

# **The Effect of ESG Reporting to Performance of Company Moderated by Board Gender Diversity in Publicly Listed Companies under Indonesia Stock Exchange ESG Leader**

## **Index**

### **Tjatur Widyantoro**

Binus Business School Doctor of Research in Management  
Bina Nusantara University  
Jakarta Selatan, DKI Jakarta, Indonesia  
[tjatur.widyantoro@binus.ac.id](mailto:tjatur.widyantoro@binus.ac.id)

### **Mohammad Hamsal**

Binus Business School Doctor of Research in Management  
Bina Nusantara University  
Jakarta Selatan, DKI Jakarta, Indonesia  
[mhamsal@binus.edu](mailto:mhamsal@binus.edu)

### **Boto Simatupang**

Binus Business School Doctor of Research in Management  
Bina Nusantara University  
Jakarta Selatan, DKI Jakarta, Indonesia  
[bsimatupang@binus.edu](mailto:bsimatupang@binus.edu)

### **Asnan Furinto**

Binus Business School Doctor of Research in Management  
Bina Nusantara University  
Jakarta Selatan, DKI Jakarta, Indonesia  
[afurinto@binus.edu](mailto:afurinto@binus.edu)

### **Rano Kartono**

Binus Business School Doctor of Research in Management  
Bina Nusantara University  
Jakarta Selatan, DKI Jakarta, Indonesia  
[rano.rahim@binus.edu](mailto:rano.rahim@binus.edu)

## **Abstract**

The question of whether or not gender diversity between board members can contribute to increase company performance is one of the key lines of research in the field of diversity within the top management. This study provides a critical theoretical justification for businesses. Research into the relationship between ESG reporting and firm performance has produced inconclusive results. The purpose of this research is to give a more complete and accurate analysis of the effect of ESG reporting on firm performance. This study also investigated how gender diversity between board members can help to moderate the effect of ESG reporting and company performance. The performance of a corporation is not significantly affected by ESG reporting, according to the findings, but gender diversity on the

board can moderate the effect of ESG reporting and company performance. The research's findings have contributed to both the theory and practice of gender diversity between board members, as well as provide businesses with an empirical foundation for optimizing board composition.

## **Keywords**

ESG Reporting, Board Gender Diversity, Firm Performance, Public Company, ESG Leader Index

## **1. Introduction**

Agenda of 2030 is a global plan that incorporates total 17 Sustainable Development Goals (SDGs) and 169 of related targets into a single plan to address global issues such as social injustice, degradation of environment, and climatic change. These objectives and targets are known as the SDGs. The SDGs urge for global action for governments, corporations, and organizations of civil society to work together to obtain sustainable and shared prosperity (Khaled et al., 2021). Measuring the effect on SDGs based on how well companies do with sustainability is one way to gauge how far along firms are in terms of their influence on SDGs. This entails determining how company' sustainable activities and practices contribute to the achievement of SDGs. Environmental, Social, and Governance (ESG) ratings have been widely employed in academic research to empirically quantify business sustainability performance (Tamimi & Sebastianelli, 2017) Nonetheless, because Since there is no correlation between these ratings and the Sustainable Development Goals (SDGs), it is hard for firms to demonstrate the value of their ESG initiatives contribute directly to particular SDGs and objectives. (Khaled et al., 2021).

Due to the rising focus on sustainability concerns over the last ten years, there has been an increase in the amount of information disseminated about corporations' environmental, social, and governance (ESG) practices (Conca et al., 2021). The growing influence of businesses on a wide range of stakeholders highlights the importance of corporate responsibility for societal and environmental issues. Businesses work to enhance their ESG procedures since they are essential elements of long-term management.

The Environmental, Social, and Governance (ESG) disclosure by firms are positively correlated with their overall operational effectiveness (Xie et al., 2019). There is mounting evidence that firms' ESG disclosure procedures have an impact on their profitability (Conca et al., 2021). Additional research indicates that companies in the Eurostoxx50 index that made ESG investments and communicated their ESG plans saw a positive impact on their stock returns (Torre et al., 2020). However, more research on different markets is needed to determine whether there is a link between environmental, social, and governance factors and the success of financial and non-financial firms (Liu et al., 2022).

However, previous research findings on the association between ESG initiatives and firm financial success have been inconsistent. This is because the studies did not fully account for the internal mechanisms and external factors. The findings of a unified moderated mediation model that investigated the impact of the institutional environment on the relationship between firms' environmental, social, and governance (ESG) activities and their financial performance show that every ESG action has a favorable effect on the success of such companies. This study shows how important sustainable management is for getting better results in dynamic environments, as well as the significance of multidisciplinary study in the fields of institutional theory and environmentally responsible management (Liu et al., 2022). Among the various categories of ESG, a company's corporate culture has a significant influence, especially for companies with poor governance (Kim & Li, 2021). The board of directors plays an equally important role in ESG operations (Al-Mamun & Seamer, 2021). Gender diversity is one of the primary foci of research on diversity in top management teams, which raises an important question for businesses: whether gender diversity on boards increases firm productivity (Wang, 2020). According to the findings of this study, A company's success is not guaranteed if all of its directors are women. The current study will fill a gap left by previous ESG research by examining the impact of board gender diversity on financial firm performance in the context of Indonesia. The study's findings would be beneficial to the growth of ESG and corporate governance in Indonesia.

### **1.1 Objectives**

The goal of this study is to determine the extent to which ESG reporting affects company performance. Furthermore, within the scope of this research, the role of gender diversity between boards in moderating the effect of ESG reporting on company performance was investigated.

## 2. Literature Review

### 2.1 ESG reporting and Company Performance

ESG ratings are evaluations of a corporation based on a comparative assessment of its quality, standard, or performance on environmental, social, or governance issues. SRAs, or sustainability rating agencies, examine businesses and provide data on a variety of specific aspects that fall under the E, S, and G categories, such as pollutant emissions, human rights, and management. Furthermore, they invariably provide an overall evaluation of organizational performance based on a composite score of the performance of various ESG concerns. There are numerous organizations that also create ESG and/or sustainability-related indices. These indices are made up of lists of companies that meet specific ESG criteria, and these companies are chosen from a larger universe of rated corporations. The SRAs in question here are MSCI, Sustainalytics, and Refinitiv (Clementino & Perkins, 2021). Sustainalytics' approach to sustainability. The Ratings of ESG Risk assess the extent to which a company's economic value is at risk due to ESG reporting, or, to put it another way, the magnitude of a company's unmanaged ESG risks, by evaluating the degree to which the economic value of a corporation is at danger owing to ESG problems. The rating of ESG Risk of an organization is made up of two parts: a numerical score and a category of risk. The numeric score is intended to represent units of mismanaged ESG risk, with lower scores indicating a lower level of risk that is not managed. Unmanaged Risk is assessed using an open-ended scale that starts at zero (no risk) and has a maximum score of less than 50 in 95 percent of cases. Companies are classified into one of five risk categories based on their quantitative scores (negligible, low, medium, high, severe). These risk categories are absolute, which means that a "high risk" assessment indicates an equivalent level of unmanaged environmental, social, and governance risk across all subindustries included. As a result, a direct comparison between, say, a bank is possible. We developed a single currency for assessing ESG risk, which is based on the ESG Risk Ratings scores (Sustainalytics Inc., 2021).

Return on Asset, abbreviated as ROA, is a well-known accounting-based variable used to assess financial performance. It measures a company's profitability in relation to its total assets (Velte, 2017). In this context, we provide a valuable complement to Fischer and Sawczyn (2013)'s first German study, which focuses on accounting-based metrics (ROA). Accounting variables are often affected by decisions about how to manage earnings, so market-based items are needed and are also incorporated into a large number of empirical studies (Choi & Wang, 2009). The following hypotheses are proposed within the scope of our investigation:

**H1: ESG reporting s has a significant influence on company performance**

### 2.2 Board Gender Diversity, ESG Reporting and Company Performance

Gender diversity on corporate boards has received increased attention in recent years due to a need from regulatory agencies to improve gender diversity on boards due to woman's underrepresentation. Shakil (2021) In general, the leadership styles and organizational methods of female CEOs differ from those of their male colleagues (Glass et al., 2016). Members of the board who are female typically place a greater emphasis on a company's commitment to the well-being of the community and the environment than male board members (Singh et al., 2008). According to previous research findings, the influence of BGD and CSR/ESG performance can be positive, negative, or insignificant (Shahbaz et al., 2020). When there is a greater representation of women on a board, the company's level of uncertainty and risk is reduced (Qayyum et al., 2021). Within the scope of this investigation, we propose the following hypotheses:

**H2: The influence of ESG reporting on Company Performance was moderated by Gender Diversity**

## 3. Methods

The aim of this research is to determine the effect of ESG reporting on corporate performance, as well as the role of gender diversity on boards to strengthens or weakens the influence of ESG reporting on company performance. Sustainalytics provided the risk rating that was used to assess ESG performance. The proportion of women on the board of directors and commissions was used to determine the board's gender diversity. Return on Assets showed how well the company was doing financially (ROA) as of December 31, 2021. Thirty publicly traded corporations that are members of the Indonesia Stock Exchange ESG Leader Index are considered in this study, according to BEI letter No. Peng-00399/BEI.POP/12-2021 dated December 8, 2021.

To analyze the data, a quantitative strategy in the form of a straightforward linear regression method was used. The SPSS software is being used to analyze the data collected for this investigation. Prior to data analysis, normality,

multicollinearity, and heteroskedasticity tests were performed. This was the typical assumption test conducted prior to data analysis.

#### 4. Data Collection

Purposive sampling was used to collect secondary data for this study, and the companies that were targeted as the population of interest were all those that are included in the Indonesia Stock Exchange (IDX) ESG Leader Index. The list includes thirty businesses in total. Because of the research, the sample was limited to businesses with an ESG rating in Sustainalytics. The findings of this study are based on a sample size of twenty different companies.

### 5. Results and Discussion

#### 5.1 Normality Test

The normality test was used to check whether a regression model's (independent and dependent variables) distribution is normal. In this study, the Kolmogorov-Smirnov and Shapiro-Wilk tests are used, as shown in Table 1.

Table 1. The result of Normality Test

Tests of Normality						
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual	.174	20	.114	.916	20	.083

a. Lilliefors Significance Correction

According to the significance value presented in Table 1, it is impossible to conclude that the null hypothesis is false. As a result, the estimated distributed regression can be considered normal.

#### 5.2 Multicollinearity Test

To check if there is a connection between the regression model's independent variables, the multicollinearity test was utilized, as indicated by the correlation between independent variables and variance inflating factor value (VIF).

Table 2. The result of Multicollinearity Test

Coefficients <sup>a</sup>								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.040	.080		-.507	.619		
	ESG	.042	.041	.384	1.029	.319	.240	4.166
	GD	.823	.307	1.381	2.681	.016	.126	7.964
	ESG x GD	-.418	.191	-1.002	-2.183	.044	.158	6.319

a. Dependent Variable: ROA

There is no multicollinearity in this study if the VIF value is less than 10.00, but there is multicollinearity if the VIF value is greater than 10.00. According to Table 2, all of the variables tested have a VIF value of 10.00, means that no multicollinearity exists. As a result, the regression equation contains no multicollinearity between independent variables.

#### 5.3 Heteroskedasticity Test

To determine if the data between the residue variations differed, the heteroskedasticity test was utilized.

Table 3. The result of Heteroskedasticity Test

Coefficients <sup>a</sup>								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.089	.032		2.748	.014		
	ESG	-.023	.013	-.465	-1.844	.083	.768	1.302
	GD	-.044	.068	-.162	-.641	.530	.768	1.302

a. Dependent Variable: ABS\_RES

Table 3 shows that the ESG variable is significant at 0.083 and the Gender Diversity variable is significant at 0.530. Because the significance value of the two variables is greater than 0.05, it is possible to conclude that the regression model is free of heteroskedasticity.

#### 5.4 Hypotheses test

The hypothesis test was conducted in this study to examine the proposed hypotheses. This research has two hypotheses: the first is that ESG reporting has a substantial influence on company performance (H1), and the second is that whether the gender diversity have the role to moderate the influence of ESG reporting on company performance (H2). The following results are obtained after running the regression test:

#### Test for Significance of Individual Parameters (T Test)

##### 1st Hypothesis (H1)

Table 4 shows that the ESG variable (X 1) has a coefficient value of 0.043 and a significance level of 0.315 (>0.05). If the significance level is greater than 0.05, the null hypothesis cannot be rejected. This implies that the research hypothesis is unsubstantiated. As a result, there is insufficient evidence to conclude that ESG reporting affects corporate performance (ROA).

##### 2nd Hypothesis (H2)

Table 4 shows the coefficient value and degree of significance for the variable X 1\*X 2. The regression results table shows a parameter coefficient of -0.418 with a significance level of 0.046 for the variable X 1\*X 2. (0.05). At a significance level of 0.05, the null hypothesis is rejected. This means that the second hypothesis of the study is supported. As a result, board gender diversity X 2 contributes to the influence of ESG X 1 on company performance (Y).

Table 4. Hypothesis Test Result

**Regression**

**Variables Entered/Removed<sup>a</sup>**

Model	Variables Entered	Variables Removed	Method
1	ESG x GD, ESG, GD <sup>b</sup>	.	Enter

a. Dependent Variable: ROA  
 b. All requested variables entered.

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.681 <sup>a</sup>	.464	.364	.055672	1.604

a. Predictors: (Constant), ESG x GD, ESG, GD  
 b. Dependent Variable: ROA

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.043	3	.014	4.621	.016 <sup>b</sup>
	Residual	.050	16	.003		
	Total	.093	19			

a. Dependent Variable: ROA  
 b. Predictors: (Constant), ESG x GD, ESG, GD

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-.042	.081		-.521	.610	-.213	.129
	ESG	.043	.041	.392	1.037	.315	-.045	.131
	GD	.823	.310	1.387	2.657	.017	.166	1.480
	ESG x GD	-.418	.193	-1.001	-2.160	.046	-.828	-.008

a. Dependent Variable: ROA

**Test for Simultaneous Analysis of Significance (F Test)**

The F-test, also known as the Anova test, produced a calculated F value of 4.621 with a significance level of 0.026. Regression models can be used to predict dependent variables because the probability of significance is less than 0.05, or X 1, X 2, and X 1\*X 2 can be said to affect the dependent variables jointly.

The Coefficient of Determination was also calculated in this study to examine the extent to which the independent variable can explain the independent variable, as follows:

**Coefficient of Determination**

According to the Adjusted R Square (R<sup>2</sup>) value of 0.364, the independent variables ESG (X 1), Gender diversity (X 2), and X 1\*X 2 can explain 36.4 percent of the Y variable. The remainder (100% - 36.40% = 63.6%) is explained by factors other than the model. This shows that including moderation variables in the model raises the Adjusted R Square value, implying that the model improves.

**6. Conclusion**

This study's goal is to give a more full and accurate evaluation of how ESG reporting affects firm performance (ROA). The role of board gender diversity in moderating the relationship between ESG and firm performance was also investigated in this study (ROA). In this study, the findings indicate that ESG reporting does not have a substantial impact on the performance of companies, whereas board gender diversity has been confirmed to have significant role in moderating the effect of ESG reporting on company performance. In other words, gender diversity on corporate boards can help to strengthen the effect of ESG reporting on company performance. The results of this study add to

the body of knowledge on board gender diversity concerns and may be used as an empirical basis for companies aiming to improve the makeup of their boards. Because the coefficient of determination ( $R^2$ ) is only around 36.4 percent, additional research into variables other than ESG reporting and board gender diversity is recommended. As a result, other factors outside of this study can account for the remaining 63.6 percent variation in company performance.

## References

- Al-Mamun, A., & Seamer, M., Board of director attributes and CSR engagement in emerging economy firms: Evidence from across Asia. *Emerging Markets Review*, vol. 46, pp.100749, 2021. <https://doi.org/10.1016/j.ememar.2020.100749>
- Choi, J., & Wang, H., Stakeholder relations and the persistence of corporate financial performance jaepil. *Strategic Management Journal*, vol. 30, no. 8, pp. 895–907, 2009. <https://doi.org/10.1002/smj>
- Clementino, E., & Perkins, R., How Do Companies Respond to Environmental, Social and Governance (ESG) ratings? Evidence from Italy. *Journal of Business Ethics*, vol. 171, no. 2, pp. 379–397, 2021. <https://doi.org/10.1007/s10551-020-04441-4>
- Conca, L., Manta, F., Morrone, D., & Toma, P., The impact of direct environmental, social, and governance reporting: Empirical evidence in European-listed companies in the agri-food sector. *Business Strategy and the Environment*, vol. 30, no. 2, pp. 1080–1093, 2021. <https://doi.org/10.1002/bse.2672>
- Fischer, T. M., & Sawczyn, A. A., The relationship between corporate social performance and corporate financial performance and the role of innovation: Evidence from German listed firms. *Journal of Management Control*, vol. 24, no. 1, pp. 27–52, 2013. <https://doi.org/10.1007/s00187-013-0171-5>
- Glass, C., Cook, A., & Ingersoll, A. R., Do Women Leaders Promote Sustainability? Analyzing the Effect of Corporate Governance Composition on Environmental Performance. *Business Strategy and the Environment*, vol. 25, no. 7, pp. 495–511, 2016. <https://doi.org/10.1002/bse.1879>
- Khaled, R., Ali, H., & Mohamed, E. K. A., The Sustainable Development Goals and corporate sustainability performance: Mapping, extent and determinants. *Journal of Cleaner Production*, vol. 311(September 2020), pp. 127599, 2021. <https://doi.org/10.1016/j.jclepro.2021.127599>
- Kim, S., & Li, Z., Understanding the impact of esg practices in corporate finance. *Sustainability (Switzerland)*, vol. 13, no. 7, 2021. <https://doi.org/10.3390/su13073746>
- Liu, Y., Kim, C. Y., Lee, E. H., & Yoo, J. W., Relationship between Sustainable Management Activities and Financial Performance: Mediating Effects of Non-Financial Performance and Moderating Effects of Institutional Environment. *Sustainability (Switzerland)*, vol. 14, no. 3, 2022. <https://doi.org/10.3390/su14031168>
- Qayyum, A., Rehman, I. U., Shahzad, F., Khan, N., Nawaz, F., Kokkalis, P., & Sergi, B. S., Board gender diversity and stock price crash risk: Going beyond tokenism. *Borsa Istanbul Review*, vol. 21, no. 3, pp. 269–280, (2021). <https://doi.org/10.1016/j.bir.2020.10.010>
- Shahbaz, M., Karaman, A. S., Kilic, M., & Uyar, A., Board attributes, CSR engagement, and corporate performance: What is the nexus in the energy sector? *Energy Policy*, vol. 143(April), pp. 111582, 2020. <https://doi.org/10.1016/j.enpol.2020.111582>
- Shakil, M. H., Environmental, social and governance performance and financial risk: Moderating role of ESG controversies and board gender diversity. *Resources Policy*, vol. 72(May 2020), pp. 102144, 2021. <https://doi.org/10.1016/j.resourpol.2021.102144>
- Singh, V., Terjesen, S., & Vinnicombe, S., Newly appointed directors in the boardroom: How do women and men differ? *European Management Journal*, vol. 26, no. 1, pp. 48–58, 2008. <https://doi.org/10.1016/j.emj.2007.10.002>
- Sustainalytics Inc., ESG Risk Ratings - Methodology Abstract About Sustainalytics. *Sustainalytics*, January, 1–15, 2021. <https://connect.sustainalytics.com/esg-risk-ratings-methodology#:~:text=The ESG Risk Ratings measure,score and a risk category.>
- Tamimi, N., & Sebastianelli, R., Transparency among S&P 500 companies: an analysis of ESG disclosure scores. *Management Decision*, vol. 55, no. 8, pp. 1660–1680, 2017. <https://doi.org/10.1108/MD-01-2017-0018>
- Torre, M. La, Mango, F., Cafaro, A., & Leo, S., Does the ESG index affect stock return? Evidence from the Eurostoxx50. *Sustainability (Switzerland)*, vol. 12, no. 16, 2020. <https://doi.org/10.3390/SU12166387>
- Velte, P., Does ESG performance have an impact on financial performance? Evidence from Germany. *Journal of Global Responsibility*, vol. 8, no. 2, pp. 169–178, 2017. <https://doi.org/10.1108/jgr-11-2016-0029>

Wang, Y. H., Does board gender diversity bring better financial and governance performances? An empirical investigation of cases in Taiwan. *Sustainability (Switzerland)*, vol. 12, no. 8, 2020. <https://doi.org/10.3390/SU12083205>

Xie, J., Nozawa, W., Yagi, M., Fujii, H., & Managi, S., Do environmental, social, and governance activities improve corporate financial performance? *Business Strategy and the Environment*, vol. 28, no. 2, pp. 286–300, 2019. <https://doi.org/10.1002/bse.2224>

## **Biographies**

**Tjatur Widyanoro** is currently doctoral student at Binus Business School, Bina Nusantara University, Jakarta Selatan, DKI Jakarta, Indonesia. Graduated from Jenderal Soedirman University in Accountancy in 2000. A state registered accountant, and earned Master of Business Administration from IPMI International Business School in 2015.

**Mohammad Hamsal** is currently Head of AoKI (Area of Knowledge Inquiry) of Corporate Strategy and Agility, Binus Business School, Bina Nusantara University, Jakarta Selatan, DKI Jakarta, Indonesia.

**Boto Simatupang** is currently Campus Director of Binus Business School in Semarang, Central Java, Indonesia.

**Asnan Furinto** is currently Head of AoKI (Area of Knowledge Inquiry) of Marketing Science and Analytics, Binus Business School, Bina Nusantara University, Jakarta Selatan, DKI Jakarta, Indonesia.

**Rano Kartono** is currently Head of AoKI (Area of Knowledge Inquiry) of Entrepreneurship and Innovation, Binus Business School, Bina Nusantara University, Jakarta Selatan, DKI Jakarta, Indonesia.