JURNAL ECONOMINA
e-ISSN: 2963-1181
Volume 5, Number 7, July 2026
Homepage: ejournal.45mataram.ac.id/index.php/economina

The Impact of Environmental, Social, and Governance Performance on Financial Performance: Evidence from Industrial Sector Companies in ASEAN

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Article History

Received: 24-06-2026
Revised: 05-07-2026
Published: 30-07-2026

Keywords: Environmental Performance; Social Performance; Governance Performance; Financial Performance; Return on Assets (ROA); ESG; Industrial Sector; ASEAN Countries; Panel Data Regression

ABSTRAK

This study investigates the impact of Environmental Performance (EP), Social Performance (SP), and Governance Performance (GP) on the financial performance of industrial sector companies in five ASEAN countries during the period 2020–2024. Financial performance is measured using Return on Assets (ROA), while ESG dimensions are represented by environmental, social, and governance performance indicators. The study employs a quantitative approach using panel data regression analysis with the Fixed Effect Model (FEM) based on 261 firm-year observations. The findings reveal that Environmental Performance has a significant positive effect on financial performance, indicating that firms with stronger environmental practices tend to achieve higher profitability. Specifically, EP demonstrates a positive and statistically significant coefficient (β = 0.731, p = 0.016). In contrast, Social Performance and Governance Performance do not show significant effects on ROA, suggesting that these dimensions have not yet translated into measurable financial benefits within the observed period. Among the control variables, Growth Opportunity emerges as the most influential factor affecting financial performance (β = 6.881, p = 0.001). Furthermore, the model explains 71.96% of the variation in ROA, indicating strong explanatory power. Overall, the results suggest that in the context of ASEAN emerging markets, environmental performance plays a more important role in enhancing firm profitability than social and governance performance, highlighting the strategic value of environmental sustainability initiatives.

INTRODUCTION

Financial performance constitutes a fundamental barometer of a firm's capacity to allocate resources efficiently, sustain operational continuity, and generate value for its shareholders (Ganyam & Ivungu, 2019). In the context of the post-COVID-19 recovery,

companies in both advanced and emerging economies have encountered an extraordinarily turbulent operating environment characterised by persistent supply-chain disruptions, commodity price volatility, tightening monetary conditions, and shifting patterns of global demand. Reuters (2023) documented a broad-based compression of global corporate profit margins attributable to elevated input costs and subdued export demand. These pressures have been especially pronounced in ASEAN, where the recovery trajectory has been highly uneven across member states.

The industrial sector, defined according to the Bloomberg Industry Classification System (BICS), is particularly exposed to macroeconomic headwinds owing to its capital intensity, energy dependence, and reliance on cross-border trade flows. Bloomberg data reveal that the average Return on Assets (ROA) of industrial companies across five ASEAN economies exhibited sharp, non-monotonic fluctuations between 2020 and 2024. Singapore recorded persistently negative ROA, reaching a nadir of −3.549 in 2023. Thailand exhibited the most extreme cyclicality, surging to 4.167 in 2021 before declining to −0.560 in 2024. Indonesia and Malaysia achieved gradual profitability recovery but remained susceptible to external shocks (ADB, 2022; Behera & Rath, 2024). The Philippines showed a more stable, albeit modest, upward trajectory interrupted by the energy price spike of 2022. These divergent patterns underscore the structural complexity of financial performance determinants in the region.

Against this backdrop, Environmental, Social, and Governance (ESG) performance has attracted increasing scholarly and practitioner attention as a strategic instrument for enhancing long-term corporate resilience. Regulators across ASEAN have progressively mandated or encouraged ESG disclosure: Indonesia through OJK Regulation No. 51/POJK.03/2017; Singapore through SGX's mandatory sustainability reporting framework; Malaysia through Bursa Malaysia's Sustainability Reporting Guide; Thailand through the SEC's Form 56-1 One Report; and the Philippines through the SEC's Sustainability Reporting Guidelines. Proponents argue that superior ESG practice signals management quality, reduces information asymmetry, and lowers the cost of capital all of which are expected to translate into stronger financial performance (Chen et al., 2023; Waddock & Graves, 1997). Critics, however, contend that ESG investments impose real costs that depress short-run profitability, and that reported ESG scores frequently reflect disclosure intensity rather than genuine sustainability (Drempetic et al., 2020).

Prior research commonly treats ESG as a composite construct, thereby obscuring heterogeneity across its three constituent pillars. Environmental performance (EP) captures a firm's management of ecological risks and resource efficiency; social performance (SP) reflects stakeholder engagement, labour practices, and community relations; and governance performance (GP) encompasses board oversight, transparency, and shareholder rights protection. Each pillar has distinct cost structures, stakeholder audiences, and market-signalling properties, suggesting that disaggregating the composite ESG score may yield more actionable and nuanced findings (Alareeni & Hamdan, 2020; Lee et al., 2025).

The theoretical architecture of this study rests on Good Management Theory (GMT), introduced by Waddock & Graves (1997), which posits that firms demonstrating superior management of environmental and social risks exhibit higher-quality strategic decision-making, ultimately elevating financial performance. This theory is particularly relevant in the ASEAN industrial context, where environmental and social regulatory pressures are intensifying and where governance quality varies substantially across jurisdictions.

Empirical evidence on the ESG–financial performance nexus remains inconclusive. Xu et al., (2025) document a positive ESG–ROA relationship among Chinese A-share firms when agency costs are low. Prasad & Mondal, (2025) report similar findings for Indian private banks. Alareeni & Hamdan, (2020) and Aydo & Ergun, (2022) also confirm positive relationships. Conversely, Matsali et al., (2025) find that ESG depress ROA in the capital-intensive global tourism sector. Grajales & Albanés Uribe, (2024) report null results for Multilatina firms, while Demiraj et al., (2025) show that the sign of the ESG coefficient flips depending on host-country governance quality. Lee et al., (2025) and Ming et al., (2024) document mixed results contingent on sectoral and institutional contexts. This heterogeneity of findings motivates a systematic investigation in the ASEAN industrial context, where the ESG ecosystem remains comparatively nascent.

Extant research on the ESG–financial performance relationship in ASEAN is fragmented. Studies tend to be confined to single-country settings (Aryati & Susilawati, 2025; Dutt et al., 2025; Nathania & Ekawati, 2024; Warokka et al., 2025), and rarely disaggregate ESG into its component pillars. This study addresses these gaps through the following objectives: (1) to assess the separate direct effects of EP, SP, and GP on ROA; and (2) to generate insights actionable for corporate managers, institutional investors, and ASEAN policymakers.

Based on the foregoing, the research hypotheses are formulated as follows:

H1: Environmental Performance (EP) has a significant positive effect on Financial Performance (FP).

H2: Social Performance (SP) has a significant positive effect on Financial Performance (FP).

H3: Governance Performance (GP) has a significant positive effect on Financial Performance (FP).

METHOD

This study adopts a quantitative, positivist research design following Creswell, (2018) and Sekaran & Bougie, (2016). Secondary data for the period 2020–2024 are retrieved from the Bloomberg database, which provides standardised ESG pillar scores and audited financial statements for listed companies across ASEAN. The population encompasses all industrial sector companies listed on ASEAN exchanges (Indonesia: IDX; Malaysia: MYX; Singapore: SGX; Thailand: SET; Philippines: PSE) that appear in Bloomberg during the observation window. Vietnam and Brunei are excluded owing to insufficient ESG data coverage and the absence of a public equity market, respectively.

Sample selection follows a purposive sampling protocol Sekaran & Bougie, (2016) with

the criteria enumerated in Table 1. The screening procedure yields a final unbalanced panel of 261 firm-year observations from 72 companies

Table 1. Sample Selection Procedure

No.	Sample Criteria	Observations
1	ASEAN industrial companies listed on Bloomberg, 2020–2024	1,245
2	Companies that do not publish ESG Performance on Bloomberg	(840)
3	Companies with incomplete financial data	(144)
Final Sample	**261 firm-year observations (72 companies)**	**261**

Variable operationalisation is as follows. The dependent variable, Financial Performance (FP), is measured by ROA = net income / total assets (Lu et al., 2025; Xu et al., 2025); The independent variables are the three ESG pillars sourced from Bloomberg's proprietary ESG scoring framework, which rates firms on a 0-10 normalised scale based on disclosed indicators weighted by industry materiality (Adeneye & Kammoun, 2022): (1) Environmental Performance (EP), capturing ecological risk management and resource efficiency; (2) Social Performance (SP), reflecting stakeholder engagement and labour practices; and (3) Governance Performance (GP), encompassing board oversight and transparency. Control variables are: (i) Firm Age (FA) = observation year - year listed on the stock exchange (Fitriana & Hartoko, 2024), and (ii) Growth Opportunity (GO) = (total assetst − total assetst-1) / total assetst-1 (Fitriana & Hartoko, 2024).

The analytical technique is panel data regression estimated with EViews 13 (Hendrayadi, 2022). Panel estimation selection follows the sequential application of the Chow test (FEM vs. CEM) and the Hausman test (FEM vs. REM). Classical assumption diagnostics include the normality test ($p > 0.05$), correlation-matrix test for multicollinearity (threshold: $|r| < 0.85$), Glejser test for heteroskedasticity (significance threshold: $p < 0.05$), and the Durbin-Watson statistic for autocorrelation. The regression equation is specified as follows:

$$FP = \alpha + \beta_1 EP + \beta_2 SP + \beta_3 GP + \beta_4 FA + \beta_5 GO + \varepsilon$$

where FP is Return on Assets; EP, SP, and GP are the three ESG pillar scores; FA is Firm Age; GO is Growth Opportunity; and ε is the error term.

RESULTS AND DISCUSSION

Descriptive Statistics

Table 2 presents descriptive statistics for all study variables, computed across the 261 firm-year observations from 72 ASEAN industrial sector companies over the period 2020–2024.

Table 2. Descriptive Statistics

Variable	N	Mean	Std. Dev.	Min.	Max.
Financial Performance (FP)	261	4.640	6.157	-6.684	26.661
Environemntal Performance (EP)	261	3.554	2.157	0.000	9.036
Social Performance (SP)	261	3.972	1.594	0.889	7.761
Governance Performance (GP)	261	4.914	0.940	2.812	7.276
Firm Age (FA)	261	18.532	10.463	1.000	55.000
Growth Opportunity (GO)	261	0.046	0.133	-0.241	0.491

Source: EViews 13 output, 2026

The mean ROA of 4.640 indicates moderate profitability across the sample, with considerable cross-sectional dispersion evidenced by a standard deviation of 6.157 and a range spanning from −6.684 to 26.661. This variability is consistent with the cyclical nature of industrial activity and the disruption imposed by COVID-19 during 2020–2021. The mean Environmental is 3.554, Social is 3.972, Governance is 4.914 on a 0–10 scale reflects a comparatively modest level of ESG engagement relative to developed-market benchmarks (Xu et al., 2025), underscoring the nascent stage of ESG institutionalisation in ASEAN (Truant et al., 2024). The control variables exhibit plausible distributions: Firm Age ranges from newly incorporated entities to 55-year-old firms, while Growth Opportunity captures both contracting (−0.241) and rapidly expanding (0.491) firms.

Model Selection and Classical Assumption Tests

The Chow test rejects the null of pooled OLS (Common Effect Model) in favour of the Fixed Effect Model (FEM) across the equation (prob. = 0.0000 < 0.05). Subsequent Hausman tests reject the null of the Random Effect Model in favour of FEM for equation (prob. = 0.0000 < 0.05). The FEM is therefore used, which is methodologically appropriate given the cross-sectional heterogeneity arising from the five-country, multi-industry sample (Hendrayadi, 2022).

Table 3. Model Selection Tests

Tests	Equation	Statistic	d.f	Prob.
Chow Test	(FEM vs CEM)	7.767	(71,184)	0.000
Hausman Test	(FEM vs REM)	27.760	5	0.000

Source: EViews 13 output, 2026

The normality test shows that the probability value exceeds the significance level of 0.05, indicating that the residuals are normally distributed. Thus, the normality assumption is fulfilled, suggesting that the regression model is suitable for further statistical analysis.

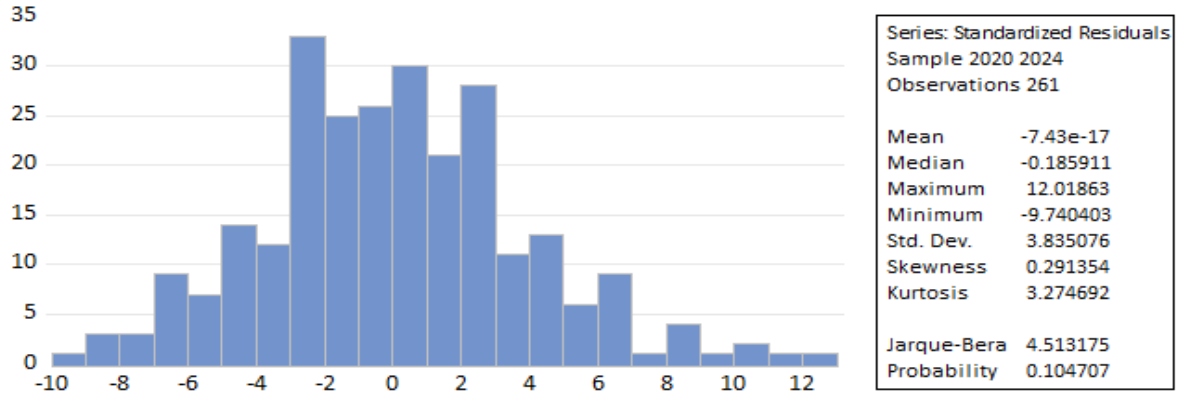

Figure 1. Normality Test

Multicollinearity: Table 4 presents the correlation matrix for all independent variables. All inter-variable correlation coefficients are well below the 0.85 threshold, confirming the absence of multicollinearity.

Table 4. Multicollinearity Correlation Matrix

	EP	**SP**	**GP**	**FA**	**GO**
EP	1.000	0.160	0.141	0.116	-0.045
SP	0.160	1.000	0.109	-0.040	-0.078
GP	0.141	0.109	1.000	0.147	-0.042
FA	0.116	-0.040	0.147	1.000	-0.038
GO	-0.045	-0.078	-0.042	-0.038	1.000

Source: EViews 13 output, 2026

Heteroskedasticity: The Glejser test produces probability values exceeding 0.05 for all variables (C: p = 0.298; X1/EP: p = 0.818; X2/SP: p = 0.902; X3/GP: p = 0.585; FA: p = 0.542; GO: p = 0.286), confirming homoskedastic residuals.

Table 5. Results of Heteroscedasticity Test with Glejser Test

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	2.355	2.256	1.043	0.297
EP	-0.032	0.141	-0.230	0.817
SP	-0.017	0.143	-0.123	0.901
GP	0.195	0.357	0.547	0.585
FA	-0.418	0.685	-0.610	0.542
GO	0.990	0.926	1.069	0.286

Source: EViews 13 output, 2026

Based on the autocorrelation test results using the Durbin-Watson method, the Durbin-Watson value obtained is 2.130717. This value is close to 2 and falls within the range of 1.5–2.5, indicating that the regression model does not suffer from autocorrelation. This means that the residuals in one observation period are not correlated with the residuals in other periods, so the classical assumption of no autocorrelation has been fulfilled.

Table 6. Results of Autocorrelation

F-statistic	9.778	Durbin-Watson stat		2.130
Prob(F-statistic)	0.000			

Regression Results and Hypothesis Testing

Table 7. Panel Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	16.353	4.801	3.405	0.000
EP	0.730	0.300	2.429	0.016**
SP	0.127	0.304	0.418	0.675
GP	−1.316	0.760	−1.731	0.085
FA	−3.219	1.459	−2.206	0.028**
GO	6.881	1.971	3.491	0.000***
Adj. R-squared	0.719			
F-statistic	9.778			
Prob (F-stat)	0.000			
Observation	261			

*Note: ***, ** denote significance at 1% and 5% levels. Source: EViews 13, 2026.*

Based on Table 7, the three regression equations are specified as follows:

$$FP = 16.353 + 0.730EP + 0.127SP - 1.316GP - 3.219FA + 6.881GO + \varepsilon$$

Table 8. Summary of Hypothesis Testing Results

H	Hypothesis Statement	Coeff.	Prob.	Direction	Decision
H1	EP → FP	0.730	0.016	Positive	Accepted
H2	SP → FP	0.127	0.675	Positive	Rejected
H3	GP → FP	-1.316	0.085	Negative	Rejected

Source: EViews 13 output processed by researchers, 2026.

Coefficient of Determination

The F-statistic is significant at the 1% level ($p = 0.000$), confirming the overall validity of the model. The Adjusted R^2 of 0.719 indicates that the model explains 71.9% of the variation in financial performance. Growth Opportunity (GO) is consistently the strongest predictor ($\beta = 6.881$, $p = 0.000$), reinforcing the view that firm-level fundamentals are the primary driver of financial performance in the ASEAN industrial context.

CONCLUSION

The Effect of Environmental Performance on Financial Performance

Environmental Performance (EP) exhibits a coefficient of 0.730 with a significance value of $p = 0.016$ ($p < 0.05$), indicating a significant positive effect on the financial performance of industrial sector companies in ASEAN. Therefore, H1 is accepted.

This finding is consistent with Good Management Theory (GMT) proposed by Waddock & Graves, (1997), which argues that firms demonstrating superior environmental stewardship reflect higher-quality strategic management, ultimately translating into better financial outcomes. Companies that proactively manage environmental risks reducing emissions, increasing energy efficiency, and complying with environmental regulations tend to achieve lower operational costs and reduced regulatory penalties, which directly enhance profitability (Chen et al., 2023).

This result aligns with prior studies. Alareeni & Hamdan (2020) found a positive relationship between environmental pillar scores and firm performance among S&P 500 companies. Xu et al., (2025) documented that Chinese firms with stronger environmental management outperform peers in ROA. In the ASEAN context, the industrial sector is subject to increasingly stringent environmental regulation across all five sampled countries, creating a regulatory incentive structure that rewards environmental investment with reduced compliance costs and enhanced reputational capital (Aryati & Susilawati, 2025).

The significance of EP in contrast to the insignificance of SP and GP likely reflects the particular salience of environmental risk in the industrial sector, which is characterised by high energy and resource intensity. Investors and creditors appear to price environmental performance more directly into their capital allocation decisions in this sector, consistent with the materiality-based weighting of Bloomberg's ESG scoring methodology (Adeneye & Kammoun, 2022).

The Effect of Social Performance on Financial Performance

Social Performance (SP) exhibits a coefficient of 0.127 with a significance value of $p = 0.675$ ($p > 0.05$), indicating that SP does not have a significant effect on financial performance. Therefore, H2 is rejected.

This finding contrasts with the prediction of GMT but is consistent with a growing body of evidence in emerging market contexts. Matsali et al (2025) found that social performance components of ESG fail to translate into measurable financial gains in capital-intensive sectors, partly because the costs of social programmes labour welfare, community investment, supply chain auditing are immediate and observable, while financial benefits materialise over longer time horizons than captured by the five-year observation window.

Several structural factors explain this result in the ASEAN context. First, labour markets in ASEAN industrial firms are characterised by varying enforcement of social standards across jurisdictions, which weakens the signalling value of SP scores to capital market participants (Demiraj et al., 2025). Second, social performance metrics captured by Bloomberg such as employee training hours, diversity ratios, and health and safety incident rates may not be uniformly material to financial performance across all five countries

sampled, given differences in labour law, cultural norms, and investor preferences. Third, the short observation window of five years is insufficient to capture the long-term reputational and human capital benefits of strong social performance (Buallay, 2018).

The Effect of Governance Performance on Financial Performance

Governance Performance (GP) exhibits a coefficient of −1.316 with a significance value of $p = 0.085$ ($p > 0.05$ at the 5% level), indicating that GP does not have a significant positive effect on financial performance. Therefore, H3 is rejected.

Notably, the coefficient on GP is negative, albeit statistically insignificant. This directional pattern may reflect an agency cost interpretation: firms that invest heavily in governance mechanisms independent boards, audit committees, and enhanced disclosure incur real administrative costs that reduce short-run profitability, while the governance premium in the form of lower cost of capital takes time to materialise (Xu et al., 2025). This is further compounded by the fact that governance improvements may be forced upon firms by regulatory requirements rather than representing voluntary efficiency-enhancing commitments, making the financial payoff ambiguous in the short run.

This finding is consistent with Grajales & Albanés Uribe (2024), who report no significant positive GP–ROA relationship among Multilatina firms, and with Fitriana & Hartoko (2024), who document that governance improvements in Indonesian firms are not immediately reflected in accounting-based performance. The nascent corporate governance landscape in several ASEAN economies where state ownership, family control, and concentrated ownership structures remain prevalent may dilute the financial signalling effect of formal governance improvements reported to Bloomberg (Nathania & Ekawati, 2024).

CONCLUSIONS

This study investigates the separate effects of Environmental Performance (EP), Social Performance (SP), and Governance Performance (GP) on Financial Performance (FP) across 261 firm-year observations from 72 industrial sector companies in five ASEAN countries (Indonesia, Malaysia, Singapore, Thailand, and the Philippines) for the period 2020–2024. Using the Fixed Effect Model selected via the Chow and Hausman tests the following conclusions are drawn:

First, Environmental Performance (EP) has a significant positive effect on Financial Performance (ROA) ($\beta = 0.730$, $p = 0.016$), supporting H1. This confirms that proactive environmental management in the capital-intensive industrial sector translates into measurable financial gains through cost reduction, regulatory compliance, and enhanced investor confidence, consistent with Good Management Theory.

Second, Social Performance (SP) does not have a significant effect on Financial Performance ($\beta = 0.127$, $p = 0.675$), leading to the rejection of H2. The short observation window, the diffuse short-term returns from social investment, and cross-country heterogeneity in labour standards explain the null result.

Third, Governance Performance (GP) does not have a significant positive effect on Financial Performance ($\beta = -1.316$, $p = 0.085$), leading to the rejection of H3. The negative directionality of the coefficient suggests that governance investment imposes real administrative costs whose financial benefits accrue over a longer horizon than captured in this study.

Collectively, these findings reveal a dimension-specific pattern of ESG–financial performance linkages: environmental performance is the only ESG pillar currently generating measurable and significant financial returns in the ASEAN industrial sector. Growth Opportunity is the dominant predictor across the model (Adj. $R^2 = 0.719$), confirming that firm-level business fundamentals remain the primary driver of financial performance in this context.

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