

The Impact of ESG Performance on Financial Sustainability: Evidence from Malaysian Non-Financial Firms

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Abstract

This study examines the effect of environmental, social, and governance (ESG) performance on financial sustainability (FS) among non-financial firms in Malaysia. The research aims to determine whether ESG initiatives contribute to firms' long-term financial sustainability. Using panel data of Malaysian non-financial listed firms, the study employs a fixed effects (FE) regression model to control for unobserved heterogeneity. Correlation and variance inflation factor (VIF) analyses confirm the absence of multicollinearity, while the Hausman specification test supports the FE model as the most appropriate estimation technique. The results reveal that ESG performance significantly and positively influences FS, and each ESG pillar (environmental, social, and governance) contributes to sustainable financial outcomes. Robustness tests using an alternative measure of FS confirm the consistency of these findings. The findings underscore the importance of integrating ESG practices into firms' strategic operations to enhance financial sustainability. Policymakers and regulators are encouraged to promote stronger ESG disclosure frameworks to improve transparency and comparability. This study provides new empirical evidence from Malaysia, highlighting the role of ESG engagement in promoting corporate financial sustainability within emerging markets.

Keywords: ESG Performance, Financial Sustainability, SGR

Introduction

The sustainability of firms has attracted considerable scholarly and practical attention due to its critical role in ensuring long-term survival (Alshareef & Sulimany, 2024). In recent years, the growing emphasis on financial sustainability within corporate strategy has underscored the need for firms to maintain long-term viability while balancing the expectations of diverse stakeholders (Hossain et al., 2024). Financial sustainability refers to a firm's ability to utilize its internal resources efficiently without excessive reliance on external financing. It reflects the firm's capacity to sustain operations over time while ensuring continuity in value creation for stakeholders. This concept involves the effective management of investments and financing sources (Zabolotnyy & Wasilewski, 2019), which aligns with the perspective of the going concern principle in accounting in terms of continuity. Furthermore, it emphasizes stakeholder value maximization, developing a win-win situation for both the firm and its stakeholders (Qaim et al., 2021).

Despite its importance, achieving financial sustainability is not without challenges. Firms are increasingly pressured not only to achieve financial objectives but also to contribute to environmental and social well-being. These pressures are driven by global environmental concerns arising from industrialization, globalization, and resource depletion (Taswin et al., 2023). Financially constrained firms often prioritize liquidity preservation to meet debt obligations and operational needs (Almulhim et al., 2024), which creates a trade-off between short-term financial stability and long-term investment in ESG initiatives. This tension becomes particularly evident during economic crises. For example, during the global financial crisis of 2007–2009, firms faced severe constraints in accessing capital, leading to reduced liquidity and solvency (Nazir et al., 2024). During such crises, asset prices across various markets often fall dramatically, leading to market volatility, capital outflows, and speculative pressures, which in turn weaken investor confidence and hinder economic growth. (Naveed et al., 2024).

In response to these challenges, the global business landscape has undergone a transformation, emphasising on integrity, stakeholder responsibility, and enhanced ESG performance. Firms are now required to balance economic growth objectives with ESG considerations. ESG-related concerns have gained increasing attention from stakeholders and policymakers, as they play a crucial role in shaping competitive strategies and strengthening risk management practices, particularly in the context of disruptions such as the COVID-19 pandemic (Nazir et al., 2024).

Existing literature widely acknowledges the role of ESG performance in enhancing financial sustainability and supporting long-term business operations. However, empirical findings remain mixed, suggesting a dual perspective. On one hand, several studies report a positive relationship between ESG performance and financial sustainability. For instance, Hossain et al. (2024) find that ESG scores generally enhance financial sustainability. Similarly, Chai et al., (2023) demonstrate that ESG performance positively influences the sustainable growth rate (SGR), indicating that higher ESG transparency promotes firms' growth capacity.

On the other hand, some scholars argue that ESG initiatives may impose financial burdens that negatively affect sustainability, particularly in the short term. (Nazir et al., 2024) report a negative association between ESG performance and financial sustainability among global high-tech firms, suggesting that the costs of ESG investments may outweigh their immediate benefits. Likewise, Aizada et al. (2023) highlight that ESG compliance and policy implementation introduce additional operational and transition costs, which may constrain firms' short-term financial performance.

Despite its significance, the relationship between ESG performance and financial sustainability remains insufficiently explored, particularly in the Malaysian context. This study addresses this gap by examining the impact of ESG performance on financial sustainability among Malaysian firms. Specifically, the study analyzes a sample of 222 non-financial listed firms over the period from 2014 to 2024.

This study contributes to the existing literature in several ways. First, it adopts a comprehensive approach by examining all three ESG dimensions—environmental, social, and governance—rather than relying solely on aggregated ESG scores, as commonly done in prior studies (Hossain et al., 2024). This approach provides a more holistic and in-depth understanding of ESG performance and its implications.

The remainder of this paper is structured as follows. Section 2 reviews the relevant literature and theoretical foundations. Section 3 outlines the research methodology. Section 4 presents and discusses the empirical findings. Section 5 concludes the study and highlights its limitations. Finally, Section 6 discusses the contribution of the study and its implications.

Background, Theories, Literature Review and Hypothesis Development

ESG regulation and evolution in Malaysia

The evolution of ESG in Malaysia has undergone a progressive transformation from voluntary corporate social responsibility (CSR) initiatives to a more structured regulatory framework aligned with international sustainability standards. Malaysian firms' engagement with ESG disclosure began in 2006, when the government mandated all listed companies to include CSR information in their annual reports (Bursa Malaysia, 2015) (Bursa Malaysia, 2015). Subsequently, Bursa Malaysia introduced its first CSR framework, which addressed key dimensions such as workplace practices, community involvement, marketplace conduct, and environmental responsibility. This initiative was incorporated into the 10th Malaysian Plan (2011–2015) and aligned with the nation's Vision 2020 objectives (Peng, 2018). In line with these developments, the Malaysian Code on Corporate Governance MCCG (2012) required directors to disclose ESG-related policies and their implementation in annual reports, further strengthening transparency and accountability. A significant milestone was achieved in 2014 with the establishment of the FTSE4Good Bursa Malaysia (F4GBM) Index, developed in collaboration with FTSE Russell, to promote best practices in ESG disclosure among public listed companies. By December 2021, the number of constituent firms in the F4GBM Index had increased from 24 to 80, indicating substantial progress in ESG adoption and reporting.

Further advancement occurred in 2015 when Bursa Malaysia introduced a comprehensive sustainability framework that integrates ESG principles into three core pillars: economic, environmental, and social (Mohammad & Wasiuzzaman, 2021). Under this framework, listed

issuers are required to disclose how they manage material economic, environmental, and social (EES) risks and opportunities. This marked a transition from the earlier CSR-focused approach to a more robust and standardized sustainability reporting regime. To support implementation, Bursa Malaysia also issued a Sustainability Reporting Guide to assist firms in conducting systematic sustainability assessments. Malaysia's increasing commitment to ESG is further reinforced by its alignment with global initiatives such as the Paris Agreement in 2016, which brought together over 190 countries, including Malaysia, to address climate change and promote sustainable investment practices (Agliardi et al., 2023; Bank Negara Malaysia, 2021).

Theoretical Background

Stakeholder Theory

According to stakeholder theory, it explains the motivations underlying firms' ESG practices by emphasizing the importance of addressing the needs and expectations of diverse stakeholder groups rather than focusing solely on shareholders (Freeman, 2010). This perspective challenges the traditional shareholder-oriented model by advocating value creation for a broader set of stakeholders. Through ESG practices, firms enhance the disclosure of relevant information, thereby fulfilling stakeholders' informational needs.

However, the adoption of ESG practices may create trade-offs, as they can sometimes conflict with the interests of certain shareholders (Broadstock et al., 2019). Despite this, ESG engagement strengthens firms' reputations and supports long-term financial resilience (Hossain et al., 2024). Alignment with ESG practices signals commitment to ethical standards and sustainability, thereby enhancing stakeholder trust and credibility. This commitment helps reduce social and environmental risks, fostering a stable operational environment that promotes financial sustainability. Empirical evidence demonstrates that firms with higher ESG performance tend to achieve enhanced firm value and profitability, as strong ESG practices foster stakeholder trust and improve operational efficiency (Aydo & Ergun, 2022).. Furthermore, prior studies indicate that stakeholder pressure serves as a significant driver of firms' sustainability performance, thereby reinforcing the adoption of ESG practices (Alessa et al., 2024). In addition, ESG disclosure plays a critical role in mitigating risks associated with environmental and social irresponsibility, contributing to greater operational stability (Hossain et al., 2024). Conversely, poor ESG management can reduce stakeholder trust and hinder firm growth (Teng et al., 2021). This suggests that neglecting stakeholder interests increases firm risk, whereas aligning corporate practices with stakeholder expectations enhances stability and long-term performance.

Agency Theory

From the perspective of agency theory, it provides insights into how corporate managers influence agents' behavior through procedures, controls, and incentives consistent with achieving the goals of business interests (Jensen, & Meckling, 1976). The focus of this theory is to mitigate the information asymmetry and promote all stakeholder consensus, including shareholders and managers (Raimo et al., 2021). Transparency in ESG plays an important role in minimizing information asymmetry, which contributes to improving firm performance. Thus, firms that engage in ESG activities benefit from lower information asymmetry and reduce agency conflicts (Li et al., 2024).

Furthermore, ESG engagement has been shown to positively influence firm performance, as transparent disclosure enhances investor confidence and operational efficiency (Pulino et al., 2022). According to the agency view, improved transparency mitigates opportunistic behavior and reduces monitoring costs, thereby contributing to better financial outcomes. Previous studies have shown that agency cost have a significant negative impact on firm growth (Wang, 2010; Khidmat & Rehman, 2014). These costs lead to unnecessary financial waste, reducing capital utilization efficiency and negatively affecting firms' ability to grow sustainably and economic sustainability (Khidmat & Rehman, 2014; Lin, 2024; Wang, 2010).

Hypothesis Development

Table 1 presents key empirical studies that examine the relationship between ESG performance and financial sustainability across various institutional settings worldwide. The review focuses specifically on empirical research investigating the ESG–financial sustainability (ESG–FS) nexus. This focus is motivated by several considerations. First, a substantial body of literature has explored the impact of ESG on firm performance or firm value, yet relatively few studies explicitly examine ESG as a determinant of financial sustainability. Second, there is a noticeable lack of studies focusing on firms included in ESG-related indices in Malaysia, such as the FTSE4Good Bursa Malaysia Index or the Bursa Malaysia Shariah Index. For instance, studies by Al Azizah and Haron (2025) Lee et al, (2023), Peng and Mansor (2023), and Yip and Lau (2024) primarily examine the influence of ESG performance on firm value and performance rather than financial sustainability. Consequently, empirical evidence on the ESG–financial sustainability relationship within the Malaysian context remains limited. One notable exception is Faizulayev (2025), who finds that ESG and fintech factors play a significant role in enhancing financial sustainability among banks in Islamic finance-oriented countries, including Malaysia.

Existing studies reveal several important patterns; however, the relationship between ESG performance and firms' financial sustainability remains inconclusive. Empirical evidence across different economic and institutional contexts reports both positive and negative associations. Numerous studies suggest that ESG engagement does not regularly enhance financial outcomes, as its impact varies depending on governance effectiveness, industry characteristics, and regulatory environments. For example, research from both developed and developing economies indicates that while the governance dimension of ESG generally supports financial sustainability, the environmental and social dimensions may exert adverse effects in certain contexts. Maama (2021) and Nazir et al. (2024) report overall negative effects of ESG performance on financial sustainability. Specifically, . Maama (2021) finds that environmental reporting significantly reduces banks' return on assets (ROA) and net interest margin (NIM) in Ghana, whereas Nazir et al. (2024) show that environmental and social pillars negatively influence the financial sustainability of global high-tech firms. Nevertheless, both studies highlight that governance performance demonstrates a positive—although sometimes insignificant—relationship with financial outcomes, underscoring its critical role in maintaining firms' financial health. Similarly, Aizada et al. (2023) find that ESG factors negatively affect the financial sustainability of oil and gas firms. However, these firms increasingly adopt environmentally friendly technologies to comply with ESG-related policies, suggesting that short-term costs may translate into long-term strategic benefits.

Table 1: review of previous ESG-FS studies

Author(s)	Country / Region	Focus / Objective	Methodology	Key Findings / Results
Hossain et al. (2025)	China	Examines the role of ESG disclosure in enhancing financial sustainability, moderated by corporate governance.	Multivariate Regression Analysis	ESG disclosure improves financial sustainability; however, strong audit quality and board independence weaken the relationship due to transparency and accountability.
Wong et al. (2025)	Hong Kong	Analyzes how ESG practices affect employee engagement, retention, and citizenship behavior.	Structural Equation Modeling (SEM)	Social and governance practices enhance engagement and retention; Asian values moderate these effects.
Muneer et al. (2025)	Saudi Arabia	Investigates environmental disclosure and governance impacts on Islamic banks' performance (ROA, ROE).	Mixed-method: Quantitative, qualitative interviews (Panel Regression and Thematic Analysis fr)	Environmental disclosure and Shariah-based governance improve profitability, trust, and sustainable performance.
Palmieri et al. (2025)	Global	Explores ESG influence on default risk of global insurance firms.	Generalized Least Squares (GLS) Estimation	Higher ESG scores lower default risk; environmental and social pillars are key.
Ahamad et al. (2025)	Global (97 countries)	Assesses ESG's impact on financial sustainability of MFIs globally.	Data Envelopment Analysis (DEA) and Truncated Regression Models	ESG improves financial efficiency; environmental and governance pillars stronger among larger MFIs.
Faizulayev (2025)	Islamic finance-oriented countries	Compares ESG and fintech effects on financial sustainability in Islamic vs conventional banks.	Generalized Method of Moments (GMM) and Panel-Corrected Standard Error (PCSE)	Conventional banks show more persistent sustainability; Islamic banks exhibit stronger resilience and stability; ESG adherence critical for Islamic banks.
Almulhim et al. (2024)	Saudi Arabia	Examines ESG impact on dividend policy with financial sustainability as moderator.	Panel Regression Analysis	ESG performance positively relates to dividend payments; financial sustainability strengthens this relationship.

Nazir et al. (2024)	Global (Top 100 high-tech firms)	Analyzes ESG's impact on financial sustainability in high-tech firms.	wo-Step System GMM and Fixed Effects Models	Overall ESG negatively associated with financial sustainability; governance pillar shows positive impact.
Adebayo and Ackers (2024)	South Africa	Explores how SOEs balance ESG practices and financial goals.	Mixed-method: Surveys + interviews	ESG practices adopted but lack systematic balance; conflicts between social and financial mandates.
Alexandra et al. (2024)	Europe (EU, CIS & other European countries)	Evaluates ESG's influence on firms' financial stability during economic shocks.	Panel regression Models	ESG Combined Score positively affects financial performance; ESG initiatives enhance resilience to shocks.
Haron and Zamzami (2024)	Malaysia	Examines ESG and risk management in Shariah-compliant firms in Malaysia.	Quantitative Regression Analysis	ESG supports risk management and value creation; crucial for long-term sustainability.
Zhakupova et al. (2023)	Eurasian Economic Union (EAEU)	Identifies determinants of financial viability in oil and gas sector under ESG public policy.	Panel Regression Analysis	ESG factors negatively affect financial sustainability; firm-specific factors (size, tax) important; oil price has strong positive effect.
Maama (2021)	Ghana	Examines ESG reporting's impact on financial sustainability of Ghanaian banks.	content analysis + Regression Analysis	Environmental reporting negatively affects profitability; social reporting positive; overall ESG negatively related to financial sustainability.

In contrast, an increasing body of literature suggests that ESG engagement can positively contribute to financial sustainability, particularly in environments characterized by strong governance structures and supportive institutional frameworks. Lin (2024) and Wang et al. (2022) demonstrate that ESG performance and disclosure significantly enhance the sustainable growth rate (SGR) and long-term performance of Chinese listed firms. Their findings indicate that ESG engagement promotes innovation, reduces agency costs, mitigates corporate risks, and alleviates financing constraints, ultimately strengthening firms' financial sustainability. Moreover, the positive effects of ESG are found to be more pronounced among non-state-owned enterprises, firms operating in non-environmentally sensitive industries, and during periods of heightened external uncertainty.

Consistent with these findings, Almulhim et al. (2024) and Hossain et al. (2024) provide further empirical evidence supporting the beneficial impact of ESG practices on financial outcomes, albeit with moderating influences. Specifically, Hossain et al. (2024) find that ESG disclosure generally enhances financial sustainability; however, this relationship weakens in the presence of high audit quality and greater board independence, as increased transparency constrains managerial discretion. Similarly, Almulhim et al. (2024) observe that

financially sustainable firms are more capable of translating ESG engagement into higher dividend yields, indicating a complementary interaction between financial strength and sustainability performance.

Despite the growing emphasis on ESG integration, empirical studies focusing specifically on the ESG–financial sustainability nexus within Malaysian firms remain limited. Although initiatives such as the FTSE4Good Bursa Malaysia Index (2014) and Bursa Malaysia’s Environmental, Economic, and Social (EES) Reporting Guidelines (2015) have encouraged ESG adoption, there is still a lack of empirical research examining how ESG performance directly contributes to firms’ financial sustainability in the Malaysian context. Accordingly, this study extends the existing literature by investigating the impact of ESG performance on financial sustainability within a developing economy setting.

Therefore, this study seeks to address several gaps in the current literature. First, it examines the relationship between ESG performance and financial sustainability within a developing economy—specifically Malaysia—which has undergone significant regulatory and governance transformations. Second, it contributes to the literature by providing empirical evidence on how ESG practices influence firms’ financial outcomes. By doing so, this study contributes to the broader discourse on ESG adoption, particularly in emerging economies where such practices are gaining increasing importance.

The Impact of ESG Performance on Financial Sustainability

A substantial body of literature has examined the empirical relationship between ESG performance and firm-level financial outcomes. Increasingly, firms’ compliance with ESG principles and sustainable development practices is evident and carries significant financial implications. Stakeholder theory argues that stakeholders play an important role in firms’ growth, success, and financial performance. For instance, establishing good relationships with stakeholders like employees can enhance financial performance (Skudiene et al., 2021). Strong ESG performance can convey a positive signal to stakeholders and gain confidence and trust with customers/stakeholders (Ho et al., 2024). Moreover, improving ESG can enhance work-related outcomes by improving employee commitment and alignment with the firm’s goals (Mun et al., 2025).

From an agency perspective, ESG engagement reduces agency costs and firm risk, thereby improving financial sustainability. For example, Lin (2024) reported that ESG performance can improve financial sustainability, which is driven by SGR. The study found that ESG performance promotes SGR by decreasing the agency cost and alleviating the firm risk. High agency costs generally result in unnecessary financial waste, insufficient capital utilization, and thereby, negatively influencing the ability of businesses to grow sustainably. Similarly, firms with good ESG performance tend to achieve more sustainable development, indicating that good performance enhances the firm’s operational and financial standing, which in turn promotes sustainable growth (X. Wang & Jin, 2023).

Empirical evidence further supports the positive association between ESG and firm performance, as reported by Friede et al. (2015), who found that approximately 90% out of more than 2000 empirical and several review papers support this relationship. Additionally, firms with high ESG scores tend to achieve superior profitability (Chen et al., 2023). By

improving long-run stakeholder trust, ESG can assist firms to gain competitive advantages, enhancing financial performance, which leads to sustainable firm growth (X. Wang & Jin, 2023). Furthermore, strong ESG performance fosters a firm's overall quality of management; this is, in turn, translated to good financial outcomes, as shown by (Atan et al., 2017) who reported that low capital cost is associated with high ESG rating firms.

On the contrary, there is a debate about the association between ESG and financial sustainability. Some studies report a negative association, indicating that ESG activities may impose additional costs and constrain short term financial performance. For example, Nazir et al. (2024) found financial sustainability was affected negatively by ESG performance in global high-tech firms. This indicates that while ESG activities are important, they may not always be in alignment with the financial goals of these firms. One possible explanation for this negative association is that a higher amount of debt helps enhance ROE, which might lead to reduced financial sustainability due to increased financial risk and debt obligations. Maama (2021) demonstrated that ESG negatively influences the financial sustainability of Ghana banks. This might be due to the additional expenses related to ESG activities. As firms prioritise such activities, they may encounter challenges in boosting profits since it often entails rejecting profitable projects that conflict with environmental or social standards. As a result, it can limit the profitability and affect the financial performance.

However, there is a lack of studies regarding ESG performance and financial sustainability nexus within the Malaysian context. Malaysia has emphasized the importance of ESG and its benefits to the firm's financial outcomes. Thus, Malaysia has advanced development through initiatives such as CSR, the MCCG, and the FTSE4Good index. As a result, the number of listed firms increased from 24 to 147 publicly listed firms in December 2024 (Bursa Malaysia, 2024). Showing the commitments of Malaysia to advancing sustainable corporate practices.

Given the above discussion, the empirical studies conducted on the ESG-FS nexus revealed mixed and contradictory findings. Yet most of these studies found a positive link between these factors. Therefore, based on the above discussion, we hypothesize the following:

H1: ESG performance enhances the financial sustainability of non-financial listed firms in Malaysia.

H1a: Environmental performance enhances the financial sustainability of non-financial listed firms in Malaysia.

H1b: Social performance enhances the financial sustainability of non-financial listed firms in Malaysia.

H1c: Governance performance enhances the financial sustainability of non-financial listed firms in Malaysia.

Methodology

Research Design

The main objective of the current study is to examine the impact of ESG performance on financial sustainability. This study focuses on the Malaysian-listed firms with available ESG data in the Eikon database. To ensure dataset integrity and comparability, firms from the financial sectors are excluded due to their specific reporting and regulations, which could affect the analysis. In addition, firms with inconsistent ESG performance are also excluded to maintain the integrity and robustness of the analysis. Consequently, the final sample comprises 222 non-financial listed firms.

The analysis covers the period from 2014-2024. The selection of this timeframe enables access to robust and reliable data on ESG performance while capturing the evolving regulatory landscape in Malaysia. The country has put effort into enhancing ESG development, starting with the adoption of CSR in 2006 to promote sustainability and social concern; the MCCG (2012) instructed that all listed companies disclose ESG in their annual reports. In 2014, Bursa Malaysia established the FTSE4 Good Bursa Malaysia for the ESG index (Mohammad & Wasiuzzaman, 2021). Additionally, The ESG-oriented policy aligns with the Paris Agreement adopted in 2015, underscoring the importance of focusing on ESG performance during this period. This study selected the period from 2014 to 2024 as 2014 signifies the onset of consistent and reliable reporting on ESG factors by Malaysian firms, with regulatory frameworks and voluntary disclosures related to sustainability gained significant momentum during this period.

Variable Measurement

Dependent Variable

This study employs financial sustainability as the dependent variable, defined as a firm's ability to generate long-term value and sustain its ongoing operations without reliance on external financing sources (Alshareef, & Sulimany, 2024). It is proxied by the Sustainable Growth Rate (SGR), which reflects the maximum rate at which a firm can grow without issuing new equity or altering its financial leverage. The present study adopts the Higgins (1977) model to estimate SGR, a widely utilized approach in prior literature (Almulhim et al., 2024; Alshareef & Sulimany, 2024; Chai et al., 2023). This measure serves as a reliable indicator of a firm's capacity to maintain financial stability over time. Moreover, SGR is considered a critical tool for evaluating firm viability in competitive markets, as it provides insight into the sustainability of business growth and long-term survival (Imhanzenobe, 2020).

Conceptually, SGR represents the achievable growth in a firm's revenues given its financial and operational constraints. It is widely recognized as a benchmark for assessing the maximum internally sustainable growth rate without necessitating changes in capital structure or external equity financing (Alshareef & Sulimany, 2024; Patel et al., 2020). Furthermore, the model emphasizes maintaining consistency between a firm's operating policies and its long-term growth objectives.

The model is expressed as follows:

$$\text{SGR} = \text{PM} * \text{AT} * \text{FL} * \text{ERR}$$

Where:

SGR denotes the sustainable growth rate, PM represents the profit margin, which is calculated as net income after tax divided by total revenue, AT denotes the assets turnover ratio, it is computed as total revenue divided by total assets, FL stands for financial leverage, it is measured as total debt by total assets, ERR indicates the earning retention rate, which is computed as retained earnings divided by net income after tax. This ratio, expressed as a proportion, reflects a firm's capacity for self-financed growth based on retained earnings and existing debt capacity (Rahim, 2017; VasIU & Ilie, 2018).

Independent Variable

This study employs ESG performance and its individual components—environmental (ENV), social (SOC), and governance (GOV)—as the independent variables. The data are obtained

from the Refinitiv Eikon database, which provides comprehensive and standardized information on firms' environmental, social, and governance activities. Refinitiv Eikon is widely recognized as a reliable and extensive data source, covering firms across more than 100 countries. It assigns ESG scores on a scale ranging from 0 to 100, where higher scores indicate superior ESG performance. The ESG scores are constructed using publicly available information, including annual reports, corporate websites, non-governmental organization (NGO) disclosures, stock exchange filings, corporate social responsibility (CSR) reports, and media sources. These data are systematically collected and updated on an annual basis. Due to its methodological rigor and broad coverage, Refinitiv ESG data have been extensively utilized in prior studies examining firm performance in relation to social and environmental factors (Al Amosh et al., 2022).

ESG performance is categorized into three primary dimensions: environmental, social, and governance. The environmental dimension is evaluated across key areas such as resource use, emissions, and innovation. The social dimension encompasses workplace practices, human rights, community engagement, and product responsibility. The governance dimension focuses on management structure, shareholder relations, and corporate social responsibility strategy. Each dimension consists of multiple underlying indicators; for example, resource use includes aspects such as energy consumption, water management, sustainable packaging, and environmentally responsible supply chain practices, while governance-related measures include corporate structure and executive compensation. The overall ESG score represents a weighted aggregate index, benchmarked against industry standards for environmental and social dimensions and country-specific standards for governance (Ameur & Boussetta, 2023).

Control Variables

According to the relevant literature, the ESG-financial sustainability can be affected by some factors. Therefore, we consider some control variables in accordance with numerous previous studies (Almulhim et al., 2024; Hossain et al., 2024; Maama, 2021).

The natural logarithm of total assets, which is used to calculate the size of a company (SIZE); Return on assets, which is calculated by dividing net profit by all assets (ROA); Financial leverage, which is determined by dividing all debt by all assets (LEV); The natural logarithm of the company age, which is the measurement of company age (AGE); The quick ratio, which is defined as current assets excluding inventory divided by current liabilities, measuring a firm's short-term liquidity position (QR).

Table 2

Variables definition and measurement

Variable	Symbol	Measurement / Operational Definition
Dependent Variable		
Financial Sustainability	<i>SGR</i>	Calculated as the growth rate that a firm can sustain without external equity financing, following Higgins's model.
Independent Variables		
Environmental, Social and Governance Performance	<i>ESG</i>	Overall ESG combined score (range 0–100) as reported by Refinitiv Eikon.
Environmental Score	<i>ENV</i>	Measures firms' performance in managing environmental risks and impacts (range 0–100).
Social Score	<i>SOC</i>	Assesses firms' social performance regarding employee, customer, and community relations (range 0–100).
Governance Score	<i>GOV</i>	Captures firms' governance practices including board structure, transparency, and shareholder rights (range 0–100).
Control Variables		
Age	<i>Age</i>	The number of years since firm incorporation or listing on Bursa Malaysia.
Size	<i>Size</i>	Natural logarithm of total assets.
Leverage	<i>LEV</i>	Ratio of total debt to total assets.
Quick Ratio	<i>QR</i>	Ratio of current assets minus inventory to current liabilities.
Return on Assets	<i>ROA</i>	Net income divided by total assets.

Model Specification

The regression model employed to impact of ESG performance on financial sustainability as shown in Equation (1). Financial sustainability is measured using the Sustainable Growth Rate (SGR), a widely accepted metric indicating the maximum growth a firm can sustain internally without changing its financial leverage or acquiring additional equity. In addition, this model seeks to maintain long-term compatibility between a firm's operating policies and its sustainable growth objectives.

The general model is specified as follows:

$$FS_{it} = \alpha_0 + \beta_1 ESG_{it} + \beta_2 SIZE_{it} + \beta_3 AGE_{it} + \beta_4 ROA_{it} + \beta_5 LEV_{it} + \beta_6 QR_{it} + \varepsilon_{it}$$

Where:

FS_{it} = Financial sustainability of firm i at time t

ESG_{it} = Environmental, Social, and Governance performance score

$SIZE_{it}$ = Firm size, measured as the natural logarithm of total assets

AGE_{it} = Firm age, measured as the number of years since incorporation

ROA_{it} = Return on assets, representing firm profitability

LEV_{it} = Leverage ratio, indicating the firm's financial risk

QR_{it} = Quick ratio, reflecting short-term liquidity position

ε_{it} = Error term

To explore the effect of the individual components of ESG, the following model is employed:

$$FS_{it} = \alpha^0 + \beta_1 ENV_{it} + \beta_2 SOC_{it} + \beta_3 GOV_{it} + \beta_4 SIZE_{it} + \beta_5 AGE_{it} + \beta_6 ROA_{it} + \beta_7 LEV_{it} + \beta_8 QR_{it} + \varepsilon_{it}$$

Where ENV, SOC and GOV denote the environmental, social, and governance performance scores, respectively.

These models allow for a comprehensive investigation of the direct impact of ESG performance and its individual components on financial sustainability.

Estimation Technique

In this study, a fixed effects (FE) regression model was employed to examine the relationship between the independent and dependent variables. The choice of the fixed effects specification was motivated by the panel nature of the dataset, where unobserved firm-specific heterogeneity may bias the estimates if not properly controlled. The FE approach allows for the elimination of time-invariant characteristics across firms, ensuring that the estimated coefficients capture only within-firm variations over time.

To validate this choice, a Hausman specification test was conducted, comparing the estimates from the fixed effects and random effects (RE) models. The null hypothesis of the Hausman test states that the random effects estimator is consistent and efficient, while the alternative suggests that only the fixed effects estimator is consistent due to correlation between the regressors and the error term.

The test results supported the adoption of the fixed effects model. Specifically, the Hausman chi-square statistic was $\chi^2 = 18.73$ with $p = 0.002$, indicating a statistically significant difference between FE and RE estimates. This implies that the random effects estimator is inconsistent, justifying the use of the fixed effects model as the more reliable choice.

Empirical Results

The descriptive statistics in table 1 afford an essential aspect into non-financial Malaysian affirms, providing a basis for analysing their financial sustainability and ESG performance. The results indicate that Malaysian non-financial listed firms exhibit moderate ESG performance but substantial variation in financial characteristics. The average ESG score is 45.46 (out of 100), with governance (mean = 50.75) slightly higher than social (47.99) and environmental (36.28) pillars, indicating stronger emphasis on governance practices. Financial sustainability (FS) is negative on average (−0.98), suggesting limited sustainable growth, while the alternative growth measure (SGR) is near zero but highly left-skewed, reflecting a few extreme negative outliers. Firms are typically 26 years old and of moderate size (mean log assets = 21.63), though both age and size show wide ranges. Leverage (mean = 0.65) and liquidity (Quick Ratio mean = 1.81) display extreme kurtosis and right-skewness, with some firms carrying very high debt or liquid assets, and profitability is modest (ROA mean = 6.9 %) but similarly affected by outliers. Overall, these statistics highlight heterogeneous financial conditions and moderate ESG engagement across the sample.

Table 3

Descriptive Statistics

Variables	Obs	Mean	Std. Dev.	Min	Max	p1	p99	Skew.	Kurt.
SGR	2340	.009	.161	-5.963	.94	-.306	.193	-	874.332
Log (TLTA)	2341	-.981	.552	-3.603	.39	-2.606	-.093	-.906	3.814
ESG	980	45.457	17.915	4.9	91.62	7.83	85.88	.116	2.302
ENV	980	36.277	22.596	0	94.64	0	89.03	.332	2.199
SOC	937	47.989	21.713	2.06	97.32	4.98	91.44	.035	2.086
GOV	980	50.751	21.201	.47	98.7	11.35	92.75	.016	2.018
FirmAge	2442	25.669	17.337	-7	100	-2	85	1.019	4.366
FirmSize	1723	21.633	1.542	17.551	26.051	18.679	25.209	.37	2.576
Leverage	2269	.65	1.907	0	63.534	0	5.25	22.576	662.486
QuickRatio	2241	1.806	2.005	.053	38.987	.152	8.381	7.602	106.565
ROA	1496	.069	.097	-.989	.85	-.093	.437	.997	24.961

Notes: SGR represents the sustainable growth rate; Log (TLTA) denotes financial sustainability. ESG indicates the overall environmental, social, and governance score, while ENV, SOC, and GOV denote the environmental, social, and governance dimensions, respectively. FirmAge refers to the number of years since the firm's incorporation, and FirmSize is measured as the natural logarithm of total assets. Leverage is the ratio of total debt to total assets, and QuickRatio measures the firm's short-term liquidity. ROA (return on assets) is computed as net income divided by total assets. Skewness and kurtosis values are reported to assess the normality of the data distribution.

Correlation Analysis

Table 2 represents the pairwise correlations and the variance inflation factors (VIF) for the variables of this study. Based on the VIF results, all the values are less the conventional threshold of 5, indicating no serious multicollinearity concern. The results exhibit a strong and meaningful relationship between ESG performance and financial sustainability at statistical significance level of 1%. And also, a strong positive connection with firm size $r = 0.355$, $p < 0.001$) and leverage (0.313), indicating that larger firms and more geared firms might have greater ability to maintain operations through internal and external financing. FS is negatively related to the quick ratio (-0.602***), ESG performance is positively related with FS (0.266***) and especially with firm size (0.378***), consistent with the view that larger firms have more resources and external pressure to adopt ESG practices. The three pillars of ESG observed to be highly inter-related, particularly overall ESG and social (0.905***), which reflect their shared measurement base. Governance has weaker, yet significant, relationship with FS (0.120***), possibly due to governance reforms in Malaysia are more broadly mandated which reduces the variation. Leverage is negatively correlated with FS (-0.421***), suggesting that higher debt limits the firms' ability to grow sustainably, while ROA relates positively with SGR (0.112***) and negatively with FS (-0.186***).

Table 4

Pairwise correlations

Variables	VIF	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
(1) Log _e (TLTA)		1											
(2) SGR		-0.029	1										
(3) ESG		0.266***	0.019	1									
(4) ENV		0.270***	0.042	0.834***	1								
(5) SOC		0.232***	0.014	0.905***	0.727***	1							
(6) GOV		0.120***	0.004	0.626***	0.266***	0.361***	1						
(7) FirmAge	1.075	0.004	-0.026	0.012	0.122***	0.024	-	0.094***	0.037*1				
(8) FirmSize	1.302	0.355***	-0.013	0.378***	0.413***	0.347***	0.105***	0.008	0.191***	1			
(9) Leverage	1.168	0.313***	-	0.421***	0.033	0.026	0.005	-0.008	-0.047**	0.185***	1		
(10) Quick Ratio	1.186	-	0.602***	0.011	-	-	-	-	-0.003	-0.032	-	0.231***	
(11) ROA	1.104	-	0.186***	0.112***	0.074**	-0.013	0.085**	0.065*	0.045*	-0.026	-	0.247***	
												0.103***	
													0.162***

Log (TLTA) = Total Liabilities / Total Assets; SGR refers to the sustainable growth rate; ESG, ENV, SOC, and GOV represent the environmental, social, and governance dimensions, respectively. FirmAge is logarithm the number of years since incorporation; FirmSize is measured as the natural of total assets; Leverage represents the ratio of total debt to total assets; Quick Ratio measures short-term liquidity; and ROA is return on assets, calculated as net income divided by total assets.

Baseline Regression

Table 3 reports the baseline regression evaluations of financial sustainability (FS) on overall ESG performance and its individual pillars (ESG, SOC, GOV). Columns 1-4 represent the direct-effect models.

The direct-effect results show that ESG performance exerts a statistically and significant positive impact on FS ($\beta = 0.103$, $p < 0.01$). This finding is aligned with those of prior studies such as Almulhim et al. (2024) who reported that the engagement of ESG enhances firms' financial capacity, supporting legitimacy theory's view that transparency improve public trust and market confidence. Likewise, Wang and Jin, (2023) who confirmed that ESG performance contribute positively to sustainable development, emphasizing that firms with higher ESG scores tend to sustain competitive advantage and financial stability. Similarly, Lin (2024) offers evidence that ESG performance strength sustainable growth rate via reducing agency cost, stimulating innovation, and decrease risk exposure. Which demonstrate a clear pathway form ESG practices to financial sustainability. Moreover, Maama (2021) supported this association under legitimacy theory, suggesting that ESG reporting enhances stakeholders trust and corporate legitimacy, which in turn improves financial sustainability. In addition, from the theoretical view, this finding aligns with the stakeholder theory (Freeman, 2010), which argues that firms compliance with socially responsible practices create long-run value through meeting stakeholders needs, and with also the legitimacy theory (Suchman, 1995), which suggests that transparent ESG practices enhances the legitimacy and investors' confidence of the corporate.

Moreover, the individual analysis of ESG, shows that the environmental ($\beta = 0.021$, $p < 0.01$), social ($\beta = 0.311$, $p < 0.01$), and governance ($\beta = 0.205$, $p < 0.01$) pillars each contribute significantly to FS, highlighting the multifaceted nature of sustainability initiatives in promoting firms' financial outcomes. These findings are in line with prior studies such as (Oprean-Stan et al., 2020), who observed that the effective management of ESG dimension improves sustainable growth rate, whereas poor ESG risk management weakens financial performance. Likewise, Almulhim et al. (2024), confirmed that governance structure and responsible ESG engagement improves financial capacity, depending on the view of legitimacy theory that transparent corporate actions strengthen public trust and market confidence. Moreover, Wang and Jin, (2023) proved that superior environmental management, responsible social engagement, and effective governance improves firm performance by mitigating transaction costs and information asymmetry, thereby enhancing sustainable corporate value creation. (Lin, 2024), reported that social and governance dimensions exert the most substantial influence on SGR, which reflects the vital role of stakeholder relation and governance quality in supporting financial sustainability.

With respect of the theoretical perspective, it has been noted these findings indicate that firms addressing environmental responsibility and social welfare obtain legitimacy and support from their stakeholders, which in turn enhances financial sustainability (Hossain et al., 2024; Oprean-Stan et al., 2020). Similarly, the governance aspect is aligned with agency theory, as strong governance structures decrease information asymmetry and agency cost, enhancing managerial accountability and firm value (Lin, 2024; X. Wang & Jin, 2023).

Regarding the control variables results as expected, Firm age, firm size, leverage, quick ratio, and return on assets (ROA) are generally positive and significant, indicating that larger, older, more liquid, and more profitable firms tend to show higher levels of FS. The models describe approximately 38-40% of the variation in FS ($R^2 \approx 0.38-0.40$), suggesting a satisfactory overall fit. Overall, these results provide robust evidence that ESG engagement contributes to financial sustainability.

Table 5
Fixed Effect Model

Variables	(1) SGR	(2) SGR	(3) SGR	(4) SGR
ESG	0.101*** (1.723)			
ENV		0.276*** (0.115)		
SOC			0.081*** (1.982)	
GOV				0.403*** (0.702)
Firm Age	0.103** (2.288)	0.002* (1.062)	0.064*** (2.711)	0.002** (1.658)
Firm Size	0.004** (0.348)	0.008** (0.645)	0.009** (0.754)	0.007*** (0.568)
Leverage	0.002	0.001	-0.004	0.001

Variables	(1) SGR	(2) SGR	(3) SGR	(4) SGR
	(0.391)	(0.131)	(-0.955)	(0.216)
Quick Ratio	0.001	0.001	0.002	0.001
	(0.392)	(0.418)	(0.510)	(0.419)
ROA	0.017**	0.010***	0.013***	0.011***
	(0.572)	(0.328)	(0.440)	(0.380)
Constant	0.037***	0.141***	0.147***	0.118***
	(0.140)	(0.533)	(0.548)	(0.450)
Observations	663	663	625	663
R-squared	0.011	0.005	0.019	0.006

*t-values are in parentheses**** $p < .01$, ** $p < .05$, * $p < .1$

SGR refers to the sustainable growth rate. ESG, ENV, SOC, and GOV represent environmental, social, and governance performance, respectively. Firm Age is measured as the natural logarithm of the number of years since incorporation. Firm Size is measured as the natural logarithm of total assets. Leverage is calculated as total debt divided by total assets. Quick Ratio represents short-term liquidity. ROA (Return on Assets) is calculated as net income divided by total assets.

Robustness Test

Table 4 presents the regression results using an alternative measure of financial sustainability (FS) to assess the robustness of the main findings. Columns (1)–(4) report the direct effects of ESG and its individual components. The results consistently show that ESG performance ($\beta = 0.103$, $p < .01$) and its dimensions—environmental ($\beta = 0.021$, $p < .01$), social ($\beta = 0.311$, $p < .01$), and governance ($\beta = 0.205$, $p < .01$)—positively influence financial sustainability. These findings validate the robustness of the results obtained using the primary FS measurement, indicating that the observed relationships are not sensitive to alternative measurement specifications.

Table 6

Alternative measurement

Variables	(1) Log (TLTA)	(2) Log (TLTA)	(3) Log (TLTA)	(4) Log (TLTA)
ESG	.103*** (.377)			
ENV		.021*** (.771)		
SOC			.311*** (1.24)	
GOV				.205*** (.693)
Firm Age	.422*** (.351)	.021*** (.121)	.109*** (.025)	.003*** (1.009)
Firm Size	.068* (1.894)	.068* (1.909)	.069* (1.917)	.072** (2.04)
Leverage	.103*** (8.23)	.103*** (8.298)	.103*** (8.068)	.105*** (8.404)
Quick Ratio	.124*** (14.073)	.124*** (14.093)	.13*** (14.358)	.124*** (14.086)
ROA	.091*** (1.089)	.087** (1.037)	.099* (1.193)	.098** (1.182)

Constant	2.37*** (3.079)	2.341*** (3.076)	2.384*** (3.096)	2.484*** (3.29)
Observations	663	663	625	663
R-squared	.376	.376	.401	.376

*t-values are in parentheses*** p<.01, ** p<.05, * p<.1*

Log (TLTA) is used to measure the financial sustainability; where TLTA = Total Liabilities / Total Assets; ESG, ENV, SOC, and GOV represent the environmental, social, and governance dimensions, respectively. FirmAge is logarithm the number of years since incorporation; FirmSize is measured as the natural of total assets; Leverage represents the ratio of total debt to total assets; Quick Ratio measures short-term liquidity; and ROA is return on assets, calculated as net income divided by total assets.

Conclusion

This study investigates the effect of environmental, social, and governance (ESG) performance on financial sustainability (FS) among Malaysian non-financial firms. The results demonstrate that ESG performance significantly enhances FS, and each ESG pillar—environmental, social, and governance—contributes positively to firms' financial sustainability.

Overall, this study highlights that firms integrating strong ESG practices are better positioned for long-term financial sustainability. Policymakers should encourage greater assurance quality and ESG transparency, while firms should view ESG engagement not merely as compliance but as a strategic tool for resilience and value creation.

The findings of this study provide important implications for theory, practice, and policy. Theoretically, the results extend the ESG and sustainability literature within the frameworks of stakeholder theory and agency theory. They demonstrate that effective ESG practices reduce information asymmetry and agency conflicts while strengthening stakeholder trust and corporate legitimacy. Practically, the results highlight the need for firms to integrate ESG initiatives into strategic operations rather than treating them as compliance requirements. From a policy perspective, regulators such as Bursa Malaysia should promote greater transparency by enhancing ESG frameworks to ensure comparability and accountability across firms

Despite providing valuable insights, this study opens several avenues for future investigation. Future research could explore additional moderating or mediating factors such as audit quality, board diversity, ownership structure, or risk management practices that may influence the ESG–financial sustainability link. Expanding the scope to include financial institutions or extend the analysis to other emerging markets for cross-country comparisons would enhance generalizability. In addition, researchers may also employ alternative measures of financial sustainability.

Contribution of the Study

This study provides meaningful theoretical and contextual contributions to the growing literature on ESG and financial sustainability. From a theoretical standpoint, the findings extend stakeholder theory and agency theory by demonstrating that ESG performance operates as both a value-creation and risk-reduction mechanism. Specifically, ESG engagement enhances transparency, reduces information asymmetry, alleviates agency

conflicts, and strengthens stakeholder relationships. By explicitly linking ESG performance to sustainable growth rate (SGR), this study advances the literature beyond traditional firm performance measures and offers a more comprehensive understanding of how ESG contributes to long-term financial sustainability.

In doing so, the study integrates insights from stakeholder theory and agency theory, emphasizing that these perspectives are complementary and interdependent rather than mutually exclusive. ESG practices act as a bridging mechanism that reduces information asymmetry between principals and agents while simultaneously aligning managerial decisions with broader stakeholder expectations. This integration highlights that effective ESG implementation not only mitigates agency conflicts but also strengthens stakeholder relationships, ultimately supporting firms' long-term financial sustainability.

From a contextual perspective, this research offers important insights within the Malaysian setting, where ESG practices have evolved alongside regulatory reforms and increased institutional support. Focusing on non-financial listed firms over a period of significant ESG development, the study demonstrates that ESG adoption has tangible financial implications in emerging markets. This is particularly important given the limited empirical evidence in such contexts. Therefore, the study not only fills a geographical and empirical gap but also provides policy-relevant insights into how ESG frameworks can enhance corporate sustainability in developing economies.

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