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The Effect of ESG Risk Rating on Corporate Profitability: The Role of Firm Size and Leverage as Moderating Variables

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Abstract

Background: Sustainalytics ESG Risk Rating has been identified as a determinant of corporate financial performance. However, its effect on profitability—particularly for developing markets like Indonesia—remains underexplored. This study examines how ESG risk relates to profitability and whether firm size or leverage moderates their relationship.
Objective: This study seeks to determine the influence of ESG risk on profitability, with firm size and leverage as moderating variables.
Methods: A quantitative study employing Moderated Regression Analysis (MRA) was conducted using 76 firms listed on the Indonesia Stock Exchange (IDX) in 2024. The proxy for profitability was Net Profit Margin (NPM), and ESG Risk Ratings were obtained from Sustainalytics.
Results: ESG Risk Ratings negatively affect profitability (B = −2.418; p = 0.005), whereby higher sustainability risk impairs net profit margins. This negative effect is moderated by firm size (B = 0.094; p = 0.001), as larger firms are better equipped to manage ESG risks. Conversely, higher leverage strengthens the negative effect of ESG risk on profitability (B = −0.839; p = 0.001), as highly leveraged firms are less capable of addressing sustainability pressures.
Conclusion: The results underscore the need for both ESG risk disclosure and governance. Larger firms cope with ESG risk more effectively than highly leveraged firms. Further research is warranted with a longer observation period and additional measures of profitability.

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INTRODUCTION

Attention to sustainability issues has increased in recent years and has become an important element in modern business practices. Companies are no longer assessed solely on financial performance, but also on their ability to manage risks related to environmental, social, and governance (ESG) aspects (Chairani & Siregar, 2021; S. Chen et al., 2023). In this context, the ESG Risk Rating developed by Sustainalytics has become one of the widely used indicators to assess a company's level of sustainability risk.

Globally, the annual ESG Risk Rating Industry Reports from Morningstar Sustainalytics show a trend of declining average ESG risk scores over the past five years. This data shows fewer companies are in the high and very highrisk categories, and an increasing proportion of companies are in the low and negligible risk categories. The global average ESG risk score decreased from 26.6 in 2019 to 24.3 in 2023. This decrease is a consequence of, inter alia: regulatory progress; better reporting standards; and the rising significance of ESG elements as

determinants in investor behavior.

Corporate environmental, social, and governance (ESG) management scores worldwide have also risen with global advancements in corporate efforts to better account for sustainability considerations in business operations (Ahmad et al., 2024; Linnenluecke, 2022). Nevertheless, while the distribution of ESG risk across regions is still unequal, European companies have reduced their risk much faster than those in Asia Pacific (see Fig. 1). This macroeconomic trend exposes a critical layer that gives insight into how ESG risk is understood and managed enterprise-wide.

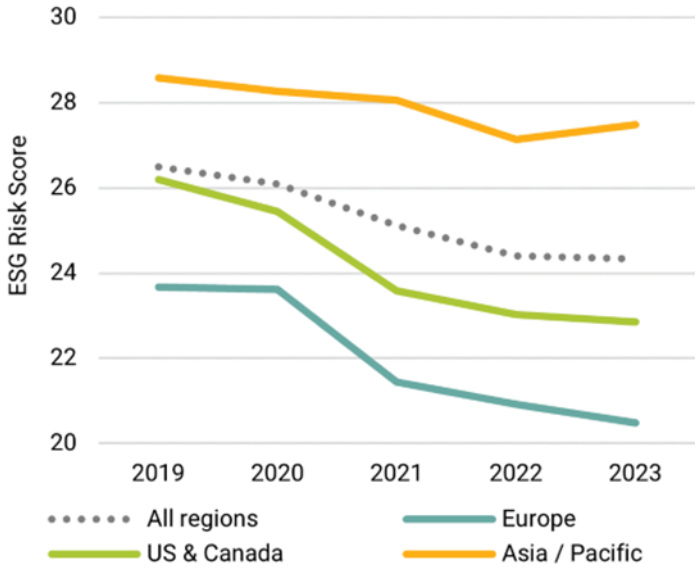

Figure 1. Evolution of ESG Risk Scores
Source: https://www.sustainalytics.com

The analytic graph (Figure 1) illustrates a noticeable contrast in the direction of ESG risk across regions. The modest decline in global average ESG risk score—from 26.6 (2019) to approximately 24.3 (2023)—masks a fundamental regional gap, whereby European companies have largely made significant headway, and Asia-Pacific firms—including Indonesia—lag even further behind. This gap is not purely descriptive; it reveals a deeper systemic divergence in regulatory enforcement structures, ESG disclosure maturity, and investor pressure that directly affect ESG risk–profitability relationships in developing market contexts. Notably, this pattern also highlights an apparent contradiction in the literature: positive linkages between ESG and financial performance found in studies conducted in relatively well-established ESG markets (e.g., Europe) are considerably stronger than those reported in developing economies such as Indonesia, where effects can cancel each other out or exhibit context dependency, rather than positively affirming performance in the way observed in mature ESG markets.

Thus, the call for empirical examination of the Indonesian context is grounded in the premise of regional divergence, given that Sustainalytics ESG Risk Rating data has only been systematically available since late 2020. Nevertheless, a number of academic studies suggest that ESG risk management influences corporate profitability and value, though results are not always consistent across studies (Cohen, 2023; Peliu, 2024). Hamit (2025) shows that ESG transparency enhances financial performance by bolstering public trust, while Dinarjito (2024) indicates that ESG is a statistically significant predictor of corporate profitability and value.

In Indonesia, Nur (2024) demonstrate that well-performing ESG companies tend to exhibit lower performance volatility. According to Sitepu and Utomo (2024), ESG disclosures improve the quality of both financial and non-financial assessments. Furthermore, Palupi (2024) provide evidence that ESG plays a role in stock liquidity, suggesting that sustainability factors are already informing capital market decisions.

In contrast, the ESG–profitability relationship differs across countries according to

research results. Purbasari and Rokhim (2024) find that the effect of ESG on profitability and cost of capital varies according to country context and market structure. In the ASEAN banking sector, Nguyen (2024) shows that ESG performance is positively related to profitability when companies have strong digitalization support. However, Chen and Xie (2022) argue that the effect of ESG on financial performance depends heavily on the involvement of sustainability-conscious investors. Even in the global context, Berg (2022) note differences in assessments among ESG rating providers that can create uncertainty for investors.

In the Indonesian context, the relationship between sustainability practices and profitability is also not always straightforward. Leony (2024) report that ESG disclosure is associated with profitability in the food and beverage sector. Putri and Mulyantini (2025) examine profitability and financial structure in relation to corporate sustainability practices. Moreover, Rizqo and Qadri (2024) find that better financial performance is associated with greater ESG disclosure. These results indicate that the influence of sustainability risk on profitability depends on both the internal and external conditions of a firm.

An important consideration in understanding how ESG risk affects profitability involves firm-specific internal attributes, such as firm size and leverage in the capital structure. Generally, larger companies have more resources to effectively monitor identified sustainability risks, establish systems of internal controls, and fund mitigation efforts. This perspective is consistent with Rahmah (2024), who find that firm size amplifies the ESG–firm value relationship. Conversely, highly leveraged companies are more vulnerable to risk pressure, as their substantial debt obligations and extensive financing needs limit their capacity to manage that burden. Research by Palupi (2024) and Sutiarso et al. suggests that high leverage makes it more difficult for companies to respond to sustainability demands.

This disparity between theoretical predictions and empirical findings highlights a critical tension in the literature: while legitimacy and stakeholder theories predict a consistently negative ESG risk–profitability relationship regardless of context, empirical results differ considerably. Although studies from developed markets with diversified ESG ecosystems largely support this connection, findings remain heterogeneous and ambiguous when applied to emerging markets, including Indonesia. This inconsistency, which has received limited attention in the literature, may be explained by firm-specific structural variables—size and leverage—acting as contingent moderators that alter the ESG risk–profitability relationship across different institutional settings, vis-à-vis the broader nexus between sustainability exposure and financial outcomes. As such, the link between ESG risk and profitability remains unclear, especially in emerging markets like Indonesia, which warrants further research.

Developed vs. Developing: The dynamics underlying developed markets (e.g., regulatory structure, transparency levels) differ considerably from those of developing markets, particularly regarding readiness to adopt sustainability practices. Further research is needed to examine firm size and leverage as moderators of the relationship between ESG risk and profitability, as these two factors can help explain why ESG risk affects companies differently.

In consideration of these two aspects, this study aims to provide a clearer contribution to understanding how ESG risk influences corporate profitability and how this relationship is moderated by firm-level internal characteristics (e.g., size and leverage). This research is expected to offer a more robust empirical basis for the literature on sustainability and financial performance, while also providing strategic and policy implications for companies, investors, and regulators seeking to reduce the adoption of ineffective sustainability practices.

First, while much of the earlier literature has focused on either ESG performance or ESG disclosure scores, this study focuses on ESG Risk Rating as a measure of unmanaged sustainability exposure, which conveys less measurement uncertainty and is more directly related to downside financial risk than alternative constructs (even when controlling for potential selection bias). Additionally, analyzing two moderating variables—firm size and leverage—within a single moderated regression framework offers a methodological extension to single-moderator studies by providing a more disaggregated picture of contextual mechanisms. Furthermore, empirical evidence from the Indonesian context remains limited, given that ESG risk data from Sustainalytics has only recently become available for Indonesia.

LITERATURE REVIEW AND HYPOTHESES

ESG Risk Rating and Profitability

In stakeholder theory, corporate sustainability is the product of efforts that manage conflicting interests among various groups of stakeholders: investors, employees, communities, and regulators. Under this framework, if a company falls short of stakeholder expectations across the environmental, social, or governance dimensions, it incurs reputational costs, regulatory fines, and erosion of trust—all of which translate into financial pressure points. As a result, this theory serves as the theoretical mechanism explaining how ESG risk is associated with lower corporate profitability. A high ESG Risk Rating could mean that a company faces challenges in managing environmental, social, or governance issues. Such a condition may foster stakeholder distrust, generate reputational costs, and increase the risk of additional expenses to improve sustainability performance. Cumulative pressure from all these factors will erode income, ultimately diminishing the earnings capacity of the corporation.

In this theoretical context, it is expected that rising ESG risk functions as an external stakeholder pressure affecting operational efficiency and corporate reputation. A designation of high risk signifies that the company has failed to appropriately manage sustainability issues, thereby potentially lowering profit margins.

There are multiple empirical studies that indicate the relevance of ESG impact on profitability. The sustainability dimension is also an important determinant of company profit levels (Dinarjito, 2024). Research conducted by Nguyen (2024) on the relationship between ESG practices and company profit stability concludes that good ESG practices can help a company maintain stable profits. Some studies, however, yield the opposite result. The influence of ESG on international stock returns differs across nations and industries (Purbasari & Rokhim, 2024). Likewise, ESG disclosure has a positive influence on profitability in Indonesia Leony (2024), and a bidirectional relationship was also found by (Rizqo & Qadri, 2024). This variability in results demonstrates that ESG risk should be perceived as a factor that can impair value creation potential, especially when companies exhibit vulnerabilities in sustainability dimensions.

High ESG risk ratings heighten uncertainty, increase remediation costs, and raise the possibility of disruption in company–stakeholder relationships. Since this dynamic suggests that profitability declines as ESG risk increases, the following hypothesis is proposed:

H1: ESG Risk Rating has a negative effect on company profitability.

Firm Size, ESG Risk Rating, and Profitability

Signaling theory posits that companies typically signal quality to the market, reflecting their operational capability and growth prospects. This theory can specifically be applied to explain the moderating role of firm size, as larger firms have more resources, stronger risk management infrastructure, and greater capacity to meet sustainability demands. By signaling to the market that they can manage sustainability risk more efficiently than smaller companies, large firms demonstrate this capacity.

Given the scale of large companies, it is assumed that they are able to overcome the adverse effects of high ESG risk because their financial and operational capabilities allow them to invest in sustainability, better governance, and transparency. Therefore, firm size can act as a buffer.

Recent research builds empirical support for firm size in sustainability risk management. Studies also find that larger firms have a greater capacity to leverage sustainability practices, as they magnify the effect of ESG on value creation (Rahmah et al., 2024). Moreover, larger companies generally have a better capacity for navigating regulatory pressures and public expectations.

In conceptual terms, the bigger the company is, the better its ability to absorb the negative effects of ESG risk without suffering major drops in profitability. That is, firm size is expected to attenuate the negative relationship between ESG risk and profitability, providing the basis for the following hypothesis:

H2: Firm size weakens the negative effect of ESG Risk Rating on company profitability.

Leverage, ESG Risk Rating, and Profitability

Legitimacy theory explains that as long as companies maintain public legitimacy, they are able to remain within the bounds of societal acceptance. A high leverage ratio restricts a company's flexibility to allocate funds toward sustainability programs. Consequently, agency theory posits that capital structures with a high debt ratio can lead to a misalignment of interests between management and creditors, because when corporate borrowers face the choice between servicing debt obligations and investing in long-term sustainability, they tend to prioritize the former over the latter, further exacerbating ESG-related risk exposure. A company burdened with heavy debt has relatively less capacity to enhance environmental, social, or governance performance. The company's legitimacy may therefore be threatened by its inability to meet public expectations.

Leverage can also act as a factor that moderates the negative impact of ESG risk; according to legitimacy theory, high leverage belongs to the category of factors that undermine a company's ability to meet societal expectations, particularly when financial instability heightens stakeholder sensitivity. The impacts are expected to be greater for high-debt companies: accustomed to financial constraints, these companies generally lack the resources needed to respond quickly to sustainability pressures. This can further compress profitability.

Previous research reinforces this view. Putri & Mulyantini (2025) find an association between high leverage and low corporate sustainability quality. Leverage was also identified as a factor that prevents a company from responding to ESG demands (Palupi, 2024). This could amplify the negative effect of ESG risk on company performance.

Therefore, it is posited that at a higher level of debt burden, a company has less flexibility to address ESG risk. This creates a stronger negative relationship between sustainability risk and profitability. The following hypothesis is therefore proposed:

H3: Leverage strengthens the negative effect of ESG Risk Rating on company profitability.

METHOD

This research employed a quantitative approach using Moderated Regression Analysis (MRA) to analyze the influence of ESG Risk Rating on profitability and whether firm size and leverage as moderating variables weakened or strengthened this relationship. This method was chosen for its ability to offer thorough analysis comprising both direct effects and moderation effects within a single regression model. Data were sourced from Sustainalytics ESG Risk Ratings and the 2023 annual reports published on the Indonesia Stock Exchange. The main variable representing the sustainability risk of a company was the ESG Risk Rating, whereby a higher score indicates a higher level of ESG risk.

The population of this research was all companies listed on the Indonesia Stock Exchange. A purposive sampling technique was used to determine the research sample based on specific criteria, meaning that selected companies were required to have relevant and complete data for analysis purposes. The criteria were as follows: 1) the company was listed on the IDX; 2) it had a published ESG Risk Rating score (sourced from the Sustainalytics website); 3) it had presented a complete annual report; and 4) it possessed all the required data components for the research. Based on the selection process, 76 companies were obtained as the final sample. The sampling details are shown in Table 1.

Table 1. Research Sample

No	Sample Criteria	Number
1	Companies listed on the Indonesia Stock Exchange for the 2024 period	964
2	Companies that did not publish ESG scores on the Sustainalytics website for the 2024 period	(855)
3	Companies that did not present complete annual reports on the IDX or official company website for 2024	(1)
4	Companies that lacked complete research data for 2024	(32)
	Number of companies used	**76**

Source: Results of Development by Researchers (2025)

The research variables consisted of ESG Risk as the main independent variable, Net Profit Margin as the dependent variable, and firm size and leverage as moderating variables. To ensure clarity and accuracy of measurement, all variables were operationally defined as listed in Table 2.

Table 2. Operationalization of Research Variables

Variable	Operational Definition	Measurement
ESG Risk Rating	Sustainability risk score from Sustainalytics describing the level of exposure and management of company risk related to environmental, social, and governance aspects. A higher score means greater ESG risk.	ESG Risk Rating Score from Morningstar Sustainalytics
Profitability	The company's ability to generate net profit from its sales activities.	NPM (Net Profit Margin) = Net Income / Net Sales
Firm Size	The scale of company operations describing economic capacity and resources.	Ln (Total Assets)
Leverage	The level of company dependence on debt financing.	Total Debt / Total Assets

Source: Results of Development by Researchers (2025)

This research used Moderated Regression Analysis (MRA) to test the direct effect of ESG Risk Rating on profitability and to test the role of firm size and leverage as moderating variables. The moderation regression model in this study used a combined interaction approach (full model), so the effect of ESG Risk Rating is tested together with two moderating variables and two interaction variables. The regression model used in this study is formulated as follows:

$$\text{NPM}_i = \beta_0 + \beta_1 \text{ESG}_i + \beta_2 \text{Size}_i + \beta_3 \text{Lev}_i + \beta_4 (\text{ESG}_i \times \text{Size}_i) + \beta_5 (\text{ESG}_i \times \text{Lev}_i) + \epsilon_i$$

Description:
NPM = Net Profit Margin as an indicator of profitability.
ESG = ESG Risk Rating indicating the level of sustainability risk.
Size = firm size as the first moderating variable.
Lev = leverage as the second moderating variable.
ESG × Size = interaction to test whether firm size weakens or strengthens the effect of ESG on profitability.
ESG × Lev = interaction indicating whether leverage strengthens or weakens the effect of ESG on profitability.

All data were analyzed using SPSS software. The initial analysis step was conducted through descriptive statistics to describe data characteristics based on mean, median, standard deviation, and range of minimum and maximum values. After that, classical assumption tests were conducted to ensure the feasibility of the regression model, including residual normality test using Kolmogorov--Smirnov, multicollinearity test based on Variance Inflation Factor and Tolerance values, and heteroscedasticity test using the Glejser test. After all assumptions were met, MRA analysis was conducted to test the effect of ESG Risk on profitability and to assess whether this relationship changes due to interaction with other variables in the research model.

RESULTS AND DISCUSSION

Results

Statistical analysis was conducted to test the effect of ESG Risk on profitability and the role of firm size and leverage as moderating variables. Before entering the hypothesis testing stage, descriptive statistical analysis was conducted to obtain an initial overview of the research data characteristics. The descriptive test results shown in Table 3 indicate that ESG Risk scores among companies have considerable variation. The average ESG Risk value of 30.19 indicates that most companies are in the medium sustainability risk category, based on Sustainalytics' classification framework, in which scores of 20–40 indicate medium unmanaged risk. Those with scores nearest

the lower threshold safely have low ESG risk status, and those achieving higher scores carry a sustainability risk that may be more significant and could threaten operational stability or business reputation.

Table 3. Descriptive Statistics of Research Variables

Variable	N	Minimum	Maximum	Mean	Std. Dev.
ESG Risk	76	6.70	61.52	30.19	11.14
Size	76	26.57	35.23	31.22	1.54
Leverage	76	0.11	0.94	0.46	0.22
NPM	76	−15.40	74.86	12.38	14.72

Source: Results of Development by Researchers (2025)

Other variables such as firm size, leverage, and Net Profit Margin (NPM) also show much variability. The firm size is quite limited since firms in the sample are similar with respect to asset scale. A much wider dispersion is observed in leverage, which reflects more substantial differences in relative funding structures. On the other hand, NPM is also the most variable, with values ranging from negative to very high. Negative values of NPM indicate cost pressure or inferior operational efficiency, while extremely high values point to strong operational performance. This variation demonstrates that Indonesian companies are highly heterogeneous, due to differing business strategies, varying management policies, and sustainability risk management perspectives.

All in all, the descriptive statistics findings indicate an economically diverse sample of companies by risk profile, capital structure, and profitability. This heterogeneity provides a solid empirical foundation for further investigation of the relationships between variables in the moderated regression model, as these differences permit testing the impact of ESG risk under various corporate conditions more exhaustively.

The R^2 value from the Coefficient of Determination Test in Table 5 indicates that 23.8% (R^2 = 0.238) of the profitability performance reflected by NPM can be explained by the independent variables (ESG risk and moderating variables), while the remaining percentage is influenced by external environmental factors such as industry conditions, operational policies, and macroeconomic factors (KS). This value is relatively low for cross-company data, since profitability is driven by many non-financial and non-sustainability factors.

Table 4. Coefficient of Determination Test Results (R^2)

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	0.488	0.238	0.207	13.109

Source: Results of Development by Researchers (2025)

ESG Risk affects Profitability

Hypothesis 1 posits that ESG Risk has a negative effect on Corporate Profitability. The coefficient of −2.418 (p = 0.005) for ESG Risk suggests that, holding other variables at their means, a unit increase in ESG Risk Rating score is associated with a decrease in net profit margin by 2.418 percentage points on average. The negative and statistically significant coefficient provides empirical support for H1, indicating that unmanaged sustainability risk lowers profitability directly.

This result conceptually aligns with the perspectives of legitimacy theory and stakeholder theory, which highlight that companies need to maintain equilibrium with their social environment and operational sustainability. The greater the ESG risk of a company—such as reliance on unsustainable raw materials, labor disputes, or poor governance practices—the higher the economic costs incurred. These burdens can include mitigation costs, regulatory fines, operational inefficiencies, and reputational damage, resulting in diminished stakeholder trust.

Nonetheless, previous research Dinarjito (2024) and Carreira (2025) established that high ESG risk has a negative effect on financial performance due to increased operational costs and reputational risk. Furthermore, research by Chen and Xie (2022) indicates that high ESG-risk

firms face financial pressure owing to the erosion of investor confidence. Consistent with these findings, the present study reinforces the case that companies failing to manage ESG risk will find themselves less profitable.

This study suggests that when ESG risk rises, firms will need to devote more resources to regulatory compliance, sustainability audits, operational upgrades, or social issue management. These expenditures eat into profit margins, as indicated by the drop in NPM. Therefore, this finding further validates that ESG Risk is more than just a non-financial issue but carries actual economic implications for corporate profitability. These results confirm that H1 is supported.

Table 5. Hypothesis Testing Results

Model	Coefficient (B)	Sig.	Interpretation
ESG Risk →Profitability	-2.418	0.005	Negative and significant effect
ESG×Size → Profitability	0.094	0.001	Firm size mitigates (buffers) the negative ESG–NPM relationship
ESG×Leverage → Profitability	-0.839	0.001	Leverage amplifies the negative ESG–NPM relationship

Source: Results of Development by Researchers (2025)

Discussion

The Role of Firm Size in Moderating the Effect of ESG and Profitability

The interaction of firm size with ESG risk has a positive and significant coefficient (B = 0.094; Sig. = 0.001). This finding provides evidence that firm size plays the role of a buffer to mitigate the impact of ESG risk on profitability: as firm size increases, the adverse impact of ESG risk on financial performance slows down. In particular, larger companies have more resilience against sustainability pressures, with relatively little impact on profitability outcomes. Larger companies tend to have more resources—in terms of technology, capital, and management competence—to better support effective risk management and response processes related to ESG factors. Thus, large companies, with their available resources, can invest in sustainability, enhance governance, lower environmental risk, and be better equipped to respond to social pressures compared to small companies, thereby mitigating the decline in profitability attributable to high ESG risk.

According to signaling theory, larger firms have a greater incentive to preserve reputation and credibility in the eyes of the market. The larger the firm, the more attention it attracts from the public, investors, and regulators, as positive sustainability signals are particularly valued for large companies that act responsibly, especially in terms of managing sustainability risk. This has the dual benefit of enhancing stakeholder confidence and bolstering the broader perception that the company is capable and prepared to tackle ESG risks. This indicates that while ESG risk significantly affects the profitability of larger firms, its negative impact is moderated by firm size.

The tests show that H2 is supported. This outcome is consistent with the findings of Nguyen (2024), who also shows that larger firms display more resilience to ESG risk exposure based on their relatively higher adaptive capacity, managerial flexibility, and resource availability. These results further substantiate that firm size is among the strongest boundary moderators in the relationship between ESG risk and financial performance. Thus, firm size does not simply serve a structural role in categorizing firms but more importantly serves as an effective substantive moderator that mitigates the risk-related financial impact of sustainability risk—an observation with practical implications for risk-rated investment decisions.

The Role of Leverage in Moderating the Effect of ESG and Profitability

Budgets for ESG risk management, which include sustainability audits, environmental standards, and governance improvements, are typically subordinated in firms with high leverage, as these firms must first address their creditors. In companies that do not allocate sufficient resources to manage those risks, ESG risk exposure increases. This not only adds to potential operational costs and regulatory compliance burdens but also amplifies reputational

consequences, leading directly to decreased confidence from both investors and consumers. This means that a company with high leverage will be more sensitive to exogenous shocks (i.e., external conditions), as its capital structure lacks sufficient flexibility to absorb the additional costs derived from managing sustainability risks.

This study, therefore, presents results that support H3. This finding is consistent with the research results of Tang (2024), as highly leveraged companies suffer more from financial stress and therefore have a reduced ability to respond to ESG risk. This condition aligns with the agency theory perspective, wherein a capital structure dominated by debt leads to decision-making conflicts between management and creditors when such companies are confronted with the choice between fulfilling creditor claims or making long-term investments in sustainability programs that do not offer immediate benefits. In the context of financial stability, ESG risk is seen as an additional source of friction that can threaten financial equilibrium, thereby sharpening its impact on profitability in highly leveraged companies.

In sum, when ESG risk is high, the negative effect on profitability is magnified in highly leveraged firms due to their limited financial flexibility. This reveals capital structure as a central contingency factor shaping the sustainability–performance relationship and treats leverage not merely as an accounting-driven indicator but also as a predictor of firm-specific preparedness to address ESG stakeholder pressures.

CONCLUSION

The empirical study results demonstrate the negative and statistically significant effect of ESG Risk Rating on corporate profitability (B = −2.418; p = 0.005) among Indonesian listed companies**, supporting the hypothesis that** unmitigated sustainability risks bear quantifiable financial consequences consistent with theory. The moderation analysis indicates that this negative effect is buffered by firm size (B = 0.094; p = 0.001) and amplified by leverage (B = −0.839; p = 0.001). These results add to the ESG–Performance literature in emerging markets, where governance stability and ESG reporting frameworks diverge considerably from those of developed nations.

Conceptually, these results extend shareholder theory and signaling theory by revealing that capital structure and firm size are particularly important structural characteristics of firms moderating the financial consequences of sustainability risk. In practice, these findings recommend that three groups of stakeholders reconsider their current practices: corporate managers, who should incorporate ESG risk management into fundamental financial models; institutional portfolio managers, who should supplement their traditional measures of leverage and size with firm ESG risk profiles as they build investment portfolios; and regulators**, who should** strengthen mandatory ESG risk disclosure requirements in order to improve market transparency.

This study employs one-year data, following the rationale that at present ESG Risk Rating from Sustainalytics releases coverage for Indonesian companies only sporadically across years. Since only recently some companies began receiving or disclosing ESG Risk scores, the panel data could drastically reduce the sample size. The reason for choosing one-year data was to ensure homogeneity and completeness of observations, but this condition is also a limitation as long-term trend analysis of ESG Risk dynamics and company profitability cannot be performed. As a result, future research is encouraged to expand time coverage when ESG data becomes more robust and include different profitability indicators and analysis techniques to paint a clearer picture of how ESG factors contribute to corporate financial performance.

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AUTHOR CONTRIBUTION STATEMENT

Syurmita has developed the research idea, researched outline and let the overall study. Welkom collected data, performed statistical analyses (SPSS), and assisted with interpretation of results. Khansa Chikita Rayesha contributed to literature review development, data extraction and manuscript preparation. All authors gave their approval for publication of the final version and contributed to revision of the manuscript.

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