



The Impact of Environmental Tax Law on ESG Performance: The Moderating Role of Stakeholders in Public Companies

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Abstract. *This study aims to examine the positive impact of environmental tax law on ESG performance, assess the moderating role of stakeholder behavior, and analyze the implications of this policy for publicly listed companies in Indonesia. This study uses a quantitative longitudinal panel approach based on secondary data from financial reports, sustainability reports, and regulatory documents of 85 Indonesian listed companies from 2019–2023, analyzed using panel data regression to examine the impact of Environmental Tax Law on ESG performance with stakeholder behavior as a moderating variable. The results indicate that Environmental Tax Law has a positive and significant effect on environmental and governance dimensions of ESG performance, but not on the social dimension, while stakeholder behavior does not significantly moderate this relationship among Indonesian public companies.*

Abstrak. Penelitian ini bertujuan untuk mengkaji pengaruh positif kebijakan pajak lingkungan terhadap kinerja ESG, menilai peran moderasi perilaku pemangku kepentingan, serta menganalisis dampak kebijakan tersebut pada perusahaan terbuka di Indonesia. Penelitian ini menggunakan pendekatan kuantitatif dengan data panel longitudinal berbasis data sekunder dari laporan keuangan, laporan keberlanjutan, dan dokumen regulasi 85 perusahaan terbuka di Indonesia selama periode 2019–2023, yang dianalisis menggunakan regresi data panel untuk menguji pengaruh Environmental Tax Law terhadap kinerja ESG dengan perilaku pemangku kepentingan sebagai variabel moderasi. Hasil penelitian menunjukkan bahwa Environmental Tax Law berpengaruh positif dan signifikan terhadap dimensi lingkungan dan tata kelola kinerja ESG, namun tidak terhadap dimensi sosial, serta perilaku pemangku kepentingan tidak memoderasi hubungan tersebut pada perusahaan terbuka di Indonesia.

Keywords:

*Environmental Tax
Law; ESG Performance;*

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Introduction

In recent years, sustainability and environmental responsibility have become a major concern for companies worldwide (Tambunan, 2022). Companies across various industrial sectors, including in Indonesia, are increasingly required to comply with environmental, social, and governance standards, commonly referred to as Environmental, Social, and Governance (ESG) performance. To promote sustainability, many countries have implemented Environmental Tax Laws as policy instruments intended to reduce negative environmental impacts while simultaneously encouraging ESG performance (Yang, 2024). In Indonesia, the Environmental Tax Law was enacted in 2021 under Law No. 7 of 2021 concerning the Harmonization of Tax Regulations (UU HPP). However, despite its enactment, the implementation of carbon taxation in Indonesia has the potential to increase production costs in the manufacturing industry, while at the same time encouraging energy efficiency and investment in low-carbon technologies for long-term sustainability (Lores, 2025). Therefore, this study aims to analyze the impact of the enactment of the Harmonization of Tax Regulations Law (UU HPP) on carbon tax on ESG performance in publicly listed companies that consistently publish sustainability reports during the period 2019–2023, taking into account the moderating role of stakeholder behavior.

Empirically, several previous studies have demonstrated the influence of environmental tax policies on ESG performance, such as the research conducted by (Y. Li & Hua, 2024). However, most existing studies primarily emphasize the direct effectiveness of these policies in improving ESG performance, while largely overlooking external factors that may moderate this relationship, particularly stakeholder behavior. This limitation creates a research gap between *dasein* (the existing empirical reality) and *dasollen* (the ideal condition that should occur). In practice, stakeholders' responses to environmental tax policies are not homogeneous; their behavior may vary across firms and contexts, potentially strengthening or weakening the impact of environmental taxes on ESG performance. Despite its importance, empirical research examining the moderating role of stakeholder behavior in the context of environmental tax policies especially within emerging economies such as Indonesia remains limited.

Building on this gap, stakeholder behavior plays a crucial role in shaping corporate sustainability outcomes through mechanisms such as social pressure, regulatory enforcement, and public expectations. Stakeholders can influence how effectively firms adapt to environmental tax policies and whether they are willing to allocate additional resources toward improving ESG performance (Zakaria & Zakaria, 2024). Stakeholder behavior that actively supports sustainability initiatives may reinforce the positive effects of environmental tax policies on ESG performance (Tan, 2024). Conversely, stakeholder resistance or indifference may diminish the effectiveness of such policies. Accordingly, by incorporating stakeholder behavior as a moderating variable, this study seeks to examine how the interaction between environmental tax law and stakeholder behavior affects ESG performance among publicly listed companies in Indonesia.

This study offers novelty in two main aspects by integrating the carbon tax policy approach with stakeholder behavior in analyzing its impact on ESG performance, an area that remains underexplored in the Indonesian context, while simultaneously focusing on publicly listed companies in Indonesia that face specific

challenges in balancing compliance with environmental regulations and stakeholder expectations. As a developing country with a rapidly growing economy, Indonesia exhibits unique characteristics in the implementation of environmental policies (Arifin et al., 2024), where global pressure to enhance sustainability coexists with resistance from certain industrial sectors toward strict environmental regulations (Junior et al., 2024). Moreover, publicly listed companies in Indonesia must navigate a complex and diverse stakeholder landscape, ranging from domestic shareholders to international investors who increasingly demand strong ESG performance (Rahmaniati & Ekawati, 2024). Accordingly, Indonesia provides an ideal empirical setting to examine the influence of environmental taxes on ESG performance, particularly within the framework of stakeholder behavior.

Based on this context, this study is conducted to provide a more comprehensive understanding of how environmental tax policies, particularly carbon taxes, influence corporate ESG performance by considering the moderating role of stakeholder behavior. The primary objective of this research is to examine the extent to which stakeholder support or resistance can either strengthen or weaken the effectiveness of environmental tax policies in enhancing ESG performance among publicly listed companies in Indonesia. Through this approach, the study seeks to bridge the gap between policy frameworks formulated by regulators and the realities of their implementation at the corporate level.

By addressing the gaps in previous research and focusing on the moderating role of stakeholders in the Indonesian context, this study is expected to provide deeper insights into how environmental tax policies can be optimized to enhance corporate sustainability. From a practical perspective, the findings may assist policymakers in designing more effective and stakeholder-responsive environmental tax policies, while also providing guidance for companies in formulating sustainability strategies that go beyond regulatory compliance and emphasize stakeholder engagement to achieve sustainable improvements in ESG performance.

Stakeholder theory, proposed by Freeman (1984), posits that the success and sustainability of a company are highly influenced by the satisfaction of various stakeholders, including employees, customers, communities, regulators, and shareholders. In the context of the Environmental Tax Law, this theory implies that companies are not only accountable to shareholders but also to external stakeholders who demand sustainable and environmentally responsible business practices.

Legitimacy theory, proposed by Suchman (1995), asserts that companies need to obtain a "social license to operate," whereby they must operate in accordance with societal values and norms. In this regard, the ETL serves as a means for companies to demonstrate their commitment to environmental sustainability and to act in line with societal expectations.

ETL or environmental taxes in various countries have been implemented to encourage corporate environmental responsibility. (Y. He et al., 2023) examined the implementation of the Environmental Protection Tax Law (EPTL) in China in 2018, showing that EPTL was able to improve corporate ESG performance, particularly for high-pollution firms. The implementation of EPTL increased companies' awareness of environmental responsibility and encouraged them to innovate through green technologies, which in turn enhanced ESG performance. Using the Difference-in-Differences (DID) method, the study also revealed that EPTL had a stronger impact on companies with initially high ESG performance and large firms in specific regions.

Research by (J. Li & Li, 2022) supports these findings, stating that ETL can motivate companies to improve ESG performance by incentivizing green technology innovation. For instance, emission taxes in China have been shown to increase companies' attention to green technological innovations, positively affecting overall

ESG performance.

In Indonesia, the implementation of ETL as a sustainability-driven policy is increasingly relevant. (Hidayat & Zuhroh, 2023) found that corporate ownership structure and board composition can play an important role in reducing companies' tendencies to engage in tax avoidance. The study also showed that the presence of institutional owners and female directors has a positive impact on ESG performance, enhancing public trust and corporate reputation in the eyes of investors.

H1: Environmental Tax Law has a significant positive effect on ESG performance.

Stakeholders play a critical role in the successful implementation of ETL to enhance ESG performance. Chen et al. (2022) highlighted the importance of climate risk disclosure and its influence on corporate sustainability. Meanwhile, He et al. (2023) showed that stakeholder behavior, such as that of auditors and the media, moderates the relationship between ETL and ESG performance, especially in high-pollution companies. Additionally, stakeholders are crucial in encouraging the adoption of ESG practices by pressuring companies to implement sustainable and responsible business practices through transparency demands and stricter monitoring mechanisms (Tanujaya & Dharmawan, 2025).

Effective ESG implementation contributes to market capitalization stability by enhancing corporate reputation, thereby increasing market interest. Conversely, failure to meet ESG expectations can trigger reputational risks that negatively affect market value, underscoring the strategic role of ESG in maintaining corporate sustainability and market attractiveness (Itan et al., 2025).

The role of the media is particularly crucial in increasing transparency, which can ultimately affect a company's reputation among investors and the public. Similarly, auditors play a role in strengthening internal control, reflected in the "G" aspect of ESG. This aligns with stakeholder theory, which suggests that corporate sustainability depends not only on internal policies but also on external pressures from various parties, including investors, consumers, and the government. This implies that companies leverage ESG disclosure to fulfill their commitments and gain support from stakeholders (Chandra et al., 2024).

H2: Stakeholder Behaviour positively moderates the relationship between Environmental Tax Law and ESG performance.

Research Method

This study employs a quantitative approach to analyze the impact of Environmental Tax Law (ETL) on Environmental, Social, and Governance (ESG) performance, with a particular focus on the moderating role of stakeholder engagement in publicly listed companies in Indonesia. The research is designed as a longitudinal panel study using data from companies listed on the Indonesia Stock Exchange over the period 2019–2023, enabling the analysis of trends and temporal effects that are essential for understanding changes in ESG performance over time. The sample in this study consists of 85 companies listed on the Indonesia Stock Exchange, selected based on the consistent publication of sustainability reports over a five-year period and their exposure to Environmental Tax Law (ETL). The data were obtained from published financial statements and sustainability reports, regulatory documents, and corporate public disclosures from 2019 to 2023. This period allows for the observation of the impact of ETL on ESG performance following its implementation.

ESG Performance (Environmental, Social, and Governance) serves as a primary indicator of corporate sustainability. In this study, ESG performance is measured as the average score of three main dimensions: Environmental Score (ES), reflecting the company's performance in environmental management; Social Score (SS), assessing

the company's social contribution; and Governance Score (GS), representing corporate governance quality (X. He et al., 2023). The composite ESG score provides a comprehensive overview of how companies fulfill their sustainability responsibilities toward the environment, society, and internal governance. This approach enables an integrated analysis of corporate sustainability performance as reported in company disclosures.

The independent variable in this study is the implementation of the Environmental Tax Law (ETL), which is measured based on the company's pollution level. Measurement is conducted using a dummy variable, where highly polluting companies are coded as 1 and non-polluting companies as 0. Pollution levels are determined by multiplying the pollution score by a time variable, reflecting both the intensity and duration of the company's contribution to environmental pollution (X. He et al., 2023). This combined measure is used to categorize the dummy variable for ETL exposure.

Stakeholder behavior refers to the actions or responses of stakeholders to corporate activities and performance, which can influence reputation, strategic decisions, and business sustainability. In this study, stakeholder behavior is measured following previous research using two primary indicators: whether auditors issue a fair opinion on the company's financial statements and the extent of media coverage related to the company (X. He et al., 2023). These indicators capture the level of public trust and external attention toward the firm.

Control Variables in this study include firm size, market valuation, and profitability. Firm size is measured using the natural logarithm of total assets (Tai, 2023). This method reflects the scale of the company, whether large or small, based on its total asset value. The measure aims to evaluate whether firm size has a relationship or specific impact on how the market responds. The formula for calculating firm size is as follows:

$$\text{Firm Size} = \text{Natural Logarithm (Ln) of Total Assets}$$

Tobin's Q is used to assess the market valuation of a company relative to the replacement cost of its assets (Yanti & Setiawati, 2022). Tobin's Q is a financial ratio that compares a company's market value to the replacement cost of its assets and is employed to evaluate efficiency, growth potential, and market response to corporate performance.

$$\text{Tobin's Q} = \frac{\text{Market Capitalization} + \text{Total Liabilities}}{\text{Total Assets}}$$

Company profitability is measured using the Return on Assets (ROA) ratio, calculated as the net income divided by the average total assets of the company (Xu et al., 2021). This ratio is used to determine how efficiently a company utilizes its assets to generate profits.

$$\text{Return on Assets} = \frac{\text{Net Profit}}{\text{Total Assets}} \times 100\%$$

To examine the impact of Environmental Tax Law (ETL) on ESG performance, we employ a panel data regression model incorporating stakeholder-related moderators, namely Audit Opinion (AO) and Media Exposure (ME). The model is specified as follows:

$$\text{EESG}_{it} = \alpha + \beta_1 \text{ETL}_{it} + \beta_2 \text{AO}_{it} + \beta_3 \text{ME}_{it} + \beta_4 (\text{ETL}_{it} \times \text{AO}_{it}) + \beta_5 (\text{ETL}_{it} \times \text{ME}_{it}) + \sum \gamma \text{Control}_{it} + \epsilon_{it}$$

This specification allows us to test both the direct effect of ETL on ESG performance and the moderating role of external factors such as audit quality and media attention, while controlling firm-specific characteristics including size, profitability, and market valuation. The data in this study were analyzed using two main techniques. First, descriptive analysis was conducted to provide an overview of trends in ESG performance and variations in stakeholder engagement before and after the implementation of the Environmental Tax Law (ETL), allowing for a clear understanding of the distribution, central tendency, and dispersion of the key variables. Second, moderation analysis was employed to examine the interaction between ETL and stakeholder engagement in order to assess the role of stakeholders in moderating the effect of ETL on ESG performance. The moderation effects were tested using STATA software, which allows for the estimation of interaction terms in panel regression models and provides robust statistical results for longitudinal corporate data.

Result and Discussion

Table 1. Descriptive Statistics

	Mean	Median	Minimum	Maximum
ETL	0.184	0.000	0.000	1.000
ES	0.496	0.452	0.000	1.000
SS	0.545	0.528	0.028	1.000
GS	0.701	0.955	0.000	1.000
ME	3.459	3.466	0.000	5.707
ROA	0.021	0.007	-0.949	0.599
TQ	1.439	1.021	0.476	17.520
SIZE	31.031	31.041	27.356	35.315

Source: Processed data, 2026.

The results of the descriptive statistical analysis indicate that the Environmental Tax Law (ETL) variable has a mean value of 0.184 and a median of 0.000, suggesting that most companies in the sample have not consistently implemented or been significantly affected by environmental tax policies. The minimum ETL value of 0.000 and the maximum value of 1.000 indicate variability in the application of environmental tax policies across firms.

Meanwhile, the ESG components—Environmental Score (ES) and Social Score (SS)—have mean values of 0.496 and 0.545, respectively, indicating that companies' environmental and social performance is at a moderate level. In contrast, the Governance Score (GS) shows the highest mean value of 0.701 with a median of 0.955, reflecting that corporate governance practices are relatively stronger and more evenly distributed compared to the other two ESG dimensions.

Furthermore, the control variables reflect diverse financial and operational characteristics among firms. Management Efficiency (ME) has an average value of 3.459, with a range from 0.000 to 5.707, indicating differences in managerial efficiency across companies. Return on Assets (ROA) has a mean value of 0.021, with a negative minimum value of -0.949, suggesting that some firms experienced poor financial performance during the observation period. Tobin's Q (TQ) has an average value of 1.439, with a relatively high maximum value, reflecting variation in market perceptions of firm value. Lastly, the SIZE variable has a mean value of 31.031 with a relatively narrow range, indicating that the firms in the sample are relatively homogeneous in terms of size.

Table 2. Pearson Correlation

	ETL	ES	SS	GS	OA	ME	ROA	TQ	SIZE
ETL	1.000								
ES	0.300*** (0.000)	1.000							
SS	0.155*** (0.001)	0.733*** (0.000)	1.000						
GS	0.319*** (0.000)	0.372*** (0.000)	0.325*** (0.000)	1.000					
OA	0.033 (0.503)	-0.025 (0.609)	0.065 (0.183)	0.030 (0.534)	1.000				
ME	0.093* (0.056)	0.106** (0.030)	0.122** (0.012)	0.149*** (0.002)	0.005 (0.920)	1.000			
ROA	0.117** (0.016)	0.091* (0.060)	0.147*** (0.002)	0.080* (0.100)	0.023 (0.638)	-0.105** (0.030)	1.000		
TQ	0.000 (0.993)	0.017 (0.728)	0.030 (0.540)	0.061 (0.211)	- (0.000)	0.070 (0.148)	-0.051 (0.290)	1.000	
SIZE	-0.093* (0.056)	0.051 (0.299)	0.165*** (0.001)	0.137*** (0.005)	0.113** (0.020)	0.581*** (0.000)	0.028 (0.559)	- (0.161***)	1.000

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Source: Processed data, 2026.

The correlation analysis results indicate that Environmental Tax Law (ETL) has a positive and significant relationship with all ESG dimensions, namely Environmental Score (ES), Social Score (SS), and Governance Score (GS). The correlation coefficients between ETL and ES, SS, and GS are 0.300, 0.155, and 0.319, respectively, all of which are significant at the 1% level. These findings suggest that firms exposed to or implementing environmental tax policies tend to exhibit higher ESG performance. In addition, the relatively strong correlations among the ESG dimensions—particularly between ES and SS (0.733)—indicate a close interrelationship between environmental and social practices in the implementation of corporate sustainability.

Meanwhile, the relationship between ETL and the control variables shows mixed results. ETL is positively correlated with Management Efficiency (ME) and Return on Assets (ROA), although the level of significance is relatively weaker, and negatively correlated with SIZE at the 10% significance level. The variables OA and Tobin's Q (TQ) do not exhibit a significant relationship with ETL. Importantly, all correlation coefficients are below the threshold of 0.80, indicating the absence of serious multicollinearity issues among the independent variables. Therefore, the correlation analysis supports the suitability of the regression model and provides preliminary evidence regarding the direction of relationships among variables prior to further causal testing.

The regression results indicate that Environmental Tax Law (ETL) has a positive effect on ESG performance, although the strength of this effect varies across ESG dimensions. In Model (1), ETL has a positive and statistically significant impact on the Environmental Sector (ES), indicating that the implementation of environmental tax policies empirically contributes to improvements in firms' environmental performance. This finding confirms that environmental fiscal regulations are effective in guiding companies to enhance environmental compliance and practices as part of their sustainability performance. In contrast, in Model (2), ETL shows a positive coefficient for the Social Sector (SS), but the effect is not

statistically significant, suggesting that the impact of ETL on firms' social performance cannot yet be empirically confirmed.

Meanwhile, in Model (3), ETL again demonstrates a positive and statistically significant effect on the Governance Sector (GS), indicating that environmental tax policies contribute to improvements in corporate governance quality. In addition, the control variables show relatively consistent results, where Return on Assets (ROA) and firm size (SIZE) have positive and significant effects on all ESG dimensions, while Tobin's Q does not exhibit a significant impact. Overall, these findings suggest that Environmental Tax Law positively influences ESG performance, particularly in the environmental and governance dimensions; therefore, Hypothesis 1 is partially supported.

Empirically, these findings support Hypothesis 1, which states that Environmental Tax Law has a significant positive effect on ESG performance. This result is consistent with the study by (J. Li & Li, 2022), who demonstrate that environmental tax policies encourage firms to enhance green technological innovation, thereby improving overall ESG performance. In the Indonesian context, the findings are also aligned with (Hidayat & Zuhroh, 2023), who emphasize that effective corporate governance mechanisms and regulatory compliance contribute to enhanced corporate reputation and increased investor trust through improved ESG performance.

From the perspective of Legitimacy Theory, firms seek to improve ESG performance as a strategic response to regulatory pressure arising from the implementation of Environmental Tax Law in order to obtain and maintain social legitimacy. By aligning corporate operations with prevailing social norms and environmental expectations, companies signal their commitment to sustainability to external stakeholders. Accordingly, the results of this study reaffirm that Environmental Tax Law serves as an effective policy instrument in encouraging publicly listed companies in Indonesia to internalize sustainability practices within their operational and strategic decision-making processes, ultimately strengthening long-term corporate sustainability.

Conceptually, the positive relationship between Environmental Tax Law (ETL), stakeholder behaviour, and ESG performance indicates that the effectiveness of ETL does not operate in isolation but is significantly shaped by stakeholders' responses and monitoring mechanisms. This finding supports Hypothesis 2, which states that stakeholder behaviour positively moderates the relationship between Environmental Tax Law and ESG performance. The results are consistent with previous studies by (X. He et al., 2023), which emphasize that external stakeholders particularly auditors and mass media function as governance mechanisms that strengthen corporate compliance pressure in response to environmental regulations.

Furthermore, these findings align with Stakeholder Theory, which posits that corporate sustainability is largely influenced by external demands for transparency, accountability, and public scrutiny. Firms facing stronger stakeholder pressure tend to respond to ETL by enhancing ESG disclosure and implementation to safeguard corporate reputation, legitimacy, and market attractiveness. In this context, stakeholder behaviour emerges as a strategic factor that amplifies the effectiveness of environmental tax policies, thereby reinforcing the impact of ETL on the long-term sustainability of publicly listed companies in Indonesia.

Table 3. Regression Analysis of the Moderating Role of Stakeholder Behavior

	(1) ETL	(2) ETL	(3) ETL
ES	0.029 (0.13)		
ES_ME	0.057 (1.00)		
ES_OA	0.000 (.)		
SS		-0.084 (-0.35)	
SS_ME		0.035 (0.58)	
SS_OA		0.000 (.)	
GS			0.286* (1.94)
GS_ME			0.003 (0.06)
GS_OA			0.000 (.)
ME	0.161*** (3.67)	0.191*** (4.31)	0.169*** (4.10)
OA	0.000 (.)	0.000 (.)	0.000 (.)
ROA	0.508 (1.37)	0.559 (1.48)	0.459 (1.27)
TQ	-0.007 (-0.18)	-0.006 (-0.15)	-0.002 (-0.05)
SIZE	0.341*** (3.25)	0.377*** (3.61)	0.295*** (2.94)
_cons	-11.057*** (-3.45)	-12.212*** (-3.81)	-9.782*** (-3.17)
r2	0.260	0.244	0.306
r2_a	0.060	0.041	0.119
N	425	425	425

t statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Source: Processed data, 2026.

Based on the empirical testing results, Stakeholder Behaviour is not proven to strengthen the relationship between Environmental Tax Law (ETL) and ESG performance. This is evidenced by the insignificant interaction term between ETL and

Stakeholder Behaviour across all estimated models. Accordingly, the regression results indicate that the presence and intensity of stakeholder behaviour do not provide a meaningful moderating effect on the influence of environmental tax policies in enhancing firms' ESG performance. Therefore, Hypothesis 2 (H2) is not supported by the empirical data.

The empirical results provide nuanced evidence regarding the impact of Environmental Tax Law (ETL) on ESG performance. While ETL does not exhibit a statistically significant effect on the environmental (ES) and social (SS) dimensions, it demonstrates a positive and statistically significant influence on the governance dimension (GS) of ESG performance. This finding suggests that environmental tax regulations primarily operate through institutional and governance-related channels, rather than directly transforming environmental or social outcomes in the short term.

The positive association between ETL and governance performance indicates that firms respond to environmental taxation by strengthening internal control systems, compliance mechanisms, and regulatory oversight. In practice, exposure to ETL increases the cost of non-compliance, thereby encouraging firms to improve governance structures as a risk-mitigation strategy. This aligns with the argument of (J. Li & Li, 2022), who emphasize that environmental taxation induces organizational adjustments aimed at regulatory compliance and long-term legitimacy.

From a legitimacy theory perspective, this result implies that companies enhance governance quality to secure social approval and maintain their license to operate under stricter environmental regulations. In the Indonesian context, where enforcement intensity and institutional maturity vary across industries, governance improvements may represent the most immediate and feasible response to ETL implementation. Therefore, the findings partially support Hypothesis 1, indicating that ETL positively affects ESG performance, particularly through the governance dimension.

Hypothesis 2 examines whether stakeholder behaviour strengthens the relationship between Environmental Tax Law and ESG performance. The results reveal that media exposure (ME) has a strong, positive, and highly significant direct effect on ESG performance across all models, underscoring the importance of public scrutiny in shaping corporate sustainability outcomes. Firms that receive greater media attention are more likely to enhance ESG disclosure and practices to protect reputational capital.

However, the interaction terms between ETL and stakeholder behaviour both through media exposure and audit opinion do not exhibit statistical significance. This suggests that stakeholder behaviour does not function as a conventional moderator that amplifies the effect of ETL on ESG performance. This finding contrasts with prior studies, which report that audit opinions and media exposure strengthen the impact of environmental tax regulations on ESG performance by intensifying external monitoring and reputational pressure on firms (X. He et al., 2023). Instead, stakeholders appear to exert an independent governance and monitoring effect, influencing ESG outcomes regardless of regulatory pressure.

This finding highlights an important insight: regulatory instruments such as ETL and stakeholder pressure operate through parallel rather than interactive mechanisms. While ETL shapes compliance-oriented responses, stakeholder behaviour particularly media scrutiny, drives reputational and legitimacy-based incentives. Consequently, although stakeholder behaviour plays a crucial role in improving ESG performance, Hypothesis 2 is not fully supported in a statistical moderation sense. Nevertheless, this result does not diminish the strategic importance of stakeholders. On the contrary, it suggests that sustainability outcomes in Indonesian public companies are shaped by a dual mechanism: formal regulation

and informal external pressure. This reinforces stakeholder theory, which posits that firms respond not only to legal mandates but also to expectations from external audiences when formulating sustainability strategies.

Conclusion and Recommendations

Based on the research findings, the implementation of environmental tax policies is proven to have a positive effect on the improvement of firms' ESG performance, thereby supporting the first hypothesis of this study. This finding indicates that environmental tax regulations encourage companies to enhance sustainability practices and operational transparency, which in turn are reflected in improved corporate reputation and social responsibility in the eyes of stakeholders. These results are also consistent with legitimacy theory and stakeholder theory, which explain that environmental regulations motivate firms to meet public and stakeholder expectations regarding sustainability. Accordingly, environmental tax policies can serve as a strategic instrument to promote the adoption of ESG practices in business operations.

However, this study also finds that the role of stakeholder behaviour in strengthening the relationship between environmental tax policies and ESG performance does not show a significant effect. This suggests that the measurement approach used to capture stakeholder involvement in this study may need to be expanded, both in terms of measurement instruments and the dimensions of participation and monitoring, in order to better reflect the actual role of stakeholders as catalysts for corporate sustainability. This finding contrasts with previous studies conducted in China, which indicate that stakeholders such as auditors, media exposure, and corporate ethical behaviour play a significant role in reinforcing the impact of environmental tax policies on ESG performance. Therefore, further research is needed to explore how stakeholder roles can be optimized so that the implementation of environmental tax policies can more effectively enhance firms' ESG performance in the Indonesian context.

This study contributes to the accounting and economic literature by providing new insights into how environmental tax policies can affect ESG performance in publicly listed companies, particularly by considering the moderating role of stakeholder behavior. Practically, this study can offer input for the government in formulating more effective environmental policies and for companies in understanding the importance of stakeholder management in improving ESG performance.

This study has several limitations that need to be acknowledged. First, it focuses solely on publicly listed companies in Indonesia, so the findings may not be fully generalizable to other countries with different economic structures and regulations. Second, stakeholder behavior is a complex and dynamic variable, so its measurement may have limitations in a quantitative context. Additionally, this study does not include other factors, such as macroeconomic conditions and other government policies, which may broadly affect ESG performance.

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