# Impact of Environmental, Social, and Governance Scores on Market Reaction: Evidence of Top 80 Companies Listed from Idx80



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**Abstract**

This paper will discuss the impact of the individual Environmental, Social, and Governance scores on market reaction. This study will specifically focus on the IDX80 index, which lists companies that are not only profitable but also have good ESG scores. The panel data for the study will be taken from 2019 to 2023, and the Dynamic Panel Model will be used to see how the scores over the year influenced the market price. The final sample consists of 31 companies with 155 firm-years for the observation. The findings show that the Environmental scores have a significant positive impact on market reactions, but are not significantly impacted by Social and Governance scores. The study suggests an early stage of ESG adoption in Indonesia and the positive trend growth will be beneficial for companies to promote ESG activities. The implication for managers is to incorporate ESG activities as they positively impact the market reaction, particularly activities related to Environmental issues. The limitation of this study is that the data for the individual scores for the Environmental, Social, and Governance are limited making the sample size small. A further limitation is that the data analyzed during and post-COVID-19 time might suggest a different result comparably.

**Keywords:** ESG Scores, Environmental, Social, Governance, IDX80, Market Reaction.

## Introduction

Market reactions represents the response of stakeholders to the action taken by the business, in particular, it reflects how the market would interpret and process those activities that will affect company value and performances. Among many factors that can affect the company's value, this paper would like to investigate how the increase in Environmental, Social, and Governance (ESG) awareness in the market would become a significant factors that may affect market reactions.

ESG or Environmental, Social, and Governance is a framework that is used to measure how sustainable and ethically a company conducts practices. ESG themselves have been gaining awareness in Indonesia for Indonesia's national goals and international sustainability efforts, especially on the sustainability development effort. This has led legal bodies and countries to require a more sustainable business (Ellili, 2022). For this reason, companies have begun to focus on satisfying not only their shareholders but also their stakeholders (Suttipun & Yordudom, 2021). One of the steps that have been taken in pushing the sustainability efforts of Indonesia is by requiring companies to disclose their ESG practices. One such body that requires companies to disclose their ESG disclosure is the IDX or Indonesia Stock Exchange (Sukmawijaya, 2021). This shows that the Indonesia Stock Exchange has understood the importance of ESG which is a good thing since it can allow investors and companies to share information. In the past, there were many scandals from high-profile companies such as Enron that made investors aware and gained interest in this field (Kumar et al., 2023).

There has been a growing importance for companies in conducting ESG activities to be incorporated into the business processes. Not only does ESG allow companies to become more creative, but it also enables companies to better themselves and create value for all stakeholders and helps all the stakeholders of the business while also

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helping the company itself by reducing the risk of fraud and making employees more productive (Suttipun & Yordudom, 2021). It can be said that ESG can be seen as the protector of firms from controversies by building a more positive image from the stakeholder's perspectives (Kumar et al., 2023). The ESG disclosures can also attract investors that have a similar value as the company (Aboud & Diab, 2018; Juniarti et al., 2024).

This paper uses the individual Environmental, Social, and Governance Score as the independent variables in studying its relation to market reactions. The relevance of environmental performance does not stop at routine market conditions. For instance, Engelhardt et al. (2021) identified that companies with strong ESG ratings, including high environmental scores, realized higher abnormal returns during the COVID-19 crisis, reflecting the resilience of sustainability-focused firms in adverse economic climates. Similarly, Mathew (2023) noted that ESG scores significantly affect corporate outcomes in contexts like sustainability bond issuances, reinforcing the financial value of environmental responsibility.

A high Social Score means that a firm adheres to ethical practices and respects social responsibility; thus, the reputation of such a firm is in a better position and financially appealing. Wong et al. (2021) Apart from regulatory requirements, the social score is a strategic tool in the competitive differentiation of markets. Companies with strong social scores create a niche of socially responsible investors who view these companies as less risk-prone and, hence more sustainable in the longer term. These are in line with Tamimi & Sebastianelli (2017) and Zubeltzu-Jaka et al. (2020). Moreover, changes in consumer preferences toward socially responsible brands may affect buying behavior and brand loyalty. (Atılgan & Tükel, 2021). However, this is not the case because not all the impacts that Social Scores have a positive impact on the firm's value. For instance, according to Nimanthi (2020), there is a negative association between sustainability reporting and market price per share, which turns out to imply that social disclosures will not always be favorable for market performance. This evidences how complex it would be to integrate social performance with financial evaluation. In this research, the Social Score is the independent variable of the paper to be analyzed to have effects on market reactions. Several studies suggest that good social performance may affect positively by investors, which becomes important especially when the company declares its plan toward community development, diversity, and inclusion (Shobhwani, 2023; Zhao et al., 2022). Similarly, Ahmad (2023) revealed that the announcement typically translates into increased stock price, thus evidencing investor optimism.

Empirical evidence generally indicates that companies with good governance usually attract favorable market reactions, especially following the announcement of governance improvements or related initiatives such as better board independence or increased operational transparency (Mustofa et al., 2022; Feriza et al., 2022). These steps bring more confidence to investors and might be linked with higher stock prices (Lin, 2023). Governance is the backbone for effective implementation of ESG, which again allows improved environmental and social performance. Strong governance provides accountability and enables informed decision-making; thus, firms can meet their broader ESG goals. This interaction underlines the role of the governance score in underpinning an integrated view of a company's sustainability performance and its implications for market dynamics (Rao, 2023; Mustion, 2024).

Previous studies have shown that there is no relevant impact on ESG risk scores and market reaction (Fachrezi et al., 2024). The reasoning behind the result is that the IDX ESGL is a new index and there are still not many investors that are aware of the ESG themselves. A study conducted by (Yanti & Hanjani, 2024) shows that the LQ45 index there are positive impact on the market reaction to the ESG. Finally, the study conducted by (Suttipun & Yordudom, 2021) in Thailand found that only E disclosure and S disclosure have a positive significant influence while G disclosure has a negative influence. This study differs from these two since it will use the IDX80 index and individual environmental, social, and governance scores from Refinitiv instead of Morningstar analytics that have been used in previous studies.

## Literature Review

### *Signaling Theory*

The theories can help explain how non-financial information disclosures can affect the financial parts of the business. The theory that is chosen for this study is the signaling theory. This theory helps to understand how ESG scores may affect market reactions since ESG scores show how much a company cares about its stakeholders and how to manage the company effectively. Signaling theory says that a company should send credible signals to its stakeholders so there will not be any information asymmetry between the company itself and its stakeholders. The discrepancy of information indicates that the informs works for an asymmetric bargain between two entities. ESG would improve lucidity and uncertainty that would enable investors, who have been affected by the asymmetry, to make informed decisions during investments (Helfaya et al., 2023). Furthermore, a study that synthesizes signaling and stakeholder paradigms concluded that by addressing information inequalities, ESG could facilitate sustainable development that promotes growth in human skills and knowledge (Wang et al., 2022). As a result, the companies would be in a position to deploy the signaling model that enables them to convey the market worth specifically concerning the ESG initiatives taken by the organization to all investors.

### *Agency Theory*

Agency theory explains the principal-agent relationship, i.e., shareholders as principals and company managers as agents, with specific reference to the potential conflict of interests when the agents act in their own self-interests at the cost of the principals' interests. Environmental, Social, and Governance (ESG) scores are critical to bridge this gap because they establish consistency through greater transparency and accountability. By indicating the extent to which a company performs on Environmental, Social, and Governance (ESG) factors, ESG scores allow stakeholders, especially shareholders, to have a clearer insight into managerial behavior and goal congruence toward long-term sustainability (Peng & Isa, 2020).

This kind of transparency not only reduces information asymmetry but also reduces agency costs as it holds the managers accountable for their decisions (Ioannou & Serafeim, 2017). Good ESG practices by companies ensure their commitment to ethical governance and sustainable value creation, thus increasing shareholders' confidence and trust. In addition, the integration of ESG principles encourages managers to align the interests of shareholders with those of a broader stakeholder group such as employees, customers, and society, thus fostering an integrated risk management and value creation approach.

By mitigating risks that are associated with environmental or social controversies, ESG scores enable a company to raise its reputation and gain the confidence of socially responsible investors, who are keen on ethical business practices and sustainable development. In exchange, ESG practices are the connecting link that brings together the potentially divergent interests of managers and shareholders towards common goals of sustainability, trust, and market performance.

### *ESG Scores*

In recent years, Environmental, Social, and Governance (ESG) disclosures have been one of the most important elements in corporate reporting not only in Indonesia but also around the world. ESG disclosures are critical in providing stakeholders with insight into a company's commitment to sustainable practices, social responsibility, and good governance. Previous research shows that the positive impact of ESG disclosures on a company's performance towards the firm's value (Rahman & Kurniawati, 2023). In Indonesia, the Financial Services Authority has taken proactive steps to encourage financial institutions, issuers, and public companies to adopt sustainability principles in their operations (Lubis & Rokhim, 2021). This emphasis on transparent ESG reporting highlights the growing importance of ESG factors in shaping the future of the Indonesian business environment.

Indonesia has also required CSR since 2003 for the state-owned enterprise. Following that in 2007 it was also mandatory for foreign investment companies and limited liability companies. This has shown that sustainability reporting has been on the Indonesian government's radar for a long time. The banking industries were the first to be required to report their sustainability report back in 2019 following OJK was planning to require all listed companies to submit their sustainability reporting in 2020 but was pushed back to 2021 due to the COVID-19 pandemic. Through these reports Indonesia Financial Service Authority or OJK wants Indonesian companies to have a stronger connection with their stakeholders in developing the company and country sustainability goals (Keslio, 2024).

***Environmental Scores***

The Environmental Score is the key indicator that measures the company's performance with respect to its response to environmental challenges. It considers carbon emission, resource utilization, waste management, and adherence to environmental laws. To investors and stakeholders, this score denotes the commitment of the company towards sustainability and its eventual effect on ecological and financial consequences.

Research underlines that good environmental performance is positively affecting to favorable market reactions. For example, Flammer (2013) found that announcements about environmental awards are associated with significant positive stock market reactions, meaning investors do indeed value sustainability initiatives. In this line, Blumenshine and Wunnava (2010) also found evidence that companies listed in environmental rankings, such as Newsweek's Top 500 Green Rankings, enjoy higher valuations in the market. These findings support the increasing role that environmental performance is playing in shaping investor behavior, especially in emerging markets with increasing attention to sustainability (Said, 2023).

Empirical evidence indicates that environmental scores drive firm value directly. High Environmental Scores often come with lower capital costs and shown a reduce investors' perceived risks (Jang et al., 2020). Yadav et al. (2015) argue that such scores are a signal of the concern a firm has in protecting the environment, and their changes describe shifts in sustainability strategies. Wu et al. (2022) reinforce the important role played by environmental performance: market players react strongly to environmental sanctions and press coverage, reflected in stock quotes.

The Environmental Scores function well within the overall conceptual framework of Environmental, Social, and Governance ratings. According to findings, ESG ratings reflect well in stock behavior and market perception, more so in emerging markets. Shobhwani (2023) indicated that the ESG risk scores, to which environmental components belonged, were responsible for increased firm performance. On the other hand, Jagannathan et al. (2017) found that open environmental disclosures communicate accountability to stakeholders and, consequently, help build confidence in the market.

Increasing traction of environmental scores and broad ESG consideration shows that investor priorities are slowly shifting toward sustainability and long-term value creation. The environmental performance has emerged as an essential factor for a company to prove its market attractiveness and viability at IDX80 and beyond. These trends underscore the need for companies to pay full attention to environmental transparency, integrated into the core business strategy in the interest of stakeholders and financial performance.

**H$_1$:** Environmental Score has a positive impact on Market Reactions.

*Social Scores*

The Social Score is an overall score for the social dimensions and is defined as a measure of a firm's commitment to social responsibilities, such as labor practices, community engagement, human rights, diversity and inclusion, and overall corporate social responsibility initiatives. This metric has emerged as a critical indicator of a company's ethical standing and its relationships with key stakeholders, including employees, customers, suppliers, and the broader community. While CSR practices have increasingly raised awareness, firms showing a commitment to social issues are more likely to demonstrate improved market performance. (Sudirjo, 2024; Wibawa, 2024)

Social scores are part of the larger ESG frameworks and can provide important insights on corporate sustainability. Several researches suggest that the inclusion of social factors in investment decisions improves the performance of a portfolio and reduces its risk (Niino et al., 2018; Huang et al., 2023). Companies with good social responsibility records also tend to exhibit better governance and environmental practices, proving ESG considerations are indeed holistic in nature (Saleh, 2024). Empirical research has shown high social scores to be positively related to strong stock performance. Companies with strong social initiatives tend to enjoy higher valuations and lower capital costs because they are perceived to be less risky in addition to being resilient to controversies (Đặng et al., 2021; David, 2024). This relationship is particularly evident in emerging markets, such as Indonesia, where social issues are normally more pronounced and CSR practices are under closer scrutiny (Halid et al., 2022).

Apart from the market performance, the social scores act as a proxy for the risk profile of a firm. Good social performance means that a firm is good at managing risks linked with labor disputes, community disputes, and damage to reputation—all of which have considerable financial consequences (Landi et al., 2022; Sharma et al., 2022). Analyzing the social scores in a broader strategy of ESG will help corporations and researchers more clearly understand how socially related issues materialize as financial issues.

Improved transparency and accountability in corporate governance have increased the voice of social performance metrics. Investors are demanding detailed disclosure of social initiatives, recognizing the potential impact on trust and loyalty (Yuan, 2024; Eccles & Viviers, 2011). Effective communication of social contributions through channels like social media further increases the market perception of a company, as such efforts build brand trust and foster customer loyalty (Evelina, 2023; Sohail et al., 2020).

The Social Score, as a section of corporate performance, is indicative of a company's ethics and its relationship with stakeholders. This makes it all the more significant in both financial and social respects, considering that it serves to influence market reactions, investor sentiment, and risk profiles. With the increasing demand for socially responsible behavior, transparency at firms and the integration of social aspects into strategies, therefore, become pivotal; effective communication with stakeholders is also called for. This will provide better market performances but also advance the company in a business world increasingly oriented to sustainability.

**H$_2$:** Social Score has a positive impact on Market Reactions.

*Governance Score*

The Governance Score is integral to the Environmental, Social, and Governance framework in that it depicts the state of governance practices and structures within a company. It encompasses key areas like board composition and independence, shareholder rights, transparency, accountability, and internal controls. This score is important to investors and stakeholders because it shows the commitment of the firm to ethical management and its capability to reduce risks emanating from poor governance. While governance has become a globally accepted factor that drives financial performance and market reactions, the governance score has emerged as a significant tool for determining a company's long-term sustainability and viability (Ramadhani et al., 2023; Husnah et al., 2023).

Besides the regulatory requirements, the Governance Score is an invaluable strategic corporate reputation enhancer that attracts investment in a company. Companies with strong governance structures are perceived as less risky, and therefore access to capital may be easier and the cost of equity lower. Research also affirms that companies with high governance scores consistently outperform others because their management acts in concert with shareholder value (Husnah et al., 2023; Baraibar-Diez & Odriozola, 2019). Further, as investors increasingly consider governance in their decision-making processes, governance scores play a pivotal role in shaping investor behavior, especially in emerging markets where governance practices may diverge substantially (Chen & Vann, 2017).

In fact, empirical evidence from prior literature always suggests that high governance scores correlate positively with strong market performance. Companies with good governance frameworks tend to be valued higher and maintain lower capital costs due to resistance to governance-related controversies. This is in agreement with Widuri et al. (2022) and Mihail & Dumitrescu (2021). The relationship is more relevant in emerging markets where the signs of governance challenges are more apparent, therefore, making governance scores a critical determinant for investors (Chairani & Siregar, 2021). The Governance Score further depicts the overall risk profile of a company. Companies with high governance scores are better prepared for fraud, mismanagement, and regulatory violation risks, all of which have great financial consequences. According to Virgana and Suradika (2022) and Bumin (2024), through the analysis of governance performance, companies can identify areas in which they are vulnerable and then take measures to increase resilience and investor confidence.

With the call for increased transparency and accountability in corporate governance, there has been a greater focus on governance practices. Investors demand extensive disclosures about governance mechanisms that are perceived to impact material trust and loyalty. Firms with greater transparency in governance matters tend to receive more favorable market responses (Citterio & King, 2023; Siagian et al., 2013). Empirical evidence also demonstrates that firms with higher Governance Scores face lower volatility in stock prices, further reinforcing the financial reasons for good governance (Zhou & Zhou, 2021; Wau, 2023). Strong structures of governance are related to decision-making oriented toward sustainability and long-term value creation, rather than just short-term benefits. Such consistency in governance is aligned with stakeholders' interests, which strengthens resilience and eases market perceptions through strong sustainable financial performance (Januri et al., 2023; Giannopoulos et al., 2022).

Governance Score forms one of the cornerstones in corporate sustainability, influencing investor behavior, financial performance, and risk management. While serving as a proxy for ethical management, governance scores also serve as an implementable tool that enables companies to maintain stakeholder confidence and work better in these market complexities. Hence, the role within ESG frameworks for enabling holistic sustainability performance positions this variable at an important location in the eyes of any researcher investigating market responses in the face of an evolving economy.

**$H_3$:** Governance Score has a positive impact on Market Reactions.

## Methodology

The following research model will be used for this study. The independent variables are the Environmental Scores (ES), Social Scores (SS), and Governance Scores (GS) of IDX80 listed companies. The dependent variables of Market Reactions are taken from the Refinitiv Database from 2019 – 2023. Using Gretl Software to conduct the analysis, the following four control variables used in this research are Leverage, Company Size, Company Age, and Profitability.

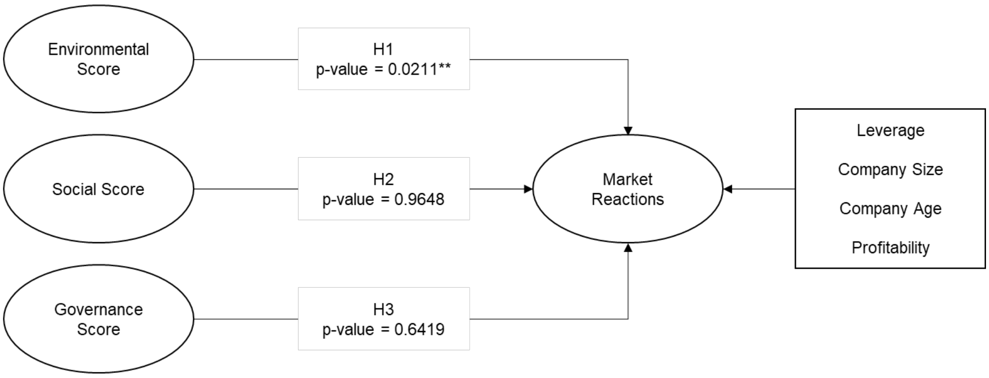


**Figure 1.** Research Model

$$Log(MP) = \beta 0 + \beta 1ES + \beta 2SS + \beta 3GS + \beta 4SIZE + \beta 5AGE + \beta 5AGE + \beta 6NIM + \beta 7LEV + e$$

The population of this study uses the 903 Indonesia-listed companies with the sample from the IDX80 which listed Indonesia's top 80 companies from 2019 to 2023. There will be three independent variables consisting of environmental score (ES), social score (SS), and governance score (GS). This independent variable will be tested against the dependent variable, which is the Market Reaction.

**Table 1.** Variables and Measurement Unit

| Variable | Variable Notation | Measurement |
|---|---|---|
| Environmental Score | ES | E Score |
| Social Score | SS | S Score |
| Governance Score | GS | G Score |
| Market Reaction | MP | Market Closing Price |
| Leverage | LEV | Debt to Asset Ratio |
| Company Size | SIZE | Total Asset |
| Company Age | AGE | Age of Company since Establishment |
| Profitability | NIM | Net Income Margin |

### *Population and Sampling Method*

Out of the population of 80 companies from the IDX80 Index, 26 will be taken. These 26 companies have passed the criteria of having individual E, S, and G risk scores listed on the IDX database and consistently made an appearance in the Index starting from February 2021 up to July 2024. These consistently appearing companies mean they are some of the best companies in Indonesia because they have large market capitalization, high liquidity, and good fundamentals. The IDX80 also has good selection criteria for the companies that can enter the index such as excluding companies with categories 4 and 5 controversy risk, companies with high and severe ESG risk ratings, and only choosing the companies with the lowest ESG rating out of the remaining universe to enter the index.

IDX 80 has a major evaluation semi-annually and from the 10 major evaluations, only 48 companies consistently appear for the 10 major evaluations. After the elimination, their data will be gathered from the Refinitiv database, and these 17 more companies do not have the required data and was eliminated from the study. Thus, only 31 company to fulfil the criteria and because the study is for 5 years 155 observations will be studied further for the sample of the research.

**Table 2.** Population and Sampling

| Summary of the Observed Sample | No of Sample |
|---|---|
| IDX 80 Companies, From February 2019 to January 2023 | 80 |
| IDX80 Companies that do not consistently appear from February 2019 to January 2023 | (32) |
| IDX 80 Companies that do not have all the required data in Refinitiv | (17) |
| Companies that fulfill the criteria | 31 |
| Total Sample that will be used in the model (31 x 5) | 155 firm-year |

### *Data Analysis Technique*

**Multicollinearity and Heteroscedasticity Test**

The result in Table 3 shows that the are no Multicollinearity issues with the data presented in this result. In addition, it is also supported by the result in Table 4 shows that there are no collinearity issues since none of the VIF values is greater than 10. A VIF value greater than 10 means that the independent variables in the regression model are correlated. Furthermore, there is no heteroscedasticity problem from the test result.

Finally, the panel specification diagnostics test result shows that it favors the random effect model for the study. From the result, Dynamic Panel Data models are best fitted for the model since dynamic panel data models analyze data across entities over time. This fits the study since can be seen that ESG scores evolve as can be seen in the independent variable of the study.

**Table 3.** Multicollienarity Test

| | MP | ES | SS | GS | SIZE | NIM | LEV | AGE |
|---|---|---|---|---|---|---|---|---|
| MP | 1 | -0.1008 | -03532 | -0.3532 | -0.0120 | -0.0165 | -0.0981 | 0.0510 |
| ES | | 1 | 0.5098 | 0.3568 | 0.3373 | -0.0139 | -0.2288 | 0.2839 |
| SS | | | 1 | 0.6713 | 0.2779 | -0.0138 | -0.3986 | 0.2680 |
| GS | | | | 1 | 0.1340 | 0.0574 | -0.2987 | 0.2181 |
| SIZE | | | | | 1 | -0.3557 | -0.0781 | 0.2660 |
| NIM | | | | | | 1 | -0.1849 | -0.0892 |
| LEV | | | | | | | 1 | -0.4442 |
| AGE | | | | | | | | 1 |

**Table 4.** Data Testing Specification

| Variable | Variance Inflation Factors (VIF) |
|---|---|
| ES | 1.473 |
| SS | 2.361 |
| GS | 1.850 |
| SIZE | 1.373 |
| NIM | 1.238 |
| LEV | 1.499 |
| AGE | 1.386 |
| Heteroscedasticity (White's Test) | |
| p-value = p(Chi-Square (35) > 126.257348 | 0.00000000 |
| Panel Specification Diagnostic | |
| Fixed Effect Estimator (Fixed) | 0.109911 |
| Breusch-Pagan Test (Random) | 5.88623e-32 |
| Hausman Test (Random | 0.131292 |

## Analysis and Discussion

### Analysis

The table 5 shows the result of the descriptive analysis. The Market Reaction has a standard deviation of 0.6982 with a mean of 0.4887. The minimum value of the market reaction is 0.0132 which is the price of Pt Surya Citra Media Tbk in 2019 which has a five-year market reaction average of 0.0229 which is one of the lowest in the sample. In contrast, the max value is 5.7454 which is the price of PT. Gudang Garam Tbk in 2019 also has the highest five-year average price of 3.1549.

**Table 5.** Descriptive Statistics

| | Mean | Std. Dev | Min | Max |
|---|---|---|---|---|
| MP | 0.4887 | 0.6982 | 0.0132 | 5.7454 |
| ES | 1.6637 | 0.3251 | -0.7430 | 1.9498 |
| SS | 1.7591 | 0.1933 | 1.1101 | 1.9815 |
| GS | 1.6833 | 0.2479 | 0.4738 | 1.8560 |
| SIZE | 9.7756 | 0.5845 | 8.6304 | 11.1070 |
| NIM | 0.1764 | 0.3722 | -0.0293 | 2.2288 |
| LEV | 0.2172 | 0.1952 | 0.0015 | 0.8168 |
| AGE | 1.6609 | 0.2116 | 1 | 2.1072 |

The independent variables which are the Environmental, Social, and Governance Score. The Environmental Score it shows a standard deviation of 0.3251 with a mean of 1.6637. The minimum value is -0.7430 this is the E score of PT. Surya Citra Media Tbk in 2019 which has been given a grade of D in the Refinitiv Database. Even so, they have been improving throughout the 5 years going up a grade to C in 2023. The max score on the other hand is held by PT Unilever Indonesia Tbk with 1.9498 in the year 2022 where they have consistently been graded as A from 2021 until 2023 showing a consistent effort for the environment. The Social Score has a standard deviation of 0.1933 and a mean value of 1.7591. Social Score held the lowest standard deviation out of the 3 independent variables meaning they have a narrower curve. Their minimum value is 1.1101 which is PT Gudang Garam Tbk in 2019 where they have been given a score of D- in the Refinitiv Database. PT Gudang Garam Tbk however has shown growth in 2020 going up to D but they have not improved since then with the latest grade which is in the year 2023 staying at D+. The maximum value for the S score is 1.9498 which is held by PT Bukit Asam Tbk in the year 2021 where they also have consecutively been graded A+ from 2020 to 2023. The Governance Scores have a 0.2476 standard deviation and a mean of 1.6833. The minimum value of 0.4738 was held by PT Chareon Pokphand Indonesia Tbk in 2020 which grade went down from C grade to D- from 2019 to 2020 where after that they were unable to go back to the C score only peaking at C- in 2022 and 2023. The maximum value of 1.8560 is held by PT Bank Mandiri (Persero) Tbk in the year 2022. PT. Bank Mandiri (Persero) Tbk shows growth from falling one grade in 2019 to 2020 from B+ to B but going up 2 grades into A by the year 2021 and staying there until 2023.

Regarding the control variables, all of them are measured accordingly except the AGE which is measured using LOG value. The SIZE has a standard deviation of 0.5845 with a mean of 9.7756. The minimum value of the SIZE is 8.6304 with the max value being 11.1070. The NIM has a standard deviation of 0.3722 and a mean value of 0.1764. The max value of the profitability is 2.2288 with a minimum value of -0.0293. The LEV of the company has a standard deviation of 0.1952 with a mean of 0.2172. The minimum value is 0.0015 and the max value of 0.8168. Finally, the AGE of the company has a max value of 2.1072 and a min value of 1. With a mean of 1.6609, this makes the standard deviation of this control variable 0.2116.

According to the data above out of the 3 independent variables, only the Environmental score has a significant influence on market reaction. The influence itself is shown to be positive. This means that the first hypothesis of the study is not rejected. However, the other variables, the Social Score (SS) and Governance Score (GS) are shown to have no significant influence on market reaction meaning that hypotheses 2 and 3 will be rejected.

Even though there are differences in significant impacts from each component of ESG, this research also would like to understand how the impact on ESG Score as a whole. Therefore, the result below would like to show how is the impact of combined ESG Score on Market Reactions.

**Table 6.** Dynamic Panel Model using 155 firm-years observation data

| | Coefficient | Std. Error | Z | p-value |
|---|---|---|---|---|
| MP | 0.7295 | 0.0087 | 83.51 | 0.0000*** |
| Const. | 0.0765 | 0.2032 | 0.3764 | 0.7066 |
| ES | 0.1288 | 0.0559 | 2.305 | 0.0211** |
| SS | -0.0042 | 0.0943 | -0.0441 | 0.9648 |
| GS | -0.0219 | 0.0471 | -0.4650 | 0.6419 |
| SIZE | 0.0093 | 0.0243 | 0.3839 | 0.7011 |
| NIM | -0.0383 | 0.0171 | -2.245 | 0.0248** |
| LEV | -0.0609 | 0.0687 | -0.8874 | 0.3748 |
| AGE | -0.1531 | 0.0688 | -2.222 | 0.0268** |

**Table 7.** Dynamic Panel Model Combined ESG Score on Market Reactions

| | Coefficient | Std. Error | Z | p-value |
|---|---|---|---|---|
| MP | 0.7443 | 0.0095 | 78.30 | 0.0000*** |
| Const. | -0.2173 | 0.2597 | -0.8367 | 0.4028 |
| ESG Score | 0.0765 | 0.0460 | 0.3764 | 2.84e-05*** |
| SIZE | 0.0212 | 0.0238 | 4.186 | 0.3727 |
| NIM | -0.0331 | 0.0161 | 0.8914 | 0.0392** |
| LEV | -0.0331 | 0.0769 | -2.062 | 0.6669 |
| AGE | -0.1520 | 0.0704 | -2.159 | 0.0308** |

The result from Table 7 shows that the combined ESG scores show that they have a significant positive impact on the market reaction, unlike the individual scores. This result differs from (Fachrezi et al., 2024) studies that show there is no such influence on the firm value. The likely explanation for why the combined score has a high significance but the individual does not, is that Indonesians are still not familiar with the concept of ESG scores thus they have not quite delved into the individual scoring. It can be said that Indonesian investors now favor the more general approach of the collected ESG data.

### *Discussion*

From the result on Table 6, the p-value of the E score is 0.0211. This indicates that there is a significant impact of environmental scores on the market reaction. The coefficients of the E score also show a score of 0.1288 meaning that there are positive significant impacts on the dependent variables. This positive correlation suggests that a company with a higher E score also has a better market reaction. This aligns with the previous study (Suttipun & Yordudom, 2021) where Environmental disclosure has a positive impact on the market reaction.

The acceptance of the first hypothesis shows the alignment between the signalling and agency theory with the environmental score. This shows that a company with a high environmental score also have a very high performance that shows that they focus not only on short-term profit but on the long run. This shows how the company has an aligned interest with the shareholder which is long-term profit signalling them to buy their shares. Or in a nutshell, giving them a good market reaction. However, it cannot be said the same with the other two disclosures which are the S and G scores. The result shows an insignificant impact on the market reaction meaning that both hypotheses are rejected.

The positive significant impact of environmental scores on market reactions in Indonesia, contrasted with the lack of similar effects from social and governance scores, can be attributed to several factors. Firstly, Indonesian consumers and investors are increasingly aware of environmental issues, leading to a greater emphasis on corporate environmental responsibility. Literature show that firms that are focused on environment sustainability has better performance in the market as this approach is consistent with the worldwide trends of sustainable practices (Purwoko, 2023). In

Indonesia, specifically, the Green Supply Chain Management (GSCM) practice helps provide market performance for the micro, small, and medium enterprises (MSMEs) (Purwoko, 2023).

In addition, sustainability bonds (also referred to as green bonds) have gained traction from the market reflecting the positive corporate performance towards the environment (Mathew, 2023). On the other hand, social and governance sub-scores of companies may not seem as compelling to investors in Indonesia, either because of a lack of awareness or relevance. In general, ESG scores influence the firm's performance in countries with developed markets, as opposed to developing markets like Indonesia, where the environmental dimensions are stressed more (Makhdalena et al., 2023). Moreover, the lack of enforcement of social and governance standards in Indonesia's regulatory context may cause the environment to have the highest focus among investors rather than the other two aspects (Irawati, 2023). As a result, companies with strong environmental commitments are viewed more favorably by the market, recognizing the significance of sustainability in investment decisions.

## Conclusions and Recommendations

This study indicates the significant impact of ESG Scores on Market Reactions. These findings show that companies that incorporate ESG activities in their business processes received a positive market reaction and appreciation from their stakeholders. However, this research also explores deeper in each score of the ESG component and finds out that only the Environmental Scores (ES) have positive impacts on Market Reactions, whereas the Social Scores (SS) and Governance Scores (GS) do not have impacts on Market Reactions.

The outcomes may mean different things to business practice. First, it might seem that in Indonesia the subject of Environmental, Social, and Governance (ESG) is in its initial stages of adoption. Therefore, corporate activities incorporating ESG values are seen to bring about favorable results and are likely to illustrate positive reactions. Market responses to firms in Indonesia appear to reflect the perception that environmental issues are given priority as issues that must be solved, showing that the for Environmental Scores have a substantially positive effect on Market Performance (MP).

This finding implies that corporate managers must prioritize environmental initiatives in the short term, especially those concerning carbon reduction, waste minimization, and the sustainable consumption of resources because these initiatives are congruent with market expectations and social expectations. However, such prioritization must not lead to ignoring the aspect of Social and Governance. On the firm side, even though Environmental Scores are the only positively significant results concerning Market Reaction (MP) in this research, it is necessary to keep emphasizing Social and Governance-related activities. These dimensions are very important to aid in the building of long-term brand equity, stakeholder trust, and business resilience. In addition, the present market's emphasis on green aspects can undergo changes depending on social awareness and regulatory frameworks that change over time. For example, increased focus on labor rights, diversity, transparency, and governance structures can result in scrutiny and pressure to improve Social and Governance scores. Institutions must take early actions in giving integrated social programs and governance structures so that they are better placed to take advantage of impending changes in market perception.

Lastly, organizations should consider that the indirect or lagged response of the market to Social and Governance scores cannot invalidate their importance. These metrics are critical to enable risk avoidance, attract socially responsible investors, and ensure adherence to global standards. Organizations that fully integrate ESG into their strategic frameworks are likely to sustain competitive strengths and adapt well to emerging investor and consumer expectations, hence sustaining sustainable growth and market prominence.

Further research might incorporate a different business environment condition since the Indonesian market is still in the preliminary stage of ESG understanding, this result might be different in a more mature and complex business society. In addition, the data of this research is taken during 2019 – 2023, which might have an impact on the business during COVID-19 and post-COVID environment that might not reflect to the business environment without any irregularity.

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