

THE INFLUENCE OF ENVIRONMENTAL, SOCIAL, AND GOVERNANCE (ESG) SCORES ON STOCK RETURNS USING FIRM SIZE AS A CONTROL VARIABLE: A CASE STUDY OF LQ45-INDEXED COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE (2019–2023)



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Abstract

This study investigates the influence of Environmental, Social, and Governance (ESG) scores on stock returns, incorporating firm size as a control variable. The research focuses on companies listed in the LQ45 index on the Indonesia Stock Exchange (IDX) during the period from 2019 to 2023. A total of 18 companies were selected through purposive sampling, yielding 90 panel data observations. This study employs a quantitative approach with an explanatory research design. Descriptive statistics and panel data regression analyses were conducted using the EViews application to assess both the individual (partial) and joint (simultaneous) effects of ESG dimensions on stock returns. The findings reveal that the Environmental and Governance scores significantly and positively affect stock returns, indicating that companies with higher environmental responsibility and stronger governance mechanisms tend to deliver better stock performance. In contrast, the Social score does not exhibit a statistically significant effect on stock returns, suggesting that social initiatives are yet to be perceived as a major investment consideration in the Indonesian capital market. The control variable, firm size, was included to account for the effect of company scale on stock performance. Overall, the results support the signaling theory, which posits that ESG disclosures serve as credible signals to investors.

Keywords: ESG, IDX, Firm Size, Control Variable

INTRODUCTION

The Indonesia Stock Exchange (IDX) plays a crucial role in the development of Indonesia's capital market. As a central institution, it administers the Composite Stock Price Index (IHSG), which tracks the performance of over 800 listed companies, thereby providing a comprehensive reflection of the overall stock market in Indonesia. Among the various indices managed by IDX, the LQ45 Index holds particular significance. This index comprises 45 companies selected based on stringent criteria, such as high daily trading volumes, substantial market capitalization, and strong financial performance. The LQ45 Index is highly regarded for its ability to more accurately reflect the condition of Indonesia's stock market, and it serves as a benchmark for investors in making informed investment decisions. Companies included in the LQ45 are generally reputable and have fulfilled the standards set by the IDX, thereby reinforcing investor confidence (Loeis & Alexander, 2023).

A comparative analysis of the IHSG and LQ45 indices from 2019 to 2023 reveals dynamic movements influenced by various economic and market factors. According to the Financial Services Authority (OJK, 2023), the IHSG closed at 6,299.54 in 2019, indicating investor optimism regarding the outlook of the Indonesian capital market. However, in 2020, the COVID-19 pandemic significantly disrupted economic activities, leading to a drop in the IHSG to 5,979. This decline highlighted the pandemic's adverse effects on both the economy and stock market. Recovery was evident in 2021 and 2022, driven by economic reopening and mass vaccination programs, as the index rose to 6,581.48 and 6,850.62, respectively. By 2023, the IHSG reached its highest point in the past five years, closing at 7,272.80, supported by controlled inflation and stable interest rates.

The LQ45 Index is specifically designed to capture the performance of 45 liquid stocks with large market capitalization listed on the IDX. The selection criteria for inclusion in LQ45 are rigorous: a company must be listed on the exchange for at least three months, maintain high daily trading volumes, and meet the IDX's minimum market capitalization thresholds. Furthermore, firms must exhibit strong financial performance and adhere to good corporate governance practices. Between 2019 and 2023, several companies consistently remained within the index, indicating their stable performance and resilience in Indonesia's equity market (Samosir & Alvia, 2024).

According to Katadata (2023), the LQ45 Index followed a pattern similar to the IHSG during the same period. It closed at 1,014.47 in 2019, reflecting positive performance among high-liquidity stocks. However, the index dropped to 934.89 in 2020 due to the pandemic's impact on key sectors of the economy. The LQ45 experienced modest recovery in the subsequent years, closing at 931.41 in 2021 and 937.18 in 2022. By 2023, the index rose to 970.57, which, despite being below the 2019 level, demonstrated a steady recovery trajectory. This trend illustrates the resilience of LQ45 constituents amid market turbulence.

Numerous macroeconomic factors influence the movement of the IHSG and LQ45. As noted by Yanti et al. (2024), these include exchange rates, inflation rates, money supply, and the performance of major economic sectors. Exchange rate volatility affects companies with significant foreign revenue or costs, while stable inflation supports economic growth and investor sentiment. Monetary policy decisions that influence money supply also impact market liquidity and investor behavior. Furthermore, the performance of sectors such as

banking, energy, and manufacturing plays a significant role in driving movements in stock indices, particularly LQ45.

The composition of the LQ45 Index from 2019 to 2023 was dominated by companies from the financials, basic materials, energy, and consumer staples sectors. This can be seen in Figure 1.2, which presents data processed by the author from IDX publications. Companies within LQ45 are selected not only for their market capitalization and trading frequency but also for their sectoral significance and long-term value. The sectoral distribution within LQ45 reflects the strategic orientation of Indonesia's capital market and its alignment with broader economic priorities.

The financial sector holds the largest share of companies in the LQ45, underscoring the dominance of major banks and financial institutions in the Indonesian stock market. Leading banks such as Bank Central Asia (BBCA), Bank Mandiri (BMRI), and Bank Rakyat Indonesia (BBRI) are prominent constituents, highlighting the sector's systemic importance. According to Lumbantoruan et al. (2023), the financial sector experienced notable fluctuations during the pandemic, with significant downturns in 2020 followed by recovery in 2021 and 2022, reflecting the sector's sensitivity to macroeconomic conditions.

In the basic materials sector, companies such as Indocement Tunggal Prakarsa Tbk (INTP) and Semen Indonesia (Persero) Tbk (SMGR) play vital roles. These firms contribute to Indonesia's infrastructure development and industrial base. Their substantial market capitalization and high liquidity underline the significance of this sector. Similarly, the energy sector, represented by firms such as Adaro Energy Tbk (ADRO) and Medco Energi Internasional Tbk (MEDC), has a critical function in supporting national energy demands. The sector encompasses both conventional and renewable energy companies, with high investor interest driven by long-term sustainability considerations.

The consumer staples sector includes essential goods producers like Indofood CBP Sukses Makmur Tbk (ICBP) and Unilever Indonesia Tbk (UNVR), which maintain strong market positions and liquidity levels. These firms produce basic necessity items, making them resilient to economic fluctuations. Their consistent inclusion in the LQ45 Index signifies the sector's strategic role in the domestic economy. Overall, the sectoral composition of LQ45 indicates that Indonesia's capital market is dominated by industries with pivotal economic roles. The financial sector alone accounts for approximately 32.9% of the market capitalization, as noted by Suhindarto (2024).

Environmental, Social, and Governance (ESG) principles have emerged as essential considerations in contemporary business practices. ESG encompasses three pillars—environmental impact, social responsibility, and corporate governance—providing a more comprehensive measure of a company's performance beyond traditional financial metrics. According to a press release by IDX, companies that integrate ESG principles tend to exhibit lower risk and better long-term performance. This trend reflects a growing investor awareness of non-financial risks, as ESG factors increasingly influence investment decisions. Companies neglecting ESG may face reduced competitiveness in the evolving investment landscape (Maulana, 2023).

ESG companies experience higher stock price volatility compared to non-ESG companies. The significant surge in ESG stock prices in 2022 was likely influenced by both external and internal factors affecting stock performance, such as sustainable investment policies, investor awareness of environmental, social, and governance (ESG) factors, and

global trends encouraging companies to prioritize sustainability aspects. Denanti et al. (2023) stated that positive sentiment formed through headline news is significantly associated with increased stock returns, underscoring that market perceptions of sustainability issues influence a company's stock value. On the other hand, non-ESG companies tend to be more stable, with smaller stock price fluctuations, although a decline in 2020 was observed—possibly due to the impact of the global economic downturn at the time.

In the context of this research, the primary objective is to analyze the impact of ESG scores on stock returns, using firm size as a control variable. Understanding this relationship is crucial in assessing how LQ45-listed companies can improve their market performance through the adoption of robust ESG practices. The study also takes into account other influential factors, such as firm size and prevailing market conditions, which may mediate the ESG-return relationship. Consequently, this research aims to contribute to the existing literature on ESG performance and equity returns in Indonesia, offering relevant insights for investors and corporate decision-makers (Mulyono, 2023).

REVIEW OF LITERATURE

Signaling Theory

Signaling theory was first introduced by Spence (1973) within the context of the labor market. This theory posits that in situations characterized by information asymmetry, parties possessing superior information (in this case, companies) may transmit specific signals to less-informed parties (such as investors) to reduce uncertainty. In the context of finance and capital markets, information disclosure serves as a critical mechanism through which companies communicate their value and prospects to investors. By strategically disclosing certain information, firms aim to influence investor perception and behavior, thereby mitigating the adverse effects of informational imbalances inherent in market transactions.

Capital Market

The capital market is an essential component of the financial system, functioning as an intermediary that bridges surplus funds from investors with the funding needs of issuers through the trading of long-term financial instruments, such as stocks, bonds, and derivatives. According to Law No. 8 of 1995 concerning the Capital Market in Indonesia, the capital market encompasses activities related to public offerings and securities trading, public companies associated with the securities they issue, as well as institutions and professionals engaged in the securities sector. The capital market facilitates efficient capital allocation, contributes to economic growth, and plays a pivotal role in enhancing transparency and governance within the financial system.

Stock

According to Elizabeth (2023), a stock represents a unit of ownership in a corporation. Possessing shares in a company indicates partial ownership of that entity, entitling shareholders to a proportionate claim on the company's assets and earnings. Shareholders also acquire the right to participate in corporate decision-making processes through mechanisms such as the General Meeting of Shareholders (GMS). In essence, stocks function not only as financial assets but also as instruments of corporate governance, linking ownership rights to managerial accountability and long-term corporate performance.

Stock Return

Stock return refers to the financial gain earned by investors from stock investments, which may include dividends and capital gains. According to Tandelilin, as cited by Irawan and Ruslim (2023), stock returns are influenced by a variety of fundamental factors, including a company's profitability, dividend policy, and firm size. These determinants reflect both internal corporate dynamics and broader market expectations. Understanding stock returns is crucial for assessing investment performance and optimizing portfolio strategies, particularly in volatile or emerging market contexts. Stock returns are influenced by various factors, including internal aspects such as a company's financial performance, as well as external elements such as market conditions and investor sentiment. In line with this, Hidayat and Rikumahu (2025) found that macroeconomic variables such as Market Value Added (MVA) and money supply (M2) significantly influence stock returns in Indonesia's consumer cyclical sector, highlighting the broader economic drivers behind stock performance. Investors' perceptions of available information—whether derived from news media or market sentiment—can shape expectations and influence investment decisions, which in turn have a direct impact on stock returns (Alamsyah et al., 2019).

Environmental, Social, and Governance (ESG)

Environmental, Social, and Governance (ESG) is a comprehensive framework employed to evaluate corporate performance based on three core dimensions: environmental stewardship, social responsibility, and governance practices (Jeanice & Kim, 2023). In the contemporary business landscape, ESG has garnered increasing attention, particularly among investors who are becoming more conscious of sustainability and the social and environmental consequences of their investment decisions. The integration of ESG considerations into investment analysis is viewed as a means of identifying long-term value creation, mitigating non-financial risks, and promoting ethical business conduct. ESG factors are thus instrumental not only in enhancing corporate accountability but also in aligning financial performance with broader societal objectives.

RESEARCH METHOD

The research methodology refers to the scientific approach employed to acquire data with the aim of achieving specific research objectives (Sugiyono, 2023). Scientific inquiry seeks to construct new knowledge by adhering to systematic procedures and rigorous standards, ensuring that the resulting conclusions are empirically justifiable (Syahza, 2021). In alignment with this principle, the present study adopts a quantitative research paradigm using an explanatory design, which is grounded in positivist philosophy and aimed at discovering and advancing scientific and technological insights (Sugiyono, 2023). Moreover, this study possesses a descriptive character, as it focuses on illustrating the characteristics of the investigated variables, particularly in examining the effect of Environmental, Social, and Governance (ESG) disclosures on stock returns, with firm size functioning as a control variable. The study seeks to provide a comprehensive understanding of how sustainability-related disclosures influence financial performance among firms listed on the LQ45 index in Indonesia.

In accordance with Sugiyono (2023), a population is defined as the entirety of subjects or objects possessing common characteristics from which generalizations can be

drawn. The population for this study consists of companies listed in the LQ45 index of the Indonesia Stock Exchange (IDX) from 2019 to 2023. These firms were selected based on their high liquidity, large market capitalization, and consistent financial performance—criteria that enable a more precise evaluation of ESG’s impact on stock returns. Due to practical limitations such as time, cost, and data accessibility, purposive sampling was employed to select a representative subset of this population. According to Sekaran and Bougie (2017), purposive sampling is an intentional technique used to identify specific data sources aligned with research objectives. The final sample comprised 18 companies that consistently appeared in the LQ45 index and published sustainability reports over the five-year period. The total dataset includes 90 firm-year observations (18 companies × 5 years). Data sources included (a) sustainability reports for ESG metrics, (b) the official IDX website for stock index data, (c) capital market databases for return figures, (d) Refinitiv Eikon for ESG scoring, and (e) relevant academic and professional literature. Data collection employed two principal techniques: literature review and documentation. The literature review involved critical analysis of academic references to establish a theoretical foundation for ESG, firm size, and stock returns. The documentation method entailed extracting ESG disclosures and financial data from publicly accessible corporate and regulatory sources to support hypothesis testing.

To process and analyze the data, this study utilized descriptive statistical methods to summarize and visualize the characteristics of the collected variables. Subsequently, panel data regression analysis was employed to assess the causal relationship between ESG scores and stock returns while controlling for firm size. The statistical software EViews was used to conduct the analysis, enabling robust evaluation across both cross-sectional and time-series dimensions. The use of panel data regression is appropriate given the structure of the dataset, which encompasses multiple observations of the same companies over five consecutive years (2019–2023). This technique enhances the analytical rigor by accounting for both individual heterogeneity and temporal dynamics, thereby improving the precision of the estimated relationships. Ultimately, this methodological framework is intended to yield empirical evidence on whether and how ESG disclosures, as a proxy for corporate sustainability, significantly affect market performance within the context of Indonesia’s leading publicly listed companies.

RESULTS AND DISCUSSION

Descriptive Analysis

Table 1.
The Result of Descriptive Statistical Analysis

	Y	X1	X2	X3	K
<i>Mean</i>	0.065094	64.78011	74.03211	67.93789	32.45999
<i>Median</i>	0.029000	68.10500	76.91000	69.79000	32.11715
<i>Maximum</i>	1.404200	88.92000	96.50000	94.06000	35.31540
<i>Minimum</i>	-0.729200	28.05000	39.24000	19.75000	30.42480
<i>Std. Dev.</i>	0.332026	15.87538	14.46114	16.88663	1.540744
<i>Observations</i>	90	90	90	90	90

Descriptive statistical analysis of the research variables in this study was conducted using ratio-scale data. The dependent variable examined is stock return, while the independent variables include the Environmental, Social, and Governance (ESG) scores, and firm size serves as the control variable. The study utilizes secondary data collected from annual reports, sustainability reports, and the LSEG Data & Analytics platform for companies listed in the LQ45 index from 2019 to 2023. A total of 18 companies were selected as the research sample, resulting in 90 firm-year observations. Based on the descriptive results in Table 4.1, the mean stock return was 0.065094, which is lower than its standard deviation of 0.332026, indicating a wide dispersion and suggesting high variability in stock performance among the sample firms. Of the 90 observations, 44% were above the average return, while 56% were below, signifying that the majority of companies in the LQ45 index had relatively low stock returns during the study period. The maximum return of 1.404200 was recorded by Indo Tambangraya Megah Tbk. in 2022, reflecting a 140.42% gain and a substantial increase in share price. In contrast, the minimum return of -0.729200 was attributed to Bank Central Asia Tbk. in 2019, signifying a 72.92% loss, which underscores a significant negative return and stock depreciation.

Regarding the ESG components, the environmental score had a mean of 64.08711, higher than its standard deviation of 15.87538, indicating a low variance in environmental performance among firms. Approximately 52% of the observations were above the average, suggesting a modest but balanced environmental commitment across companies. The highest environmental score, 88.92000, was recorded by Unilever Indonesia Tbk. in 2021, reflecting strong performance in environmental management, while the lowest score, 28.05000, belonged to Bank Rakyat Indonesia Tbk. in 2019, highlighting weak environmental performance. The social score had a higher mean of 74.03211 with a standard deviation of 14.46114, also indicating low variability. Notably, 58% of the observations exceeded the average, suggesting that a majority of firms demonstrated strong social responsibility. The highest social score of 96.50000 was reported by Bukit Tbk. in 2023, while the lowest, 39.24000, came from Astra International Tbk. in 2019. For the governance score, the mean was 67.93789, exceeding the standard deviation of 16.88663, again implying low dispersion. A total of 53% of firms scored above the mean, indicating a generally high level of corporate governance among LQ45 constituents. The top performer in governance was Vale Indonesia Tbk. in 2022 with a score of 94.06000, while the lowest score, 19.75000, was recorded by Perusahaan Gas Negara Tbk. in 2023. Lastly, for the control variable firm size, the average value was 32.45999, higher than the standard deviation of 1.540744, signifying a concentrated distribution of total assets among firms. However, 62% of observations fell below the average, suggesting that a majority of the LQ45 firms had relatively lower asset bases. The firm with the largest asset size was Bank Mandiri (Persero) Tbk. in 2023 with 35.315140, whereas the lowest, 30.42480, was recorded by Indo Tambangraya Megah Tbk. in 2020.

Normality Test

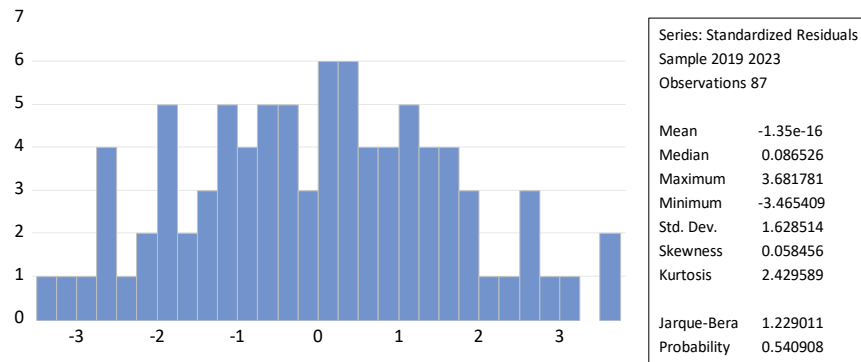


Figure 1.

The Result of the Normality Test

This study employed a normality test based on the Jarque-Bera probability value derived from the data under investigation. The criterion used for interpretation is as follows: if the Jarque-Bera probability value is less than 0.05, it indicates that the data are not normally distributed; conversely, if the probability value exceeds 0.05, the data are considered to follow a normal distribution. As presented in Figure 1, the Jarque-Bera probability value obtained was 0.540908, which is greater than the 0.05 significance level. Consequently, the null hypothesis (H_0), which posits that the data are normally distributed, is accepted. These results suggest that the dataset—comprising stock returns, environmental, social, and governance (ESG) scores, as well as the control variable firm size—exhibits a normal distribution. Thus, the assumptions required for subsequent parametric statistical analyses are satisfactorily met in this study.

Coefficient of Determination (R^2)

Table 2.

The Result of the Coefficient of Determination (R^2)

<i>R-squared</i>	0.133378	<i>Mean dependent var</i>	-3.631536
<i>Adjusted R-squared</i>	0.091104	<i>S.D. dependent var</i>	1.749350
<i>S.E. of regression</i>	1.667761	<i>Akaike info criterion</i>	3.916595
<i>Sum squared resid</i>	228.0770	<i>Schwarz criterion</i>	4.058314
		<i>Hannan-Quinn</i>	
<i>Log likelihood</i>	-165.3719	<i>critier.</i>	3.973660
<i>F-statistic</i>	3.155061	<i>Durbin-Watson stat</i>	1.853977
<i>Prob(F-statistic)</i>	0.018274		

The coefficient of determination (R^2) is employed to assess the extent to which independent variables can explain the variability of the dependent variable. A higher R^2 value indicates a stronger explanatory power of the independent variables, whereas a lower R^2 suggests limited explanatory capacity. As shown in Table 2 the adjusted R-squared value is 0.091104, or approximately 9.11%, which implies that the independent variables used in this study account for 9.11% of the variance in the stock return variable. Consequently, the remaining 90.89% of the variation in stock return is explained by other factors not included in the model. This relatively low R^2 value suggests that while the independent variables—namely ESG components and firm size—contribute to explaining stock return performance,

there are numerous other variables external to this study that may significantly influence stock return outcomes. These results underscore the complexity of financial performance determinants and the necessity for broader model specifications in future research.

Simultaneous Test (F-Test)

Table 3.
Results of F-Test

<i>R-squared</i>	0.133378	<i>Mean dependent var</i>	-3.631536
<i>Adjusted R-squared</i>	0.091104	<i>S.D. dependent var</i>	1.749350
<i>S.E. of regression</i>	1.667761	<i>Akaike info criterion</i>	3.916595
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<i>F-statistic</i>	3.155061	<i>Durbin-Watson stat</i>	1.853977
<i>Prob(F-statistic)</i>	0.018274		

Source: Processed primary data

The F-test was conducted to examine the simultaneous effect of all independent variables—namely, environmental score, social score, and governance score, along with the control variable firm size—on the dependent variable, stock return. In this test, the null hypothesis (H_0) is rejected if the significance level (p-value) of the F-statistic is less than 0.05, indicating that the independent variables have a joint influence on the dependent variable. Conversely, if the p-value is greater than 0.05, H_0 is accepted, implying that the independent variables do not have a simultaneous effect. As shown in Table 3, the probability value of the F-statistic is 0.01827, which is lower than the 0.05 threshold. Therefore, H_0 is rejected and the alternative hypothesis (H_a) is accepted, confirming that the independent variables—environmental, social, and governance (ESG) scores—together with firm size, have a statistically significant simultaneous influence on stock returns among LQ45-listed companies in Indonesia during the 2019–2023 period.

Partial Test (T-Test)

Table 4.
The Result of Partial Test (T-Test)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
X1	0.024506	0.012023	2.038184	0.0448
X2	-0.003624	0.013816	-0.262287	0.7938
X3	0.026500	0.011590	2.286322	0.0248
K	-0.041661	0.125015	-0.333245	0.7398
C	-5.405719	4.255049	-1.270425	0.2075

The t-test was conducted to examine the partial effect of each independent variable on the dependent variable. In this study, the t-test was employed to assess the influence of the Environmental, Social, and Governance (ESG) scores, using firm size as a control variable, on stock returns of companies listed in the LQ45 index on the Indonesia Stock Exchange during the period 2019–2023. The statistical significance threshold was set at $\alpha = 0.05$, meaning that if the p-value is less than 0.05, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_i) is accepted, indicating that the independent variable has a

statistically significant partial effect on the dependent variable. Conversely, if the p-value exceeds 0.05, the null hypothesis is accepted, and the alternative is rejected, implying no significant partial effect. Table 4 presents the regression output from the t-test, which evaluates each ESG pillar score individually in relation to stock returns, while controlling for firm size.

Based on the results, the Environmental score (X1) yields a p-value of 0.0448, which is below the significance threshold of 0.05. Therefore, H_0 is rejected and H_1 is accepted, suggesting that the environmental score has a significant partial effect on stock returns. The positive regression coefficient of 0.024506 indicates that improvements in environmental performance are associated with increases in stock returns. This finding implies that companies in the LQ45 index that perform well in environmental sustainability tend to generate higher returns for their shareholders. In contrast, the Social score (X2) presents a p-value of 0.7938, which exceeds the 0.05 threshold. As a result, H_0 is accepted and H_1 is rejected, indicating that the social dimension does not have a significant partial effect on stock returns. The negative regression coefficient of -0.003624 further suggests that variations in social performance, in isolation, do not contribute meaningfully to stock return fluctuations during the observed period.

Lastly, the Governance score (X3) demonstrates a p-value of 0.0248, which is below 0.05. This result leads to the rejection of H_0 and the acceptance of H_1 , affirming that governance quality exerts a statistically significant influence on stock returns. The positive coefficient of 0.026500 implies that higher governance standards—such as transparency, accountability, and effective oversight—correlate with improved market performance and investor confidence. Meanwhile, the control variable, firm size (K), records a p-value of 0.7398, indicating no significant impact on stock return in this model, despite its negative coefficient. These results suggest that, within the context of firms in the LQ45 index, environmental and governance factors play more critical roles in driving stock returns than social performance or firm size alone. This highlights the growing importance of ESG practices—particularly environmental and governance dimensions—as value-relevant signals in Indonesia's capital market.

The Effect of Environmental Score on Stock Returns

Based on the partial test results presented in Table 4 the Environmental Score (X1) demonstrates a p-value of 0.0448, which is lower than the significance level of 0.05. Consequently, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_{a1}) is accepted, indicating that the Environmental Score (X1), with firm size as a control variable, has a statistically significant partial effect on stock returns among companies listed in the LQ45 index on the Indonesia Stock Exchange (IDX) during the 2019–2023 period. The environmental aspect of Environmental, Social, and Governance (ESG) performance—reflected in the Environmental Score—plays a pivotal role in shaping investor perceptions and investment decision-making, which is ultimately reflected in stock return performance. Firms with higher environmental scores are generally perceived as more committed to sustainability and ecological responsibility, particularly in areas such as carbon emission management, energy efficiency, and waste reduction. These environmental practices convey positive signals to investors, implying that the company is exposed to lower environmental risks, thereby increasing its attractiveness in the equity market.

This outcome is consistent with signaling theory, which posits that companies can convey positive information to investors through concrete actions, such as adopting robust environmental practices. These actions serve as credible signals indicating financial stability and reduced risk, contributing to greater investor confidence. As noted by Friske et al. (2023), voluntary ESG disclosures—particularly those related to environmental performance—can serve as strong market signals that enhance a company's perceived value. Furthermore, comparative data on average stock prices of ESG versus non-ESG firms illustrates that while ESG stocks tend to exhibit higher volatility, they also offer greater return potential. This finding aligns with previous studies by Giantari (2024) and Torre et al. (2020), which found a positive relationship between ESG performance—especially the environmental dimension—and stock returns. Similarly, Jeanice & Kim (2023) assert that robust environmental practices can enhance a firm's reputation and attract sustainability-conscious investors, thus boosting stock value. Luo (Luo, 2022) also highlights that ESG elements, including environmental aspects, may yield short-term financial returns when integrated into ESG momentum investment strategies.

The Effect of Social Score on Stock Returns

According to the partial test results presented in Table 4, the Social Score (X2) yields a p-value of 0.7938, which is considerably higher than the 0.05 threshold. Thus, the null hypothesis (H0) is accepted, and the alternative hypothesis (Ha2) is rejected, indicating that the Social Score (X2), with firm size as a control variable, does not have a statistically significant partial effect on stock returns of companies listed in the LQ45 index during the 2019–2023 period. The social dimension of ESG performance—encompassing corporate relationships with employees, customers, suppliers, human rights, working conditions, and community responsibility—has not yet demonstrated a direct influence on market performance. In this context, Indonesian capital market investors appear not to prioritize social factors when making investment decisions. From a signaling theory perspective, the social aspect does not emit a sufficiently strong positive signal to significantly influence investor behavior, indicating that it has yet to become a key consideration in investment strategies within the Indonesian capital market.

This finding is consistent with studies by Ropiah & Jayanti (2024), Fitri & Nurmila (2023), and Aditama (2022), which concluded that the social pillar of ESG does not significantly impact stock returns due to investors' limited attention to social issues when making financial decisions. Indonesian investors tend to focus more on traditional financial indicators such as profitability, leverage, and growth prospects, which remain dominant in investment analysis. The relatively weak influence of the social component on returns may also be attributed to the challenges in quantifying and standardizing social performance metrics, making them less influential in shaping investor sentiment. Hence, although social responsibility is important for long-term sustainability, its influence on stock performance remains subdued in the short term, especially in emerging markets like Indonesia, where ESG awareness is still evolving.

The Effect of Governance Score on Stock Returns

The partial regression analysis reported in Table 4 shows that the Governance Score (X3) has a p-value of 0.0248, which is less than 0.05. This indicates that the null hypothesis (H0) is rejected and the alternative hypothesis (Ha3) is accepted, confirming that the Governance Score (X3), with firm size as a control variable, has a statistically significant

partial effect on stock returns of firms listed in the LQ45 index on the Indonesia Stock Exchange between 2019 and 2023. The governance dimension of ESG, which includes board structure, shareholder rights, transparency, and anti-corruption policies, plays a vital role in influencing corporate performance and market valuation. Investors tend to react positively to firms with robust governance systems because these firms are perceived as more credible, transparent, and capable of managing risk effectively. Sound corporate governance reflects managerial accountability and ethical leadership, which foster investor confidence and can lead to higher market capitalization and stronger stock returns.

Good corporate governance is also a critical determinant of long-term business sustainability. As noted in reports by IDX and the Financial Services Authority (OJK), governance indicators include anti-corruption frameworks, transparent reporting, and effective leadership structures. Jeanice & Kim (2023) emphasize that strong governance not only enhances a company's reputation but also appeals to investors who value integrity and long-term value creation. Effective governance practices serve as positive market signals, reducing information asymmetry between management and shareholders. This fosters greater trust and encourages long-term investment. These findings are in line with research conducted by Lisin et al. (2022) and Giantari (2024), which highlight that companies with high governance standards—particularly large-cap firms like those in the LQ45 index—tend to deliver superior stock returns. Governance mechanisms also function as internal safeguards against unethical practices such as earnings manipulation, conflicts of interest, and corruption, thereby preserving shareholder value and market integrity.

CONCLUSION

This study was conducted to examine the influence of the independent variables—namely, environmental, social, and governance (ESG) scores—on the dependent variable, stock return, while employing firm size as a control variable. The scope of the research includes companies listed in the LQ45 index on the Indonesia Stock Exchange (IDX) during the 2019–2023 period. A total of 18 companies were selected as the sample, resulting in 90 observations over five years. The data were analyzed using descriptive statistics and panel data regression with the assistance of the EViews application. The primary goal was to determine the extent to which ESG factors contribute to variations in stock return performance when moderated by firm size, thus offering a more comprehensive understanding of ESG integration within capital market valuation frameworks.

The descriptive statistical results for each variable revealed important insights regarding data distribution and variability. First, stock return exhibited a standard deviation of 0.333036 and a mean value of 0.065094, indicating that the data are widely dispersed with a high level of variability since the mean is smaller than the standard deviation. Second, the Environmental Score had a standard deviation of 15.8738 and a mean value of 64.08711, showing that the data are relatively consistent and not widely dispersed. Third, the Social Score displayed a standard deviation of 14.46114 and a mean value of 74.03211, likewise suggesting limited variation. Fourth, the Governance Score reported a standard deviation of 16.88663 with a mean value of 67.93789, once again reflecting low data dispersion. Lastly, the control variable, firm size, had a standard deviation of 1.540744 and a mean of 32.45999, further supporting the conclusion that the dataset is concentrated around its average values, indicating consistency in firm size among the sample companies.

The results of the simultaneous testing (F-test) confirmed that the variables—Environmental Score, Social Score, Governance Score, and the control variable firm size—jointly influence stock returns in companies listed in the LQ45 index. This means that collectively, ESG performance indicators and firm size contribute significantly to the variation in stock return outcomes over the study period. This finding supports the broader theoretical notion that non-financial indicators, such as sustainability and governance performance, are increasingly being integrated into investor decision-making processes. It also reinforces the need for companies to holistically enhance their ESG strategies, not only to meet regulatory and ethical expectations but also to potentially improve financial outcomes as reflected in stock performance.

Furthermore, the partial testing results (t-test) offer a more nuanced view of each variable's individual contribution to stock return. The Environmental Score showed a probability value of 0.0448 (< 0.05) with a positive regression coefficient of 0.0245, indicating a significant and positive influence on stock returns. In contrast, the Social Score had a probability value of 0.7938 (> 0.05) and a negative regression coefficient of -0.0036, suggesting no significant effect and a slight negative relationship. Lastly, the Governance Score yielded a probability value of 0.0248 (< 0.05) with a positive regression coefficient of 0.0265, implying a significant positive impact on stock returns. These findings highlight the differentiated roles of ESG dimensions in influencing financial performance, where environmental and governance factors serve as more robust predictors of stock returns compared to the social dimension, at least within the context of Indonesian capital markets during the observed period.

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