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The Link Effect of ESG Score, Stock Price Volatility, and Tax Payment: Doing Well while Doing Good

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Abstract

This study aims to identify how environmental, social and governance (ESG) performance influences stock price volatility, explicitly focusing on the moderating role of tax engagement. ESG performance is measured by an ESG Score calculated from the weighting of three dimensions: environmental, social and governance. Stock price volatility is measured by the degree of price variations over 12 months based on the last 52 weeks' prices. A sample of Indonesia-listed firms is used, with 770 observations from 2023. The results show that the ESG Score negatively impacts stock price volatility, which is more significant in the social dimension than in the environmental and governance dimensions. In addition, the tax payment variable moderates the relationship and increases the effect of the ESG Score on stock price volatility. These findings suggest that ESG practices and tax transparency are ethical elements and critical components for financial stability, promoting the high-quality development of listed firms. This study is significant for firms, regulators, policymakers and investors. Overall, it underrates the importance of firms adopting ESG activities and engaging in tax management to mitigate risks and maintain viability in the contemporary business environment. This study provides new empirical evidence regarding the factors driving corporate stock price volatility. In addition, it offers pertinent policy recommendations for businesses and governments regarding the significance of ESG investments.

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Introduction

Environmental and climate change strategies have increasingly become a part of business practice and research (Jung et al., 2018; Nuber et al., 2020). The increasing pressure of these climate changes has led investors and firms to recognize the importance of environmental, social and governance (ESG) practices. ESG involves investing in activities that integrate ESG criteria into business practices, aiming to generate financial returns while contributing positively to society and the environment. According to Yu et al. (2023), Torres et al. (2023) and Broadstock et al. (2021), ESG criteria enable the evaluation of a firm's corporate social responsibility (CSR) approach and form an essential basis on which investors can make investment decisions.

While numerous studies have explored the role of ESG criteria in investment decisions, there needs to be more research on the impact of ESG performance on financial market variables such as firm valuation, returns, and systemic risks. This study aims to fill this gap, building on the findings of (Benlemlih & Girerd-Potin, 2017; Chollet & Sandwidi, 2018; Guan, 2016; and Mei & Zhang, 2023). These studies suggest that good ESG performance can help reduce the risk associated with crisis shocks and enhance and stabilize stock prices. However, Cai et al. (2023) argue that achieving good ESG performance requires solid financial resources.

Furthermore, Liu et al. (2024) and Davis et al. (2016) have focused on the role of government incentives, such as tax incentives and tax payments, in responsible investment activities. They suggest that CSR and tax payments can act as substitutes. In our work, we aim to explore the role of ESG activities in reducing risks, particularly the volatility of stock prices, while emphasizing the critical role of tax incentives in promoting these practices in the Indonesian market during the year 2023. The selection of the Indonesian context is motivated by several reasons: First, the listed firms of IDX are characterized by the diversity of sectors of activity, such as finance, energy, telecommunications, consumer products, technology and health. This allows us to have an overview of the performance of large Indonesian firms and to analyze the impact of ESG performance on the volatility of stock prices in different sectoral contexts.

Indonesia, a country of significant importance in the global economy, serves as a compelling context for our research. It attaches great importance to CSR and has put in place policies encouraging firms to adopt sustainable practices. In 2015, it required active management firms in all countries and intentional investors to share information on methods for integScore ESG factors into investment decisions (Singh & Misra, 2021). Second, tax practices are a growing concern in many countries, including Indonesia. The latter is ranked the twentieth state in the G20 with the highest average effective tax rate (OECD, 2022). Our choice of this specific context of listed firms of IDX in Indonesia at 2023 allows us to compare the practices of different firms over time and see how they have evolved. Since IDX firms are considered major players in the financial markets and have a significant influence on the national and international economy, their financial performance and ESG practices can have a significant impact on stock markets and investors' perceptions.

The paper makes several significant contributions. First, it sheds light on the impact of ESG investment on stock price volatility, aligning with findings by Boubaker et al. (2020) and Umar et al. (2023). Such investments are crucial in reducing information disparities, boosting investor confidence and providing insurance-like protection during challenging periods. Second, the study offers valuable insights into the context of Indonesia. Indonesia is a developed Asian country with a CSR-oriented strategic system. It actively invests in ESG practices to underscore its dedication to sustainable development and attract responsible investors sensitive to these values. Consequently, the study presents a concrete framework

illustrating the importance of ESG investment in such a robust sector. Third, we contribute to the existing literature by offering crucial insights into the role of tax payment in the relationship between ESG practices and stock price volatility. This enhances our understanding of how taxation influences corporate behaviours regarding sustainable practices and the subsequent impact of these practices on risk reduction.

Literature Review

The ESG status has been a topic of interest for scholars and investors alike. ESG, encompassing a firm's ESG activities, is a broader concept than CSR. While CSR models refer to the activities of a firm in promoting social responsibility and corporate citizenship, ESG, as specified by Zhou and Zhou (2021), focuses on how firms and investors integrate ESG issues into their business models. The impact of such investment activities on corporate performance can be significant, leading to changes in systematic risk, investor sentiment, asset prices and sustainability. Scholars have investigated the performance of ESG activities under various theories, such as the agency theory of Jensen and Meckling (1976), the stakeholder theory of Freeman and Reed (1983), the justice and beneficence theories of Brown and Forster (2013), the corporate culture theory of Fleischer (2006) and risk management theory of (Godfrey, 2005). In line with prior studies, this study adopts the signalling, legitimacy and risk management theories to understand the consequences of ESG activities.

According to the legitimacy theory, firms adopt ESG/CSR practices to gain the trust of stakeholders, protect themselves in times of crisis and assure the stability of the financial markets. Under the signalling theory, disclosing information related to the investment in ESG activities reduces information asymmetry with stakeholders (Ross, 1977). Signalling theory seeks to understand how investors interpret firms' ESG practices and how this influences their investment decisions. Furthermore, according to Godfrey's risk management theory (2005), companies intentionally enhance their CSR activities to mitigate reputation risks associated with tax avoidance practices. They seek to protect shareholder interests by avoiding negative reputational consequences. This theory suggests that companies will intensify their CSR efforts to counteract the adverse effects on their reputation associated with tax avoidance practices to prevent a decrease in stock prices and loss of customers.

Empirically, numerous studies have explored the ESG status as a risk avoidance strategy, examining single events or countries and broader contexts. While several studies have found negative relationships between ESG activities and risk/crisis events, these results vary based on the specific event, context and period examined. Different methodological approaches guide this research. For instance, Benlemlih and Girerd-Potin (2017) and Chollet and Sandwidi (2018) found a significant negative influence of environmental and social disclosures on total risk. This negative effect was due to information transparency, which strengthened the reputation and trust of stakeholders. These authors revealed that a firm's good social and governance performance reduced its financial risk, reinforcing its commitment to good governance and environmental practices. This effectiveness was also proven during periods of crisis by (Zhou & Zhou, 2021). These authors studied the effect of ESG performance and stock price volatility in a public health crisis. Their findings show that good ESG performance helped reduce the increase in stock price volatility due to the COVID-19 shock and enhanced and stabilized stock prices. This result is confirmed by Khanchel et al. (2023) in the context of Indonesia. These authors revealed that firms committed to CSR were less affected, and their stock prices were relatively resistant to the crisis. Engelhardt et al. (2021) found that firms with high environmental and social Scores faced lower share price returns and volatility in European countries during the COVID-19 pandemic. There is evidence that the impact of environmental Scores depends on the industry in which a firm operates.

In particular, social responsibility is expressed through ethical and transparent behaviour, which is consistent with the principles of sustainable development and the well-being of society. Hopkins (2006) proves that it considers stakeholders' expectations, respects applicable laws, meets international standards, and is a great organization. In this context, Shakil (2021) and Nuhu and Alam (2024) emphasized the importance of board gender diversity in the relationship between ESG and financial risk. They showed that board gender diversity adversely influences total and systematic risk. This gender diversity motivates firms to take action toward society and the environment to ensure the firm's positive reputation.

On the contrary, other work disclosed that integrating ESG criteria was complex; it required financial resources and significant initial investments (such as switching to renewable energies, improving working conditions or modifying production processes to reduce the environmental footprint). Torricelli and Bertelli (2022) also indicated that firms must adapt to new regulations related to the environment, safety standards or other social requirements. These changes may result in additional costs to comply with these regulations. Moreover, Kacem and Omri (2022), Abid and Dammak (2022) and Cai et al. (2023) highlighted that if a firm does not fulfil its ESG commitments, this can negatively impact its reputation and its market value. Also, Ben Mohamed et al. (2024) specify that ESG activities are crucial in building a solid reputation for the firm's performance.

On the other hand, some governments or tax authorities offer incentives or tax benefits to encourage ESG investments and overcome financial constraints. Davis et al. (2016) studied the link between tax payments and CSR elements, investigating whether they function as complements or substitutes for each other. They found that CSR activities had a negative relationship with tax payments. This result indicates that socially responsible firms do not pay more corporate taxes than other firms, suggesting that CSR and tax payments act as substitutes. This finding confirms the conclusions of (Godfrey (2005) and Gardberg & Fombrun, 2006).

In addition, Drempetic et al. (2019) and Theiri et al. (2023) conclude that investors and shareholders are increasingly cautious in their investment decisions. A firm with a good reputation can strengthen its standing by disclosing more information about its ESG performance. Stakeholder concerns are not only limited to the amount of profits or dividends generated and distributed by businesses but also include how businesses contribute to the welfare of humanity and society. However, Tasnia et al. (2020) demonstrated that firm performance and risks were sensitive to ESG activities in the US context. In addition, their results found a non-significant effect of tax payment on ESG. These results imply that shareholders are not interested in paying more taxes so that they may seek alternative market strategies rather than higher taxes. This finding contradicts those by Lanis and Richardson (2014), who revealed that more socially responsible firms would likely engage in less tax avoidance. Vo and Mazur (2023) studied the link between tax avoidance behaviour and corporate risk tolerance. They applied the system generalized method of moments methodology to a sample of 334 listed firms in Vietnam from 2008 to 2020. Their results showed that firms' risk-taking level was linked to their level of tax avoidance, depending on the size of the board of directors and the supervisory board. Higher (or lower) risk-taking was associated with higher (or lower) tax avoidance when the size of these governance bodies was respectively greater (or less) than six members for the board of directors and three members for the supervisory board. Kiesewetter and Manthey (2017) confirmed that good corporate governance can help reduce corporate tax rates.

However, despite the growing body of literature on this topic, some limitations and gaps warrant further exploration. One significant gap in the literature is the need for a comprehensive understanding of the impact of ESG investment on a firm's activities across different types of regulations and events. While

some research indicates a negative impact of ESG activities on crisis events, especially during the COVID-19 crisis, other studies suggest that factors such as tax payment and board gender diversity may also play a crucial role in adopting ESG activities. In addition, differences in regulatory contexts across studies and the selection of diverse contexts pose challenges in drawing definitive conclusions about the relationship between ESG activities and stock price volatility. Furthermore, the impact of environmental Scores may vary depending on the industry in which a firm operates. To address these gaps, it is crucial to consider these factors when examining the relationship between ESG activities and stock price volatility and clarify the nature of this relationship. The two principal hypotheses of this study are as follows:

H1: *ESG Score negatively impacts stock price volatility*

H2: *Tax payment moderates the relationship between the ESG score and stock price volatility*

Research Methods

Sample and Data Source

The research sample consisted of all firms listed in IDX in 2023. Each firm's annual reports were collected from the IDX website. ESG Scores were obtained from the Sustainalytics data bank, considering that the Indonesia Capital market uses the Sustainalytics Score to measure the ESG Score. The sample selection was based on two primary conditions: the availability of all necessary data and the firms not being merged or delisted during the study period with publicly traded shares. This selection approach resulted in a sample of 770 firms out of 775 potential observations, as presented in Table 1.

Table 1. Sample Selection by Industry Sectors

Sector	Number of Firms
Energy	66
Basic Materials	89
Industrials	50
Consumer Non-Cyclicals	87
Consumer Cyclicals	114
Healthcare	21
Financials	143
Properties & Real Estate	80
Technology	19
Infrastructures	71
Transportation & Logistic	30
Total	**770**

Variables

Table 2. Variables Description

Variable's Type	Variable	Measurement	Sources
Dependent	Stock Price Volatility	Vol = $\sqrt{(1/n) * \sum(Ri - Rm)^2}$ ▪ Vol represents volatility ▪ n is the total number of observations ▪ Ri is the return for firm i ▪ Rm is the average return of the year	Sadorsky (2003)
Independent	ESG Score	Sustainalytics Rating Score	Whelan, et al. (2021)

Moderating	Tax Payment	Total Tax Expense/Earnings Before Tax	Hanlon and Heitzman (2010)
Control	Financial Leverage	Total Debt / Total Equity	Arhinful and Radmehr (2023)
	Market-to-Book Ratio	Market Capitalization / Book Value	Tasnia, et al. (2020)
	Dividend Yield	Dividend per Share / Current Share Price	Chollet and Sandwidi (2018)
	Return on Assets	Net Income / Total Assets	Theiri, et al. (2023)
	Firm Size	Ln (Total Assets)	Theiri, et al. (2023)

Regression Methodology

All the variables are combined in the two models. First, we test the relationship between ESG and volatility (Model 1), and second, we introduce the moderator variable ESG*ETR into the relationship (Model 2). The two regression models are presented as follows:

$$Vol_{it} = \beta_0 + \beta_1 ESG_{it} + \beta_2 ETR_{it} + \beta_3 LEV_{it} + \beta_4 Mb_{it} + \beta_5 DY_{it} + \beta_6 ROA_{it} + \beta_7 SIZE_{it} + \varepsilon it \ldots\ldots\ldots\ldots\ldots\ldots \text{Model 2}$$

$$Vol_{it} = \beta_0 + \beta_1 ESG_{it} + \beta_2 ETR_{it} + \beta_3 LEV_{it} + \beta_4 Mb_{it} + \beta_5 DY_{it} + \beta_6 ROA_{it} + \beta_7 SIZE_{it} + \beta_8 ESG*ETR + \varepsilon it \ldots . \text{Model 1}$$

Where Volit: stock price volatility of a firm (i) in a period (t); b0: is the constant and b1–8: is the slope of the controls and independent variables; ESGit is the ESG score of a firm (i) in a period (t); ETRit is the variable of tax payment for a firm (i) in a period (t); LEVit is the ratio of financial leverage for a firm (i) in a period (t); Mbit is the market-to-book ratio for a firm (i) in a period (t); DYit represents the dividend return for a firm (i) in a period (t); ROAit is the return operating assets for a firm (i) in a period (t); Sizeit is the natural logarithm of the total assets for a firm (i) in a period (t); ESG*ETR present the moderator variable; and εit is a random error.

To test the models, three tests were applied to specify the appropriate estimation method:

- the Fisher test to detect individual effects in the data;
- the Breusch–Pagan test to detect heteroscedasticity problems in the residuals and
- The Wooldridge autocorrelation test is used to detect error autocorrelation problems.

The results of these tests (Table 3) demonstrate that the feasible generalized least squares (FGLS) method is the most appropriate for the data sample (Table 3). This method is more appropriate than ordinary least square regression, as it directly accounts for the estimation's cross-sectional, heteroscedastic and serial correlations (Bai et al., 2021).

Table 3. Method estimation specification.

	Fisher Test	Autocorrelation Test	Heteroscedasticity Test
Model 1	15,78	665,192	29,20
	0,000	0,7951	(0,000)
Model 2	15,96	665,211	31,23
	0,000	0,7133	(0,000)
Analysis	Homogenic Model	No Autocorrelation Problem	Presence of Heteroscedasticity Problem

Result and Discussion

Descriptive Statistics

Table 4 shows the descriptive statistics for the variables in the two models. The results show that for the dependent variable, stock price volatility has a mean value of 0.2998, with a minimum value of 0.1312 and a maximum value of 0.8381. These initial findings are consistent with those of Shakil (2021), who studied 70 oil and gas firms worldwide from 2010–2018. Regarding independent variables, the highest ESG score is 0.9549, while the lowest is 0.179. On average, Indonesian firms have an ESG score of 0.7114. These values indicate that Indonesian firms invest more in governance practices. Also, these preliminary results indicate a high environmental performance score with low risk compared to other scores (the mean value is 0.7665, and the standard deviation value is 0.1684). The ETR variable has an average of 0.1255, with maximum and minimum values of 4.1594 and –3.5969, respectively.

Table 4. Descriptive Statistic

Variables	Sample	SD	Mean	Min	Max
VOL	770	0,11366	0,2998	0,1312	0,8381
ESG	770	0,14125	15,71	9,18	31,27
ETR	770	0,33001	0,1255	–3,596	4,1594
MB	770	2,31590	2,1462	–15,36	15,89
DY	770	2,35062	2,8558	0	19,88
LEV	770	0,14972	0,2689	0,00071	0,7584
ROA	770	0,05392	0,0442	–0,2216	0,702
SIZE	770	0,66731	7,3260	6,00272	9,4252

Concerning the specific characteristics of the firms, the average value of financial leverage is 0.2689, indicating that 26% of assets are financed by long-term debt. The average MB ratio is 2.1462. In addition, the average dividend yield and return on assets are 2.8558 and 0.0442, respectively. Finally, the size variable has an average value of 7.3260, with a relatively low standard deviation of 0.6673 from the mean. Table 5 displays the Pearson correlation coefficients for each pair of variables. The results in Table 5 show that the correlation between volatility and the other explanatory variables is below 0.8, indicating no multicollinearity problem. This result is confirmed by the variance inflation factor (VIF) test, which shows a mean of less than 2.

Table 5. Pearson Correlation Results

Variables	VIF Test
VOL	1,42
ESG	1,3
ETR	1,02
MB	1,27
DY	1,12
LEV	1,17
ROA	1,36
SIZE	1,49

Regression Analysis

Table 6 displays the results of the impact of ESG on volatility (Model 1) and the moderating role of the ETR in the ESG–volatility relationship (Model 2). To validate our results, we will test each dimension of the ESG Score on volatility. The results of the impact of ESG on volatility estimation (Model 1) reveal a significant

negative impact of the ESG score on stock price volatility at the 10% level (0.080 < 0.1), confirming H1. This finding, which aligns with Cai et al. (2023) research, underscores the importance of engagement in socially responsible activities for cash flows and public perception. ESG activities are viewed as signals to the financial market regarding a firm's performance (Zhou & Zhou, 2021).

The ETR variable revealed a positive and significant impact on the volatility of share prices at the 5% level. These results are consistent with studies of Guenther et al. (2016), who demonstrated that a higher ETR leads to greater stock volatility. This suggests that firms are utilizing their free cash flows and available reserves, earmarked for tax payments, to invest in ESG activities, thereby increasing the risk associated with returns. We observe that MB, DY and ROA are statistically significant for firm-specific variables at the 1% threshold (–0.0096, –0.0048, –0.4854), respectively. This suggests that the most profitable firms tend to exhibit lower volatility according to signalling and legitimacy theories.

Moreover, the size variable generated a significant negative coefficient (–0.0095) at the 10% level, and leverage negatively affected stock price returns. This implies that when firms are overleveraged, they face financial distress and increased stock volatility (Caskey et al., 2011). This result is consistent with Goss and Roberts (2011) findings, which showed that firms with the lowest ESG scores have a higher cost of debt.

Table 6. Regression Hypotheses Test Results

	Initial Model 1				Moderator Variable (Model 2)			
Variables	Coef.	Std. Error	Z-statistic	Prob.	Coef.	Std. Error	Z-statistic	Prob.
ESG	-0,0338	0,0193	-1,75	0,080	-0,2174	0,1112	-1,95	0,051
ETR	-0,0086	0,0040	2,13	0,043	0,1681	0,0699	2,40	0,016
ESG*ETR	-	-	-		-0,3245	0,0900	-3,60	0,000
MB	-0,0096	0,0014	-6,76	0,000	-0,0080	0,0013	-6,10	0,000
DY	-0,0048	0,0012	-3,92	0,000	-0,0049	0,0012	-4,02	0,000
LEV	-0,0179	0,0199	-0,90	0,369	-0,0357	0,01906	-1,87	0,061
ROA	-0,4854	0,0722	-6,72	0,000	-0,4931	0,06760	-7,29	0,000
SIZE	-0.0095	0,0050	-1,91	0,056	-0,0094	0,00479	-1,98	0,048
Constant	0,4169	0,0359	11,60	0,000	0,26013	0,08050	3,23	0,001
Wald chi^2	210,40				239,90			
Prob>chi^2	0,000				0,000			
Observations	770				770			
Adjusted R^2	0,716				0,559			

To clarify the role of ETR in the ESG/return volatility relationship, the results of Model 2 (Table 6) show that the moderator variable (ESG*ETR) has a negative and significant effect at the 1% level. Sharma et al. (1981) defined a moderator variable as one that systematically modifies the magnitude, intensity, direction and form of the effect of the independent variable on the dependent variable. In this case, we observe that the coefficient for ESG is –0.217, indicating a weaker effect on volatility compared to the coefficient for ESG*ETR, which is –0.324. This suggests that the interaction between ESG and ETR has a more significant effect on volatility than the ESG variable alone. Also, the probability value associated with the ESG*ETR interaction (0.000) is lower than that of ESG (0.051). This indicates that the moderator variable has effectively changed the relationship.

Moreover, ESG has a negative and significant impact at the 10 level. This is consistent with the findings of Zhou and Zhou (2021), who also observed a negative effect of ESG on volatility in the context of 1021 firms in China during 2019–2020. Regarding the control variables in Model 2, we conclude that MB, DY and ROA have a negative and significant impact at the 1%.

Discussion

The findings suggest that, firstly, when assessing the impact of the ESG Score on volatility (Model 1), the results indicate a significantly negative influence of the ESG Score on the volatility of Indonesian firms. This shows that socially responsible firms that adopt good environmental and governance practices have less volatile stock prices. This finding corroborates several studies (Shakil, 2021; Boubaker et al., 2020; Zhou & Zhou, 2021). The latter studies disclosed a negative relationship between volatility and ESG investment (accepting H1). There is a reason for this relationship. Notably, firms focus on legitimate responsibility practices by disclosing detailed and rewarding plans, thus reducing information asymmetry. Comprehensive CSR disclosure practices help mitigate information disparities and enhance investors' confidence, suggesting value enhancement by increasing stakeholder trust (Flammer, 2018; Flammer & Kacperczyk, 2019). Moreover, this can provide insurance-like protection in challenging times Bae et al. (2021), facilitated by ESG investment, which enables firms to earn good reputations and image on the financial market. Ultimately, this boosts investors' confidence, reducing panic and mass, indicating that Indonesian firms have taken CSR seriously and are better prepared to manage ESG risks Khanchel et al. (2023), reducing negative surprises that cause significant price fluctuations.

The results of introducing the ETR variable into the ESG and volatility relationship (Model 2) reveal a negative and significant effect on volatility. This finding underscores that shareholders and responsible investors are averse to investing their capital in a firm that neglects tax obligations. Lanis and Richardson (2014) indicated that when firms engage socially and implement ESG practices, this has a mitigating effect on the orientation to adopt aggressive tax approaches (accepting H2). These findings align with the research of Huseynov and Klamm (2012) who revealed that tax management should be integrated with CSR. This integration helps build stakeholder confidence, reduce reputational risks and promote a more ethical approach to corporate taxation. This can have positive implications for the firm's reputation and its relationship with stakeholders, while also contributing to low volatility (Kiesewetter & Manthey, 2017; Xiong et al., 2024). In summary, ESG practices and tax transparency are not only ethical elements, but also key components of financial stability. In addition, they greatly promote the sustainable development of listed companies. Notably, ESG practices remove the volatility of stock returns, thus strengthening the appeal for investors concerned about the stability of their investments. These criteria are considered essential in their decision-making process.

Conclusion

This study examined the relationship between ESG Scores, stock price volatilities and tax payments in large Indonesia-listed firms on IDX from 2022–2023. We used the FGLS method to address multicollinearity and endogeneity issues. The results indicate that firms integrating ESG practices experience lower stock price volatility and are better protected against risks. This suggests that responsible practices should be viewed as ethical imperatives and potential mechanisms for mitigating unpredictable market fluctuations. Second, tax payments increase corporate commitment to social responsibility practices, reducing stock price volatility. This finding underscores the importance of tax transparency and regulatory compliance in promoting ESG and financial market stability. In addition, firm characteristic variables (MB, DY, LEV, ROA and Size) hurt stock price fluctuations.

These results support earlier research on the effects of ESG strategies on a firm's risk. However, our study represents a significant advancement by incorporating tax engagement. Tax payments are a crucial variable aligned with sustainable development objectives. These findings highlight the importance of ESG practices and tax engagement in decision-making and investment strategies. They have important

implications for firms, investors and regulators: First, by adopting ESG practices, firms can enhance their financial performance and reduce the risk of price fluctuations. Integrating sustainability activities into their business models can help firms build resilience, reduce costs and attract long-term investors.

Furthermore, firms can build trust with stakeholders and demonstrate their commitment to sustainable development by ensuring transparency in tax engagement. Second, investors are more interested in companies integrating ESG activities as a critical factor in their investment decisions. Investors can make more informed decisions by considering ESG performance and tax engagement, leading to greater satisfaction and reduced risk. Third, regulators must consider tax and governance policies that encourage firms to invest in ESG activities and ensure financial stability. Implementing tax incentives for firms that adopt ESG practices or introducing disclosure requirements for ESG-related information can help promote corporate responsibility and enhance market transparency. In addition, regulators can play a critical role in promoting good practices and ensuring that firms adhere to ethical standards.

Despite the significance of our findings, this study is subject to certain limitations. The data is derived from a sample of Indonesian firms, and enhancing the study's robustness and generalizability would be desirable by including an international and cross-cultural dimension. In addition, exploring the potential impact of other variables, such as financial constraints and the board of directors' composition, could contribute to the existing literature on ESG and firms' risk.

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