

Exploring the Correlation Between ESG Performance and Firm Value in Indonesia Shariah-Compliant Companies

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ABSTRACT

Corporate Social Responsibilities (CSR) has become essential to contemporary business operations, highlighting a company's dedication to ethical, social, and environmental obligations. This study examines the relationship between Environmental, Social, and Governance (ESG) scores and the firm value of Indonesia Shariah-compliant companies. The data is attracted from the Refinitiv database, and all the companies in this study have ESG reporting from 2012 to 2022, with a total data collection of 117. The STATA version 16 software was used to analyze the data for the study. This study employed unbalanced panel data regression analysis with two measures as dependent variables ROE and stock price. Independent variables in this study are return on equity (ROE) and stock price, while control variables are firm age, firm size, and leverage. The findings show varied outcomes regarding the impact of ESG initiatives on financial performance. While ESG initiatives were found to have a significant and strong relationship with overall financial performance, the results were divergent for ROE and stock price. The regression model indicates that ESG initiatives negatively influenced ROE, whereas they positively correlated with increases in stock price. The study is based on secondary data from Shariah-compliant companies in Indonesia, including the ESG disclosure for the company's performance. Policymakers should promote balanced, tailored ESG initiatives with strong reporting standards, encourage long-term value creation, provide sector-specific support, and enhance investor attraction through education and incentives to optimize financial performance and sustainability in Indonesia's Shariah-compliant companies.

Keywords: ESG, Return on Equity, Stock Price, Panel Data, STATA

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INTRODUCTION

ESG is an acronym that investors commonly used to evaluate companies based on their environmental, social, and governance practices. These criteria are non-financial metrics that gauge ethical standards, social responsibility, and corporate governance practices to identify exemplary corporate behavior. ESG criteria have emerged as a guiding framework for businesses and investors aiming to synchronize their practices and investments with sustainability and ethical values. In addition, ESG is undeniably a trend that has been ongoing for a while (S. Li et al., 2022). However, its adoption has significantly expedited during the health emergency. The successive waves of epidemic restrictions and lockdown measures have actively driven companies to decrease their carbon emissions (Sahin et al., 2022).

Recently, there has been increasing interest in examining the relationship between ESG practices and corporate valuation (Gao et al., 2022). ESG practices benefit shareholders, as they provide protection and help maintain the distinction between decision-making and control within an organization (Lin et al., 2022). Specifically, behavioral science has contributed to a more significant body of research focused on the autonomy of management (Jin & Kim, 2022). The relationship between corporate social responsibility (CSR) and financial performance has been studied extensively since the 1960s. Fatemi et al. (2018) highlight the growing interest in CSR practices and the strength of ESG (Environmental, Social, and Governance) considerations. Such CSR practices are becoming increasingly important as companies understand how ESG factors affect their image, reputation, competitiveness, and investment decisions.

The shift from CSR (corporate social responsibility) to ESG (environmental, social, and corporate governance) offers many benefits to companies (Sciarelli et al., 2021). ESG represents a comprehensive measure of an organization's commitment to environmental sustainability (Qiang et al., 2023), social responsibility (Aramburu & Pescador, 2019) and corporate governance. This shift plays a significant role in assessing how well companies align with national policies and evaluating the impact of their investment and financing choices. Investors increasingly rely on ESG as a benchmark for corporate sustainable development, using it to guide their investment decisions in alignment with policy requirements and market trends (Pedersen et al., 2021). This approach aims to enhance their investments' safety and profitability, making ESG a critical factor in modern investment strategies.

To position our study alongside these examining the effects of non-financial information disclosures on financial performance, we have formulated several hypotheses and utilized a composite disclosure index called the ESG Score to measure the average level of disclosure on ESG information. Additionally, we used the ROE profitability indicator to measure financial performance (Sandberg & Johnson, 2020). We also analyzed the relationship between the disclosure behavior through non-financial statements and the Stock price. Numerous studies demonstrate the inter-linkages of the three dimensions of ESG dimensions (Environmental, Social, and Governance) to improve corporate performance (Pacelli et al., 2022).

The objective of this study is the relationship between ESG scores and the profitability of Indonesia Shariah-compliant companies. This study introduces three key innovations: first, the study analyses the impact of ESG performance on corporate value and addresses the positive feedback effect among various stakeholders; second, the further study uses the control variable to test the control feedback of leverage and company's size (Zhou et al., 2022). Further, in the study of Indonesia shariah-compliant companies, we use the ESG score from Refinitiv.

However, this paper is structured as follows: The next section presents the literature review and research hypotheses regarding the relationship between ESG performance and changes in a company's return on capital and stock price. Data and research methodology introduce the sample, model, and variables, which are presented followed in the next section, and the section afterwards describes the methodology, data analysis, solution, results, and their interpretation followed by a discussion of the limitations and insights of the proposed models. Conclusions are presented in the last section.

LITERATURE REVIEW AND RESEARCH HYPOTHESIS

Underpinning Theory

Stakeholder theory. This theory demonstrates that managers must make decisions that benefit all stakeholders. Freeman (1984) mentioned that the stakeholder theory assumes that the ultimate success of products and services depends on satisfying the interests of diverse coalition partners, who are company stakeholders, through a network of joint ventures. According to the theory, a company's true purpose is to address the needs of its stakeholders, which include individuals affected by the company's decisions (Linnenluecke, 2022). Therefore, the stronger the stakeholders, the more companies try to adapt (Pfajfar et al., 2022).

Stakeholder theory examines how investment decisions of economic agents have different impacts on society and the environment. The theory integrates the sustainable use of resources, market-oriented economics, and governance. Also, the interrelationship between these factors in determining the investment choices made by economic agents (Saleem & Mansor, 2020). The stakeholder theory ensures that the well-being of all individuals and organizations involved in the production process and the welfare of society, and the environment are considered. The Efficient Market Hypothesis laid the foundation for individual's and organizations' current financial culture and investment decisions. This has created a mindset focused on rational thinking, maximizing profits, and minimizing costs. To address this, it is essential to adopt a sustainable approach that considers the welfare of all economic stakeholders.

Implementing ESG initiatives can significantly enhance a company's stakeholder relationships (Wong et al., 2022). For instance, adopting environmentally friendly practices can improve a company's reputation and attract environmentally conscious consumers, while fair labor practices can lead to higher employee satisfaction and retention. Additionally, robust governance practices can build investor trust and reduce the risk of scandals or regulatory fines. By addressing the concerns and interests of various stakeholders through ESG initiatives, companies can foster a more loyal customer base, a motivated workforce, and a supportive community, all of which contribute to long-term business success.

However, an agency theory (Jensen & Meckling, 1976) posits that firms are part of society and value measurement is primarily based on fulfilling certain social expectations. It is important that management successfully addresses a range of interests and prioritizes stakeholders' conflicting demands when setting corporate goals. In an agency relationship, conflicts of interest can arise between the principal and the agent (Laffont & N'Guessan, 1999). Shareholders typically seek higher profitability and dividends, while managers, as agents, are driven to fulfill their own economic and psychological needs. Because of these dynamics, management may engage in earnings management when preparing financial statements.

Management can monitor and control potential opportunistic behavior by implementing good corporate governance (GCG) practices to address this issue.

Agency theory, on the other hand, explores the relationship between principals (shareholders) and agents (company executives), focusing on the conflicts that arise from differing interests and asymmetric information (Panda & Leepsa, 2017). In the context of ESG, agency theory highlights potential misalignments between shareholders' desires for sustainable, ethical business practices and executives' focus on short-term financial gains. This misalignment can lead to suboptimal decision-making, where executives may prioritize actions that enhance their incentives, such as bonuses and stock options, over long-term ESG initiatives. Therefore, effective governance mechanisms are essential to align the interests of both parties, ensuring that executives are held accountable for incorporating ESG considerations into their decision-making processes.

Environmental, Social, and Governance

ESG refers to non-financial information that shows how companies address these challenges and is gaining importance in corporate valuation. The term “ESG” is often used in corporate procedures to identify a set of ESG elements that can be used to assess the long-term sustainability of investments. These elements incorporate both traditional economic and financial parameters. Generally, companies' dedication to sharing their ESG practices is used as a measure of their ESG performance (Khoury et al., 2021).

Environmental, Social, and Governance (ESG) factors have become integral components in evaluating the sustainability and societal impact of an investment in a company or business. ESG criteria are used by investors to screen potential investments, ensuring that their portfolios are not only profitable but also ethically and environmentally responsible. The emphasis on ESG has grown substantially over the past decade, driven by increasing awareness of climate change, social inequalities, and the need for robust corporate governance practices.

Environmental considerations in ESG focus on a company's impact on the planet. This includes how a company manages its carbon footprint, waste management, natural resource conservation, and efforts to mitigate climate change. Companies are assessed on their policies and practices related to pollution reduction, energy efficiency, and environmental sustainability. Investors are increasingly prioritizing companies that demonstrate a strong commitment to reducing their environmental impact, as these companies are often better positioned to face regulatory changes and shifting market demands.

Social aspects of ESG involve a company's relationships with its employees, customers, suppliers, and the communities in which it operates. Key issues include labor practices, diversity and inclusion, human rights, and community engagement. Companies that prioritize social responsibility tend to foster better employee morale, customer loyalty, and community support. They are also more likely to avoid controversies that can damage their reputation and financial standing. Socially responsible companies are seen as better long-term investments because they build strong, sustainable relationships that contribute to their overall success.

Governance in the context of ESG refers to the internal systems of practices, controls, and procedures that a company adopts to govern itself, make effective decisions, comply with the law, and meet the needs of external stakeholders. This includes board composition, executive compensation, shareholder rights, and transparency. Good governance practices are essential

for maintaining investor trust and achieving long-term business success. Companies with strong governance structures are generally more resilient, better managed, and capable of navigating complex regulatory environments.

Integrating ESG factors into investment decisions is not just about ethical considerations; it also correlates with financial performance. Numerous studies have shown that companies with high ESG ratings often experience lower costs of capital, reduced volatility, and higher operational performance. Investors recognize that sustainable and responsible business practices can lead to better risk management and create long-term value. As a result, there is a growing trend towards incorporating ESG criteria into mainstream investment strategies.

However, the disclosure of non-financial information presented through ESG considerations considers the public's rights and interests and is increasingly valued by stakeholders. It contributes to the long-term sustainable development of both the companies and society. As a result, ESG-related topics have become a significant area of research. The concept of ESG originated from ethical investment and responsible investment practices. (Michelson et al., 2004). The United Nations Principles for Responsible Investment (UN-PRI) formally proposed this in 2006. ESG is an Environmental, Social, and Governance acronym and aims to consider corporate performance in all three dimensions instead of just financial performance. It has a significant influence on investors' investment approaches. After the United Nations introduced the Sustainable Development Goals (SDG) in 2015, countries began implementing ESG-related policies and regulations to promote their development internally. As a result, the concept of ESG has rapidly gained global traction.

Boffo et al. (2020) differentiate ESG components based on Bloomberg, Refinitiv and MSCI. The differentiate between three databases can be seen in the table below:

Table 1
ESG Components

Component	Bloomberg	Refinitiv	MSCI
Environmental	Carbon Emissions Effects of Climate change Pollution Disposal of water Renewable Energy	Use of Resources Emissions Innovation	Climate Change Natural Resources Pollution & Waste Environmental Opportunities
Social	Depletion of resources Supply Chain Discrimination Political Contribution Community relations	Workforce Human rights	Human Capital Product liability
Governance	Cumulative Voting Executive compensation Shareholders' rights Takeover defence Staggered boards Independent directors	Management Shareholders CSR Strategy	Corporate governance Corporate behavior

Source: ESG Investing: Practices, Progress and Challenges (OECD Assessment)

Based on Table 1, ESG frameworks of Bloomberg, Refinitiv, and MSCI each have distinct focuses and criteria, reflecting their unique approaches to assessing company performance in these areas. For the Environmental component, Bloomberg emphasizes carbon emissions, the effects of climate change, pollution, water disposal, renewable energy, and the depletion of resources. Refinitiv, on the other hand, looks at the use of resources, emissions, innovation,

and how companies manage environmental opportunities. MSCI concentrates on climate change, natural resources, pollution and waste, and environmental opportunities. These differences highlight each provider's varied methodologies and priorities to evaluate environmental performance.

In the Social and Governance components, the distinctions are equally pronounced. Bloomberg focuses on supply chain management, discrimination, political contributions, and community relations in the social aspect, while Refinitiv emphasizes workforce, human rights, and product liability. MSCI, however, centers on human capital. Regarding Governance, Bloomberg considers factors like cumulative voting, executive compensation, shareholders' rights, takeover defense, staggered boards, and independent directors. Refinitiv looks at management, shareholders, and CSR strategy, whereas MSCI focuses on corporate governance and corporate behavior. These variations underscore how each provider tailors its evaluation criteria to capture different dimensions of a company's social and governance practices, reflecting their unique perspectives and methodologies in ESG assessment.

ESG and Maqasid Shariah

Environmental, Social, and Governance (ESG) principles have emerged as a comprehensive framework guiding ethical and sustainable business practices (Armstrong, 2020). These principles focus on reducing the environmental impact (Chen & Xie, 2022), promoting social equity (Kim et al., 2022), and ensuring strong governance structures within organizations (Menicucci & Paolucci, 2023). Thus, in recent years, ESG criteria are increasingly utilized by investors to assess the long-term sustainability and ethical impact of a company's operations, thereby influencing investment decisions and corporate behavior (Yang & Li, 2023).

Maqasid Shariah refers to the higher objectives or goals of Islamic law, aimed at ensuring the welfare and interests of society (Bhat et al., 2023). These objectives are generally categorized into five essential goals: protection of faith, life, intellect, progeny, and wealth. Maqasid Shariah aims to promote justice, economic stability, and social welfare, aligning closely with ethical and moral considerations that transcend mere legal compliance. Moreover, Al-ayubi (2021) using the normative analysis on Maqasid al-sharia shows that Maqasid shariah in Islamic finance brings justice and welfare to society and realizes the continuity of human life on this earth. Therefore, Maqasid shariah as an urgency for the Muslim, especially in the minorities Western countries (Mawardi, 2020).

Concerning the environmental aspect of ESG aligns with the Maqasid Shariah goal of protecting life (hifz al-nafs). Islamic teachings emphasize the importance of preserving natural resources and maintaining ecological balance as a form of safeguarding human life (Wahab & Naim, 2022). Sustainable environmental practices, such as reducing pollution and conserving resources, resonate with the Islamic principle of stewardship (khalifah) over the Earth, ensuring that current and future generations can thrive in a healthy environment.

The social dimension of ESG principles, which includes human rights, labor practices, and community development, correlates with Maqasid Shariah's objectives of protecting progeny (hifz al-nasal) and intellect (hifz al-aql) (Shaikh, 2017; Meskovic et al., 2021). Islamic law advocates for the fair treatment of all individuals, the provision of education, and the support of family structures. Social responsibility in ESG ensures that businesses contribute to the well-being and intellectual development of their employees and communities, which is integral to achieving the broader goals of Maqasid Shariah (Arsad et al., 2022).

Moreover, the governance aspect of ESG, focusing on transparency, accountability, and ethical leadership, aligns with the Maqasid Shariah objective of protecting wealth (*hifz al-mal*) (Rahman & Haron, 2019; Prasajo et al., 2022). Good governance practices ensure businesses operate with integrity and accountability, preventing corruption and fostering trust (Prasajo et al., 2023). This alignment promotes economic justice and the equitable distribution of resources, ensuring that wealth is protected and utilized to benefit society (Meskovic et al., 2023; Rahim et al., 2024).

Therefore, integrating ESG principles and Maqasid Shariah creates a holistic approach to sustainable development that respects ethical and religious values (Lee & Isa, 2022). Businesses that adopt this integrated framework can better address the needs of all stakeholders, balancing profit with social and environmental responsibility. This alignment enhances corporate reputation and contributes to long-term economic stability and societal well-being, reflecting a commitment to ethical practices that resonate deeply with Islamic teachings and global sustainability goals (Harahap et al., 2023).

ESG and Financial Outcome

Several scholars have found that ESG enhances firm value (Wu et al., 2022; Khan et al., 2021; Quintiliani, 2022; Egorova et al., 2021). By studying Chinese listed manufacturing companies, Wu et al. (2022) show that ESG performance significantly enhances firm value, while the moderating role of ownership concentration and capital adequacy ratio is significant. Moreover, according to (Duan et al., 2023), the ESG performance of manufacturing companies positively impacts corporate value significantly. In addition, the effect of the quality of ESG information disclosure on the firm's value. Fatemi (2018) finds that ESG strengths increase firm value while weaknesses decrease it. On the other hand, the result is that ESG disclosure itself reduces valuation.

Yoon et al. (2018) conducted a study in the Korean capital market using ESG scores to evaluate CSR performance and explore its impact on corporate valuation. The results showed that CSR practices have a positive and significant impact on a company's market. However, the impact on stock prices varies depending on the characteristics of the company. The positive impact of CSR on value creation is lower for companies in sensitive sectors compared to companies in other sectors. This conclusion is derived from a panel data analysis of China's listed non-financial A-share companies from 2011 to 2020. Zheng et al. (2022) find that high-quality ESG performance attracts attention from media and analyst attention, which in turn increases stakeholder pressure and thus firm value.

According to Serafeim & Yoon (2022), consensus ratings predict future news, but their prediction accuracy decreases for companies with large disagreements among raters. This hinders the incorporation of value-related ESG news into pricing, as ratings predict future news and act as a proxy for market expectations of future news. Furthermore, a study by El Khoury et al (2021) points out that there is a negative relationship between ESG and corporate risk. In addition, companies with more comprehensive ESG disclosure practices tend to exhibit a positive association with stock market returns, suggesting that strong ESG performance correlates with better stock market performance. Murata & Hamori (2021) examines the determinants of exploring stock price crash determinants, which is helpful for investment decisions and risk management. The study suggests that ESG disclosures lower future stock price crash risk.

Interestingly, Kim & Koo (2023) find contradictory results in terms of ESG ratings and their impact on information asymmetry, firm value, and trading behavior. The study finds that ESG rating divergence negatively impacts cumulative abnormal returns, especially under conditions of short selling constraints. However, in Thailand, ESG level does not impact the market reaction. With the top 50 listed companies from the Stock Exchange of Thailand, there are no differing levels of social and governance disclosures between the high- and low-profile industry. Thus, the study revealed that environmental and social disclosures positively influenced market reactions, whereas governance disclosures had a negative impact on market reactions. Similarly, Amri & Chaibi (2023) presents no association between CSR and stock price volatility.

To include our study among those investigating non-financial disclosures and their impact on firm value, we have developed several hypotheses. We measured the average degree of disclosure on non-financial information using a composite disclosure index (ESG Score) and assessed financial performance (ROE) and Stock Price indicator. Additionally, we examined the correlation between disclosure behavior in non-financial statements and the firm value indicator. We aim to contribute to the limited number of studies that examine the combined impact of ESG practices disclosures on firm value in the Shariah-compliant companies in Indonesia. We believe that companies that engage in ESG practices and are recognized by the stock market authority (included in the ESG index) are more likely to gain a competitive advantage and be viewed more positively by investors. We will test the following two hypotheses to investigate this:

H1. How does the environmental score positively affect ROE and Stock Price?

H2. How does the social score positively affect ROE and Stock Price?

H3. How does the governance score have a positive effect on ROE and Stock?

H4. How does the ESG score positively affect ROE and Stock Price?

DATA AND METHODS

The data collected and analyzed include financial information related to ESG indicators and non-financial information comprising ESG variables. The study covered the period from 2012 to 2022, primarily sourcing information from annual reports of 22 Shariah-compliant companies listed on Indonesia Shariah Stock Index (ISSI). The data extracted from the Refinitiv database. We chose a specific time frame to analyze the disclosure behavior of Shariah-compliant companies concerning non-financial information. Manual collection of data was conducted from the financial statements, non-financial reports, and sustainability reports of selected companies. The criteria for company selection included ongoing operations, publication of annual reports on their websites, availability of financial statements for the years 2012-2021, and non-financial statements or sustainability reports for the same years.

Variables and Model

Dependent Variables

This study uses ROE as a proxy to measure financial performance (A Buallay, 2018). Return on Equity (ROE) is a widely used accounting method to determine a company's financial and operating performance. Yearly closing prices usage as a stock price variable, and the data collected from the Refinitiv database.

Independent Variables

This study used four independent variables: ESG score, Environment score, social score, and governance score. All data was collected by Refinitiv. Many researchers prefer to use Refinitiv ESG scores in their studies (Aluchna et al., 2022). Refinitiv offers one of the most comprehensive ESG datasets on the market. Their data dates to 2002 and assesses the ESG performance of various companies across three pillars covering a range of themes and over 600 criteria.

Control Variables

Several control variables were introduced into the regression model to eliminate other factors' influence on firm value. Tanikawa & Jung (2016) reported that the longer a company is listed on the stock exchange, the better its reporting structure and the greater the environmental pressure (Akhter et al., 2022). Thus, the longer a company is listed on the stock exchange, the higher the company's disclosure level of environmental responsibility. In addition, by company size, stakeholders' attention was higher for large companies.

Table 2
Variable Description

Type	Variable name	Variable symbol	Variable description
Dependent variable	Firm value	ROE Stock Price	
Independent variable	ESG Score	ESG	ESG rating
		Env Score	Environmental rating
		Soc Score	Social rating
		Gov Score	Governance rating
Control variable	Leverage	Gearingrate	Asset-liability ratio, which is liabilities/total assets
	Firm Size	Ln_total asset	Natural logarithm of total assets (ln)

Empirical Model

This study aims to examine the significant impact of ESG ratings on financial performance, specifically Return on Equity (ROE), and market value, represented by Stock Price. The regression model:

$$ROE_i, Stock Price_i = \alpha + \beta_1 E_i + \beta_2 S_i + \beta_3 G_i + \beta_4 ESG_i + \mu \quad (1)$$

The extension of equation (1) for the variable reflection, the baseline model is formulated as follows:

$$ROE = \alpha + \beta_1 E_i + \beta_2 S_i + \beta_3 G_i + \beta_4 ESG_i + \mu \quad (2)$$

$$Stock Price = \alpha + \beta_1 E_i + \beta_2 S_i + \beta_3 G_i + \beta_4 ESG_i + \mu \quad (2)$$

In panel data analysis, there are three types of analysis to estimate models. First, pooled ordinary least squares regression (OLS), fixed effects regression, random effects regression (Baltagi Badi H, 2005). According to Mehmetoglu and Jakobsen (2016), OLS regression assumes that errors are independent of each other and normally distributed. This enables for the exploration of the relationship between dependent and explanatory variables within a unit. Social researchers prefer fixed-effects regression because it allows for the identification of a

causal effect under weaker assumptions (Brüderl and Ludwig, 2015). On the other hand, random-effects regression is used when there is little or no covariation between the error term and the explanatory variables (Mehmetoglu and Jakobsen, 2016).

When analyzing panel data, OLS regression is not recommended as it not distinguish between selection and actual effects in determining the results (Mehmetoglu and Jakobsen, 2016). The Hausman test described by Mehmetoglu and Jakobsen (2016), is applied to determine which regression method to use and ensure efficiency. The null hypothesis in the Hausman test is that there is no covariance between individual-specific effects and explanatory variables (Zhao et al., 2018). If there is covariance, fixed effects regression is preferred, and random-effects regression is appropriate if there is no covariance (Zhao et al., 2018).

RESULT AND ANALYSIS

Descriptive Statistic

According to Table 3, the descriptive statistics explain the mean, maximum, minimum and standard deviation of the sample of Shariah-compliant companies based on ISSI of the sample of financial performance from 2012 to 2022.

Table 3
Descriptive Statistic

Variable	Obs	Mean	Std. dev	Min	Max
ROE	188	0.1288275	0.1400764	-0.4436329	0.7354497
Stock Price	188	0.2622851	0.2868752	0.0097951	1.661167
E Score	188	34.03463	25.9571	0	91.64
S Score	188	51.11745	24.25354	5.56	96.95
G Score	188	51.31372	22.97454	2.98	95.21
ESG Score	188	46.84521	20.17096	8.16	89.64
LEV	188	1.301051	0.9680861	0.1431271	5.905665
SIZE	188	21.80373	0.8007664	19.61096	23.68869

The 188 observations in the output table display that the value of ROE and Stock Price (minimum) is -0.4436329 and 0.009795; and the value of ROE and Stock Price (maximum) is 0.7354497 and 1.661167. Regarding the environmental score (E Score), the average value is 45.82, the minimum value was 0 and the maximum was 91.64. This indicates that there was a shariah compliant companies in the sample that did not disclose any environmental risks. Social score (S Score) and Governance score (G Score) have the average value 51.255 and 49.095 respectively. And for the ESG Score, minimum value at 8.26 and maximum was 89.64 with the mean of 46.84521. However, the data reveal that among the three dimensions of ESG Score, companies generally disclose more information about social performance, whereas there were companies that did not disclose information about the environmental dimensions.

Correlation Analysis

Table 4 shows the Pearson correlation matrix of the dependent, independent, and control variables. The results show that ROE has a positive and significant correlation with E score, S Score, and ESG Score. Conversely, the result shows that the ROE has a negative and significant

correlation with G score, leverage, and the company's size. According to Pucheta et al. (2020), if the correlation coefficient between the dependent variable and the independent variables is less than 0.80, it is assumed that multicollinearity is not an issue in the multivariate analysis. Therefore, based on this assumption, multicollinearity is not expected to be a problem in the multivariate analysis. Another observation is that ESG and company size tend to increase together, suggesting that larger companies tend to have higher ESG scores. This relationship is consistent with findings from previous studies (Atan et al., 2018).

Table 4
Correlation

	ROE	Stock Price	E Score	S Score	G Score	ESG Score	LEV	SIZE
ROE	1.0000							
Stock Price	0.2534	1.0000						
E Score	0.0266	0.1336	1.0000					
S Score	0.0342	0.1126	0.7256	1.0000				
G Score	-0.1157	-0.1894	0.4011	0.519	1.0000			
ESG Score	0.0013	0.0592	0.8272	0.9151	0.7394	1.0000		
LEV	-0.2582	-0.0211	-0.2911	-0.1468	-0.0921	-0.1849	1.0000	
SIZE	-0.2829	0.2918	0.1130	0.0398	-0.125	0.0132	0.3848	1.0000

Note: This table represents the correlation coefficients between ESG score, financial performance, stock price and control variables for the whole sample. *Indicate significance at the 5% level ($p < 0.05$)

The Goodness Test

Testing is crucial in research as it showcases the degree of scientific rigor in the study. To evaluate the model's scientific viability, four tests were employed: Ordinary Least Square Regression, Fixed Effects, Random Effects, and Robustness tests utilized the following results in the Table 5 below.

Table 5
Testing the Goodness of Fit Model

Variables	Model					
	OLS (ROE)	Fixed Effects (ROE)	Random Effect (ROE)	OLS (Stock Price)	Fixed Effects (Stock Price)	Random Effect (Stock Price)
E Score	-0.0021102	-0.0020683	-0.0012562	-0.0061303	0.0094834	0.0041544
S Score	-0.0024668	-0.0002614	-0.0008096	-0.007541	0.0057923	0.0005943
G Score	-0.0039156	-0.0005779	-0.0017155	-0.0110731	0.0060171	0.0015516
ESG Score	0.0080519	0.0010052	0.0028284	0.0245193	-0.0199886	-0.0070818
LEV	-0.0267281	0.0257523	-0.0086292	-0.0465605	0.0028568	-0.0213653
SIZE	-0.04306	-0.0860894	-0.0559577	0.1099084	-0.2764016	-0.0213653
Constant	1.124112	2.038713	1.397551	-2.059842	6.293914	0.8987269
Observation	188	188	188	188	188	188
R-squared	0.1681	0.0222	0.1175	0.2169	0.0823	0.0052
Number of years	12	12	12	12	12	12

Panel Data Regression

Tables 6 and 7 display the outcomes of the regression models and summarize the p-values, z-statistics, and coefficients. Running panel regression in Stata produces accurate results. The coefficient column provides insight into how the independent variables contribute to predicting the change in the dependent variable, assuming the other variables remain constant. The p-value column assigns the significance of the effect. An asterisk (*) indicates significance at the 0.05 level. The bottom of the tables provides various measures for assessing the model's fitness.

The regression results for both dependent variables, ROE and stock price, are shown in Tables 6 and 7, respectively. As shown in Table 6, the R-squared value of the linear regression model for the dependent variable, ROE, is 0.0781. This means that the independent variables explain 7.81% of the variation in the independent variables. The F-statistic of the model, 2.26, indicates statistical significance, indicating that the overall model has explanatory power. Each coefficient of the independent variables represents its impact on the prediction of the dependent variable, controlling for other factors. The p-values associated with these coefficients indicate the statistical significance of their respective impacts on the dependent variable. In particular, the ESG score positively affects the dependent variable, whereas the individual E, S, and G scores have adverse effects. These findings underscore the significant contribution of each independent variable to the model at a 5% significance level.

Table 6
Fixed-Effects Regression Model for ROE

	ROE			
	Coefficient	Std. error	t-test	p-value
E Score	-0.0020683	0.0025245	-0.82	0.414
S Score	-0.0002614	0.0032029	-0.08	0.935
G Score	-0.0005779	0.0022936	-0.25	0.801
ESG Score	0.0010052	0.0074132	0.14	0.892
LEV	0.0257523	0.212007	1.21	0.226
SIZE	-0.0860894	0.527167	-1.63	0.104
Cons	2.038713	1.126444	1.81	0.072
R-squared	0.0781			
F	2.26			
Prob	0.0404			
Sigma_u	0.114486211			
Sigma_e	0.10872337			
rho	0.52580084			

Table 7 shows that the R-squared value of the linear regression model for the dependent variable “stock price” is 0.1327. This means that the independent variables explain 13.27% of the variation in the independent variable. The F-statistic of the model was 4.08, which indicated that the model is statistically significant. The coefficient of each independent variable shows the impact in terms of predicting the dependent variable, holding other variables’ impacts constant. The p-value of each independent variable shows the significance of its impact in terms of predicting the dependent variable. The coefficients show that the E-score, S-score, and G-score positive contribution to the dependent variable. The p-values indicate that each independent variable is highly significant to the model at the 5% level.

Table 7
Fixed-Effects Regression Model for Stock Price

	Stock Price			
	Coefficient	Std. error	t-test	p-value
E Score	0.0094834	0.0035864	2.64	0.009
S Score	0.0057923	0.00455	1.27	0.205
G Score	0.0060171	0.0032583	1.85	0.067
ESG Score	-0.0028568	0.0105313	-1.9	0.059
LEV	0.0028568	0.030118	0.09	0.925
SIZE	-0.2764016	0.07489	-3.69	0
Cons	6.293914	1.600241	3.93	0
R-squared	0.1327			
F	4.08			
Prob	0.0008			
Sigma_u	0.38835242			
Sigma_e	0.15445387			
rho	0.86342528			

DISCUSSION

The study investigates the impact of ESG scores on the corporate value and market performance of 188 companies listed on the Refinitiv index from 2012 to 2022. Specifically investigated the impact of ESG score on firm performance, as measured using the accounting-based metric ROE, and on market valuation, as measured using the stock price. The regression models' results confirm this study's stated hypothesis, suggesting that the ESG score has a significant positive impact on financial performance.

This study has a similar result with Alareeni & Hamdan (2020) which deployed the result of ESG and financial performance relationship of US S&P 500-listed companies from 2009 to 2018. The study found that the higher the level of ESG, ENV, CSR, and CG disclosure, the higher the ROA and ROE. In addition, there is an increasing interest in sustainable performance (ESGP and CFP) in the case of 100 best corporate citizens in the US (Qureshi et al., 2021). However, for the non-financial firms, it is consistent with the stakeholder theory that ESG practices have more impact on the market performance rather than accounting performance (Nguyen, 2022).

However, this study is different from the previous studies such as (Rao et al., 2023)(), which depicted that there is a consistent negative impact with the high statistical significance between environmental score and the governance pillar score. Gutiérrez-Ponce & Wibowo (2024) measured the relationship between ESG and FP in the 19 banks from emerging countries in Southeast Asia during the period 2010-2020. The findings show that ESG has a significant negative effect on all measures of FP (ROA, ROE, and TQ). In the study, when considering additional control variables in the study such as macroeconomic and governance effect, there is a negative relationship between ESG and ROE (Buallay et al., 2023).

The study finds that Environmental, Social, and Governance (ESG) performance has a negative effect on stock prices (Li et al., 2020). This negative relationship can be attributed to several factors. Firstly, implementing ESG practices often involves significant upfront investments and

ongoing costs, such as adopting environmentally friendly technologies and ensuring fair labor practices, which can reduce short-term profitability and negatively impact stock prices (Cho, 2022). Additionally, investors may perceive ESG initiatives as a diversion of resources from core business activities, leading to a decline in stock prices if the market believes that a company should be focusing more on ESG at the expense of its primary operations (Fabozzi et al., 2021). Furthermore, Gao et al. (2023) shows that ESG initiatives typically yield benefits over the long term, such as enhanced reputation and reduced regulatory risks, but stock markets often prioritize short-term financial performance, causing the immediate impact of ESG investments on profitability to result in a negative reaction from investors.

Moreover, ESG initiatives can introduce uncertainties and risks (Wang et al., 2022), such as changes in regulatory requirements and evolving stakeholder expectations (A. Kumar et al., 2022), creating volatility in stock prices due to investor uncertainty about the future impact of these practices (Kim & Park, 2022). Finally, suppose a company invests heavily in ESG practices while its competitors do not. In that case, it may face a competitive disadvantage in terms of cost structure, potentially allowing competitors with lower costs to capture a larger market share and further negatively affecting the ESG-focused company's stock price (Disli et al., 2022). Overall, while ESG practices aim to create long-term value and sustainability, their initial financial impact can be perceived negatively by the market, leading to a decrease in stock prices (Chu et al., 2022; Conca et al., 2020).

Finally, the hypotheses are tested using panel data regression with two models corresponding to the two dependent variables: ROE (Quintiliani, 2022) and stock price (Xu et al., 2023). Despite utilizing different dependent variables, both models produce similar results, indicating a positive relationship between ESG performance and both ROE and stock prices. This study underscores the importance for investors to consider firms' ESG scores when making investment decisions, as companies with higher ESG performance tend to generate higher returns and demonstrate better financial performance (Kumar, 2023).

Stakeholder theory and Environmental, Social, and Governance (ESG) considerations are closely aligned, as both emphasize the importance of addressing the needs and concerns of a wide range of parties affected by a company's operations beyond just shareholders. Stakeholder theory advocates for companies to consider the interests of employees, customers, suppliers, communities, and the environment in their decision-making processes (Kalia & Aggarwal, 2022). Integrating ESG criteria into business strategies embodies this holistic approach, promoting sustainable and ethical practices that balance economic performance with social and environmental impact (Reboredo & Sowaity, 2022). By adopting ESG principles, companies can build trust and loyalty among stakeholders, mitigate risks, and enhance long-term sustainability and profitability, creating a more resilient and responsible business model that benefits all involved parties (Hu et al., 2023).

Agency theory and Environmental, Social, and Governance (ESG) considerations intersect significantly within corporate governance (Liu et al., 2023). Agency theory addresses the relationship between principals (shareholders) and agents (company executives), focusing on potential conflicts of interest and the need for alignment mechanisms. Traditionally centered on financial performance, agency theory now also encompasses ESG factors, emphasizing the alignment of executive actions with broader societal and environmental responsibilities (Arayssi et al., 2020). To address potential misalignments, companies are increasingly incorporating ESG metrics into executive compensation and performance evaluations, ensuring that executives prioritize sustainable practices alongside financial goals (Buallay, 2019).

Effective governance structures, such as independent boards and transparent reporting, are essential in embedding ESG principles into corporate strategies, fostering long-term value creation for all stakeholders.

In addition, Shariah-compliant companies naturally align with ESG principles due to the ethical foundations. Islamic teachings emphasize stewardship of the environment (*Khalifa*), social justice, and strong governance, which resonate with the core pillars of ESG (Lee & Isa, 2022; Linnenluecke, 2022). For instance, the environmental focus aligns with Shariah's call for sustainable resource use, while the social aspect reflects Islamic values of fairness, philanthropy, and community welfare (Tunio et al., 2021). Strong governance, a cornerstone of Shariah compliance, ensures transparency, accountability, and ethical practices, offering a robust framework that complements ESG initiatives.

However, unique aspects of Shariah compliance, such as prohibitions on certain industries (e.g., alcohol, gambling, and interest-based finance) and restrictions on high debt levels, add a distinctive dimension to its ESG approach. While this can create challenges in integrating global ESG standards, it also positions Shariah-compliant companies as leaders in ethical investing. Instruments like Green Sukuk and social finance tools such as Waqf and Zakat further enable these companies to contribute meaningfully to sustainability and social equity (Qoyum et al., 2021). Together, Shariah compliance and ESG principles present a powerful synergy for advancing responsible business practices (de-Miguel-Molina et al., 2021).

CONCLUSION

This study confirms the hypothesis that Environmental, Social, and Governance (ESG) performance has a significant positive impact on both corporate financial performances, as measured by Return on Equity (ROE), and market valuation, as reflected in stock prices. The results align with previous studies, such as Alareeni & Hamdan (2020) and Qureshi et al. (2021). These findings suggest that firms with better ESG practices tend to achieve higher returns, emphasizing the importance for investors to consider ESG scores in their decision-making process.

However, the study also acknowledges contrasting results from other research, such as Rao et al. (2023) and Gutiérrez-Ponce & Wibowo (2024), which highlight the complexities and varied impacts of ESG practices across different contexts and sectors. Despite the positive relationship between ESG performance and financial metrics like ROE and stock prices, the study also notes instances where ESG initiatives negatively impact stock prices, primarily due to the associated costs and perceived resource diversion from core business activities. This underscores the need for a balanced approach, considering both the short-term financial implications and the long-term benefits of ESG practices. Overall, the research provides valuable insights into the nuanced effects of ESG on corporate performance, advocating for a strategic integration of ESG considerations to enhance financial outcomes and sustainability.

From a policy perspective, these findings have several important implications. First, policymakers should encourage companies to adopt ESG practices by creating a regulatory environment that incentivizes sustainable investments and supports long-term value creation. Governments could introduce tax incentives, subsidies, or grants to offset the initial costs of ESG implementation, reducing the financial burden on companies. Second, corporate governance frameworks should integrate ESG metrics into executive compensation structures

to ensure alignment with sustainable development goals. By embedding ESG criteria into performance evaluations, companies can encourage executives to pursue both financial and societal goals, thus fostering more responsible corporate behavior in the long run.

Lastly, financial markets should be encouraged to shift from short-term profit maximization to a more holistic approach that values sustainability and long-term growth. This could involve creating better ESG reporting standards and enhancing transparency to provide investors with clearer insights into how companies' ESG efforts translate into financial and market performance. By doing so, policymakers and financial regulators can help shape a more sustainable and resilient corporate ecosystem. Overall, this study highlights the critical role that ESG performance plays in enhancing corporate value, financial performance, and market perception. It underscores the need for both companies and policymakers to prioritize ESG factors, not only for ethical and societal reasons but also for driving long-term economic success.

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