The Influence of ESG on Firm Performance: The Moderating Role of Earnings Quality in Firms Listed in the Thailand Sustainability Investment (THSI) Group

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Received March 23, 2025; **Revised** December 19, 2025; **Accepted** December 22, 2025

Abstract

This study aims to analyze the impact of Environmental, Social, and Governance (ESG) scores on firm performance, specifically market performance (Tobin's Q) and financial performance (ROA), considering the combined effects of all three ESG dimensions: Environmental, Social, and Governance. Additionally, the study examines the moderating role of Earnings Quality (EQ) in this relationship. Data were collected from firms listed in the Thailand Sustainability Investment (THSI) between 2018 and 2022. Firm performance was measured using Tobin's Q (market value) and Return on Assets (ROA), while Partial Least Squares Structural Equation Modeling (PLS-SEM) was applied for data analysis using SmartPLS.

The results indicate that ESG scores contribute positively to a firm's market valuation, as companies with strong ESG practices tend to gain higher investor confidence and attract more market interest. This suggests that firms demonstrating commitment to environmental, social, and governance principles may be perceived as lower-risk investments, thereby increasing their market value. However, the study finds that ESG performance does not directly translate into improved financial profitability, as reflected in the return on assets. This implies that while ESG initiatives may create long-term strategic benefits, they do not necessarily generate immediate financial gains in terms of asset utilization efficiency.

Furthermore, Earnings Quality (EQ) plays a crucial role in moderating the ESG-Tobin's Q relationship. Firms with high EQ can effectively leverage ESG to enhance market value, while firms with low EQ may face investor skepticism, as ESG initiatives could be perceived as a mere branding strategy lacking credibility. However, EQ does not significantly moderate the relationship between ESG and ROA, suggesting that earnings quality does not directly enhance the profitability effects of ESG.

These findings highlight that ESG is more influential in shaping a firm's market value than its financial performance, particularly when considering Earnings Quality as a moderating factor. EQ serves as an essential component in reinforcing the credibility of financial information and strengthening the value of ESG initiatives for firms.

Keywords: Environment; Social; Governance; Earnings Quality; Firm Performance; Tobin's Q; ROA

Introduction

Sustainable investment has gained increasing attention in the global business and financial sectors, particularly in investments that incorporate Environmental, Social, and Governance (ESG) factors alongside financial performance and market value analysis. This investment approach not only ensures stable long-term returns but also minimizes environmental impact, promotes social equity, and strengthens corporate governance.

The increasing emphasis on ESG is evident in corporate disclosures. According to the Governance & Accountability Institute (2022), ESG reporting among S&P 500 firms surged from 20% in 2011 to 94% in 2022. Similarly, Russell 1000 firms saw an increase in sustainability disclosures, reaching 70% in 2020. This trend highlights the growing importance of ESG transparency in corporate governance and investment decision-making.

In addition to increased disclosures, the total value of ESG-related assets has risen significantly. According to the Global Sustainable Investment Alliance (2021), global ESG investment assets grew from $22.8 trillion in 2016 to $35 trillion in 2020. Bloomberg projects that by 2025, ESG-related assets will reach $50 trillion. Moreover, the Principles for Responsible Investment (PRI), supported by the United Nations, reported that assets under sustainable investment management surged from $6.5 trillion in 2006 to $68.4 trillion today.

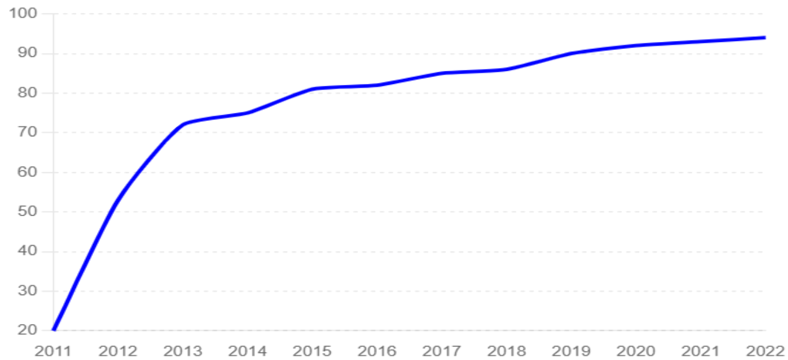

Figure 1 Sustainability Reporting of Companies in the S&P 500

As ESG investments continue to expand, understanding their tangible impact on corporate valuation and financial performance becomes increasingly critical. However, the extent to which ESG influences firm performance remains debated, with mixed findings in academic research. Some studies indicate that ESG initiatives enhance firm value by reducing risk and attracting investors (Wong et al., 2021). Conversely, others argue that ESG may impose additional costs that negatively impact profitability, particularly in the short term (Friedman, 2007). The divergence in findings may stem from differences in industry context, firm size, and geographical variations in ESG adoption.

In Thailand, companies demonstrating strong ESG performance are included in the Thailand Sustainability Investment (THSI) index, a group of firms recognized for sustainable business practices. However, the impact of ESG on firm value in the Thai market remains inconclusive. Despite growing interest in ESG investment, there remains limited research on how ESG influences firm performance in emerging markets such as Thailand. Additionally, few studies have examined the moderating role of Earnings Quality (EQ) in shaping ESG's impact on corporate valuation. To address this gap, this study investigates the relationship between ESG and firm performance among companies listed in the Thailand Sustainability Investment (THSI) index, while analyzing EQ's role as a moderating factor.

The findings of this study will provide valuable insights for investors, policymakers, and corporate executives, enabling them to incorporate ESG and earnings quality into strategic decision-making. By clarifying ESG's role in firm valuation and identifying factors that enhance its impact, this research aims to support the development of more effective corporate sustainability policies and investment strategies.

Research Objective

The objective of this research was to analyze the impact of Environmental, Social, and Governance (ESG) scores on firm performance, specifically market performance (Tobin's Q) and financial performance (ROA)

Research Hypotheses

Based on the literature review, the following hypotheses are proposed:

H1: ESG Performance has a positive effect on Firm Performance.

H1a: ESG Score (ESG) has a positive effect on Tobin's Q.

H1b: ESG Score (ESG) has a positive effect on ROA.

H2: Earnings Quality moderates the relationship between ESG Performance and Firm Performance.

H2a: Earnings Quality (EQ) positively moderates the relationship between ESG Score (ESG) and Tobin's Q.

H2b: Earnings Quality (EQ) positively moderates the relationship between ESG Score (ESG) and ROA.

Literature Review

This chapter presents a comprehensive review of existing literature on the impact of Environmental, Social, and Governance (ESG) performance on firm performance, with a particular focus on the moderating role of earnings quality (EQ). The review integrates relevant theories, prior empirical studies, and research findings to establish a robust framework for this study.

Theoretical Framework

Agency Theory The Agency Theory, introduced by Jensen and Meckling (1976), explains the conflicts of interest between shareholders (principals) and managers (agents). Since managers may prioritize personal benefits over shareholder value, corporate governance mechanisms, including ESG practices, can help align these interests and mitigate agency problems. Studies suggest that improved governance can enhance transparency, reduce information asymmetry, and ultimately improve firm performance (Eisenhardt, 1989; Velte, 2020).

Stakeholder Theory Freeman (1984) introduced Stakeholder Theory, which posits that businesses should create value for all stakeholders, not just shareholders. ESG initiatives, particularly in social and environmental aspects, align with this perspective by fostering positive stakeholder relationships, which in turn enhance firm performance (Carroll, 1993; Freeman et al., 2018). Prior research indicates that firms with strong ESG policies tend to achieve higher financial performance due to better stakeholder engagement (Murray et al., 2006; San Ong et al., 2014).

ESG Performance and Firm Performance ESG performance refers to a company's commitment to sustainable practices in three dimensions: Environmental (ENV), Social (SOC), and Governance (GOV). Empirical studies suggest a positive relationship between ESG performance and firm value, particularly in emerging markets (Aqabna et al., 2023; Alareeni & Hamdan, 2020). Firms with higher ESG ratings tend to attract more investors, leading to enhanced market valuation (Tobin's Q) and improved financial performance (ROA) (Nguyen et al., 2022). However, the extent of this relationship varies across industries and regions.

Earnings Quality (EQ) and Firm Performance Earnings quality (EQ) measures the reliability and accuracy of financial reports, indicating the extent to which reported earnings reflect actual financial performance. High EQ is associated with greater transparency, reducing information asymmetry and improving investor confidence (Saleh et al., 2020; Gaio & Raposo, 2011). Studies have found that high EQ positively influences firm performance metrics, including Tobin's Q and ROA, as it mitigates earnings manipulation and enhances financial stability (Afifa et al., 2020).

The Moderating Role of Earnings Quality in the Relationship Between ESG and Firm Performance Recent studies highlight that EQ plays a crucial role in shaping the relationship between ESG and firm performance. High-quality earnings can reinforce the positive effects of ESG practices by ensuring accurate financial reporting, which enhances investor trust and firm valuation (Huang & Watson, 2021; Zhao & Zhang, 2019). Conversely, low EQ may obscure the true financial benefits of ESG initiatives, leading to inconsistent financial outcomes (Li & Wang, 2020). This moderating effect is particularly significant in emerging markets where regulatory frameworks may be less stringent.

This chapter synthesizes prior literature on the relationship between ESG performance and firm performance, emphasizing the moderating role of earnings quality. Drawing on Agency Theory and Stakeholder Theory, the review explains how ESG practices can reduce agency conflicts, strengthen stakeholder relationships, and enhance transparency. Empirical evidence generally supports a positive association between ESG performance and firm value, particularly in emerging markets. Additionally, high earnings quality improves financial credibility and performance, while also strengthening the positive impact of ESG on firm outcomes by increasing investor confidence and ensuring reliable financial reporting.

Conceptual Framework

The research framework, illustrated in Figure 2, conceptualizes the relationships among ESG performance, earnings quality, and firm performance.

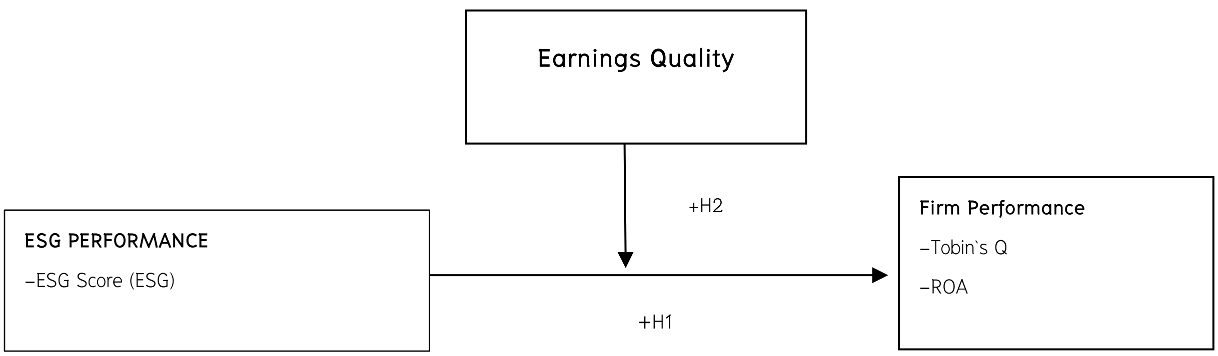

Figure 2 Theoretical Framework of the Study

Research Methodology

This study employs a quantitative research approach and follows deductive reasoning to examine the impact of Environmental, Social, and Governance (ESG) performance on firm performance, with Earnings Quality (EQ) as a moderating variable. Secondary data is collected from financial reports and Bloomberg ESG scores. The study focuses on 44 companies listed on the Stock Exchange of Thailand (SET) under the Thailand Sustainability Investment (THSI) group, covering the period from 2018 to 2022. The dataset consists of 220 observations across eight industries: Agro & Food, Consumer Products, Financials, Industrials, Property & Construction, Resources, Services, and Technology. However, after removing outliers, the final sample consists of 208 companies.

The key variables in this study include ESG performance as the independent variable, firm performance as the dependent variable, and Earnings Quality (EQ) as the moderating variable. ESG performance is measured using Bloomberg ESG scores, including the overall ESG Score (ESG) and its subcomponents: Environmental Score (ENV), Social Score (SOC), and Governance Score (GOV). Earnings Quality (EQ) is measured using the Modified Jones Model (Dechow, Sloan, & Sweeney, 1995) through Discretionary Accruals (DAC), ensuring non-negative values by taking absolute values. Firm performance is assessed through two key indicators: market performance, measured by Tobin's Q, calculated as (Market value of equity + Book value of liabilities) / Total assets, and financial performance, measured by Return on Assets (ROA), calculated as Net profit / Total assets. Additionally, control variables such as Firm Age (FA), measured by the number of years since establishment, and Firm Size (FS), represented by the natural logarithm of total assets, are incorporated into the analysis.

The data collection process involves gathering secondary data from financial reports, Bloomberg ESG Ratings, and regulatory filings, including the 56-1 One Report. Additional data is retrieved from SET SMART and the Securities and Exchange Commission (SEC) databases. The study employs Partial Least Squares Structural Equation Modeling (PLS-SEM) using SmartPLS as the statistical tool for data analysis. The analytical process includes descriptive statistics, assessing measures such as mean, median, standard deviation, skewness, and kurtosis, along with regression analysis to evaluate the relationships between ESG, EQ, and firm performance. Moderation analysis is conducted to test the interaction effect of EQ on the ESG-firm performance relationship, while multicollinearity checks using Variance Inflation Factor (VIF) ensure that independent variables are not highly correlated. Through this comprehensive methodology, the study aims to provide robust empirical evidence on the role of ESG and Earnings Quality in determining firm performance.

Table 1 The results from the path model analysis indicate

Path Model	β	f^2	T-Value	P-Value	VIF	R^2	Q^2
Control Variables							
Ln_Fsize ⟶ TBQ_DM	-0.274	0.051	2.494	0.013	1.735		
Ln_Fsize ⟶ ROA_DM	-1.382	0.101	4.740	0.000	1.735		
FA ⟶ TBQ_DM	0.007	0.005	0.920	0.358	1.223		
FA ⟶ ROA_DM	-0.018	0.002	0.800	0.424	1.223		
Main Effect							
ESG_DM ⟶ TBQ_DM	0.026	0.030	2.678	0.007	1.505		
ESG_DM ⟶ ROA_DM	0.063	0.014	1.677	0.094	1.505		
Abs_EQ ⟶ TBQ_DM	1.252	0.077	3.371	0.001	1.395		

Path Model	β	f^2	T–Value	P–Value	VIF	R^2	Q^2
Abs_EQ ⟶ ROA_DM	–2.713	0.028	2.370	0.018	1.395		
Interaction Effect							
Abs_EQ × ESG_DM ⟶ TBQ_DM	–0.060	0.044	3.434	0.001	1.308	0.177	0.135
Abs_EQ × ESG_DM ⟶ ROA_DM	0.011	0.000	0.160	0.873	1.308	0.137	0.135

Note: *p < .050, **p < .010, ***p < .001.

Abbreviations: Tobin's Q = Market performance, ESG = Environmental, Social, and Governance, Abs_DAC_DM= Earnings Quality, Ln_FSize = Total Assets, FA = Firm Age.

The analysis reveals that firm size negatively impacts both Tobin's Q and ROA, while firm age shows no significant relationship with firm performance.

Regarding the main effects, ESG positively influences Tobin's Q, indicating that firms with higher ESG performance tend to achieve greater market valuation. However, ESG does not significantly impact ROA, suggesting that ESG initiatives may not directly translate into financial profitability.

For earnings quality (EQ) effects, the results show that higher earnings quality enhances Tobin's Q but reduces ROA, implying that firms with greater financial transparency gain market confidence but may experience lower accounting performance.

Finally, EQ moderates the relationship between ESG and Tobin's Q. Firms with high earnings quality benefit more from ESG, as investors perceive their financial reporting as more reliable. Conversely, firms with low earnings quality face greater investor skepticism, limiting the market valuation benefits derived from ESG.

These findings confirm that firms with high earnings quality derive greater market valuation benefits from ESG. However, the interaction effect on ROA (β = 0.011, p = 0.873) is not significant, suggesting that earnings quality does not influence the relationship between ESG and financial performance.

This comprehensive methodology and empirical analysis aim to provide robust evidence on the role of ESG and Earnings Quality in determining firm performance, particularly in the emerging market context of Thailand.

The interaction plot illustrates the moderating effect of earnings quality (Abs_EQ) on the relationship between ESG scores and market performance (Tobin's Q). The results indicate that the red line (–1 SD) represents firms with high earnings quality (low Abs_EQ), where the positive effect of ESG on Tobin's Q is statistically significant. This suggests that firms with higher financial transparency gain greater market valuation benefits from ESG initiatives, as investors perceive their sustainability efforts as credible and trustworthy.

In contrast, the green line (+1 SD) represents firms with low earnings quality (high Abs_EQ), where the ESG-Tobin's Q relationship weakens. This implies that firms with greater earnings management or lower financial transparency struggle to translate ESG efforts into market valuation, as investors remain skeptical about the reliability of their financial and ESG disclosures.

The findings highlight the crucial role of financial transparency in enhancing the positive market impact of ESG performance. Firms with high-quality earnings can leverage ESG to strengthen investor confidence and market value, whereas firms with low-quality earnings may not experience the same benefits due to perceived financial risk.

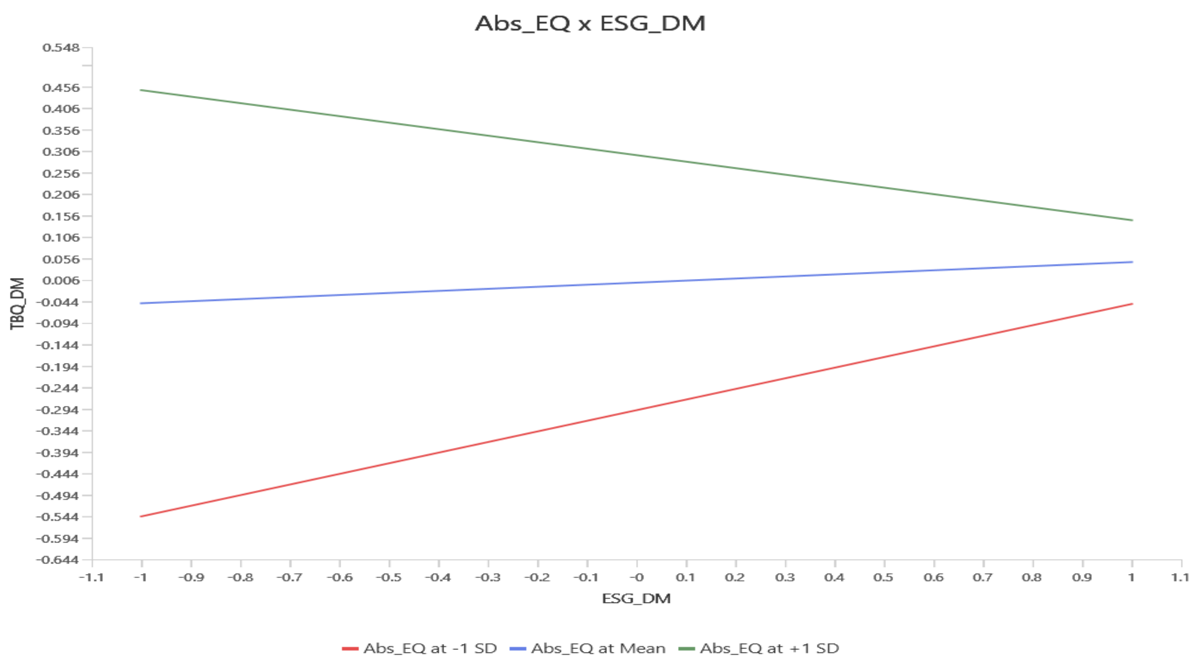

Figure 3 Moderating Effect of Earnings Quality on the ESG-Tobin's Q Relationship

Figure 4 presents the structural path model depicting the direct and moderating effects of earnings quality (Abs_EQ) on the ESG-Tobin's Q and ESG-ROA relationships. Solid lines indicate statistically significant pathways, while dashed lines denote non-significant relationships.

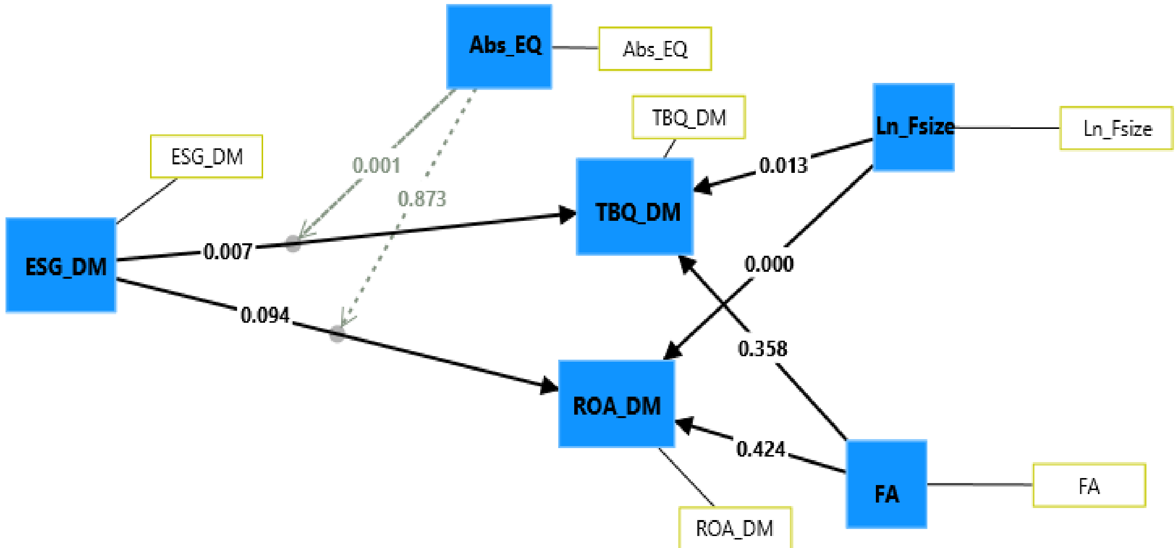

Figure 4 Structural Path Model of ESG, Earnings Quality, and Firm Performance

Summary of Results and Hypothesis Evaluation

H1a: ESG Score (ESG) has a positive effect on Tobin's Q

Supported: The results show a positive and significant relationship between ESG and Tobin's Q (β = 0.026, p = 0.007), confirming that firms with higher ESG scores tend to have better market valuation.

H1b: ESG Score (ESG) has a positive effect on ROA

Not Supported: The effect of ESG on ROA is not statistically significant (β = 0.063, p = 0.094), indicating that ESG does not directly contribute to accounting-based financial performance.

H2a: Earnings Quality (EQ) positively moderates the relationship between ESG and Tobin's Q

Supported: The interaction term (Abs_EQ × ESG_DM ⟶ Tobin's Q) is statistically significant (β = -0.060, p = 0.001), indicating that earnings quality significantly moderates the ESG–Tobin's Q relationship. However, this effect is negative, meaning that the relationship between ESG and Tobin's Q depends on earnings quality, but in an inverse manner.

H2b: Earnings Quality (EQ) positively moderates the relationship between ESG and ROA

Not Supported: The interaction effect (β = 0.011, p = 0.873) is not significant, indicating that earnings quality does not influence the ESG–ROA relationship.

Discussion and Conclusion

Various hypotheses were proposed in this study to analyze the impact of ESG performance on firm performance, with earnings quality as a moderating factor. The results reveal that ESG significantly enhances market valuation (Tobin's Q), reinforcing investor confidence in firms that adopt sustainable practices (Abdel Megeid, 2022; Alareeni & Hamdan, 2020; Meeprom, Boonyanet,&Tongkong, 2023). However, ESG does not show a direct impact on financial performance (ROA), suggesting that while ESG initiatives may strengthen market perception, their influence on profitability may take longer to materialize (Ahmad, Mobarek, & Roni, 2021).

The study also finds that earnings quality (EQ) moderates the ESG-Tobin's Q relationship. Firms with high EQ benefit more from ESG, as investors perceive their financial disclosures as more credible. Conversely, firms with low EQ may struggle to leverage ESG benefits due to concerns about financial transparency. However, EQ does not significantly moderate the ESG-ROA relationship, indicating that financial reporting quality influences investor perception more than it affects accounting-based profitability (Chouaibi, Zouari, & Chouaibi, 2022).

Theoretical and Practical implications

Theoretically, this study extends existing research by providing empirical evidence on the role of ESG and earnings quality in firm performance, particularly in emerging markets. While prior studies have focused on the standalone impact of ESG, this research highlights the moderating effect of earnings quality, contributing to a more comprehensive understanding of ESG valuation dynamics (Behl et al., 2022; Freeman, 1984).

Practically, the findings offer valuable insights for corporate managers, investors, and regulators. Corporate managers should enhance financial transparency and ESG reporting to maximize market value. Investors should consider both ESG scores and earnings quality when evaluating firm credibility (Aqabna et al., 2023). Regulators should establish stricter ESG disclosure standards to ensure transparency and mitigate greenwashing concerns (Bloomberg, 2022).

Limitations and Future research directions

This study has some limitations. First, it covers a five-year period (2018–2022), which may not capture the long-term effects of ESG on firm performance. Second, the ESG scores are sourced from Bloomberg, which may differ from other rating agencies like MSCI and Refinitiv. Third, the study relies on self-reported ESG data, which could be subject to strategic disclosure biases (Eccles, Ioannou, & Serafeim, 2012).

Future research should expand by incorporating multiple ESG data sources and analyzing industry-specific ESG impacts. Additionally, longitudinal studies could provide deeper insights into the long-term effects of ESG on firm performance, considering evolving regulatory environments and investor expectations (Clark, Feiner, & Viehs, 2015).

This study underscores the importance of ESG and earnings quality in shaping firm performance, reinforcing the need for transparency and robust financial reporting to maximize the benefits of sustainable business practices.

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