	0.979021
Adjusted R-squared	0.943517

Source: Data Processed from Eviews 12 (2026)

BIBLIOGRAPHY

- Barney, J., Wright, M., & Ketchen Jr, D. J. (2001). The resource-based view of the firm: Ten years after 1991. *Journal of Management*, 27(6), 625–641.
- Ben Noamene, T. (2026). The hidden sustainability practices of SMEs: Toward a grassroots ESG framework. *Journal of the International Council for Small Business*, 1–20.
- Deegan, C. (2002). Introduction: The legitimising effect of social and environmental disclosures—a theoretical foundation. *Accounting, Auditing & Accountability Journal*, 15(3), 282–311.
- Dubey, V. K., & Das, A. (2022). Role of governance on SME exports and performance. *Journal of Research in Marketing and Entrepreneurship*, 24(1), 39–74.
- Esposito De Falco, S., Scandurra, G., & Thomas, A. (2021). How stakeholders affect the pursuit of the Environmental, Social, and Governance. Evidence from innovative small and medium enterprises. *Corporate Social Responsibility and Environmental Management*, 28(5), 1528–1539.
- Freeman, R. E. (1984). *Strategic management: A stockholder approach*. Pitman Boston, MA.
- Gholami, A., Murray, P. A., & Sands, J. (2022). Environmental, social, governance & financial performance disclosure for large firms: is this different for SME firms? *Sustainability*, 14(10), 6019.
- Gjergji, R., Vena, L., Sciascia, S., & Cortesi, A. (2021). The effects of environmental, social and governance disclosure on the cost of capital in small and medium enterprises: The role of family business status. *Business Strategy and the Environment*, 30(1), 683–693.
- Gujarati, D. N. (2012). *Basic Econometrics 4th ed.*
- Horsley, J., & Ahmed, D. (2011). Governance, sustainability and the New Zealand SME sector. *Keeping Good Companies*, 63(11), 665–667.
- Kim, S.-Y., Kim, P. H., & Setthakorn, K. (2025). Turn down the heat: corporate governance and SME environmental and financial performance: Kim et al. *Small Business Economics*, 1–32.
- Lee, S.-Y., & Jung, S. (2025). Internal and External Drivers That Foster Sustainability—Integrated Innovation Management of Micro and SME Suppliers: A Focus on Corporate Entrepreneurship. *Sustainability*, 17(18), 8458.
- Li, R., Zahra, K., Najam, H., Jia, S., Zhou, L., Rahat, B., Gjergji, R., Vena, L., Sciascia, S., Cortesi, A., Kim, S.-Y., Kim, P. H., Setthakorn, K., Truc, A. N. T., Hoa, L. T., Horsley, J., Ahmed, D., Dubey, V. K., Das, A., ... Siddik, A. B. (2025). Transformational leadership, organizational innovation, and ESG performance: Evidence from SMEs in China. *Sustainability*, 32(1), 988–1008.
- Narotama, B., Azam Achsani, N., & Hadi Santoso, M. (2023). *Corporate Environmental, Social, and Governance (ESG) and SMEs' Value (a Lesson From Indonesian Public SMEs)*.
- Quintiliani, A. (2025). Small and medium-sized enterprises and sustainable transition: Role of FinTech in a country's banking ecosystem. *Research in International Business and Finance*, 73, 102625.
- Rahman, M., Islam, F., Hossain, E., Rehman, M. Z., & Siddik, A. B. (2025). Environmental, social, and governance-driven sustainable tourism management in small and medium enterprises. *International Journal of Sustainable Development & World Ecology*, 32(8), 988–1008.

- Suchman, M. C. (1995). Managing legitimacy: Strategic and institutional approaches. *Academy of Management Review*, 20(3), 571–610.
- Truc, A. N. T., & Hoa, L. T. (2025). The nonlinear impact of ESG on firm default risk: evidence from Southeast Asia's firms. *International Journal of Sustainable Economy*, 17(4), 423–441.
- Wang, H. (2024). Policies to foster environmental sustainability in small and medium-sized industrial firms in East Asia. *The Singapore Economic Review*, 1–16.
- Wanze, L., Embong, Z., Saleh, N. M., & Abdullah, M. (2025). Corporate Social Responsibility and SME Sustainability: A Systematic Literature Review. *Jurnal Pengurusan*, 74.
- Wooldridge, J. M. (2010). *Econometric analysis of cross section and panel data*. MIT press.
- Zhou, L., & Rahat, B. (2026). How do environmental, social, and governance factors impact entrepreneurial finance? Evidence from the European small and medium enterprises. *International Journal of Entrepreneurial Behavior & Research*, 32(4), 911–926.
- Zhu, J., & Huang, F. (2023). Transformational leadership, organizational innovation, and ESG performance: Evidence from SMEs in China. *Sustainability*, 15(7), 5756.