

The Effect of ESG on Financial Distress with Gender Diversity Moderating

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ABSTRACT

This study investigates the relationship between Environmental, Social, and Governance (ESG) performance and corporate financial distress, with board gender diversity examined as a moderating variable. Using 96 firm-year observations from manufacturing companies listed on the Indonesia Stock Exchange (2022–2024), the analysis employs variance-based Structural Equation Modelling (SEM). The findings reveal that ESG performance does not exert a statistically significant effect on financial distress, and gender diversity does not moderate this relationship. These non-significant results constitute the central empirical contribution of the study, highlighting that ESG engagement and gender diversity have yet to translate into financial resilience in the Indonesian manufacturing context. The study underscores the importance of contextual factors—such as implementation costs, authenticity of ESG disclosures, and limited female representation on boards—in shaping the effectiveness of sustainability practices. The results provide theoretical implications for Stakeholder and Agency Theory and offer practical insights for managers, regulators, and investors in emerging markets.



1. INTRODUCTION

Amid the intensifying worldwide discourse on sustainability, Environmental, Social, and Governance (ESG) principles have emerged as a pivotal lens for assessing corporate responsibility and enduring organizational viability. Increasingly, firms are judged not only by their financial outcomes but also by the extent to which their governance structures, social commitments, and environmental strategies demonstrate accountability and resilience over time. ESG encompasses ecological stewardship, social responsibility, and governance mechanisms that collectively signal a firm's commitment to sustainable value creation. While prior studies often suggest that strong ESG engagement reduces financial distress, empirical evidence remains inconsistent. Some findings highlight governance as the most effective pillar, while others report that ESG adoption imposes short-term costs or faces credibility issues, such as greenwashing. Together, these three pillars form an integrated standard by which firms are increasingly judged in both academic inquiry and practical investment decision-making [1]. Environmental damage often creates high economic costs. These costs can include regulatory fines, environmental cleanup costs, lawsuits, and even a decline in brand reputation. The financial consequences of these non-financial issues have increased attention from various parties, including investors, shareholders, and regulators, who now demand that companies demonstrate accountability and transparency through solid ESG performance [2].

In the corporate finance literature, the Altman Z-Score is frequently used as an indicator of impending financial vulnerability. Such distress poses a substantial challenge to firms' long-term viability. This risk is especially pronounced in sectors characterized by heavy capital investment, where operational rigidity and high fixed costs amplify exposure to instability. The implementation of ESG fundamentally improves a company's financial condition by serving as a signal that can detect risks earlier [2]. Sound governance mechanisms enhance the capacity of ESG initiatives to function as a safeguard against corporate financial distress, thereby reinforcing their effectiveness in mitigating vulnerability [3]. Companies that do not actively adopt ESG are vulnerable to financial losses and reputational risks because they fail to anticipate and respond to environmental and social risks. For example, companies with high pollution levels risk facing lawsuits that incur high and unexpected legal costs. Good ESG practices send positive signals to stakeholders, enhancing reputation and trust, which ultimately reduces the likelihood of companies experiencing financial distress [4].

Earlier studies examining corporate vulnerability have employed the Dynamic Network Data Envelopment Analysis (NDEA) framework to assess efficiency amid financial distress among publicly listed firms worldwide. Their findings indicate that higher Environmental, Social, and Governance (ESG) risk scores tend to correspond with reduced exposure to financial instability [1]. A recent investigation examining FTSE All-Share firms in the United Kingdom over the period 2014–2022 highlights that stronger ESG engagement is generally associated with reduced default risk. The analysis suggests that this outcome is attributable mainly to the governance dimension, which proves particularly effective in mitigating financial distress when operating within institutional contexts characterized by lower incidences of bribery, corruption, and fraud (BCF) [5]. An additional strand of research focusing on Chinese manufacturing firms examined how ESG engagement shapes corporate value. The study reported that stronger ESG performance significantly enhances firm value, thereby lowering exposure to financial distress. Moreover, the analysis revealed that this beneficial effect is amplified when executive shareholding and institutional ownership are present, suggesting that ownership structures play a reinforcing role in the ESG–value–distress nexus [6].

Although numerous studies have argued that robust Environmental, Social, and Governance (ESG) practices tend to mitigate firms' exposure to financial distress, the empirical record does not present a consistent pattern. Evidence across different contexts reveals divergent outcomes, indicating that the relationship between ESG strength and economic vulnerability is more complex than often assumed. Certain studies report that the relationship is statistically insignificant, suggesting that ESG does not always function as a protective mechanism. One explanation is that the immediate financial burden of implementing ESG initiatives—particularly for firms already facing liquidity constraints—can offset potential long-term benefits. In addition, skepticism about the authenticity of ESG disclosures, often linked to greenwashing, may weaken investor confidence. As a result, market participants frequently place greater weight on conventional financial indicators when evaluating a firm's vulnerability to distress, rather than relying solely on ESG-related signals [7].

In addition, board gender diversity has been increasingly recognized as a governance attribute that may influence risk orientation and decision-making quality. Female directors are often associated with stronger ethical standards and greater risk aversion, suggesting that gender diversity could enhance the effectiveness of ESG initiatives. Yet, empirical evidence on this moderating role is limited, especially in contexts where female representation on boards is relatively low. Beyond its governance implications, the participation of women in board-level decision-making is also expected to enhance sustainability initiatives and reinforce long-term financial resilience, thereby safeguarding firms against the prospect of insolvency [8].

To bridge these research gaps, the present investigation examines how Environmental, Social, and Governance (ESG) performance relates to financial distress and whether gender diversity at the board level alters this relationship in Indonesia's manufacturing sector. Beyond its empirical findings, the study seeks to advance theoretical discourse by extending Stakeholder and Agency Theory to the dynamics of emerging markets and to generate actionable implications to guide corporate leaders and regulatory bodies in strengthening governance and sustainability practices.

1.1. Stakeholder Theory

Stakeholder theory was formally articulated by R. Edward Freeman in 1984 through his seminal work *Strategic Management: A Stakeholder Approach*, which laid the foundation for understanding the firm as embedded within a network of relationships extending beyond shareholders [9]. Stakeholder

Theory posits that corporate responsibility extends beyond the interests of shareholders to encompass a broader set of actors whose welfare is tied to the firm's long-term viability. These stakeholders include employees, customers, regulatory authorities, local communities, and the natural environment, all of whom are directly or indirectly affected by corporate decisions and sustainability practices [10]. The concept of corporate sustainability underscores the necessity for managerial priorities to extend beyond immediate profit maximization, requiring attention to the broader interests and welfare of diverse stakeholder groups [11]. This theory emphasizes that a company's success in implementing sustainability practices depends heavily on its ability to meet the expectations and demands of these stakeholders. This pressure drives companies to be active in implementing ESG practices, not only to meet formal compliance requirements but also to enhance social responsibility and promote transparent governance. The reciprocal relationship between companies and stakeholders creates shared value that supports companies' long-term sustainability and financial performance [12].

1.2. Agency Theory

Agency theory gained prominence in the fields of finance and corporate governance following the influential work of Michael C. Jensen and William H. Meckling, who in 1976 published their landmark article *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure* [13]. Agency Theory centers on the conflict of interest between the principal (owner/shareholder) and the agent (manager) arising from the separation of ownership and control. Managers (agents) are assumed to act opportunistically, maximizing personal welfare, which often harms principals and incurs agency costs. [14]. Agency theory is used as a basis for understanding how ESG-driven oversight and disclosure mechanisms can reduce conflicts between management and owners [15]. Agency theory explains that sustainability reporting serves as a tool to reduce conflicts between agents and principals through increased transparency and disclosure of ESG risks [16].

1.3. The Effect of Environmental Social Governance (ESG) on Financial Distress

Stakeholder Theory and Agency Theory suggest that ESG adoption should enhance corporate reputation, foster stakeholder trust, and reduce agency conflicts, thereby lowering the likelihood of financial distress. Firms that demonstrate robust commitment to ESG principles are generally more adept at anticipating potential threats and implementing preventive measures at an earlier stage, thereby reducing their exposure to adverse outcomes [15]. For example, early detection of potential pollution and strict compliance can prevent companies from becoming entangled in lawsuits or claims from other parties, which can result in high and unexpected costs [16]. Sustainability reporting functions as a key instrument of corporate accountability, enabling firms to openly communicate their economic outcomes, social initiatives, and environmental practices to stakeholders [17]. Consistent with the logic of stakeholder theory, embedding ESG into corporate strategy not only fosters stronger stakeholder trust and reinforces reputational capital but also mitigates exposure to non-financial risks [10]. However, empirical evidence remains mixed. Some studies report significant protective effects, while others find no relationship or even counterintuitive outcomes, particularly in industries where ESG implementation imposes high costs or where disclosure credibility is questioned [2].

In light of the divergent findings reported in prior research, this study refrains from presuming that Environmental, Social, and Governance (ESG) practices exert a uniformly positive influence. Instead, the investigation assesses the extent to which ESG performance relates to financial distress among manufacturing enterprises in Indonesia, while remaining open to the possibility that the evidence may reveal insignificant or even counterintuitive outcomes.

H1: ESG performance affects the risk of financial distress

1.4. The Role of Gender Diversity in Moderating the Influence of Environmental Social Governance (ESG) on Financial Distress

The presence of women on corporate boards is frequently interpreted as a critical governance mechanism, as female directors are often associated with stronger ethical orientation and a more cautious approach to risk [18]. Empirical evidence in the governance literature suggests that gender heterogeneity within boards and executive teams enhances monitoring effectiveness and fosters

stronger ethical standards [10]. Such improvements in oversight help lower agency costs, thereby reinforcing the capacity of ESG initiatives to mitigate the adverse consequences of financial distress. In turn, this dynamic supports the integrity of financial reporting and strengthens the overall credibility of corporate disclosures [19]. Yet, prior findings are inconclusive. In contexts where female representation is limited or symbolic, gender diversity may not exert meaningful influence on strategic decision-making [20].

Building on these considerations, the present inquiry explores the moderating role of board gender composition in shaping the linkage between Environmental, Social, and Governance (ESG) outcomes and corporate financial distress. The analysis is conducted with explicit awareness that, within the Indonesian manufacturing context, such an effect may prove limited in magnitude or fail to reach statistical significance.

H2: Gender diversity moderates the effect of ESG performance on financial distress risk

2. METHOD

2.1. Population and Sample

The research adopts a descriptive quantitative design, emphasizing the systematic collection and examination of numerical evidence. The study population comprises firms operating within the industrial sector and listed on the Indonesia Stock Exchange (IDX) during the 2022–2024 period. To ensure data reliability, the sampling framework includes only publicly traded industrial companies that consistently disclose Sustainability Reports or annual reports with a distinct ESG section, accessible via the IDX portal (www.idx.co.id) or the firms’ official websites. In addition, eligibility requires the availability of complete financial statements and board composition data within the annual reports for the same observation period. While the sample size is sufficient for exploratory analysis, its relatively limited scope may constrain statistical power and generalizability. This limitation is acknowledged as part of the study’s contribution, highlighting the need for broader cross-industry and cross-country investigations.

2.2. Measurement of Financial Distress Variable

In this study, financial distress is measured using the Altman Z-Score model (1968), which is specifically formulated to predict the probability of bankruptcy in manufacturing companies. This model uses multiple discriminant analyses to combine five financial ratios representing the dimensions of liquidity, profitability, leverage, solvency, and company activity [21]. This model is very popular globally and has been proven to have very high accuracy in predicting bankruptcy [22].

$$Z = 0,012X_1 + 0,014X_2 + 0,033X_3 + 0,006X_4 + 0,999X_5 \tag{1}$$

Where:

- X1 = Working capital/Total assets
- X2 = Retained earnings/Total assets
- X3 = Earnings before interest and taxes/Total assets
- X4 = Market value equity/Total liability
- X5 = Sales/Total assets
- Z = Overall index

2.3. Measurement of Environmental Social Governance Variable

To operationalize ESG performance, this study employed a content analysis of corporate Sustainability Reports. The evaluation framework was aligned with the widely adopted Global Reporting Initiative (GRI) Standards, which serve as the prevailing benchmark for non-financial disclosure [23]. Table 1 groups indicators into three dimensions.

Dimension	GRI Reference	Key Indicators
Environmental	GRI 200	Economic performance, market presence
Social	GRI 300	Energy, emissions, waste, resource use
Governance	GRI 400	Labor practices, diversity, community impact

2.4. Measurement of Gender Diversity Variable

Previous studies have employed various methods to assess gender diversity. Some studies use the Blau Index, which reflects the level of balance between the proportion of men and women in a company, with a value close to 0.5 indicating a more balanced distribution [24]. Other studies have used the Shannon Index, which considers the proportion and distribution of members based on gender, where a higher value indicates a greater level of diversity [25].

Within the analytical design of this research, gender diversity is treated as a moderating construct. To capture this dimension empirically, the study employs the share of female representation on the board of directors as the primary measure. The extent of heterogeneity at the board level is subsequently derived using the formula (2).

$$\text{Gender Diversity} = \frac{\text{Total Female Board Members}}{\text{Total Board Members}} \quad (2)$$

2.5. Data Testing Techniques

2.5.1. Structural Analysis (Hypothesis Testing)

In this research, hypothesis testing is carried out using a variance-based Structural Equation Modeling (SEM) approach. Although the model is relatively simple (one independent variable, one moderator, one dependent variable), SEM is employed because it allows simultaneous estimation of direct and moderating effects, while accounting for latent constructs and measurement error. Its primary function is to provide empirical verification of theoretical propositions by examining whether the estimated path coefficients are statistically significant (commonly at $P \leq 0.05$) and whether their directional patterns correspond with theoretical expectations. Through this process, the analysis offers evidence on the validity of the hypothesized causal mechanisms underpinning the study [26].

2.5.2. Path Coefficient Analysis

Path coefficient analysis is a statistical procedure for evaluating the magnitude, orientation, and statistical relevance of proposed causal linkages among variables within a structural framework. By quantifying these relationships, the method provides empirical validation of the theoretical pathways specified in the model [27].

2.5.3. Determination Coefficient Analysis (R^2)

In this study, the explanatory capacity of the model was evaluated using the coefficient of determination (R^2). This statistic reflects the extent to which the combined influence of independent and control variables explains variation in the dependent construct. In essence, R^2 serves as an indicator of how well the specified predictors account for observed changes in the outcome, thereby offering insight into the overall robustness of the structural model [28].

3. RESULT AND ANALYSIS

3.1. Descriptive Statistical Analysis

Table 2. Descriptive Statistical Analysis

	N	Minimum	Maximum	Mean	Std. Deviation
ESG_E	96	,086	1,000	,48424	,247893
ESG_S	96	,050	,975	,46693	,220540
ESG_G	96	,000	,941	,36269	,237535
ESG_all	96	,129	,972	,43793	,212680
FD	96	,125	6,634	,90935	,698844
GD	96	,000	,667	,15910	,159205
Valid N (listwise)	96				

Table 1 presents the descriptive analysis results, showing that ESG and financial distress variables have relatively concentrated distributions, whereas gender diversity exhibits greater heterogeneity. This reflects the limited but varied representation of female directors across the sampled firms.

3.2. Structural Analysis

Table 3. Hypothesis Testing

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
ESG (X) > FD (Y)	0,303	0,034	0,270	1,123	0,261
GD (Z) > FD (Y)	0,070	0,042	0,123	0,567	0,571
GD (Z) x ESG (X) > FD (Y)	0,216	0,046	0,196	1,102	0,271

The hypothesis testing results indicate that ESG performance does not significantly affect financial distress ($\beta = 0.303$; $P = 0.261$). Although the coefficient is positive, the lack of statistical significance means no reliable directional inference can be drawn. Similarly, gender diversity shows no significant effect on financial distress ($\beta = 0.070$; $P = 0.571$), and the moderating effect of gender diversity on the ESG–financial distress relationship is also statistically insignificant ($\beta = 0.216$; $P = 0.271$). In addition, the moderation test produced a P-value of 0.913, far above the accepted level of significance, thereby necessitating the rejection of the hypothesized moderating role. Overall, the evidence indicates that board-level gender heterogeneity exerts little discernible impact on the linkage between Environmental, Social, and Governance (ESG) outcomes and corporate financial vulnerability. In the observed context, diversity neither amplifies nor diminishes the association, pointing to a neutral moderating effect.

3.3. Path Coefficient

Table 4. Path Coefficient Test

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
ESG (X) > FD (Y)	0,303	0,034	0,270	1,123	0,261
GD (Z) > FD (Y)	0,070	0,042	0,123	0,567	0,571
GD (Z) x ESG (X) > FD (Y)	0,216	0,046	0,196	1,102	0,271

The estimation results reported in the Original Sample (O) column indicate a path coefficient of 0.303. This value implies that stronger Environmental, Social, and Governance (ESG) outcomes are associated with increased financial distress, suggesting a counterintuitive positive relationship between sustainability performance and corporate vulnerability. Such an outcome stands in contrast to the propositions of Stakeholder Theory and Agency Theory, both of which posit that ESG engagement should foster stakeholder confidence, enhance corporate reputation, and alleviate agency conflicts, thereby diminishing the likelihood of financial difficulties.

The estimation results show that board gender heterogeneity yields a path coefficient of 0.070, implying a slight positive linkage with financial distress. Moreover, the moderation analysis reports an interaction coefficient of 0.216, indicating a positive directional effect of ESG performance on financial vulnerability.

3.4. R Square (R²)

Table 5. Testing the Coefficient of Determination

	R-Square	R-square adjusted
FD (Y)	0,133	0,105

As reported in Table 4, the coefficient of determination (R²) is 0.133, implying that Environmental, Social, and Governance (ESG) performance, board gender composition, and their interaction collectively account for just 13.3 percent of the variance in financial distress. The modest explanatory power of this model points to the more decisive influence of alternative determinants—such as firms’ profitability, liquidity positions, capital structure, and broader macroeconomic dynamics, the likelihood of financial vulnerability.

4. DISCUSSION

4.1. The Effect of ESG Performance on Financial Distress

The results of the analysis reveal that Environmental, Social, and Governance (ESG) outcomes show no statistically significant effect in mitigating financial distress within Indonesian manufacturing enterprises. This finding suggests that, in the observed context, sustainability performance does not

materially alter firms' vulnerability to economic instability. The results yield a positive coefficient, indicating that firms with stronger ESG ratings appear to face heightened vulnerability to financial distress, rather than experiencing the expected alleviation of such difficulties. This outcome runs counter to the expectations of Stakeholder Theory, which posits that ESG adoption should enhance corporate reputation, foster stakeholder confidence, and ultimately diminish the likelihood of bankruptcy.

One explanation lies in the temporal nature of ESG benefits. Environmental and social initiatives often require substantial upfront investment, while their financial returns materialize only in the long term [29]. For firms already facing liquidity constraints, these costs may exacerbate financial vulnerability rather than alleviate it. This condition makes ESG appear not to be a factor that directly reduces financial distress. Moreover, greenwashing can weaken the influence of ESG. Companies experiencing financial distress are more likely to use CSR as a greenwashing mechanism [30]. When the market doubts a company's commitment to sustainability, investors and stakeholders do not fully trust positive ESG signals, making them ineffective at reducing the risk of financial distress.

The results may be interpreted in light of the temporal characteristics of ESG outcomes. Environmental and social dimensions typically generate benefits that unfold gradually, are indirect, and remain highly contingent on cultural norms and regulatory frameworks. Consequently, their capacity to mitigate bankruptcy risk is less immediate and less consistent when compared to the governance component, which exerts a more direct and stabilizing influence on corporate resilience [31].

Previous studies have also found that the influence of ESG is not consistent across industries and only appears marginally in the business services sector [32]. The influence of ESG is sectoral and limited, not universal across industries as assumed by Stakeholder Theory [29]. In some sectors, especially capital-intensive ones, the costs of implementing ESG outweigh the short-term benefits, so the expected negative relationship does not emerge.

The relatively low explanatory power of the model ($R^2 = 13.3\%$) further suggests that traditional financial indicators—such as profitability, leverage, and liquidity—remain the dominant predictors of distress in the Indonesian context, rather than ESG engagement.

4.2. The Role of Gender Diversity in Moderating the Influence of ESG Performance on Financial Distress

The results suggest that variations in board gender composition do not exert a statistically meaningful moderating influence on the relationship between Environmental, Social, and Governance (ESG) practices and firms' exposure to financial distress. In this context, diversity at the board level does not appear to alter the strength or direction of the relationship under examination. While the coefficient points to a positive direction—implying that increased female representation may intensify the observed linkage between ESG engagement and financial vulnerability—the effect fails to reach statistical significance. This result diverges from the expectations advanced by Stakeholder Theory and Agency Theory, both of which argue that gender heterogeneity within boards improves the quality of governance decisions and, theoretically, should reinforce the capacity of ESG practices to reduce financial risk.

A key reason underlying this outcome lies in the limited representation of women within corporate boards. Since female participation has not yet attained the threshold commonly regarded as a critical mass, their influence on board dynamics remains insufficient to generate the effects anticipated by theoretical models [33]. In certain firms, female representation on the board remains largely ceremonial, serving more as a compliance gesture than as a substantive source of influence. Consequently, their capacity to shape strategic decisions—particularly those related to Environmental, Social, and Governance (ESG) initiatives—tends to be limited, reducing the extent to which diversity translates into meaningful policy direction [20].

Organizational culture and social context in Indonesia can also influence the results. In several national contexts, prevailing cultural norms surrounding gender inclusion have not yet evolved to the point where female board members can exercise meaningful authority in corporate decision-making. As a result, their participation often remains constrained, limiting the extent to which diversity translates into substantive influence over strategic governance processes [34]. The presence of female directors

has no significant moderating effect because their strategic authority is smaller than that of female CEOs [35]. The analysis suggests that the board of directors does not exert a statistically meaningful influence, mainly because its function tends to be ceremonial and its authority in shaping substantive policy decisions remains constrained [36].

5. CONCLUSION

5.1. Conclusion

The investigation assessed how Environmental, Social, and Governance (ESG) practices relate to the incidence of financial distress in Indonesia's manufacturing sector, while also considering whether gender diversity at the board level alters the strength of this relationship. The empirical analysis reveals that Environmental, Social, and Governance (ESG) performance does not exert a statistically meaningful influence on firms' exposure to financial distress. In other words, improvements in ESG practices fail to demonstrate a significant capacity to alleviate the likelihood of financial vulnerability within the sampled Indonesian manufacturing companies. This contradicts stakeholder theory and agency theory, which assume that implementing ESG can strengthen reputation, increase stakeholder trust, and reduce agency conflicts. These findings show that the benefits of ESG are more long-term and indirect, so that their impact on corporate financial stability is not yet apparent in the observation period.

Furthermore, the proposed Gender Diversity variable, serving as a moderator, had no significant effect on the relationship between ESG and Financial Distress. The proportion of women on boards of directors has not yet reached a critical mass capable of influencing corporate strategic decisions. Accordingly, the presence of gender diversity within governance arrangements has not been shown to reduce the likelihood of financial distress substantially in this context. Taken as a whole, the model accounts for only 13.3% of the variance in financial distress. This relatively modest explanatory power suggests that broader determinants—such as prevailing macroeconomic dynamics, sector-specific attributes, and firm-level governance or policy choices—play a more substantial role in shaping the extent of financial vulnerability.

This study refines Stakeholder Theory and Agency Theory by showing that ESG and gender diversity do not universally function as protective mechanisms against financial distress. While both theories assume that sustainability practices and diverse governance structures strengthen resilience, the findings highlight that in emerging markets, these mechanisms may be constrained by high implementation costs, weak regulatory enforcement, and symbolic female representation on boards. Thus, the study advances theoretical understanding by emphasizing that the effectiveness of ESG and governance diversity is highly context-dependent and requires substantive institutional support to deliver meaningful risk mitigation.

The findings suggest that managers should not rely solely on ESG initiatives as immediate safeguards against financial distress, but rather integrate them with profitability and risk management strategies to avoid exacerbating financial vulnerability. Regulators are encouraged to strengthen ESG disclosure standards and ensure that gender diversity on boards moves beyond symbolic representation toward substantive participation, thereby enhancing governance effectiveness. For investors, the results highlight the need for caution in using ESG scores or gender diversity indicators as standalone measures of corporate resilience; instead, these should be combined with traditional financial metrics such as profitability, liquidity, and leverage to obtain a more accurate assessment of firm risk.

5.2. Recommendations

The study is limited by its relatively small sample size (96 firm-year observations), single-industry focus, and short observation period. Future research should expand to cross-industry and cross-country contexts, incorporate additional governance variables (e.g., ownership structure, board independence), and examine macroeconomic influences on financial distress. Longitudinal studies may also more effectively capture the delayed benefits of ESG initiatives.

In sum, the contribution of this study lies in showing that non-significant results are themselves meaningful: the analysis demonstrates that neither Environmental, Social, and Governance (ESG) initiatives nor board-level gender diversity currently serve as adequate safeguards against financial distress in Indonesia's manufacturing sector. This outcome highlights the decisive role of contextual conditions in determining whether sustainability-oriented practices can translate into tangible resilience at the firm level.

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