THE EFFECT OF ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) ON STOCK RETURNS WITH COMPANY SIZE AS A MODERATING VARIABLE

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Abstract

The capital market encompasses actions like public offerings and trading in securities, listed companies, and the securities they produce, along with professional organizations that participate in securities operations, in line with the guidelines outlined in Capital Market Law No. 8 of 1995. This study investigates how Environmental, Social, and Governance (ESG) factors influence stock returns in manufacturing firms, considering company size as a moderating factor, listed on the IDX from 2022 to 2024. This research is quantitative in nature. The group being studied includes every manufacturing firm that is registered on the IDX from 2022 to 2024. The sample for this research comprises all 673 manufacturing firms. The analysis of data in this study involves descriptive evaluation of research data, descriptive statistics, correlation matrices, Data analysis involved Moderated Regression Analysis (MRA), complemented by hypothesis testing using t-tests, F-tests, and R^2 evaluation. The findings indicate that (1) the negative relationship of ESG cannot partially affect stock returns, but with the presence of control variables, it can simultaneously affect stock returns, (2) the negative relationship between ESG and company size cannot partially affect stock returns. However, with the presence of control variables and moderation from company size, ESG can simultaneously affect stock returns.

Keywords: ESG, Stock Returns, Company Size

INTRODUCTION

The capital market includes actions like public offerings and the trading of securities, firms registered on the exchange and the securities they produce, along with professional organizations. involved in securities activities, in accordance with the regulations in Capital Market Law No. 8 of 1995. In addition to bonds and stocks as conventional financial instruments, the capital market also accommodates derivative instruments such as options and futures. The Indonesia Stock Exchange (IDX) is responsible for organizing and facilitating securities trading between parties, as explained by (https://ojk.go.id/id/). Data from 2019 to 2023 shows the growth in the number of corporations registered with the IDX (Source: www.idx.co.id). The growing total number of corporations has led to fierce competition among investors (Yoewono, 2024).

When a company is established, its goal is to achieve the maximum profit in an effective and efficient manner, using its capital, assets, and debt wisely. When a company manages these resources well, the potential to increase profits arises, leading to improved profitability, which benefits internal company performance and increases investor interest in the stock market. Rising returns tend to attract investors to invest.

Stock returns are the total income earned by investors from their investments each year and are usually expressed as a percentage of the initial investment value (Kencana, 2021). Investors usually earn profits on their investments in stocks or investment portfolios when companies distribute dividends. ROI can be determined by taking the annual dividends earned by investors and dividing them by the total investment amount in instruments like stocks, debt securities, or portfolio units. In this study, among the factors affecting stock returns, ESG is a significant one.

The capital market includes actions like public offerings and the trading of securities, firms registered on the exchange and the securities they produce, along with professional organizations. Through ESG disclosure, Companies have the ability to inform investors about their status, serving as a positive signal. An increase in stock prices based on non-financial disclosure information can send a signal from the company to investors, thereby improving the company's value and resulting in more optimal stock returns in the long term. Strong ESG practices can also improve operational efficiency, enhance corporate reputation, and foster long-term benefits for the firm and its shareholders.

Changes in climate and the growing understanding of the effects of concerns about social and corporate governance have driven greater emphasis on ESG elements in investing and corporate management. ESG relates to three key standards for assessing the sustainability and ethical implications of investing in a firm. These standards encompass environmental aspects like carbon footprints and energy consumption, and social aspects including employee relations and corporate social responsibility, and governance factors that include corporate management practices, transparency, and shareholder rights (Roestanto et al., 2022).

The greatest issue facing our planet currently is global warming. Global warming refers to the rise in temperatures of the air, oceans, and land surfaces. This effect is largely attributed to the greenhouse effect, where solar energy is trapped within the atmosphere, leading to a warming of the planet. This situation is due to the buildup of greenhouse gases in the air, which hold onto the sun's warmth. Prolonged global warming can lead to changes in the world's climate, including the melting of ice in polar regions, severe shifts in weather

patterns, and increasing sea levels as a result of prolonged dry periods (Prasad & Mkumbachi, 2021). Global warming is inseparable from greenhouse gases. Greenhouse gases are produced from energy consumption, farming, logging, animal husbandry, manufacturing activities, and refuse. Greenhouse gases include, among others, CO2, NO2, CH4, and CFCs.

Investing with a focus on ESG factors is gaining traction as people are increasingly recognizing the importance of sustainability and social accountability. Research by Grient et al., (2024) found that approximately 62.6% of studies examining the connection between ESG and the financial performance of companies revealed favorable outcomes, backing the idea that ESG can enhance financial results. In this context, many institutional and individual investors have begun to incorporate ESG factors into their investment analysis in the hope of reducing risk and increasing long-term returns. In addition, regulations and government policies in various countries have also begun to support the integration of ESG factors into business operations (Lo & Kwan, 2017). For example, the European Union has implemented the Sustainable Finance Disclosure Regulation (SFDR), which requires financial companies to disclose how they integrate ESG risks into their investment decision-making processes (Yoshio, 2021).

In Indonesia, the Financial Services Authority has further encouraged the use of ESG aspects through sustainability reporting guidelines for public companies as stated in POJK No. 51/POJK.03/2017 (Cahyaningrum & Violita, 2023). OJK data from December 2020 indicate that 14 ESG-oriented mutual fund and ETF products managed a total of 3.062 trillion rupiah, marking a significant rise from 2015, when ESG mutual funds in Indonesia had a managed fund value of just 36 billion rupiah. Therefore, it can be concluded that there is an increase in investment interest in companies that prioritize sustainability. The above data suggest that interest in ESG investing has grown, so companies will continue to raise awareness about ESG assessments in order to attract investors.

The ESG calculation method will use the LSEG Calculation Standard, which refers to various quantitative methods used by the London Stock Exchange Group (LSEG) to analyze financial market data, including ESG score calculations to assess a company's environmental, social, and governance performance, as well as average stock score calculations (StarMine) to analyze analytical recommendations.

LSEG's ESG score calculation is used because it provides an objective and reliable assessment of a company's sustainability performance based on publicly available data. The aim is to help investors make better investment decisions by understanding the risks and opportunities of a company, as well as to encourage companies to be more transparent and responsible in terms of environmental, social, and governance (ESG) issues.

This research is important for companies to see the effect of ESG policies that will be implemented on their stock prices. In addition, this research can also be used as a reference by investors before investing in stocks. According to Feng et al., (2022), there is a negative influence between ESG ratings and falling stock prices on the Chinese stock exchange. Research conducted by Alsahlawi et al., (2021) explains that the higher the ESG, the lower the risk of falling stock prices. Research from Kerber & Simon (2021) concludes that there is a relationship between good ESG scores and high stock returns.

ESG will have a greater impact on stock returns if there are mediating or moderating factors that can strengthen or weaken the influence. Company size acts as a moderating variable between ESG and stock returns (Adhi & Cahyonowati, 2023). The reason for

choosing company size as a moderating variable is that company size reflects the total assets owned by a company, and with large total assets, it will be easier for companies to obtain good sources of funding. Therefore, researching company size can strengthen the influence of ESG on stock returns.

The rise in investors emphasizing ESG-compliant companies underscores the relevance of sustainable business practices. Moreover, this research indicates that company size moderates the effect of ESG on stock returns, as larger companies typically have sufficient resources to manage ESG risks and communicate credible commitments to sustainability. This study is intended to be a beneficial resource for scholars exploring similar areas.

This study examines the influence of Environmental, Social, and Governance (ESG) on stock returns among IDX-listed manufacturing firms from 2022 to 2024, with company size as a moderating variable. The research aims to help investors make more informed decisions by considering both ESG factors and company size, which can impact stock returns. In addition, it is hoped that the Financial Services Authority can use this as a basis for developing more effective public policies and assist the Indonesia Stock Exchange (IDX) in promoting transparency of corporate ESG risks to implement better business practices.

REVIEW OF LITERATURE

Company size, which can be measured using indicators such as total assets, sales value, or market capitalization, can be a significant factor that influences and determines a company's ability to generate profits. According to Riyanto (2017), company size is the size of a company in terms of its equity value, sales value, or asset value. Company size indicates the magnitude of a firm based on market capitalization and is quantified using the natural logarithm of total assets.

Large companies generally have broader access to resources, economies of scale, and greater market power than small companies. This allows large companies to optimize their profits, for example, through cost efficiency, market share control, and better competitiveness. Thus, company size can be an important factor that determines the level of profitability and profit-generating ability of a company (Dewi & Sudiartha, 2019). In addition, large companies receive more intensive attention from regulators and the public, which can limit management's room to maneuver in conducting profit management practices (Mushawir et al., 2023).

RESEARCH METHOD

The study follows a quantitative research design, guided by positivist principles, to investigate a defined population or sample, gather data using instruments, and carry out quantitative analysis aimed at hypothesis testing (Sugiyono, 2023). This research design is used to analyze the effect of Environmental, Social, and Governance (ESG) on stock returns with company size as a moderating variable in Manufacturing Companies listed on the IDX in 2022-2024.

The population, described as the set of objects or subjects with defined characteristics and quantities specified by the researcher (Sugiyono, 2023), consists of all manufacturing

companies listed on the IDX from 2022 to 2024 in this study, accessed through www.ojk.go.id and other pertinent sources.

In this research, saturated sampling (census), a form of non-probability sampling that includes all population members as samples, was applied. This technique is suitable when dealing with a small population (Sugiyono, 2023). This study sampled all manufacturing firms listed on the IDX during the period 2022–2024, totaling 673 companies.

In this study, this research employs quantitative data obtained from secondary sources, specifically LSEG. There are four research variables in this study, with Environmental serving as the independent variable (X), Social and Governance (ESG); moderating variables (M), namely Company Size; dependent variables (Y), namely Stock Return; and control variables (Z), consisting of Return On Assets (ROA), Debt to Equity Ratio (DER), Price Earnings Ratio (PER), Current Ratio (CR), and Earning Per Share (EPS).

Data analysis in this study includes descriptive analysis of research data, descriptive statistics, correlation matrix, MRA (Moderated Regression Analysis), and hypothesis testing (t-test, F-test, and coefficient of determination test).

RESULTS AND DISCUSSION

Descriptive Statistics

Table 1.
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Rit	649	1.95	2.28	2.0658	0.04407
ESG	649	-0.05	0.04	-0.0001	0.01531
FS	649	-0.48	0.26	0.0000	0.12855
ROA	649	2.08	3.57	2.0987	0.10474
DER	649	2.08	5.49	2.2346	0.27581
PER	649	2.08	34.28	7.4914	6.09010
CR	649	2.08	19.99	3.9626	2.04871
EPS	649	2.08	8.63	2.8793	1.15577

Source: IBM SPSS 22 Analysis (2025)

Based on Table 1 above, in general, stock returns show an average value of 2.07% with low dispersion (SD 0.0441), indicating a positive and stable level of profit between companies. ESG performance has an average value close to zero (-0.0001) with small variation (SD 0.0153), indicating relatively uniform ESG implementation among companies. Company size, measured by the natural logarithm of total assets, has a neutral average (0.0000) and small variation, indicating a relatively balanced company scale.

For profitability (ROA), the average is 2.0987% with low dispersion (SD 0.1047), indicating a stable ability to generate profits. Leverage (DER) has an average of 2.2346 with moderate variation (SD 0.2758), indicating that most companies have reasonable debt levels. The Price to Earnings Ratio (PER) shows an average of 7.4914 with high variation (SD 6.0901), illustrating significant differences in market valuation of company profits.

Furthermore, the Current Ratio (CR) has an average of 3.9626 with moderate variation (SD 2.0487), indicating generally good liquidity but varying between companies. Finally, Earnings per Share (EPS) shows an average of 2.8793 with moderate variation (SD 1.1558),

meaning that most companies are able to provide fairly good earnings per share, although there are differences in performance between companies.

Matrix Correlations

Table 2.
Analysis of Matrix Correlations

		Rit	ESG	FS	ROA	DER	PER	CR	EPS
Rit	Pearson Correlation	1	-0.019	-0.026	0.132**	-0.057	0.043	-0.013	0.087*
	Sig. (2-tailed)		0.626	0.508	0.001	0.145	0.271	0.750	0.027
ESG	Pearson Correlation	-0.019	1	0.028	0.007	-0.025	0.042	0.054	0.048
	Sig. (2-tailed)	0.626		0.469	0.852	0.524	0.286	0.173	0.224
FS	Pearson Correlation	-.026	0.028	1	-0.128**	-0.054	-0.403**	0.436**	0.344**
	Sig. (2-tailed)	0.508	0.469		0.001	0.171	0.000	0.000	0.000
ROA	Pearson Correlation	0.132**	0.007	-0.128**	1	0.030	-0.074	0.044	0.062
	Sig. (2-tailed)	0.001	0.852	0.001		0.448	0.059	0.262	0.113
DER	Pearson Correlation	-0.057	-0.025	-0.054	0.030	1	-0.050	-0.064	-0.017
	Sig. (2-tailed)	0.145	0.524	0.171	0.448		0.203	0.105	0.657
PER	Pearson Correlation	0.043	0.042	-0.403**	-0.074	-0.050	1	-0.578**	-0.490**
	Sig. (2-tailed)	0.271	0.286	0.000	0.059	0.203		0.000	0.000
CR	Pearson Correlation	-0.013	0.054	0.436**	0.044	-0.064	-0.578**	1	0.793**
	Sig. (2-tailed)	0.750	0.173	0.000	0.262	0.105	0.000		0.000
EPS	Pearson Correlation	0.087*	0.048	0.344**	0.062	-0.017	-0.490**	0.793**	1
	Sig. (2-tailed)	0.027	0.224	0.000	0.113	0.657	0.000	0.000	

Source: IBM SPSS 22 Analysis (2025)

Based on the results of the correlation matrix analysis presented in Table 2, it is known that the Environmental, Social, and Governance (ESG) variable has a very weak and insignificant negative relationship with stock returns (r = –0.019; p = 0.626). This indicates that an increase in ESG performance does not directly affect an increase in company stock returns. Similarly, company size shows a weak and insignificant negative relationship with stock returns (r = –0.026; p = 0.508), It can be concluded that company size does not have a significant effect on stock returns. The correlation between ESG and company size is 0.028, with a significance level of 0.469, indicating no strong relationship between the two variables. The analysis shows that the primary and moderating variables do not exhibit multicollinearity.

The control variable analysis shows that higher ROA is significantly associated with higher stock returns (r = 0.132; p = 0.001), while EPS also has a significant positive effect on stock returns (r = 0.087; p = 0.027), suggesting potential improvements in stock returns with rising EPS. On the other hand, DER, PER, and CR exhibit weak and insignificant effects on stock returns, with correlation values of –0.057, 0.043, and –0.013, respectively. Thus, of

all the control variables tested, only ROA and EPS were found to have a significant effect on stock returns.

Furthermore, the correlation between control variables shows several relatively strong relationships. PER and CR have a fairly strong negative correlation ($r = –0.578$; $p < 0.01$), while CR and EPS show a very strong positive correlation ($r = 0.793$; $p < 0.01$). A strong negative relationship was also found between PER and EPS ($r = –0.490$; $p < 0.01$). However, all correlation values between independent and control variables were still below the threshold of 0.80, so it can be concluded that there was no indication of serious multicollinearity in this research model.

MRA Path Equation Test

Model 1 Equation

Table 3.
MRA Path Equation Model 1

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.957	0.037		52.419	0.000
	ROA	0.055	0.016	0.131	3.389	0.001
	DER	-0.010	0.006	-0.065	-1.687	0.092
	PER	0.000	0.000	0.068	1.422	0.155
	CR	-0.004	0.001	-0.192	-2.828	0.005
	EPS	0.010	0.002	0.263	4.155	0.000

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.063	6	0.010	5.629	0.000[b]
	Residual	1.196	642	0.002		
	Total	1.259	648			

a. Dependent Variabel: Rit
b. Predictors: (Constant), EPS, DER, XLN, ROA, PER, CR

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.222[a]	0.049	0.042	0.04314

a. Predictors: (Constant), EPS, DER, ROA, PER, CR
b. Dependent Variabele: Rit

Source: IBM SPSS 22 Analysis (2025)

Based on the results of the Moderated Regression Analysis (MRA) model 1 path analysis shown in Table 3, the Return on Assets (ROA) variable has a beta coefficient of 0.131 with a significance level of 0.001 (< 0.05). This finding implies that for every 1% increase in ROA, stock returns increase by 13.1%, with a statistically significant effect. This finding confirms that company profitability plays an important role in driving increased stock returns.

Conversely, the Debt Equity Ratio (DER) variable shows a negative beta coefficient of –0.065 with a significance level of 0.092 (> 0.05), which means that a 1% increase in DER tends to decrease stock returns by 6.5%, although the effect is not significant. Thus, the level of leverage does not have a significant effect on the stock performance of manufacturing companies.

The Price to Earnings Ratio (PER) variable has a positive beta coefficient of 0.068 with a significance of 0.155 (> 0.05). This result indicates that a 1% increase in PER has the potential to increase stock returns by 6.8%, but this effect is also insignificant.

Meanwhile, the Current Ratio (CR) shows a negative beta coefficient of -0.192 with a significance of 0.005 (< 0.05), which means that every 1% increase in CR will decrease stock returns by 19.2%. This shows that companies with high liquidity do not always generate high stock returns, possibly because large amounts of liquid funds are not optimally used for productive investment activities.

The Earnings per Share (EPS) variable has the strongest influence on stock returns, with a beta coefficient of 0.263 and a significance level of 0.000 (< 0.05). This means that a 1% increase in EPS will increase stock returns by 26.3%, indicating that earnings per share are a key indicator in determining market perceptions of a company's stock value.

In addition, the ANOVA test results show an F significance value of 0.000 (< 0.05), which indicates that simultaneously, the control variables ROA, DER, PER, CR, and EPS have a significant effect on stock returns in manufacturing companies. Thus, the MRA 1 model can be said to be suitable for explaining the relationship between these variables in the context of this study.

Model 2 Equations

Table 4. MRA Path Equations for Model 2

Model		Unstandardized Coefficients		Standardized Coefficients
		B	Std. Error	Beta
1	(Constant)	1.955	0.038	
	ESG	-0.079	0.111	-0.027
	FS	0.004	0.015	0.011
	ROA	0.056	0.017	0.133
	DER	-0.010	0.006	-0.065
	PER	0.001	0.000	0.073
	CR	-0.004	0.001	-0.193
	EPS	0.010	0.002	0.264

Source: IBM SPSS 22 Analysis (2025)

Based on the results of the MRA path analysis model 2, which is a direct equation model, it was found that the ESG variable has a beta coefficient of –0.027, indicating a negative effect on stock returns, where a 1% increase in ESG performance actually reduces stock returns by 2.7%. Meanwhile, company size has a slight positive impact on stock returns (β = 0.011), suggesting that a 1% increase in size leads to just a 1.1% increase in returns.

Among the control variables, ROA (β = 0.133) and EPS (β = 0.264) show the strongest positive effect on stock returns, indicating that profitability and earnings per share are dominant factors in improving stock performance. Conversely, DER (β = –0.065) and CR (β = –0.193) have a negative effect on stock returns, indicating that an increase in leverage and liquidity tends to reduce stock returns. The PER variable has a positive effect (β = 0.073), but it is relatively weak.

Overall, these results indicate that in the direct equation model, ESG and company size do not have a significant effect on stock returns, while ROA and EPS remain the main determinants driving increased returns for manufacturing companies.

Model Equation 3

Table 5. MRA Path Equations for Model 3

Model		Unstandardized Coefficients		Standardized Coefficients
		B	Std. Error	Beta
1	(Constant)	1.956	0.038	
	ESG	-0.077	0.111	-0.027
	FS	0.004	0.015	0.013
	XMLN (ESG*Ukuran Perusahaan)	-1.167	0.880	-0.051
	ROA	0.056	0.017	0.132
	DER	-0.011	0.006	-0.066
	PER	0.001	0.000	0.072
	CR	-0.004	0.001	-0.192
	EPS	0.010	0.002	0.262

Source: IBM SPSS 22 Analysis (2025)

Based on the results of the MRA Model 3 path analysis involving moderating variables, several key findings were obtained regarding the effect of independent variables on stock returns. ESG showed a negative coefficient (-0.027), indicating that a 1% increase in ESG tends to reduce stock returns by 2.7%. Company size has a small positive effect (0.013), meaning that a 1% increase increases stock returns by 1.3%. The interaction between ESG and company size is also negative (-0.051), meaning that a 1% increase reduces stock returns by 5.1%.

In terms of financial performance, ROA (0.132), PER (0.072), and EPS (0.262) have a significant positive effect on stock returns, with increases of 13.2%, 7.2%, and 26.2%, respectively, for every 1% increase. Meanwhile, DER (-0.066) and CR (-0.192) have a negative impact, with a 1% increase reducing stock returns by 6.6% and 19.2%, respectively.

Overall, fundamental company factors such as EPS and ROA have a dominant positive impact on stock returns, while ESG, CR, DER, and the interaction between ESG and company size tend to have a negative impact.

Coefficient of Determination Test

Coefficient of Determination for Hypothesis Model 1

Table 6.
Test of the Coefficient of Determination for Model 1

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.224[a]	0.050	0.040	0.04319

a. Predictors: (Constant), EPS, DER, ESG, ROA, FS, PER, CR
b. Dependent Variabel: Rit

Source: IBM SPSS 22 Analysis (2025)

In Table 6, the adjusted R square value is 0.040. This means that the conclusion that can be drawn is that ESG contributes significantly to stock returns with the control variables ROA, DER, PER, CR, and EPS in manufacturing companies listed on the IDX in 2022-2024 by 4%. Because the contribution is 4% or the adjusted R square is close to 0, the effect obtained is in the weak effect category.

Coefficient of Determination for Hypothesis Model 2

Table 7.

Test of Coefficient of Determination for Model 2

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.230[a]	0.053	0.041	0.04317

a. Predictors: (Constant), EPS, XMLN, DER, ESG, ROA, FS, PER, CR
b. Dependent Variabel: Rit

Source: IBM SPSS 22 Analysis (2025)

In Table 7, the adjusted R square value is 0.041. This means that ESG contributes 4.1% to stock returns, moderated by company size and the control variables ROA, DER, PER, CR, and EPS in manufacturing companies listed on the IDX in 2022-2024. Because the contribution of 4.1% or the adjusted R square is close to 0, the effect obtained is in the weak effect category.

Discussion

The Influence of ESG Factors on Stock Returns in IDX-Listed Manufacturing Companies (2022–2024).

Partial analysis shows that ESG has a beta of -0.027 with a significance of 0.479 (>0.05), implying no significant direct effect on stock returns in IDX-listed manufacturing firms during 2022–2024. Yet, simultaneous analysis demonstrates a highly significant effect with a p-value of 0.000 (<0.05), which means that ESG variables together with control variables (ROA, DER, PER, CR, and EPS) have a significant effect on stock returns. The adjusted R^2 value of 0.040 indicates that the contribution of ESG and control variables to stock return variation is 4%, which indicates a weak but statistically significant effect at the overall model level.

These findings can be explained through the perspective of Signaling Theory. According to the signaling theory proposed by Ghozali (2020), information conveyed by companies to the public, such as financial reports or non-financial disclosures such as ESG, serves as a signal to investors to assess prospects, risks, and management quality. In this context, ESG disclosures reflect companies' efforts to demonstrate their commitment to sustainability and good governance. Although ESG does not yet have a significant individual impact on stock returns, its simultaneous significant impact indicates that investors still indirectly consider ESG information in the overall context of company performance.

Based on Signaling Theory, the implementation of Environmental, Social, and Governance (ESG) in companies can be a positive signal to investors regarding the quality and long-term prospects of the company. Good ESG practices indicate that the company has strong risk management, good governance, and concern for sustainability, thereby reducing information asymmetry between management and investors. Investors tend to understand high ESG scores as indicators of company clarity and stability, which ultimately drives increased demand for shares and raises share prices and returns.

These results indicate that ESG is beginning to play a role as a supporting signal that strengthens investor perceptions of companies when combined with fundamental factors such as profitability (ROA) and Earnings Per Share (EPS). Both control variables were found to have a significant positive effect on stock returns, indicating that investors still focus on financial indicators but are beginning to pay attention to sustainability signals as a complement in assessing company risk and value.

Thus, the results of this study are partially consistent with Signaling Theory, although ESG signals are not yet strong enough to directly influence stock returns, their presence in the overall model still contributes to increased investor confidence and positive perceptions of company performance. In the context of the Indonesian capital market, particularly the manufacturing sector, this condition indicates that the implementation and disclosure of ESG are still in the early stages of market adaptation, so that the signaling effect is not yet fully reflected in stock prices.

In addition, regulations and government policies in various countries have also begun to support the integration of ESG factors into business operations (Lo & Kwan, 2017). For example, the European Union has implemented the Sustainable Finance Disclosure Regulation (SFDR), which requires financial companies to disclose how they integrate ESG risks into their investment decision-making processes (Yoshio, 2021).

ESG has become a global industry concern. Based on a survey conducted by PWC Global Investor Survey 2023, ESG has become one of the priorities for investors in doing business. Sustainability is on investors' minds; they are interested in understanding how companies incorporate sustainability considerations into their strategic decision-making, risk management, and financial reporting. The survey responses reflect investors' more comprehensive concerns (Chalmers & Nadja, 2023).

Going forward, improvements in the quality of ESG reporting, consistency in the application of sustainability principles, and investor education on the importance of non-financial factors are expected to strengthen the role of ESG as a positive signal that can more tangibly influence stock returns. In other words, when ESG is applied comprehensively and credibly, the signals sent by companies will be more trusted by the market in accordance with the main concept of Signaling Theory.

The results of this study are relevant to the research conducted by Feng et al., (2022), which found a negative relationship between ESG ratings and falling stock prices on the Chinese stock exchange. Research conducted by Alsahlawi et al., (2021) explains that the higher the ESG, the lower the risk of falling stock prices.

The Effect of Environmental, Social, and Governance (ESG) on Stock Returns with Company Size as a Moderating Variable in Manufacturing Companies Listed on the Indonesia Stock Exchange from 2022 to 2024

Based on the results of Moderated Regression Analysis (MRA), the ESG × Company Size interaction coefficient value was -0.051 with a significance value of 0.185 > 0.05, thus concluding that company size is unable to moderate the relationship between ESG and stock returns in manufacturing companies listed on the IDX during the period 2022-2024. The negative direction of the coefficient also indicates that when larger companies improve their ESG practices, stock returns actually decrease slightly, although this effect is not statistically significant. However, the simultaneous test results show a significance value of 0.000 < 0.05, which means that overall, the model with moderating variables has a significant effect on stock returns. The adjusted R^2 value of 0.041 indicates that the combined contribution of ESG, company size, and control variables (ROA, DER, PER, CR, and EPS) to stock return variation is 4.1%, which is classified as a weak but statistically significant influence on the overall model.

These results provide an interesting picture when viewed from the perspective of Signaling Theory and Economies of Scale Theory. In Ghozali (2020) Signaling Theory, both

ESG practices and company size can be viewed as signals sent by management to investors to reduce information asymmetry in the capital market. ESG serves as a signal of reputation, social awareness, and corporate commitment to long-term sustainability, while company size reflects financial capacity, operational stability, and credibility in fulfilling these responsibilities. Theoretically, the combination of these two signals should strengthen investor perception, as large companies with high ESG performance are considered more capable of maintaining business continuity and reducing non-financial risks. Strong ESG implementation reflects effective risk management and good governance, thereby increasing investor confidence and driving up stock prices and returns.

However, the results of the study show that these signals have not yet been accepted by the market as significant positive signals. The insignificant effect of company size moderation indicates that investors do not yet view company size as a factor that strengthens the influence of ESG on stock returns. This may be because investors in Indonesia still tend to focus on short-term financial performance rather than long-term sustainability performance. ESG and company size are not yet fully perceived as factors that significantly affect profitability or investment prospects, so the signals sent have not been able to create significant changes in stock prices.

In the context of Economies of Scale Theory, large companies should have better cost and resource efficiency to effectively implement ESG practices. Large companies have the ability to bear the costs of reporting, investing in environmentally friendly technology, and conducting broader corporate social activities at a relatively lower marginal cost. The Economies of Scale Theory states that the larger the size of a company, the lower the average costs incurred due to efficiencies in production, distribution, and resource utilization. In large companies, the implementation of sustainability practices reflected in Environmental, Social and Governance (ESG) is relatively easier to carry out due to adequate financial, technological, and human resource support. With lower implementation costs per unit, large companies can reap greater benefits from investing in ESG than small companies.

In Indonesia, ESG has become the center of attention after the government declared its commitment to achieving the 17 United Nations Sustainable Development Goals (SDGs) by 2030. The SDGs are a long-term program that seeks to optimize all of a company's potential and resources (Farida, 2022). The SDGs aim to achieve sustainable development by 2030 by ending poverty, protecting the earth, and ensuring that all communities achieve peace and prosperity. This is in line with the principles of ESG in the business world. With the strengthening of the Indonesian government's commitment through the “Roadmap of SDGs: Indonesia” published by Bappenas, the achievement of the 17 SDGs has officially become a national priority and involves all levels of Indonesian society to participate, including the business and economic sectors (Indonesia Stock Exchange, 2024).

This condition reinforces the view that the implementation of ESG in the Indonesian manufacturing sector is still in a transitional stage towards mature sustainability practices. ESG has been widely recognized as an indicator of corporate responsibility, but its effect on stock returns is only felt systemically when investors and the market truly internalize sustainability factors into their investment decisions. In other words, ESG signals and company size only have a significant economic effect if both are perceived as strong and credible by the market.

From a theoretical perspective, these results show that the role of company size as a moderator is potential but not yet realized. In Signaling Theory, ESG signals from large companies are still not strong enough to change investor perceptions of company value; while from an Economies of Scale perspective, large-scale efficiency has not yet been converted into improved market performance. These findings are in line with previous research in emerging markets, which shows that the effectiveness of ESG signals depends on the level of regulatory maturity, reporting transparency, and investor understanding of sustainability factors.

Thus, although the model as a whole is significant, company size has not been proven to directly moderate the influence of ESG on stock returns. Going forward, improvements in the quality of ESG reporting, the implementation of more substantial sustainability practices, and the strengthening of the role of regulators in standardizing ESG disclosure are expected to strengthen the signals of large companies and make the moderating effect of company size more apparent, in line with the principles of Signaling Theory and Economies of Scale Theory. Company size, according to Riyanto (2017), is the size of a company as seen from the value of its equity, sales, or assets. According to Sawir (2018), company size is stated as a determinant of financial structure.

The results of this study are relevant to the research conducted by Damara & Novianti (2024), which explains that ESG disclosure has a significant negative relationship with company value. Company size moderates the negative influence/decrease of ESG disclosure and enterprise risk management on company value. The research conducted by Giantari, (2024) explains that ESG has an influence on stock returns, but the relationship created is positive. As company size moderates the ESG–stock returns relationship, the observed negative relationship between ESG and stock returns is contingent upon the size of the company and company size cannot partially affect stock returns. However, with the control and moderation variables of company size, ESG can simultaneously influence stock returns.

CONCLUSION

According to the results, ESG shows a negative relationship with stock returns without a significant partial effect. Yet, in conjunction with control variables, ESG has a significant simultaneous impact on IDX-listed manufacturing companies between 2022 and 2024. Furthermore, the interaction between ESG and company size also has no partial effect, but with the presence of control variables and company size moderation, the effect of ESG on stock returns becomes simultaneously significant, indicating the role of financial context and company scale in strengthening this relationship.

This study expands the application of Signaling Theory and Economies of Scale Theory by showing that ESG acts as a supporting signal for investors, even though it does not yet have a significant effect on stock returns. Academically, this study enriches the ESG literature in emerging markets, particularly the Indonesian manufacturing sector. Practically, the results encourage investors to pay attention to sustainability factors and regulators to improve the quality of ESG reporting. For companies, ESG needs to be substantively integrated into business strategies to increase investor confidence and create long-term value and efficiency.

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