The double-edged sword of transparency: ESG disclosure's effect on competitive dynamics in manufacturing

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Abstract: This study explores the role and impact of Environmental, Social, and Governance (ESG) information on investor decision-making, focusing on the lack of standardized ESG reporting among companies. Although ESG disclosures can enhance a company's legitimacy and attract investor interest, the voluntary nature of reporting has led to inconsistent practices and limited information quality. The research aims to develop a standardized ESG reporting model that meets investor needs while assessing the effects of ESG performance on corporate outcomes. Using a mixed-methods approach, the study combines qualitative research to formulate an ESG reporting model and quantitative methods to evaluate its impact on company performance. Data were collected from 167 manufacturing companies in Indonesia, selected based on their consistent publication of sustainability reports over four consecutive years. The findings reveal that ESG shows consistent high significance across all three models (Sig = 0.000 for Model-1, Model-2, and Model-3 regression). This uniform high significance underscores the growing importance of ESG factors in various aspects of corporate performance and perception. It suggests that ESG considerations are integral not only to stock returns and firm valuation but also to a company's competitive positioning. The study concludes that while ESG reporting is essential for corporate transparency, it may not always align with positive financial outcomes. This suggests the need for more comprehensive ESG frameworks to balance investor expectations and corporate performance.

Keywords: Corporate performance, Environmental, ESG Disclosure, Governance (ESG), Investor decision-making, Social, Stock returns.

1. Introduction

Over the past few decades, Environmental, Social, and Governance (ESG) activities have garnered significant attention from businesses and stakeholders. ESG initiatives, encompassing environmental stewardship, social responsibility, and governance practices, are vital to ensuring the long-term sustainability of businesses and societies [1]. These three pillars address a wide range of issues: environmental considerations focus on ecosystem preservation, pollution control, and natural resource management, while social factors cover human rights, labor practices, and community engagement. Governance, on the other hand, emphasizes transparency, accountability, and ethical decision-making. Together, these principles form a framework for corporate sustainability that contributes to broader societal and environmental well-being [2].

In response to rising concerns about sustainability, various organizations and institutions, including the United Nations (UN), have urged businesses to incorporate and disclose ESG practices as part of their corporate responsibility initiatives. As part of this effort, governments in several countries have introduced policies and incentives, such as tax benefits, to encourage companies to adopt and report on their ESG activities [3]. For example, Indonesia has increasingly emphasized green accounting, a practice that integrates environmental aspects into financial reporting, highlighting how

sustainability concerns have permeated even traditional financial systems [4]. The transparency offered by ESG reporting provides critical information to stakeholders, including investors, regulators, and the general public, who are becoming increasingly conscious of the role businesses play in addressing environmental and social challenges [5].

Environmental disclosure, in particular, has emerged as a focal point for many stakeholders, given the urgency of environmental conservation efforts. These disclosures offer insight into a company's initiatives to mitigate environmental risks, manage energy consumption, and reduce emissions [6], [7]. Such transparency not only meets regulatory requirements but also serves as a tool to enhance a company's reputation and legitimacy in the public sphere. This aligns with the research of Halid et al. (2023), who found that enhanced ESG reporting, particularly regarding environmental concerns, can improve a company's credibility and lower capital costs, creating a positive feedback loop that encourages further investment. By aligning corporate strategies with societal values and expectations, ESG disclosures provide businesses with a means of securing long-term sustainability and minimizing risks.

ESG information is equally important to investors. It serves as a key factor in determining a company's risk profile, operational sustainability, and financial health. Incorporating ESG considerations into the investment decision-making process allows investors to make more informed choices by evaluating companies not just on financial performance but also on non-financial metrics that could affect long-term outcomes (Chen, Song, and Gao 2023). Research has shown that companies with high ESG performance often receive favorable ratings from investors, who view these firms as better aligned with long-term growth and risk mitigation strategies [10]. As El Khoury, Nasrallah, and Alareeni (2023) explain, strong ESG performance not only fosters public trust but also protects businesses from potential claims related to environmental violations or social misconduct, thereby safeguarding their reputation and financial standing.

Despite the growing importance of ESG activities and the increasing awareness of their benefits, many companies still fail to provide comprehensive disclosures on their ESG practices. ESG reporting is largely voluntary in many regions, including Indonesia, where firms can choose which aspects to disclose. This flexibility leads to inconsistent and incomplete information, making it difficult for stakeholders, particularly investors, to compare companies based on ESG performance [12]. The lack of standardized reporting frameworks is a significant barrier to improving ESG transparency, as it hampers investors' ability to assess risks and opportunities effectively. This concern is echoed by Khanchel and Lassoued (2022), who argue that the absence of uniform ESG reporting standards has increased the pressure on companies to improve their transparency to meet the growing demands of investors and stakeholders alike.

The variability in ESG reporting practices across companies creates challenges not only for investors but also for regulators and other stakeholders who rely on such disclosures for decision-making. Inconsistent ESG information limits the ability to evaluate a company's full impact on environmental and social issues, leading to increased calls for standardization in reporting practices. Bai, Ding, and Jiang (2024) emphasize that consistent, transparent ESG disclosures reduce information asymmetry and enhance market efficiency by enabling stakeholders to make better-informed decisions. These benefits have motivated the growing push for a unified ESG reporting model that can guide companies in effectively disclosing their sustainability efforts.

This essay seeks to address the urgent need for a standardized ESG reporting framework that can provide meaningful, consistent, and comparable information to stakeholders, particularly investors. A comprehensive ESG reporting model must capture the critical elements of environmental, social, and governance performance to ensure that it meets stakeholders' informational needs. Such a model would not only enhance the quality of ESG disclosures but also contribute to improved financial performance for companies that adhere to it. Research by Schramade 2016) supports this hypothesis, suggesting that integrating ESG factors into financial models can improve investment decision-making and

company valuation.

The proposed ESG reporting model would be based on a mixed-methods research approach, combining qualitative and quantitative techniques. The qualitative phase of the study would involve a detailed analysis of existing literature, interviews with industry experts, and content analysis of ESG reports from leading companies. This phase would seek to identify the key components of ESG reporting that stakeholders, particularly investors, deem essential for decision-making. The quantitative phase would involve testing the developed model's impact on company performance using financial metrics such as stock returns, Tobin's Q, and competitive advantage [4]. By establishing a direct link between ESG disclosures and financial performance, this study aims to provide empirical evidence of the tangible benefits of improved ESG transparency.

The central hypothesis driving this research is that companies adopting a standardized ESG reporting framework will experience enhanced financial outcomes. Enhanced disclosures are expected to reduce information asymmetry, improve investor confidence, and ultimately lead to greater financial stability and growth. The anticipated results of this research will include the development of a robust ESG reporting model that can serve as a guideline for companies, particularly those in regions where ESG reporting is not yet mandatory. This framework will aim to improve the consistency and comparability of ESG information, enabling investors to make more informed decisions. Moreover, the research anticipates that companies adopting this model will experience not only financial gains but also enhanced public legitimacy and stronger stakeholder relationships, contributing to their long-term success [16].

2. Literature Review

Environmental, Social, and Governance (ESG) considerations have gained significant attention recently, becoming a crucial topic in business discussions (Awaysheh et al. 2020; Tsang, Cao, and Frost 2023). The growing importance of ESG factors has increased pressure on companies to disclose their ESG-related activities and information. However, the voluntary nature of ESG reporting has resulted in inconsistent practices and limited information quality, creating challenges for investors and other stakeholders. Domestic and international investors have shown a keen interest in ESG information as it informs their investment decisions [2]. ESG disclosures can help investors assess companies' risk profiles, operational performance, and long-term sustainability [18]. Moreover, high ESG ratings can enhance a company's legitimacy and reduce potential ESG-related liabilities [19].

Despite the recognized importance of ESG information, many companies still need to provide adequate disclosures [10]. This gap between the demand for ESG information and its supply has led to calls for increased transparency in corporate reporting [20]. The benefits of ESG disclosure have been extensively studied, with research indicating positive impacts on company performance (Chen et al., 2023; Lian, Li, and Cao 2023) and shareholder wealth (El Khoury et al., 2023). In Indonesia, the Financial Services Authority (OJK) has issued guidelines for sustainability reporting through SEOJK NOMOR 16 /SEOJK.04/2021; a standardized format for ESG disclosures still needs to be standardized. Many companies rely on frameworks such as the Global Reporting Initiative (GRI) for non-financial reporting guidance. A recent study reveals that 88% of listed companies in Indonesia provided some form of ESG disclosure in 2022, with 80% using GRI standards (Indonesia, 2023). However, the relationship between ESG disclosure and financial performance is complex and context-dependent. While some studies have found positive correlations between ESG criteria and corporate financial performance [22], others have reported negative impacts, particularly in emerging markets [23]. The costs associated with ESG initiatives and market scepticism may contribute to these adverse effects.

3. Methods

This research adopts a mixed-methods approach, integrating qualitative and quantitative methods to examine ESG reporting in manufacturing companies comprehensively. The qualitative component focuses on developing a tailored ESG reporting model for investor use. In contrast, the quantitative component assesses this model's impact on manufacturing companies' financial performance. The study is structured in two phases. The qualitative phase aims to create an ESG reporting model based on existing regulatory frameworks. In contrast, the quantitative phase evaluates the model's impact on financial performance indicators, including stock returns, Tobin's Q, and competitive advantage. Combining these two methods will provide a complete understanding of ESG reporting practices and their implications for companies and investors.

In the qualitative stage, the primary goal is to create an ESG reporting framework that aligns with the requirements of investors and meets regulatory standards. The development begins with reviewing existing guidelines, including the SEOJK No.16/2021 from Indonesia's Financial Services Authority and the internationally recognized Global Reporting Initiative (GRI) standards. The steps involved in the qualitative procedure are Identifying ESG disclosure items based on the GRI standards, Analyzing the mandatory ESG disclosure components in SEOJK No.16/2021, Drafting an initial ESG disclosure model for manufacturing companies, Conducting Focus Group Discussions (FGDs) with key stakeholders such as investors, practitioners, and academics to refine the ESG model and Finalizing the ESG reporting model based on feedback from these discussions and presenting it for socialization and implementation.

After finalizing the ESG model, the quantitative phase focuses on testing the model's impact on the financial performance of manufacturing companies. The sample includes manufacturing firms listed on the Indonesia Stock Exchange between 2020 and 2023, selected based on specific criteria, including the continuous publication of independent sustainability reports and audited financial statements. ESG disclosure is measured by assigning a score to each criterion, with 1 indicating disclosure and 0 indicating non-disclosure. The effect of these disclosures on financial performance is then analyzed using multiple regression analysis with partial least squares. Three models (M1, M2, M3) are used to examine the relationship between ESG disclosure and key financial performance indicators: stock returns (RS), Tobin's Q, and competitive advantage (CA).

The research employs both qualitative and quantitative data. Qualitative data is derived from content analysis of the GRI Standards and SEOJK No.16/2021 and input from FGDs involving investors, practitioners, and academics. Quantitative data includes the financial metrics (stock returns, Tobin's Q, and competitive advantage) of the manufacturing companies in the sample, as well as ESG disclosure scores assigned based on the developed ESG model. Under Qualitative Data Collection: ESG disclosure items are collected through a detailed review of regulatory frameworks and best practices, with additional insights gathered through FGDs. These discussions involve a range of stakeholders to ensure that the final ESG reporting model reflects the needs and expectations of the investment community. Quantitative data is sourced from the published annual and sustainability reports of manufacturing companies on the Indonesia Stock Exchange. ESG scores are assigned based on whether each company disclosed the required ESG criteria specified by the newly developed model. Financial performance metrics are calculated using stock prices, company balance sheets, and financial statements.

The effect of ESG disclosure on financial performance is examined using three distinct regression models:

1. Model 1 (M1): Stock Return (RS)
   $$RS = \beta_0 + \beta_1 ESG + \beta_2 TA + \beta_3 ROE + \beta_4 DPR + e$$
   Where:
   - RS is the stock return, calculated as (Current Stock Price - Last Year's Stock Price) / Last Year's Stock Price.

- o TA is the logarithm of total assets.
- o ROE is the return on equity, calculated as Net Income / Total Equity.
- o DPR is the dividend payout ratio, calculated as Total Dividends / Net Income.

2. Model 2 (M2): Tobin's Q
   Tobin's Q = β0 + β1ESG + β2TA + β3ROE + β4DPR + e
   Where Tobin's Q is calculated as (Market Value of Equity + Liabilities) / Total Assets.

3. Model 3 (M3): Competitive Advantage (CA)
   CA = β0 + β1ESG + β2TA + β3ROE + β4DPR + e
   Where CA is the company's competitive advantage, calculated as Return on Invested   Capital minus Weighted Average Cost of Capital.

The research aims to develop a reliable, standardized ESG reporting model for manufacturing companies in Indonesia. The quantitative analysis will demonstrate the relationship between ESG disclosures and financial performance, proving whether comprehensive ESG reporting enhances stock returns, increases company value, and strengthens competitive advantage. This framework is expected to provide a valuable tool for companies looking to improve their ESG reporting practices and investors seeking more precise insights into corporate sustainability.

4. Results and Discussion

This study examined the impact of Environmental, Social, and Governance (ESG) disclosure on the financial performance of manufacturing companies in Indonesia. The research was conducted in two phases: a qualitative phase to develop an ESG reporting model and a quantitative phase to assess the model's impact on financial performance indicators.

4.1. Qualitative Phase: Development of ESG Reporting Model

An ESG reporting model was developed through focus group discussions (FGDs) involving ESG experts, capital market participants, and the wider community. The model consists of three main components: Environmental Disclosure (17 items), Social Disclosure (23 items), and Governance Disclosure (10 items). Tables 1, 2, and 3 present each component's complete list of disclosure items.

Table 1.
Environmental disclosure.

No.	Information
E1	Composition of renewable and non-renewable raw materials
E2	Use of environmentally friendly materials
E3	Input materials from recycling used in the production process
E4	Intensity of renewable and non-renewable energy
E5	Reduced energy consumption
E6	Use and interaction with water
E7	Liquid waste disposal treatment
E8	Impact on biodiversity
E9	Biodiversity conservation
E10	GKR Emissions
E11	GHG emission reduction
E12	Ozone-depleting substance (ODS) emissions
E13	Other significant air emissions
E14	Waste generation and impact

E15	Waste
E16	Supplier
E17	Environmental costs

Table 2.
Social disclosure.

No.	Information
S1	New employee composition and turnover
S2	Allowances to full-time employees
S3	Equal employment opportunities
S4	Company compliance with regional minimum wage
S5	Reward outstanding employees
S6	K3: Occupational hazards, risk assessments, and incident investigations
S7	Worker participation, consultation and communication about OSH
S8	Training for workers on OSH
S9	Quality of workers' health
S10	Prevention and mitigation of OSH impacts on business
S11	Work accidents
S12	Occupational Diseases
S13	Employee upskilling
S14	discrimination and corrective actions taken
S15	freedom of association and collective bargaining
S16	Child labour (Minors)
S17	Incidents of forced or compulsory work
S18	Incidents of violations of Indigenous peoples' rights
S19	The negative impact of the company's operations on the local community
S20	Involvement of local parties (Local suppliers/local workforce) in the territory in which the company operates
S21	The company's positive contribution to the development of community programs
S22	Community complaints
S23	Customer health and safety

Table 3.
Governance disclosure.

No.	Information
G1	Person in charge of governance
G2	Competency development of the person in charge of governance
G3	External guarantees
G4	The role of the highest governance body in overseeing impact management
G5	Risk Assessment of the Implementation of Sustainable Finance
G6	policies to respond to challenges in the fulfilment of sustainability strategies
G7	Conflict of interest
G8	Performance evaluation of the highest governance body
G9	Membership in the association
G10	Stakeholder engagement

4.2. Quantitative Phase: Impact of ESG Disclosure on Financial Performance

The study focused on manufacturing companies listed on the Indonesia Stock Exchange from 2020 to 2023. After applying purposive sampling criteria, 22 companies were selected for analysis. The criteria and resulting sample size are presented in Table 4.

Table 4.
Sample selection process.

No.	Information	Number of companies
1.	Manufacturing companies listed consecutively on the IDX from 2020 to 2023	167
2.	Manufacturing companies publish standalone sustainability reports from 2020 to 2023	26
3.	Manufacturing companies publish Indonesia-language sustainability reports from 2020 to 2023	24
4.	Full data	22

The study employed three regression models to examine the impact of ESG disclosure on Stock Returns (RS), Tobin's Q, and Competitive Advantage (CA). Table 5. lists the 22 companies included in the final sample.

Table 5.
Final sample of companies.

No.	Company name
1.	Astra international Tbk
2.	Astra otoparts Tbk
3.	Barito pacific Tbk
4.	Chandra Asri Petrochemical Tbk
5.	Charoen Pokphand Indonesia Tbk
6.	Gunung Raja Paksi Tbk
7.	Impack Pratama Industri Tbk
8.	Indocement Tunggal Prakarsa Tbk
9.	Indofarma Tbk
10.	Sido muncul industrial herbal medicine and pharmacy Tbk
11.	Integra Indocabinet Tbk
12.	JAPFA COMFEED Indonesia Tbk
13.	Kalbe Farma Tbk
14.	Kimia Farma Tbk
15.	Phapros Tbk
16.	Selamat Sempurna Tbk
17.	Semen Indonesia (Persero) Tbk
18.	Solusi Bangun Indonesia Tbk
19.	Steel pipe industry of Indonesia Tbk
20.	Toba Pulp Lestari Tbk
21.	Waskita Beton Precast Tbk
22.	Wijaya Karya Beton Tbk

4.3. Model Comparisons

Figure 1 shows the profit growth of the sampled companies from 2020 to 2023. The Picture indicates that only 4 out of 22 companies (Astra et al. Indonesia, Charoen Pokphand, Semen Indonesia and Kalbe Farma) demonstrated positive profit growth more than 10% over the study period. Astra International stands out as the clear leader, with a net income significantly higher than all other companies shown. Its bar dwarfs the others, indicating it contributes a substantial portion of the total net income across these ESG companies. There is a sharp drop-off after Astra International, with Charoen Pokphand, Semen Indonesia, and Kalbe Farma forming a second tier of high earners, albeit at much lower levels than the top performer. The Picture exhibits a long tail, with many companies showing relatively small net incomes compared to the leaders. This distribution suggests a high concentration of earnings among a few top performers in the ESG space. The cumulative percentage line (orange) rises steeply at first, reflecting the outsized contribution of the top companies, then gradually flattens as it approaches 100%. This indicates that a small number of companies account for the majority of the total net income. Overall, the Picture reveals significant income inequality among these ESG companies, with a few dominant players and many smaller contributors to the total net income pool.
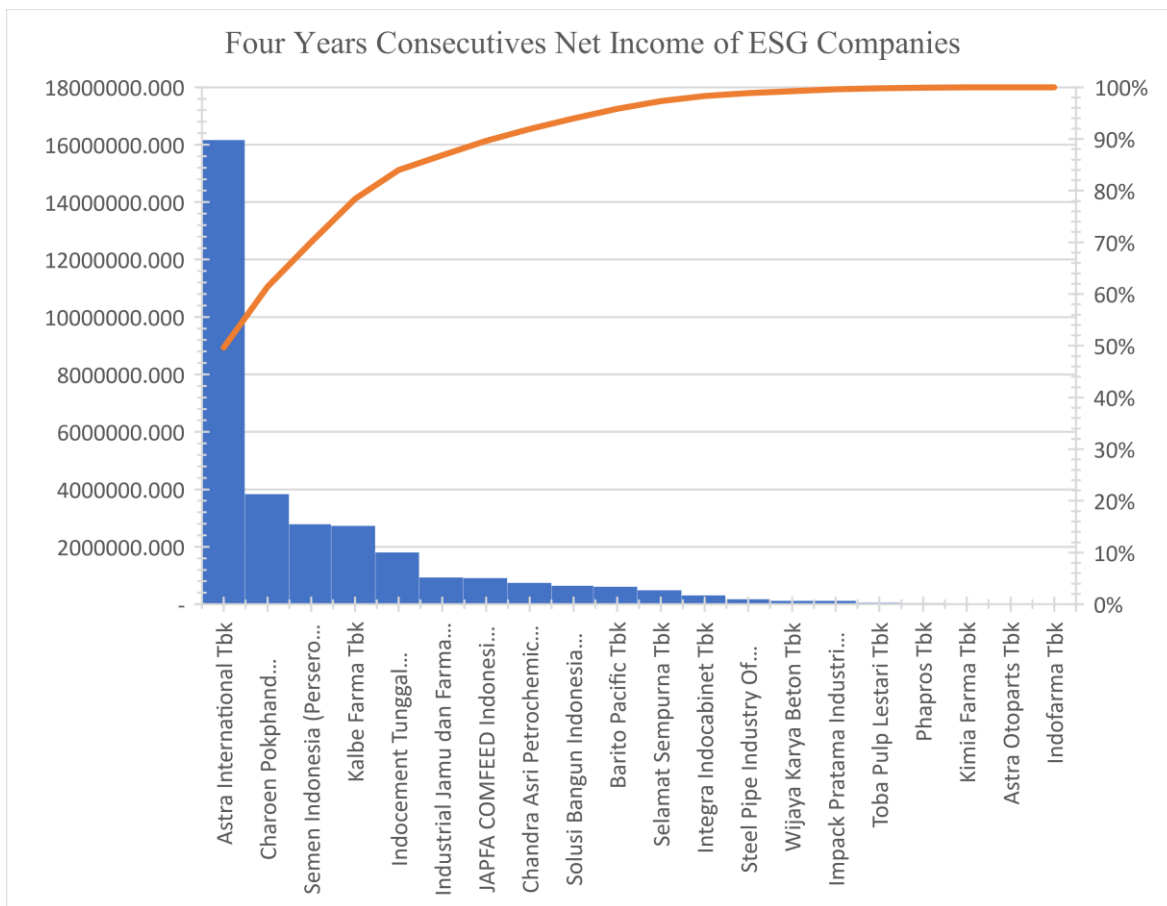

Figure 1.
ESG company profit growth.

Table 6. showed, the analysis of models M1, M2 and M3 provides insight into how additional variables and model complexities influence key financial and sustainability metrics such as Total Assets, Return on Equity (ROE), Dividend Payout Ratio (DPR), and Environmental, Social, and Governance (ESG) scores. By examining the changes in significance and coefficients, we can discern the differential impact of these variables across the two models. The significance of Total Assets varies notably across the three models. In M1 (Return Stock), Total Assets is not significant (Sig = 0.915), indicating it has little explanatory power for stock returns. However, in M2 (Tobin's Q), Total Assets becomes highly significant (Sig = 0.000), suggesting it strongly firm valuation. For M3 (Competitive Advantage), Total Assets remains highly significant (Sig = 0.000), implying it's crucial for a firm's competitive position. This aligns with empirical studies showing that firm size, often proxied by Total Assets, can affect market valuation and competitive strength differently than stock returns.

ROE shows varying significance levels across models. It's significant in M1 (Sig = 0.005) and highly significant in both M2 and M3 (Sig = 0.000 for both). This suggests ROE consistently plays a crucial role in explaining stock returns, firm valuation, and competitive advantage. The strong significance across all models underscores ROE's importance as a fundamental financial metric. These findings are consistent with finance literature that often cites ROE as a key determinant of firm performance and investor perceptions. DPR exhibits interesting differences in significance. It's highly significant in M1 and M2 (Sig = 0.000 for both) but not significant in M3 (Sig = 0.498). This implies that while dividend policies strongly influence stock returns and firm valuation, they may not directly impact a firm's competitive advantage. The contrast in significance between M2 and M3 is particularly noteworthy, suggesting that factors driving market valuation may differ from those creating sustainable competitive advantages.

ESG shows consistent high significance across all three models (Sig = 0.000 for M1, M2, and M3). This uniform high significance underscores the growing importance of ESG factors in various aspects of corporate performance and perception. It suggests that ESG considerations are integral not only to stock returns and firm valuation but also to a company's competitive positioning. This aligns with recent research highlighting the increasing relevance of ESG factors in financial markets and corporate strategy. The study reveals that while some factors like ESG show consistent importance across different performance measures, others like Total Assets and DPR vary in their impact. These findings highlight the complex interplay between financial metrics and different aspects of corporate performance, emphasizing the need for nuanced approaches in financial analysis and strategic decision-making.

Table 6.
Model comparison.

	Std coef beta	t	Sig	Std. coef beta	t	Sig	Std. coef beta	t	Sig.
	M1 - Return stock			M2 - Tobin's Q			M3 - competitive advantage (CA)		
Constant	-	11.259	0.000*	-	36.949	0.000*	--	-10.578	0.000*
Total assets	0.004	0.107	0.915	-0.248	-18.199	0.000*	0.085	8.685	0.000*
ROE	-0.095	-2.895	0.005*	0.053	3.920	0.000*	-0.201	-20.414	0.000*
DPR	-0.134	-4.141	0.000*	-0.114	-8.495	0.000*	0.007	0.681	0.498
ESG	-0.953	-29.316	0.000*	-0.944	-70.480	0.000*	-0.969	-100.182	0.000*

Table 7. showed, the adjusted R-square values for the three models (M1, M2, and M3) show notable differences in their explanatory power for different aspects of firm performance. M1 (Return Stock) has

an adjusted R-square of 0.910, indicating that the model explains 91% of the variance in stock returns. This high value suggests that the combination of ESG, Total Assets, ROE, and DPR strongly predicts stock performance. However, it leaves about 9% of the variance unexplained, which could be attributed to market factors or other variables not included in the model. M2 (Tobin's Q) shows an even higher adjusted R-square of 0.984, explaining 98.4% of the variance in Tobin's Q. This exceptionally high value implies that the selected variables are particularly effective in predicting firm valuation. The model's explanatory power for Tobin's Q surpasses that for stock returns, suggesting these factors may be more directly linked to market valuation than to short-term stock performance. M3 (Competitive Advantage) demonstrates the highest adjusted R-square at 0.992, explaining 99.2% of the variance in competitive advantage. This near-perfect fit indicates that ESG, Total Assets, ROE, and DPR are crucial determinants of a firm's competitive position. The marginally higher explanatory power compared to M2 suggests these factors might be slightly more relevant for long-term competitive advantage than for market valuation.

Table 7.
Regression results - model summary M1, M2 & M3.

Model regression	R-square	Adjusted R-square	Std. error	Predictor
M1 - return stock	0.914	0.910	0.1775	$RS = \beta_0 + \beta_1 ESG + \beta_2 TA + \beta_3 ROE + \beta_4 DPR + e$
M2 - Tobin's Q	0.985	0.984	0.2047	$Tobin's\ Q = \beta_0 + \beta_1 ESG + \beta_2 TA + \beta_3 ROE + \beta_4 DPR + e$
M3 - competitive advantage (CA)	0.992	0.992	1,4280	$CA = \beta_0 + \beta_1 ESG + \beta_2 TA + \beta_3 ROE + \beta_4 DPR + e$

4.4. Model 1: Impact of ESG Disclosure on Stock Returns

Table 8. presents, the results of a regression analysis examining the impact of various factors on stock returns. The constant term (2.717) is statistically significant ($p < 0.001$), indicating a baseline level of stock returns when all other variables are zero. Total Assets has a minimal positive effect (0.001) on stock returns and is not statistically significant ($p = 0.915$). This suggests that company size, as measured by total assets, does not significantly influence stock returns in this model. Return on Equity (ROE) shows a small negative impact (-0.007) and is statistically significant ($p = 0.005$). This unexpected negative relationship might indicate that higher profitability is not necessarily translating into higher stock returns in this sample. The Dividend Payout Ratio (DPR) has a negative effect (-0.022) and is highly significant ($p < 0.001$). This suggests that higher dividend payouts are associated with lower stock returns, possibly reflecting investor preference for growth over dividends. ESG scores have the largest negative impact (-4.237) and are highly significant ($p < 0.001$). This strong negative relationship between ESG scores and stock returns is notable and may warrant further investigation into the reasons behind this inverse correlation. Overall, the model indicates that ESG factors and dividend policies have the strongest (negative) influences on stock returns in this analysis.

Table 8.
Impact on stock returns.

Model 1	Unstandardized	Coef std err	Standardized coef. beta	t	Sig
Constant	2.717	0.241	-	11.259	0.000
Total Assets	0.001	0.014	0.004	0.107	0.915
ROE	-0.007	0.003	-0.095	-2.895	0.005
DPR	-0.022	0.005	-0.134	-4.141	0.000
ESG	-4.237	0.145	-0.953	-29.316	0.000

The regression analysis revealed a significant negative relationship between ESG disclosure and stock returns, contradicting previous studies that suggested positive correlations. This negative relationship can be attributed to several factors. Firstly, implementing ESG practices often requires significant upfront investments, which can affect short-term earnings and stock returns. According to a 2021 study by the Whelan et al. (2021) from NYU Stern Center for Sustainable Business, companies spend an average of 0.2% to 0.4% of their revenue on ESG initiatives, which can impact immediate profitability. Secondly, efforts to meet ESG standards may lead to increased operational costs. For instance, transitioning to eco-friendly technologies or implementing comprehensive employee well-being programs can raise production costs, potentially squeezing profit margins if not offset by increased revenue or efficiency. Thirdly, ESG disclosures may reveal previously unknown risks, potentially decreasing investor confidence. The 2023 KPMG Survey found that 80% of companies worldwide now report on sustainability, increasing transparency but also exposing potential vulnerabilities. Lastly, some investors may view ESG disclosures as a signal of challenges or risks, leading to decreased demand for shares in the short term. This aligns with findings from a 2023 report by Harvard Business Review article, which noted that market reactions to ESG disclosures can be mixed, often depending on the specific content and context of the disclosures. These findings highlight the complex relationship between ESG practices and financial performance, suggesting that while ESG initiatives may be crucial for long-term sustainability, they present short-term challenges for stock performance.

4.5. Model 2: Impact of ESG Disclosure on Tobin's Q

Table 9. presents the results of a regression analysis examining the impact of various factors on Tobin's Q, a measure of firm valuation. The constant term (9.938) is statistically significant (p < 0.001), indicating a baseline Tobin's Q value when all other variables are zero. Total Assets shows a significant negative effect (-0.293) on Tobin's Q (p < 0.001). This suggests that larger companies, as measured by total assets, tend to have lower Tobin's Q values, possibly indicating that smaller firms are valued more highly relative to their asset base. Return on Equity (ROE) has a small negative unstandardized coefficient (-0.011) but a positive standardized coefficient (0.053), and is statistically significant (p < 0.001). This indicates a positive relationship between profitability and firm valuation when accounting for the scale of the variables. The Dividend Payout Ratio (DPR) shows a negative impact (-0.052) and is highly significant (p < 0.001). This suggests that higher dividend payouts are associated with lower firm valuations, possibly reflecting a preference for reinvestment over distributions. ESG scores have the largest negative impact (-4.866) and are highly significant (p < 0.001). This strong negative relationship between ESG scores and Tobin's Q is notable and warrants further investigation into why higher ESG scores are associated with lower firm valuations in this model. All variables in this model are statistically significant, indicating they all play important roles in explaining variations in Tobin's Q.

Table 9.
Impact on Tobin's Q.

Model 2	Unstandardized	Coef std. err	Standardized coef. beta	t	Sig.
Constant	9.938	0.269	–	36.949	0.000
Total assets	–0.293	0.016	–0.248	–18.199	0.000
ROE	–0.011	0.003	0.053	3.920	0.000
DPR	–0.052	0.006	–0.114	–8.495	0.000
ESG	–4.866	0.069	–0.944	–70.480	0.000

Tobin's Q is a tool for evaluating whether the market value of a company, including all of its equity and debt, is greater or smaller than its total assets' book value. This ratio helps investors and company management to understand how the market values a company's assets compared to its replacement costs. If Tobin's Q value > 1, the market values the company higher than its asset book value. The market may see the potential for higher future profits from the company's assets compared to the replacement costs of those assets. Meanwhile, if the value of Tobin's Q < 1, then the market values the company lower than the book value of its assets. This could mean that the market expects the company's assets will not generate the corresponding profits or may be undervalued. The analysis showed a significant negative effect of ESG disclosure on Tobin's Q. Of the 88 observations in the study, 31 resulted in a Tobin's Q score of <1, indicating that for these instances, the market valued the company lower than its book value.

While ESG disclosure is often considered a positive step in improving a company's transparency and reputation, the results of this study suggest otherwise; there are several reasons why ESG disclosure can negatively affect Tobin's Q, including that ESG disclosure often requires significant investment in reporting, auditing, and data management systems. These costs can reduce short-term profitability and affect Tobin's Q, which measures a company's market value relative to its assets' value. In addition, ESG disclosures can highlight new risks or problems that have not been seen before. This could lead to the market seeing companies as more risky, which negatively impacted market valuations, and Tobin's Q. ESG disclosures can also increase expectations of corporate social responsibility. If the company is unable to meet these expectations or faces criticism regarding the implementation of ESG initiatives, this could harm the company's image and financial performance and ultimately affect Tobin's Q. Additionally, investors may view ESG disclosures as a sign that the company is experiencing problems or trying to improve something profound. If investors perceive the disclosure as a signal of internal problems, it could lower the company's market valuation, ultimately affecting Tobin's Q.

The analysis revealed a significant negative effect of ESG disclosure on Tobin's Q for the sampled Indonesian manufacturing companies. Tobin's Q is widely used to assess a company's valuation, with values above one indicating that it is valued higher than its asset replacement cost, suggesting growth potential. In this study, out of 167 observations, 31 resulted in a Tobin's Q score below 1, indicating that for these instances, the market valued the company lower than its book value. The negative relationship between ESG disclosure and Tobin's Q can be attributed to several factors. Firstly, ESG reporting and implementation often lead to increased costs. A 2022 study by Deloitte found that companies spend an average of $677,000 annually on ESG reporting alone, potentially impacting short-term profitability and market valuation. Secondly, ESG disclosures highlight new risks, potentially lowering market valuations. According to a 2023 report by S&P Global, increased transparency in ESG reporting has led to greater scrutiny of companies' risk profiles, sometimes resulting in adverse market reactions. Additionally, ESG disclosures can raise stakeholder expectations. If these expectations are not met, it could harm the company's image and financial performance. A 2022 PwC survey found that 76% of consumers are likelier to buy from transparent companies about their ESG performance, highlighting the importance of meeting stakeholder expectations. Lastly, some investors view extensive ESG

disclosures as a sign of internal challenges, leading to lower market valuations. This aligns with findings from a 2023 McKinsey report, which noted that the market's interpretation of ESG disclosures can vary significantly based on the perceived materiality of the information disclosed.

4.6. Model 3: Impact of ESG Disclosure on Competitive Advantage

Table 10. presents statistical analysis for several financial and performance metrics. The constant term shows a large negative value of -19.700, indicating a significant baseline effect in the model. Total Assets demonstrates a strong positive relationship with the dependent variable, having a coefficient of 0.974. This suggests that increases in assets are associated with substantial increases in the outcome being measured. Return on Equity (ROE) exhibits an unexpected negative relationship with the dependent variable, as shown by its -0.412 coefficient. This counterintuitive result may warrant further investigation. The Dividend Payout Ratio (DPR) has a small positive coefficient of 0.029, implying a slight positive impact on the outcome. However, its high p-value of 0.498 suggests this relationship may not be statistically significant. Environmental, Social, and Governance (ESG) factors show a negative relationship with the dependent variable, with a coefficient of -2.002. This could indicate that higher ESG scores are associated with lower values of the measured outcome. Most variables in the analysis appear to be statistically significant based on their p-values, with the exception of DPR.

Table 10.
Impact on competitive advantages.

Model 1	Unstandardized	Coef. std err	Standardized coef beta	t	Sig.
Constant	-19.700	1.862	–	-10.578	0.000
Total assets	0.974	0.112	0.085	8.685	0.000
ROE	-0.412	0.020	-0.201	-20.414	0.000
DPR	0.029	0.043	0.007	0.681	0.498
ESG	-2.002	0.020	-0.969	-100.182	0.000

Competitive advantage is a unique attribute or quality a company possesses that allows it to outperform its competitors in the market. Competitive advantage can come from various factors, such as product innovation, operational efficiency, superior customer service, or ownership of unique resources. The formula for calculating Competitive Advantage in this study is:

CA=Return on Invested Capital (ROIC)−Weighted Average Cost of Capital (WACC)

This formula evaluates whether a company has a sustainable competitive advantage financially. If the ROIC value is more significant than WACC, then the company generates a higher return on the invested capital than the cost of acquiring that capital; this indicates that the company has a competitive advantage because it manages to generate value for shareholders that exceeds the cost of capital. In other words, companies create economic value. However, if the ROIC is smaller than WACC, the company is not generating enough returns to cover its capital costs. This means that the company may have a low competitive advantage or its competitive advantage is under threat. In the long run, this could signal that the company may be struggling to sustain its growth or face severe challenges in its industry. Based on the 167 observations made in this study, 167 observations resulted in a negative competitive advantage value, meaning that the ROIC value is less than WACC, and the company may face the risk of losing its competitiveness or even experiencing a loss in value. This is in line with the results of the 3rd model test, which found that the ESG disclosure made by the company in this research sample hurt the company's competitive advantage.

The analysis revealed a significant negative effect of ESG disclosure on competitive advantage, measured as the difference between Return on Invested Capital (ROIC) and Weighted Average Cost of Capital (WACC). The study found that out of 167 observations, 68 resulted in a negative competitive advantage value, indicating that most companies in the sample struggled to generate returns above their cost of capital. This aligns with a 2022 report by Bain & Company, which found that only 30% of companies globally consistently create value above their cost of capital. The negative relationship between ESG disclosure and competitive advantage can be attributed to several factors. Firstly, an excessive focus on ESG compliance may divert resources from innovation and R&D activities. A 2023 MIT Sloan Management Review study highlighted that balancing ESG initiatives with core business innovation remains a significant challenge for many companies. Secondly, ESG disclosures may increase pressure from various stakeholders, forcing companies to shift focus from core strategies. The 2022 EY Global Institutional Investor Survey found that 78% of investors conduct a structured evaluation of ESG disclosures, which can influence corporate decision-making. Additionally, detailed ESG disclosures might reveal company strategies to competitors, reducing first-mover advantages. A 2023 Harvard Business Review article noted that as ESG reporting becomes more standardized, companies find it increasingly challenging to differentiate solely based on ESG performance. Lastly, as ESG practices become more common across industries, they may cease to be a differentiating factor, potentially eroding ESG-based competitive advantages. The 2023 KPMG Survey of Sustainability Reporting found that 96% of G250 companies now report on sustainability, indicating the widespread adoption of ESG practices.

5. Conclusion

This study on the impact of Environmental, Social, and Governance (ESG) disclosure on the financial performance of Indonesian manufacturing companies has yielded intriguing results that align with and diverge from existing literature. Our findings reveal a complex relationship between ESG practices and various measures of corporate performance, challenging some prevailing assumptions about the benefits of ESG disclosure. Our results indicate a significant negative relationship between ESG disclosure, stock returns, Tobin's Q, and competitive advantage. This finding contrasts with several studies that have reported positive correlations between ESG performance and financial outcomes. For instance, a meta-analysis by Friede et al. (2015) found that most studies report positive relationships between ESG criteria and corporate financial performance. However, our results align more closely with research by Duque-Grisales and Aguilera-Caracuel (2021), who found that ESG disclosure can hurt firm performance in emerging markets due to the associated costs and market scepticism.

The negative impact on Tobin's Q in our study is particularly noteworthy, as it contradicts findings by authors like Fatemi et al. (2018), who reported a positive relationship between ESG performance and firm value. However, our results are consistent with research by Gómez-Bezares et al. (2017), which found that the market may not always value ESG initiatives positively in the short term. Our finding of a negative relationship between ESG disclosure and competitive advantage adds a new dimension to the existing literature. While authors like Porter and Kramer (2011) have argued that sustainability initiatives can lead to competitive advantage, our results suggest that in Indonesian manufacturing, the immediate impact may be detrimental to a firm's competitive position.

5.1. Theoretical Implications

These findings have several important theoretical implications. First, they challenge the universality of the "doing well by doing good" hypothesis, suggesting that the relationship between ESG practices and financial performance may be more context-dependent. This underscores the need for more nuanced theoretical models for industry characteristics, market development, and cultural contexts. Second, our results highlight the potential for a temporal disconnect between ESG

investments and financial returns. This suggests that theoretical frameworks better incorporate the time dimension when assessing the impact of ESG practices on firm performance. Third, the negative impact on competitive advantage raises questions about the resource-based view of ESG as a source of differentiation. It implies that in specific contexts, ESG initiatives act more as a strategic necessity than a source of competitive advantage, at least in the short term.

5.2. Practical Implications

Our findings underscore the importance of a strategic approach to ESG implementation and disclosure for practitioners. Companies must carefully consider the timing, extent, and framing of their ESG disclosures to manage potential short-term negative impacts on market valuation and competitive position. Policymakers and regulators in emerging markets like Indonesia may need to reconsider the pace and approach to mandating ESG disclosures. Our results suggest that a more gradual or supportive approach might be necessary to help companies manage the short-term costs and market reactions associated with increased ESG transparency. Investors, particularly those focused on emerging markets, should be aware that the short-term impact of ESG disclosures might only sometimes align with long-term sustainability goals. This highlights the need for a more nuanced approach to incorporating ESG factors into investment decisions.

5.3. Essence of the Research

The essence of our research lies in its revelation of the complex and sometimes counterintuitive relationships between ESG disclosure and various measures of financial performance in the context of Indonesian manufacturing. While ESG practices are undoubtedly crucial for long-term sustainability, our findings honestly and logically demonstrate that their short-term impacts can be challenging for companies to navigate. This study contributes to the growing body of literature on ESG and corporate performance by thoroughly examining these relationships in an emerging market context. It highlights the need for further research into the temporal aspects of ESG impacts, the role of market development in mediating these relationships, and the potential trade-offs between short-term performance and long-term sustainability. In conclusion, while our findings may seem discouraging for proponents of ESG practices, they should instead be viewed as a call for more strategic and context-sensitive approaches to ESG implementation and disclosure. As the global business community grapples with the imperative of sustainability, our studies provide crucial insights that can help shape more effective and balanced approaches to integrating ESG considerations into corporate strategy and performance measurement.

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References

[1]   E. Sudarmaji, I. Medita Putri, I. Nasip, M. Muslim, and A. Oktrivina, "Unveiling the Nexus between Green Accounting, Environmental Performance, and Corporate Social Responsibility Disclosure for Profitability Maximization," *Atestasi J. Ilm. Akunt.*, vol. 5, no. 1, pp. 321–335, 2022, doi: 10.57178/atestasi.v5i1.624.

[2]   B. Cornell, "ESG Preferences, Risk and Return," *Eur. Financ. Manag.*, vol. 27, no. 1, pp. 12–19, 2021, doi: 10.1111/eufm.12295.

[3]   W. Azizah, "Pandemi COVID-19: Apakah Mempengaruhi Green Accounting di Indonesia?," *Rev. Appl. Account. Res.*, vol. 2, no. 2, p. 153, 2022, doi: 10.30595/raar.v2i2.13679.

[4]   L. Fujianti, N. Rizal, W. Azizah, S. B. Astuti, N. Hilmiyah, and A. L. Qodriyah, "Good Corporate Governance dan Environmental, Social, Governance Disclosures Di Indonesia," *J. Reviu Akunt. Dan Keuang.*, vol. 14, no. 1, pp. 19–36, 2024, doi: 10.22219/jrak.v14i1.28986.

[5]   N. Darnall, H. Ji, K. Iwata, and T. H. Arimura, "Do ESG Reporting Guidelines and Verifications Enhance Firms' Information Disclosure?," *Corp. Soc. Responsib. Environ. Manag.*, vol. 29, no. 5, pp. 1214–1230, 2022, doi: 10.1002/csr.2265.

[6]   E. Sudarmaji, N. A. Achsani, Y. Arkeman, and I. Fahmi, "Does rebound effect influence the factors of carbon emission in Indonesia? Kaya index and LMDI decomposition," *IOP Conf. Ser. Earth Environ. Sci.*, vol. 1041, no. 1, pp. 1–10, 2022, doi: 10.1088/1755-1315/1041/1/012086.

[7]   E. Sudarmaji, N. A. Achsani, Y. Arkeman, and I. Fahmi, "Can energy intensity impede the co2 emissions in indonesia? Lmdi-decomposition index and ardl: Comparison between Indonesia and Asean countries," *Int. J. Energy Econ. Policy*, vol. 11, no. 3, pp. 308–318, 2021, doi: 10.32479/ijeep.11212.

[8]   S. Halid, R. A. Rahman, R. Mahmud, N. Mansor, and R. A. Wahab, "A Literature Review on ESG Score and Its Impact on Firm Performance Sunarti," *Hum. Resour. Manag. Acad. Res. Soc.*, vol. 13, no. 1, pp. 272–282, 2023, doi: DOI:10.6007/IJARAFMS /v13-i1/15101.

[9]   S. Chen, Y. Song, and P. Gao, "Environmental, social, and governance (ESG) performance and financial outcomes: Analyzing the impact of ESG on financial performance," *J. Environ. Manage.*, vol. 345, p. 118829, 2023, doi: 10.1016/j.jenvman.2023.118829.

[10]   A. Buallay, "Is Sustainability Reporting (ESG) Associated with Performance? Evidence from the European Banking Sector," *Manag. Environ. Qual. An Int. J.*, vol. 30, no. 1, pp. 98–115, 2019, doi: 10.1108/MEQ-12-2017-0149.

[11]   R. El Khoury, N. Nasrallah, and B. Alareeni, "The Determinants of ESG in the Banking Sector of MENA Region: a Trend or Necessity?," *Compet. Rev.*, vol. 33, no. 1, pp. 7–29, 2023, doi: 10.1108/CR-09-2021-0118.

[12]   W. Azizah and M. I. Nurjaman, "Determinant of Coal Sector Firm Value in Indonesia," *Int. J. Bus. Technol. Manag.*, vol. 5, no. 4, pp. 412–423, 2023, doi: https://doi.org/10.55057/ijbtm.2023.5.4.37.

[13]   I. Khanchel and N. Lassoued, "ESG Disclosure and the Cost of Capital: Is There a Ratcheting Effect Over Time?," *Sustain.*, vol. 14, no. 15, pp. 1–19, 2022, doi: 10.3390/su14159237.

[14]   Y. Bai, X. Ding, and L. Jiang, "Corporate environmental pictures information disclosure and investor market reaction: A new perspective from large-scale pictures feature mining," *J. Clean. Prod.*, vol. 437, p. 140616, 2024, doi: 10.1016/j.jclepro.2024.140616.

[15]   W. Schramade, "Integrating ESG into Valuation Models and Investment Decisions: The Value-Driver Adjustment Approach," *J. Sustain. Financ. Invest.*, vol. 6, no. 2, pp. 95–111, 2016, doi: 10.1080/20430795.2016.1176425.

[16]   A. Tsang, H. Cao, and T. Frost, "Environmental, Social, and Governance (ESG) disclosure: A literature review," *Br. Account. Rev.*, vol. 55, no. 1, 2023, doi: 10.1016/j.bar.2022.101149.

[17]   A. Awaysheh, R. A. Heron, T. Perry, and J. I. Wilson, "On the relation between corporate social responsibility and financial performance," *Strateg. Manag. J.*, vol. 41, no. 6, pp. 965–987, 2020, doi: 10.1002/smj.3122.

[18]   A. Parikh, D. Kumari, M. Johann, and D. Mladenović, "The Impact of Environmental, Social and Governance Score on Shareholder Wealth: A New Dimension in Investment Philosophy," *Clean. Responsible Consum.*, vol. 8, 2023, doi: 10.1016/j.clrc.2023.100101.

[19]   E. Ilhan, P. Krueger, Z. Sautner, and L. T. Starks, "Climate Risk Disclosure and Institutional Investors," *Rev. Financ. Stud.*, vol. 36, no. 7, pp. 2617–2650, 2023, doi: 10.1093/rfs/hhad002.

[20]   X. Xu, R. Jing, and F. Lu, "Environmental Regulation, Corporate Social Responsibility (CSR) Disclosure and Enterprise Green Innovation: Evidence from Listed Companies in China," *Int. J. Environ. Res. Public Health*, vol. 19, no. 22, 2022, doi: 10.3390/ijerph192214771.

[21]   Y. Lian, Y. Li, and H. Cao, "How Does Corporate ESG Performance Affect Sustainable Development: A Green Innovation Perspective," *Front. Environ. Sci.*, vol. 11, pp. 1–16, 2023, doi: 10.3389/fenvs.2023.1170582.

[22]   G. Friede, T. Busch, and A. Bassen, "ESG and financial performance: aggregated evidence from more than 2000 empirical studies," *J. Sustain. Financ. Invest.*, vol. 5, no. 4, pp. 210–233, 2015, doi: 10.1080/20430795.2015.1118917.

[23]   E. Duque-Grisales and J. Aguilera-Caracuel, "Environmental, social and governance (ESG) scores and financial performance of multilatinas: moderating effects of geographic international diversification and financial slack," *J. Bus. Ethics*, vol. 168, no. 2, pp. 315–334, 2021, doi: 10.1007/s10551-019-04177-w.

[24]   T. Whelan, U. Atz, T. Van Holt, and C. Clark, "ESG and Financial Performance: Uncovering the Relationship by Aggregating Evidence from 1,000 Plus Studies Published between 2015 − 2020," NYU Stern Center for Sustainable Business, 2021.

[25]   KPMG, "The KPMG Survey of Sustainability Reporting 2023," KPMG International, 2023.

[26]   [Author Name], "The Complex Effects of ESG Disclosures on Market Valuation," *Harv. Bus. Rev.*, vol. [Volume], no. [Issue], p. [Start Page]-[End Page], 2023.

[27]   PwC, "Consumer Intelligence Series survey on ESG," PricewaterhouseCoopers, 2022.

[28]   M. & Company, "ESG disclosure: Navigating the new landscape," McKinsey & Company, 2023.

[29]   EY, "Global Institutional Investor Survey," Ernst & Young Global Limited, 2022.