

# THE INFLUENCE OF ESG STOCK MARKET RESPONSES: EVIDENCE FROM INDONESIAN COMPANIES

Eka Yulianti<sup>1</sup> and Ifan Wicaksana Siregar<sup>2</sup>

<sup>1,2</sup>*Faculty of Economics and Business  
Jenderal Achmad Yani University*

## ABSTRACT

This study examines the reaction of shareholders to reputational risk associated with environmental, social, and governance factors (referred to as ESG-risk). The study employed regression methods to examine the impact of environmental, social, and governance (ESG) risks on stock market responses. The study involved the estimation of abnormal returns for a sample of 35 observations, specifically focusing on 35 enterprises that have published investor relations (IRs) reports in Indonesia. The findings of the study indicate that there is no significant impact of ESG risk on stock market returns. The study is subject to potential constraints, particularly self-selection bias and omitted variable bias. This study posits that companies have the potential to achieve greater anomalous returns in the stock market by engaging in environmental, social, and governance (ESG) disclosure inside their integrated reports (IRs). This finding supports the growing investor inclination towards voluntary integrated reporting in Indonesia. This research is a valuable contribution to the existing body of knowledge on the significance of voluntary adoption of integrated reporting. It presents empirical evidence indicating that firms experience a lack of considerably positive abnormal returns in the area of voluntary integrated reporting publication dates. There is a lack of published analysis on this particular topic that uses a regression methodology and encompasses a wide range of sample firms.

## 1. Introduction

In recent years, the concept of Environmental, Social, and Governance (ESG) criteria has gained substantial prominence in the global financial landscape (Aldieri et al., 2023; Li et al., 2022). This academic research project aims to delve into the historical context surrounding the influence of ESG criteria on stock market responses, focusing on Indonesian companies (Octaviani & Utama, 2022). The application of the ESG criteria to financial investments is becoming increasingly popular among operators (Vannoni & Ciotti, 2020). Integrating environmental, social, and governance impacts into investment and financial decision-making has been a topic of flourishing literature in academic research (Vannoni & Ciotti, 2020). The importance of ESG has been widely popularized, and legislators and regulators have increasingly paid attention to ESG-related information disclosure (R. Chen, 2023). ESG factors, such as environmental, social, and governance scores, have been recognized as important indicators of non-financial quality of a firm, which may reflect value to investors (Jamprasert et al., 2021).

ESG performance has been found to positively affect a company's financial performance (Stiadi, 2023). Responsible investment, which includes the integration of ESG criteria, is gaining prominence globally (Marais et al., 2022). ESG risk ratings have been developed to assess companies' compliance with ESG criteria (Pishchalkina et al., 2022). The asset allocation process has changed to consider ESG responsibilities, and investors are sensitive to ESG factors when making decision on firms (Aldieri et al., 2023). Sustainable investments, including ESG practices, have been increasingly entering financial markets (Vannoni & Ciotti, 2020). ESG practices have been found to influence stock returns in the US stock market (Dreyer et al., 2023). The impact of ESG factors on company performance and financial decisions has been examined in various markets, including the Australian stock market (Ovechkin et al., 2021). The perception of ESG criteria by mainstream investors has been explored in emerging financial markets (Khemir, 2019). ESG rating agencies play a relevant role in assessing sustainability principles (Escrig-Olmedo et al., 2019). ESG criteria are used to screen potential investments and are based on corporate disclosures (Momeni, 2021). ESG disclosure has been found to reduce information asymmetry between external stakeholders and company managers (Sugianto et al., 2022).

Historically, the notion of responsible investment and ethical business practices dates back to the early 20th century. It was primarily driven by ethical considerations, with a limited focus on financial implications. However, in recent decades, the relationship between ESG performance and financial outcomes has become increasingly significant (Ihsani et al., 2023). Indonesia, as a dynamic emerging market, has experienced substantial changes in its economic landscape over the years. This project will explore the historical developments and trends in the Indonesian stock market concerning the ESG criteria and sustainability practices.

In order to delimit the research focus, our study will formulate the following overarching research inquiry: "What is the impact of environmental, social, and governance (ESG) criteria on the stock market reactions exhibited by Indonesian corporations?" The present inquiry forms the basis of our study on the intricate relationship between environmental, social, and governance (ESG) variables and the dynamics of the stock market in Indonesia. Our hypothesis posits that enterprises exhibiting robust environmental, social, and governance (ESG) performance are prone to encountering more advantageous reactions in the stock market, such as increased values and reduced volatility. On the other hand, corporations exhibiting inadequate environmental, social, and governance (ESG) performance may encounter adverse repercussions in the market.

The academic value of this endeavour rests in its ability to offer useful insights on the correlation between environmental, social, and governance (ESG) parameters and the behaviour of the stock market, particularly within the Indonesian setting. Through illuminating this matter, our aim is to make a valuable contribution to the ongoing dialogue surrounding sustainable finance and responsible investment. In doing so, we aspire to cultivate heightened awareness and facilitate well-informed decision-making among both the Indonesian public and the global financial community.

This research aims to examine the contemporary concerns surrounding the influence of the environmental, social, and governance aspects on market reaction. In this research, we use ESG scores sourced from the Indonesian Stock Exchange. The aim of this study is to enhance comprehension of the correlation between environmental, social, and governance (ESG) factors

and market dynamics, proxy by abnormal returns (AR). With this research we seek to provide new academic discussions and contribute to decision making in the field of socially responsible investment.

## **2. Literature Review**

The relationship between Environmental, Social, and Governance (ESG) variables and stock market dynamics has received considerable attention in academic research. Several studies have explored how ESG measures and events affect stock market reactions. Nyakurukwa and Seetharam (2023) conducted research on the impact of news sentiment aligned with ESG factors on investor behavior, especially in the South African context. Empirical findings indicate that stock prices show a more varied response to events that support ESG principles compared to events with negative ESG implications.

Chen et al. (2022) carried out an in-depth study on the regional impacts of low-carbon initiatives during the COVID-19 pandemic. Initial data indicated a decline in financial market responses coinciding with the spread of the pandemic. Research conducted by Kruger in 2022 used Corporate Social Responsibility (CSR) as a measure of ESG performance. This research investigated the effects of positive and negative CSR events on stock market dynamics. The findings suggest that positive CSR initiatives positively impact stock prices, while negative events have the opposite effect.

Similarly, the study conducted by Morea et al. (2022) delved into the positive stock market responses resulting from commendable CSR initiatives and the negative impacts of unfavourable CSR incidents. Additionally, their research showed that the implementation of circular economy practices correlates positively with stock performance, especially when compared to the Euro Stoxx 50® ESG Index. Rubbaniy et al. (2021) proposed that ESG-focused equities might possess safe-haven characteristics in global and emerging markets, especially in unstable financial situations due to the COVID-19 pandemic. Empirical evidence suggests that stocks based on ESG principles can serve as defensive assets during periods of heightened market volatility. In a similar context, Mousa et al. (2021) researched the Arab region and discovered that stocks focusing on ESG factors performed better than traditional stocks during the pandemic. This finding underscores the potential resilience of ESG-focused investments during economic downturns.

Overall, academic research results indicate a significant influence of ESG factors on stock market fluctuations. Positive ESG engagements and practices often align with beneficial stock valuations, while the opposite is true for negative engagements and practices. Companies emphasizing ESG metrics appear to show resilience as investment opportunities during economic challenges. These empirical findings stress the importance of integrating ESG criteria into investment strategies, enhancing the potential for ESG-focused investments to support long-term financial sustainability.

### 3. Methodology

#### 3.1 Data Source and Sample Identification

We collected accounting data and stock returns figure-1 for listed companies from the Indonesian Stock Exchange database. To meet our research requirements, we processed our original data as follows: (1) We removed observations with missing values; (2) We exclusively included companies listed in the LQ45 index, Companies not listed in the LQ45 were systematically eliminated from the dataset. After applying these filtering steps, we were left with a refined dataset comprising accounting data and stock returns of only the top-performing companies listed in the LQ45 index. This focused approach ensured that our analysis was based on data from the most influential and reputable companies in the Indonesian stock market.

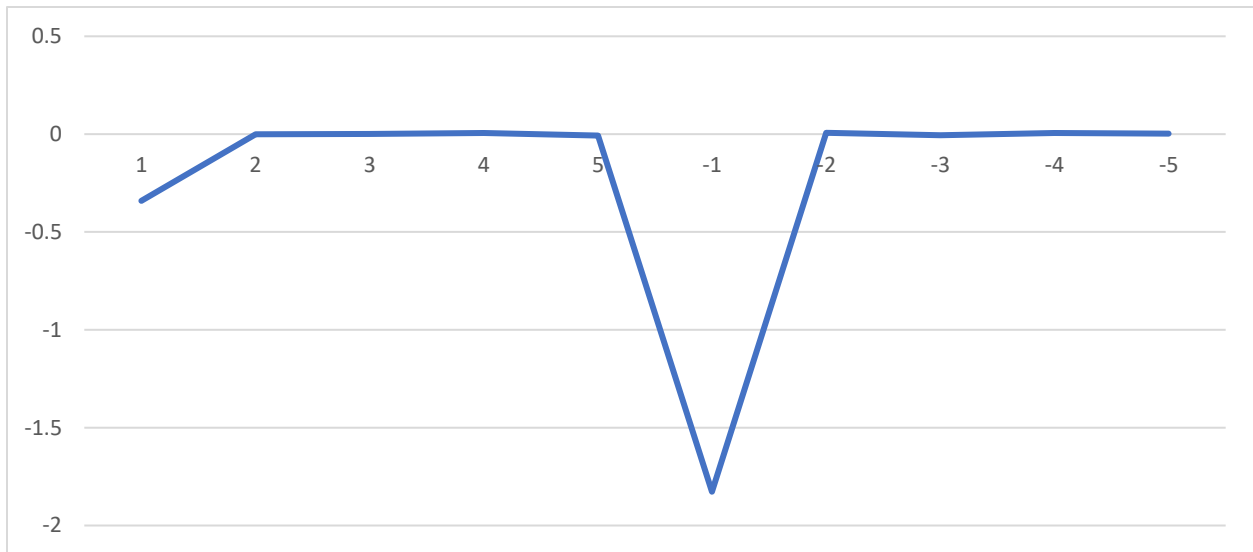


Figure 1. Average Abnormal returns

#### 3.2 Model and Measures

In our study, the dependent variable is AR (Abnormal Return). We employed market models, which are widely recognized for their strong predictive capabilities (Brenner, 1979). To calculate the abnormal returns of firms in our analysis, we utilized the following market model:

$$R_{i,t} = \alpha + \beta R_{m,t} + \varepsilon, t \in (-5) \quad (1)$$

where,  $R_{i,t}$  represents the return rate of stock  $i$  on trading day  $t$ ,  $R_{m,t}$  denotes the market return for the trading market on day  $t$ . As depicted in Equation (1), we employ an estimation window of  $[-5]$  to estimate market betas. Subsequently, these betas are utilized to calculate the firm's abnormal returns (AR) surrounding the event of the annual report. We designate ESG reporting as the event day. Figure 1 illustrates the daily abnormal returns of the Indonesian stock market surrounding the event day.

ESG performance serves as the independent variable in our study. For this variable, we utilized ESG scores of listed companies as a proxy, which were publicly released by the Indonesian Stock Exchange (IDX). IDX assesses ESG performance based on the annual reports of listed companies, covering four dimensions: shareholder, employee, environmental, and social responsibility. These dimensions contribute to a total score, which is measured on a scale of 100.

#### 4. Empirical Result

##### 4.1 Descriptive Statistics

**Table 1.** Summary Statistics.

Variable	Mean	SD	Min	Max	N
AR[-5,+5]	0.001636	0.006904	-0.009592	0.0026861	35
ESG scores	27.60857	8.050370	12.70000	43.000000	35

Table 1 provides an overview of the descriptive statistics for our primary variables. The means of AR [-5, +5] are 0.001636, respectively. These values suggest a positive market reaction following the announcement of the annual report. Additionally, the average ESG rating is 27.60857, indicating that the majority of Corporate Social Responsibility (CSR) scores fall within category medium according to IDX's standard. It is crucial to emphasize that the company's activities exhibit a moderate influence on both the environment and society, while posing little risks to the business. The observed data suggests that there is a relatively low occurrence rate of mishaps within the company's operational activities. It is important to highlight that the company demonstrates a strong management system and has adopted a wide range of procedures aimed at efficiently mitigating any potential risks related with its operations.

##### 4.2 Pearson Correlation Analysis

**Table 2.** Pearson correlation.

Variable	AR [-5, +5]	ESG
AR [-5, +5]	1	-0.098902
ESG scores	-0.098902	1

Table 2 presents the results of the Pearson correlation analysis conducted on the variables utilized in our study. Notably, ESG exhibits a significantly negative correlation with AR [-5, +5]. Furthermore, the coefficients for the pairwise correlations among the control variables are generally low, as anticipated. This suggests that there is no issue of multicollinearity when these control variables are simultaneously included in the regression model.

### 4.3 The Impact of ESG Scores On Stock Market Reaction

**Table 3.** Coefficients of regression.

	Standardized coefficient	t-statistic
Constant	0.003978	0.932072**
ESG scores	-8.4817907	-0.570949**
<i>F</i> -statistic	0.325983	
$R^2$	0.009782	

**Notes:** \*\* indicate not significant at 5 per cent level

Table 3 presents the summary on explanatory variables for the regression analysis. The provided regression analysis examines the relationship between ESG scores and a abnormal return. The constant term of 0.003978 suggests that in the absence of any ESG scores, the expected value of the dependent variable would be 0.003978. However, its t-statistic of 0.932072, marked as not significant at the 5% level, indicates that this constant is not statistically significant. The ESG scores have a standardized coefficient of -8.4817907, implying an inverse relationship with the dependent variable: for every one standard deviation increase in ESG scores, the dependent variable decreases by approximately 8.482 standard deviations. Yet, with a t-statistic of -0.570949, the ESG scores are also not statistically significant at the 5% level. The overall model fit, as indicated by the F-statistic of 0.325983, suggests that the model isn't a good predictor of the dependent variable. Furthermore, the  $R^2$  value of 0.009782 reveals that the model explains a mere 0.9782% of the variability in the dependent variable. In essence, this regression model indicates a weak and statistically insignificant relationship between ESG scores and the dependent variable.

### 4.4 Further Analysis

Surprisingly, the regression model in this study suggested a negative relationship between abnormal return and ESG. There is evidence from several studies that supports a negative relationship between ESG (environmental, social, and corporate governance) factors and abnormal returns. For example, Gavrilakis & Floros (2023) found a marginally significant negative relationship between ESG scores and returns for European stocks. Similarly, Fisher-Vanden and Thorburn Gavrilakis & Floros (2023) observed significant negative abnormal stock returns for companies announcing membership in the Environmental Protection Agency (EPA) (Gavrilakis & Floros, 2023).

Furthermore, Boldeanu et al. (2022) found that negative external news events during the COVID-19 pandemic had a negative impact on ESG and abnormal returns for electricity companies. Li et al. (2022) found that higher ESG performance during the COVID-19 outbreak in China was associated with lower abnormal returns (Li et al., 2022). Additionally, Nyakurukwa & Seetharam (2023) found that stock prices in South Africa reacted to ESG news sentiment, with asymmetric effects observed for positive and negative ESG news (Nyakurukwa & Seetharam, 2023).

It's crucial to acknowledge that the connection between ESG (Environmental, Social, and Governance) factors and abnormal returns in the stock market can be shaped by external factors and the unique context of each situation. Boldeanu et al. (2022) emphasize the importance of considering the broader context and external factors because the response to events and ESG performance is specific to the circumstances. Therefore, the relationship between ESG and abnormal returns may fluctuate depending on the specific context and events at play (Boldeanu et al., 2022).

Indeed, there exists a body of research suggesting that Environmental, Social, and Governance (ESG) factors may not always exhibit a significant relationship with abnormal returns in financial markets. For instance, Sisman & Cankaya (2020) discovered that ESG scores did not have a statistically significant impact on the financial performance of companies within the airline sector (Sisman & Cankaya, 2020). Similarly, Halbritter & Dorfleitner (2015) observed that employing a best-in-class approach using sector-specific ESG scores did not generate abnormal returns (Halbritter & Dorfleitner, 2015).

Furthermore, Harymawan et al. (2021) noted that some studies indicate a negative relationship between ESG reporting and firm performance (Harymawan et al., 2021). Additionally, Demers et al. (2021) found that ESG factors were not positively associated with returns, even during periods of financial crisis, such as the COVID-19 pandemic (Demers et al., 2021). In summary, these studies provide evidence suggesting that ESG factors may not consistently demonstrate a significant relationship with abnormal returns in the stock market.

## **5. Conclusion**

This study investigated how stock prices react to Environmental, Social, and Governance (ESG) factors among publicly listed companies in Indonesia, employing the event study methodology. Overall, the findings of this study revealed a negative influence of ESG on abnormal returns within the sample studied. The null hypothesis, which posited a zero abnormal return, was accepted at the 5 percent significance level when analysing the data from the announcement day stock return.

In essence, these results imply that investors in Indonesia tend to perceive ESG factors in a negative light, as indicated by the adverse impact on stock prices. This suggests that companies in Indonesia that place a strong emphasis on environmental, social, and governance practices may experience a decrease in their stock prices as a result.

Consistent with the research conducted by Demers et al. (2021), it has been noted that there is no discernible positive correlation between Environmental, Social, and Governance (ESG) characteristics and investment returns, even in periods characterised by financial crises. This observation implies that the impact of ESG-related news on the market is not consistently advantageous for the entire LQ45 index business.

It is essential to elucidate the intricate nexus between Environmental, Social, and Governance (ESG) attributes and atypical returns, given that this connection is influenced by a myriad of determinants. A more exhaustive examination is warranted to elucidate the nuanced interconnection between ESG implementations and fiscal prosperity. As delineated in the

empirical study conducted by Johnson et al. (2019), distinctions are evident in the relationship between ESG determinants and equity performance among disparate industrial sectors. Notably, certain sectors demonstrate a heightened positive association in comparison to others. Furthermore, determinants such as organizational magnitude and fiscal robustness are posited to have a significant bearing on the interplay between ESG considerations and non-standard returns.

Hence, it is imperative that subsequent scholarly inquiries incorporate these elements to cultivate a profound understanding of the impact of Environmental, Social, and Governance (ESG) protocols on fiscal outcomes within the equity market, underscored by Johnson et al. (2019). Nevertheless, it remains paramount to conduct further investigations to identify the precise determinants accountable for the observed detrimental outcomes and to discern viable methodologies that entities might adopt to alleviate these adversities and augment their equity efficacy.

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