Financial, Governance, and Sustainability Determinants of Stock Price in an Emerging Market: Evidence from Indonesian Listed Firms

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Article History:
Received: 13 April 2026
Revised: 30 April 2026
Accepted: 04 Mei 2026

Keywords: *stock price, profitability, board gender diversity, environmental management systems, emerging markets*

Abstract: *This study examines whether financial, governance, and sustainability variables explain stock price variation in an emerging-market setting. Building on valuation theory and recent environmental, social, and governance research, the study integrates firm size, board gender diversity, profitability, shareholders' equity ratio, price-earnings ratio, and environmental management systems into a single empirical framework to explain stock price. The study uses secondary data analyzed in Jamovi through hierarchical linear regression. Based on the reported final-model degrees of freedom, the sample comprises 132 firm-year observations from Indonesian listed firms. The findings show that the final model is statistically significant and explains 20.09% of stock-price variation. Profitability is the strongest positive determinant of stock price, while environmental management systems and several board gender diversity categories are negatively associated with stock price. Firm size, shareholders' equity ratio, and price-earnings ratio are not statistically significant in the full model. The study contributes by integrating conventional financial drivers with governance and sustainability variables in one framework for an emerging market, where prior studies often examine these factors separately. Practically, the results suggest that investors in Indonesia continue to price profitability more strongly than governance or sustainability signals, while firms may still face short-term valuation penalties when sustainability investments or board restructuring are not yet fully appreciated by the market.*

INTRODUCTION

Stock price valuation remains a central issue in finance because market prices summarize investor expectations regarding future cash flows, risk, and overall firm quality. Classical asset

pricing evidence demonstrates that expected returns and market valuation are systematically related to firm characteristics such as size and accounting-based fundamentals (Fama & French, 1992). Earlier studies also document that firm size plays a significant role in explaining return differentials, particularly through risk and market inefficiencies (Banz, 1981; Wong, 1989). In practice, valuation continues to rely heavily on financial statement analysis, where profitability, leverage, and earnings-based indicators are used to assess firm performance and intrinsic value (Penman, 2013). Profitability, in particular, is widely recognized as a primary driver of stock prices because it reflects a firm's efficiency in generating returns and its potential for future cash flows.

More recently, the stock-pricing literature has expanded beyond traditional financial fundamentals to incorporate corporate governance and sustainability considerations. Governance mechanisms, such as board composition, influence monitoring effectiveness and strategic decision-making, thereby affecting firm value. Empirical evidence suggests that board diversity enhances governance quality and may contribute positively to firm valuation (Carter et al., 2003; Adams & Ferreira, 2009). At the same time, environmental, social, and governance (ESG) performance has emerged as a critical factor shaping investor perceptions. A large body of empirical studies finds a generally positive association between ESG performance and financial outcomes, although the magnitude and direction of the relationship vary across contexts (Friede et al., 2015; Aydoğmuş et al., 2022). Furthermore, sustainability initiatives that are material to firm operations have been shown to enhance firm value by improving long-term competitiveness and reducing risk exposure (Khan et al., 2016).

Environmental management systems (EMS), as a more specific dimension of sustainability, can strengthen stakeholder trust, improve operational efficiency, and support corporate environmental strategies (Martin-de Castro et al., 2016). However, despite these potential benefits, markets may not always reward environmental investments in the short term, particularly in emerging economies where cost considerations and limited investor awareness may dominate valuation decisions. Board gender diversity represents one of the most debated governance variables within this broader framework. While some studies argue that gender-diverse boards improve oversight, innovation, and decision quality, others report mixed or context-dependent findings. These inconsistencies suggest that the valuation effect of diversity may depend on institutional settings, cultural norms, and investor perceptions, especially in emerging markets.

Similarly, the size effect remains widely documented but not fully resolved. While smaller firms may offer higher expected returns due to risk premiums or informational inefficiencies, larger firms often benefit from stronger visibility, better governance, and more stable performance. This duality implies that the relationship between firm size and stock valuation is complex and context-sensitive. Despite the growing body of literature, several important gaps remain. First, much of the prior research examines financial indicators, governance mechanisms, and sustainability practices in isolation, limiting the ability to assess their relative importance within a unified valuation framework. Second, empirical evidence from emerging markets—particularly Indonesia—remains relatively limited compared to developed markets, even though differences in institutional quality, investor sophistication, and ESG awareness may significantly influence valuation dynamics. Third, integrated analyses that simultaneously incorporate financial, governance, and sustainability variables are still scarce, despite their increasing relevance in modern capital markets.

This study addresses these gaps by developing a comprehensive valuation model that

combines financial performance indicators, capital structure variables, board gender diversity, and environmental management systems within a single empirical framework. By positioning governance and sustainability factors alongside traditional financial metrics, this study aims to evaluate their incremental explanatory power in determining stock prices in an emerging market context.

Based on the reported regression results, the findings indicate that profitability remains the dominant determinant of stock prices, consistent with traditional valuation theory. However, environmental management systems and certain board diversity categories appear to be negatively priced during the observed period, suggesting that investors may perceive these factors as costs rather than value-enhancing investments in the short run. Accordingly, this study seeks to answer the following research question: Do financial, governance, and sustainability variables jointly explain stock prices in Indonesian listed firms?.

LITERATURE REVIEW

Stock Price and Valuation Fundamentals

Valuation theory posits that stock prices reflect the present value of expected future cash flows, which are shaped by profitability, growth opportunities, and risk. Foundational asset pricing models emphasize that firm characteristics such as size and earnings performance explain cross-sectional variations in stock returns (Fama & French, 1992). Similarly, financial statement analysis provides essential inputs for valuation, as investors rely on profitability, leverage, and earnings-based indicators to assess firm quality and intrinsic value (Penman, 2013). Profitability measures, in particular, serve as key signals of a firm's ability to generate returns from its assets, thereby influencing stock price formation.

Firm Size and Stock Price

Firm size plays an important role in determining stock prices through its influence on information asymmetry, liquidity, and perceived risk. Early empirical evidence shows that smaller firms tend to earn higher returns, suggesting a size-related risk premium (Banz, 1981; Zhang, 2022). This finding is further supported in developing markets, where size effects persist due to market inefficiencies and limited information dissemination (Wong, 1989; Zhang, 2022). However, larger firms may benefit from greater analyst coverage, stronger governance structures, and higher investor confidence, which can lead to valuation premiums. Consequently, the relationship between firm size and stock price remains ambiguous and context-dependent, particularly in emerging markets.

H1: Firm size has a significant effect on stock price.

Board Gender Diversity and Stock Price

Board gender diversity has gained increasing attention as a determinant of corporate governance quality and firm valuation. Gender-diverse boards are associated with improved monitoring, enhanced decision-making, and broader perspectives in strategic oversight. Empirical studies indicate that female board representation strengthens governance mechanisms and influences board effectiveness (Adams & Ferreira, 2009; Hutabarat, 2024). Additionally, board diversity has been positively linked to firm value, suggesting that diverse boards may enhance investor confidence (Carter et al., 2003). Nevertheless, the extent to which markets value diversity varies across institutional environments. In some emerging markets, investors may not

fully incorporate diversity into pricing decisions, leading to mixed empirical findings.

H2: Board gender diversity has a significant effect on stock price.

Profitability and Stock Price

Profitability is one of the most robust determinants of stock valuation, as it reflects a firm's efficiency in utilizing its resources to generate earnings. Higher profitability indicates stronger future cash flow potential, which is directly capitalized into stock prices. From a valuation perspective, profitability measures such as return on assets (ROA) and return on equity (ROE) are critical indicators used by investors to assess firm performance (Penman, 2013). Firms with superior profitability are generally rewarded with higher market valuations (Lim et al, 2024), consistent with both accounting-based valuation models and asset pricing theory.

H3: Profitability has a positive effect on stock price.

Shareholder's Equity Ratio and Stock Price

The shareholders' equity ratio represents the proportion of total assets financed by equity, reflecting a firm's capital structure and financial stability (Kristian, 2017). A higher equity ratio may signal lower financial risk and greater solvency, thereby increasing investor confidence. However, from a capital structure perspective, excessive reliance on equity may indicate inefficient leverage utilization, potentially reducing returns to shareholders. As a result, the relationship between equity ratio and stock price is not straightforward and depends on how investors interpret the trade-off between risk and return.

H4: Shareholders' equity ratio has a significant effect on stock price.

Price Earning Ratio and Stock Price

The price-earnings ratio (PER) is a widely used valuation metric that reflects how much investors are willing to pay for each unit of current earnings. A higher PER often indicates strong growth expectations and positive market sentiment. However, excessively high PER levels may signal overvaluation, particularly when not supported by underlying fundamentals. Asset pricing literature suggests that valuation ratios must be interpreted alongside firm characteristics such as size and profitability (Fama & French, 1992; Indarto & Farizki, 2025). Therefore, while PER is expected to have a positive association with stock prices, its effect may diminish when controlling for other firm-specific variables.

H5: Price-earnings ratio has a positive effect on stock price.

Environmental Management Systems and Stock Price

Environmental management systems (EMS) are increasingly recognized as important drivers of firm value through their impact on operational efficiency, risk management, and stakeholder engagement. Firms that adopt strong environmental practices may enhance their reputation and reduce regulatory risks, thereby positively influencing market valuation. Empirical evidence suggests that environmental management contributes to improved firm performance through stakeholder-oriented strategies (de Castro et al., 2016). Moreover, broader ESG research demonstrates a generally positive relationship between sustainability performance and financial outcomes (Friede et al., 2015; Aydoğmuş et al., 2022). Further, material sustainability issues have been shown to significantly affect firm value, particularly when aligned with business strategy (Mozaffar Khan et al., 2016). Despite these positive findings, markets may sometimes perceive

environmental initiatives as short-term cost burdens, especially in developing economies.

H5: Environmental management systems have a significant effect on stock price.

METHODS

This study employs a quantitative explanatory research design using secondary data to examine the determinants of stock prices in an emerging-market context, specifically Indonesia. The analysis is conducted using Jamovi, which provides an integrated platform for regression modeling, diagnostics, and hierarchical model comparison. The empirical strategy applies hierarchical linear regression analysis, where variables are entered into the model in sequential blocks to assess their incremental explanatory power. This approach allows the study to evaluate how financial, governance, and sustainability variables jointly and individually contribute to stock price variation. The estimation procedure includes model fit evaluation (R^2 change), ANOVA-based F-tests, and coefficient significance testing within Jamovi.

Based on the reported output, the final model yields F(10, 121) = 3.04, indicating an effective sample size of approximately 132 firm-year observations. The hierarchical structure suggests that baseline financial variables are introduced first, followed by governance and sustainability indicators, enabling comparison across nested specifications. The dataset consists of firm-level annual observations, constructed from secondary sources such as financial reports and market data. These data are used to derive stock price measures, firm characteristics, governance indicators, and environmental variables.

The empirical model is:

$$SP_i = \alpha + \beta_1 SOF_i + \beta_2 BGD_i + \beta_3 PROF_i + \beta_4 SER_i + \beta_5 PER_i + \beta_6 EMS_i + \varepsilon_i$$

where:

- SP= stock price
- SOF= size of firm
- BGD= board gender diversity
- $PROF$= profitability proxy
- SER= shareholders' equity ratio
- PER= price-earnings ratio
- EMS= environmental management systems

The operationalization below follows the variables stated in your draft. Where the draft used a code rather than a full label, I preserved the code and clarified the likely proxy.

Tabel 1. Descriptive Statistics

Variable	Code	Type	Operational definition
Stock Price	SP	Dependent	Market price of the firm's share

Size of Firm	SOF	Independent control	Firm scale
Board Gender Diversity	BGD	Independent	Female representation on the board
Profitability	PROF	Independent	Profitability proxy used in the draft output
Shareholders' Equity Ratio	SER	Independent	Proportion of assets financed by equity
Price-Earnings Ratio	PER	Independent	Valuation multiple
Environmental Management Systems	EMS	Independent	Environmental-management commitment

RESULTS AND DISCUSSION

The hierarchical results indicate that explanatory power rises from 5.54% in Model 1 to 20.09% in Model 4, while the final model is statistically significant at p = .002. This pattern suggests that adding governance, profitability, valuation, and sustainability variables improves model performance beyond the initial control specification. The declining AIC and RMSE values across the sequence also indicate better fit as the model becomes more complete. In practical terms, stock prices in this sample are not driven by one class of variables alone; the integrated framework performs better than a narrower one. This supports the study's novelty claim that financial and non-financial factors should be modeled together rather than in isolation.

This result is consistent with the broader literature arguing that valuation is multifactorial. Traditional finance explains stock prices through fundamentals, but governance and sustainability can add incremental information when markets care about monitoring quality, long-run risk, and stakeholder alignment.

Tabel 3. Model Comparison

Comparison	ΔR^2	F	df1	df2	p
Model 1 vs 2	0.0931	6.72	2	123	.002
Model 2 vs 3	0.0000	0.000156	1	122	.990
Model 3 vs 4	0.0524	7.94	1	121	.006

Source: Jamovi

The comparison table shows that the largest explanatory improvement comes when moving from Model 1 to Model 2 and again from Model 3 to Model 4. By contrast, Model 2 to Model 3 adds virtually no explanatory power. This implies that not all added variables matter equally. The final step, which includes the sustainability block, contributes meaningfully to model performance, even though the sign of EMS later turns out to be negative. That is an important result: sustainability-related information matters to the market, but not necessarily in the direction

often expected by ESG-optimistic narratives.

This mixed valuation of sustainability is consistent with prior studies showing that environmental initiatives can improve long-term performance yet still generate short-term cost concerns or ambiguous investor reactions, especially in settings where ESG pricing is less mature.

Tabel 4. Final Model Coefficient

Predictor	Estimate	SE	t	p
Intercept	9200.1	2601.30	3.537	< .001
SOF	-130.1	116.70	-1.115	.267
BGD 0.1 vs 0.0	-2238.8	1111.84	-2.014	.046
BGD 0.2 vs 0.0	-767.7	1319.49	-0.582	.562
BGD 0.3 vs 0.0	-3904.3	1843.69	-2.118	.036
BGD 0.4 vs 0.0	-5312.3	2407.84	-2.206	.029
EOA	21265.1	5210.38	4.081	< .001
SER	-10.8	20.81	-0.521	.603
PER	0.000726	0.00152	0.478	.634
EMS	-2706.2	960.35	-2.818	.006

Source: Jamovi

The final model indicates that profitability (EOA) is the strongest positive predictor of stock price. The estimated coefficient is large and highly significant, suggesting that firms with superior profitability receive substantially higher market valuations. This finding supports H3 and is fully consistent with valuation theory, which posits that stock prices reflect expected future cash flows and earnings-generating capacity. In particular, asset pricing theory emphasizes that firm fundamentals, especially profitability, play a central role in explaining cross-sectional variation in stock returns (Fama & French, 1992; Chue & Xu, 2022; Lim et al, 2024). Moreover, this result aligns with financial-statement-based valuation frameworks, which place profitability at the core of equity valuation because it signals efficient asset utilization and sustainable earnings performance (Penman, 2013). Overall, the evidence reinforces the view that profitability remains the dominant driver of stock price formation, even when governance and sustainability variables are considered simultaneously.

Environmental management systems (EMS) exhibit a statistically significant but negative coefficient. Thus, H6 is supported in terms of significance, but not in a uniformly positive direction. This suggests that, within the observed sample, the market interprets environmental management as a cost-bearing signal rather than an immediate value enhancer. One plausible explanation is that environmental initiatives require substantial upfront investment, while their financial and reputational benefits materialize over a longer horizon. This finding contrasts with the broader meta-analytic evidence indicating that ESG performance is generally non-negatively associated with financial outcomes (Friede et al., 2015; Aydoğmuş et al., 2022). However, it remains consistent with studies emphasizing that the value relevance of sustainability depends on materiality and contextual factors (Khan et al., 2016). In addition, environmental management may improve long-term performance through stakeholder engagement and operational discipline, even if short-term market reactions are negative (Martín-de Castro et al., 2016).

Board gender diversity (BGD) shows a mixed but predominantly negative pattern. Relative to the zero-diversity reference category, the 0.1, 0.3, and 0.4 categories are significantly negative,

while the 0.2 category is insignificant. Therefore, H2 is supported in terms of statistical significance, but the direction is negative in this sample. This finding contrasts with prior studies that document positive effects of gender diversity on governance quality and firm value (Carter et al., 2003; & Ferreira, 2009; Hutabarat, 2024). A plausible interpretation is that the Indonesian market during the sample period had not yet fully incorporated board diversity as a governance premium into stock prices. Alternatively, the observed coefficients may reflect transitional dynamics, investor perceptions, or correlations with unobserved firm characteristics. In this sense, the negative association may not capture the intrinsic economic value of diversity, but rather market-specific conditions or incomplete information processing.

Firm size (SOF) is negative but statistically insignificant, indicating that H1 is not supported. This suggests that once profitability, governance, and sustainability variables are jointly considered, firm size does not provide additional explanatory power for stock price variation. This result is consistent with the notion that the size effect, although widely documented (Rolf W. Banz, 1981), may be unstable across markets and may diminish when other firm-specific factors are included in the model (K. A. Wong, 1989).

Similarly, the shareholders' equity ratio (SER) and price-earnings ratio (PER) are both statistically insignificant, leading to the rejection of H4 and H5. For SER, the lack of significance implies that capital structure, as measured by equity intensity, is not independently priced when profitability and other firm attributes are already accounted for. For PER, the insignificance suggests that earnings multiples do not provide incremental explanatory power beyond direct measures of profitability. This result is consistent with valuation theory, which argues that multiples often proxy for expectations already embedded in fundamental accounting measures (Fama & French, 1992; Penman, 2013). Consequently, when profitability is explicitly modeled, the additional contribution of PER becomes limited.

Tabel 3. Model Comparison

Diagnostic	Result	Interpretation
Durbin–Watson	1.18 (p < .001)	Positive autocorrelation present
Shapiro–Wilk	0.873 (p < .001)	Residuals deviate from normality
VIF range	1.02–1.15	No serious multicollinearity

Source: Jamovi

The diagnostics are mixed. The VIF values are low, which indicates that multicollinearity is not a major concern and the coefficient estimates are not being distorted by strong overlap among predictors. However, the Durbin–Watson statistic of 1.18 signals positive autocorrelation, and the Shapiro–Wilk test suggests non-normality. These issues do not invalidate the findings, but they do imply that future studies should consider robust standard errors, panel-based estimators, or SEM/path models with distribution-sensitive corrections. This is especially important if the next version of the study returns to the original SEM ambition.

CONCLUSION

This study reassesses stock-price formation in an Indonesian emerging-market context by integrating financial, governance, and sustainability variables into one valuation model. The results show that profitability is the most powerful positive determinant of stock price, while environmental management systems and several board gender diversity categories are negatively associated with stock price. Firm size, shareholders' equity ratio, and price-earnings ratio do not

have significant direct effects in the final model. Overall, the findings indicate that Indonesian investors in this sample continue to price financial efficiency more strongly than governance or sustainability signals. The study contributes by addressing a gap in the literature: most prior studies examine financial fundamentals or ESG/governance variables separately, whereas this paper evaluates them jointly. The practical implication is that firms should not assume that sustainability or governance reforms automatically generate short-term market rewards. For managers, the evidence suggests that profitability remains the clearest route to market valuation, while governance and environmental initiatives may require better communication, stronger implementation quality, or longer time horizons before they are fully appreciated by investors. Future research should strengthen the design by specifying all categorical variables more clearly, expanding the sample, and using panel or SEM approaches with full fit indices and robustness checks. That would allow researchers to test indirect effects, latent constructs, and the possibility that governance or sustainability influence stock price through profitability rather than only directly.

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