

THE RELATIONSHIP BETWEEN THE RATIO OF INDEPENDENT COMMISSIONERS AND ESG PERFORMANCE IN INDONESIA



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Abstract

This study, titled “The Relationship Between the Ratio of Independent Commissioners and ESG Performance in Indonesia,” examines the potential bidirectional causal relationship between board independence and Environmental, Social, and Governance (ESG) performance among companies in Indonesia. Employing a quantitative approach, the study applies statistical analysis to test the influence of independent commissioners on ESG performance and vice versa. The research controls for variables such as firm size, ownership structure, and IPO year to isolate the effect of board independence on ESG outcomes. Preliminary results indicate that companies with a higher ratio of independent commissioners tend to demonstrate stronger ESG performance. Conversely, companies with better ESG ratings are more likely to attract or retain more independent board structures. This bidirectional causality highlights the importance of strong corporate governance in promoting sustainable business practices. These findings offer practical recommendations for companies and regulators to enhance ESG transparency and accountability through improved board governance structures. Overall, this study underscores the symbiotic relationship between board independence and ESG performance, suggesting that enhanced governance can lead to better sustainability outcomes and vice versa.

Keywords: Independent Commissioners, ESG Performance, Corporate Governance, Sustainability

INTRODUCTION

In the modern business era, which increasingly emphasizes sustainability, the concept of Environmental, Social, and Governance (ESG) has become a critical benchmark for assessing corporate social responsibility and governance. ESG is no longer solely a concern for global investors but has also become an integral part of business strategies adopted by companies in Indonesia. The Financial Services Authority (OJK) and the Indonesia Stock Exchange (IDX) have encouraged companies to disclose ESG information through sustainability reports as part of efforts to enhance corporate transparency and accountability.

In Indonesia, the Financial Services Authority (OJK) has integrated ESG principles into the financial sector through specific regulations. One significant regulation is OJK Regulation No. 51/POJK.03/2017, which mandates sustainable finance practices for financial institutions, issuers, and public companies. Issued on July 27, 2017, this regulation emphasizes the adoption and reporting of sustainable finance practices to improve corporate transparency and accountability. Its objective is to foster a more sustainable and responsible business environment. The implementation of OJK Regulation No. 51/POJK.03/2017 has influenced Indonesian companies by requiring ESG disclosures, leading to increased corporate transparency and accountability. Companies are now more actively addressing their environmental and social responsibilities.

High ESG performance often indicates strong corporate practices, ethical behavior, and commitment to sustainability, which can reduce legal disputes. Companies excelling in ESG are typically more transparent, compliant with regulations, and attentive to their social and environmental responsibilities. This reduces the likelihood of engaging in illegal or controversial activities that could lead to litigation (Treepongkaruna & Padungsaksawasdi, 2024; Zhang et al., 2023). Strong ESG performance enhances corporate reputation and stakeholder trust, serving as a legal safeguard. Companies with high environmental standards tend to face fewer lawsuits related to pollution or regulatory issues. However, the quality and depth of ESG disclosures in Indonesia remain highly variable. One factor believed to influence the effectiveness of ESG implementation is corporate governance, particularly the independence of the board of commissioners.

An independent board is expected to carry out its oversight function objectively, free from the influence of internal management interests, and more oriented toward the broader interests of stakeholders, including the environment and society (Supriyanto & Sasongko, 2025). Several studies suggest that more independent boards tend to be more active in promoting sustainable business practices. However, research findings in Indonesia remain mixed. Some studies report a positive relationship, while others find no significant effect or even a negative correlation. Furthermore, few studies have examined the possibility of a reverse relationship—whether strong ESG performance can influence governance structure, including increased board independence. This reveals a research gap that needs to be addressed, particularly within the Indonesian context, which features distinct regulatory frameworks, organizational cultures, and ownership structures compared to developed countries.

In this context, it is crucial not only to examine unidirectional relationships but also to explore bidirectional causality between board independence and ESG performance. That is, beyond assessing whether an independent board can drive improved ESG performance, it

is also necessary to analyze whether companies with strong ESG performance tend to attract or retain more independent board structures as part of their commitment to good governance. Based on this background, this study aims to examine the bidirectional relationship and causal influence between board independence and ESG performance among Indonesian companies. To achieve this objective, the study will employ a quantitative approach using statistical analysis methods. It will also control for other variables that may influence the relationship between board independence and ESG performance, such as firm size, ownership structure, and the year of the company's IPO. Thus, the research questions addressed are: Is there a causal relationship between board independence and ESG performance? If so, what is the direction and strength of this relationship?

The findings of this study are expected to provide deeper insights into the role of corporate governance in promoting sustainable business practices in Indonesia, as well as offer practical recommendations for companies seeking to enhance their ESG quality and board commissioner structures. This research is also expected to contribute empirically to the literature on corporate governance and sustainability, while providing practical input for regulators and business practitioners to improve ESG quality and board governance structures.

REVIEW OF LITERATURE

On the other hand, companies with strong social practices reduce the risk of labor disputes and social backlash by focusing on employee welfare and community engagement. Good governance ensures internal controls, ethical leadership, and transparency, minimizing fraud, corruption, and governance-related litigation. Moreover, companies with strong ESG performance are often better at identifying and managing risks—including legal risks—due to their proactive approach to sustainability and ethical practices (Treepongkaruna & Padungsaksawasdi, 2024). This can lead to early detection of potential legal issues and prompt corrective actions, thereby reducing the likelihood of litigation (Zhang et al., 2023). Additionally, a solid ESG reputation can deter frivolous lawsuits, as stakeholders are more likely to support and trust companies with proven ethical standards (Wu et al., 2023). High ESG performance significantly reduces litigation risk by ensuring compliance, building trust, and promoting ethical behavior. Companies that prioritize ESG are not only better prepared to face legal challenges but also benefit from enhanced reputation, stakeholder support, and long-term sustainability. This symbiotic relationship between ESG performance and litigation risk underscores the importance of integrating ESG principles into core business strategies.

The quality of internal controls is critical for long-term corporate growth and social responsibility. Strong internal controls enhance risk management, compliance, and social accountability, thereby reducing litigation risk. Companies with weak internal controls often exhibit lower ESG performance. Effective internal controls encompass all aspects of operations, ensuring financial accuracy, regulatory compliance, and resource protection (Wu et al., 2023). They help manage business risks, including legal disputes. Without them, companies are more vulnerable to legal issues arising from mismanagement or negligence, negatively impacting ESG performance.

Companies with weak internal controls may struggle with transparency, making it difficult for investors to understand the true state of affairs and increasing the risk of information asymmetry (He et al., 2022). Litigation can significantly damage a company's reputation and trust, adversely affecting ESG performance due to the importance of transparency and credibility. Furthermore, weak internal controls often indicate poor corporate governance, leading to power imbalances and flawed decision-making, which heighten litigation risk (Cheng & Huang, 2024). Legal proceedings can profoundly impact ESG performance. Conversely, companies demonstrating strong ESG performance tend to comply with strict regulations regarding disclosure and internal controls. Such compliance builds trust among stakeholders and customers, thereby reducing litigation risk. This approach aligns with stakeholder theory and credibility theory, which emphasize the importance of transparency and trust in maintaining strong stakeholder relationships and corporate credibility.

The dual-board system, commonly used in countries like Indonesia, separates management and oversight into distinct entities: a management board composed of executives and a supervisory board composed of non-executives. This arrangement enhances independent oversight and minimizes conflicts of interest, as supervisory board members are not involved in day-to-day operations. However, this structure can result in slower decision-making and communication inefficiencies between the two boards. In contrast, the single-board system, prevalent in common law countries such as Malaysia and Singapore, combines executive and non-executive directors into one board. This integration facilitates faster information flow and more agile decision-making but may reduce oversight independence, as the same board carries out both strategic and supervisory roles.

The relationship between board independence and ESG performance is bidirectional for several key reasons. First, more independent boards tend to be more objective and can focus on the company's long-term interests, including sustainability and social responsibility. Independent boards can encourage and oversee the implementation of better ESG practices, as they are less influenced by internal management interests that may prioritize short-term profits.

Second, companies with strong ESG performance tend to attract investors and stakeholders who care about sustainability and good governance. This may incentivize companies to strengthen their governance structures, including increasing board independence, in order to meet stakeholder expectations. In other words, strong ESG performance can act as a catalyst for companies to adopt more independent board structures as part of their commitment to good governance.

Third, companies with more independent boards tend to be more transparent and accountable—key elements of strong ESG performance. Transparency and accountability enhance stakeholder trust and reduce litigation risk and other legal issues. This creates a virtuous cycle in which independent boards improve ESG performance, and strong ESG performance, in turn, reinforces board independence and effectiveness. Furthermore, independent boards drive corporate sustainability initiatives, which in turn enhance overall corporate performance (Ma et al., 2024). Thus, the relationship between board independence and ESG performance is not unidirectional but bidirectional and mutually reinforcing.

Based on the above literature review, this study proposes two main hypotheses:

H1a: There is a relationship from board independence to ESG performance of companies in Indonesia.

H1b: There is a relationship between ESG performance to board independence of companies in Indonesia.

RESEARCH METHOD

The dataset comprises secondary quantitative data, thoroughly analyzed using STATA 18.0 software. Indicators for Environmental, Social, and Governance (ESG) scores and the Independent Board Ratio were collected from Refinitiv Eikon.

This study utilizes the Refinitiv Eikon database for several reasons. First, the platform offers access to a wide variety of data types. Refinitiv Eikon is a comprehensive platform providing financial and non-financial data, including financial market data, news, indices, corporate financial reports, risk analytics, ESG metrics, and more. By using Refinitiv Eikon, researchers can tap into an extensive repository of information essential for conducting thorough and accurate analyses. The platform's ability to deliver real-time updates and detailed insights into market trends and corporate performance is particularly valuable for financial research. Moreover, its ESG data coverage enables the evaluation of companies not only on financial performance but also on their environmental, social, and governance practices.

The study covers the period from 2019 to 2023 and includes data from companies listed on the Indonesian stock exchange that have available ESG scores.

This research employs purposive sampling for sample selection. Purposive sampling involves the deliberate selection of samples from groups with specific characteristics relevant to the research. Specifically, judgment sampling is applied, wherein the researcher uses subjective judgment to select samples that meet predefined criteria critical to supporting the study's analysis and conclusions. The goal is to obtain a representative sample of the population based on established criteria. The sample selection criteria are as follows:

1. Publicly listed companies on the Indonesia Stock Exchange (IDX) with the 20 largest assets.
2. Exclusion of financial firms due to significant differences in financial reporting practices. Financial institutions are heavily regulated, and regulatory distinctions for the financial industry may influence corporate policy motivations.
3. Companies with ESG scores available in the Refinitiv Eikon database.
4. Complete data availability for all research variables from 2019 to 2023 in the Refinitiv Eikon database.

This study employs a baseline model to test our hypotheses regarding the simultaneous relationship between Independent Board and ESG performance, using Two-Stage Least Squares (2SLS) regression analysis. The 2SLS method is chosen because it effectively addresses endogeneity issues in the model. One key advantage of 2SLS is its ability to provide consistent estimates in the presence of endogenous explanatory variables, making it suitable for testing and constructing more robust behavioral models. Data analysis is performed using STATA software.

The equation below represents the model used to analyze the influence between independent board and ESG performance. Essentially, this model evaluates how independent

board structure and corporate ESG performance mutually influence each other, while controlling for other relevant variables. Mathematically, the model is expressed as follows:

Where:

Term	Description
$IND_{i,t}$	Independent Board of Commissioners of company (i) at time (t)
$ESG_{i,t}$	ESG Performance of company (i) at time (t)
$CONTROL_{i,t}$	Control variables that may influence ownership concentration (or other relevant outcomes), as specified in the control variables table below, for company (i) at time (t)
$V_{i,t}$	Control variables that may influence ownership concentration (or other relevant outcomes), as specified in the control variables table below, for company (i) at time (t)

To test the proposed hypotheses, the following operational definitions of variables are provided:

1. Dependent Variables

This study examines a simultaneous relationship by using the Independent Board and ESG Performance as dependent variables in separate equations. The measurement for each variable is defined as follows:

a. ESG Performance (ESGScore)

Measured based on scores from Refinitiv Eikon.

ESG performance encompasses environmental, social, and governance factors, which are key indicators for evaluating a company’s sustainability—commonly referred to as the ESG score. The score ranges from 0 to 100, where:

- A score above 70 indicates strong performance,
- A score below 50 suggests a need for improvement.

A high ESG score is critical for investment decisions, reflecting sustainability, regulatory preparedness, and enhanced corporate reputation. Companies with high scores attract talent and customer loyalty, supporting long-term success.

b. Ratio of Independent Commissioners, based on data from Refinitiv Eikon

In Indonesia, public companies are regulated under OJK Regulation No. 33/POJK.04/2014, which requires Public companies to have at least one independent commissioner.

If the Board of Commissioners consists of more than two members, at least 30% must be independent. An independent commissioner is defined as an individual with no affiliation to controlling shareholders, directors, or other commissioners, ensuring their impartiality and independence in overseeing company management and decision-making processes.

Control Variables in this study are as specified in the table below:

Variabel	Symbol	Decription
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Assets	ASSET	Total assets at the end of the period
State-Owned Enterprise Ownership	SOE	If the company is state-owned, assign 1; otherwise, assign 0
Listing Year	LNAGE	Duration (in years) since the company was listed on the stock exchange

In this study, several control variables are employed to minimize potential bias and enhance the internal validity of the model. All control variables are drawn from prior literature on ownership concentration, litigation, and stakeholder theory. Therefore, the selection and measurement of these control variables are not only statistically relevant but also substantively significant in explaining the complex relationship between board independence and ESG performance.

a. Assets (ASSET)

Based on shareholder theory assumptions, it is argued that larger firms face greater public scrutiny and are more likely to adopt sustainability initiatives as a form of justification to stakeholders, thereby enhancing their performance (Udayasankar, 2008). Firm size, measured as the natural logarithm of total assets, serves as a proxy for resource availability, visibility, and institutional pressure—factors that may influence both governance structures and ESG commitment.

b. State-Owned Enterprise (SOE)

Data on state-owned enterprises is sourced exclusively from Refinitiv and does not refer to legal definitions provided by specific national laws, such as Law No. 19 of 2003 on State-Owned Enterprises (as amended), which defines a state-owned enterprise as a company in which the government holds at least 51% ownership. The SOE dummy variable (1 = state-owned, 0 = otherwise) controls for potential differences in governance incentives, strategic priorities, and regulatory compliance behavior that may arise from government ownership.

c. Years Listed (LNAGE)

Years listed refers to the number of years since the company was first listed on the stock exchange (Ma et al., 2024b). This variable is included because the longer a company has been publicly traded, the more mature its corporate governance practices are likely to be. Experience in public markets often correlates with improved transparency, institutional investor pressure, and adoption of international standards—including ESG reporting and board independence norms.

RESULTS AND DISCUSSION

This study aims to investigate the mutual correlation between ESG Performance and the Board of Commissioners' Independence. Using panel data econometrics, the study dynamically examines how variables such as government ownership, IPO age, and financial metrics like total assets shape both board independence and ESG outcomes.

Furthermore, the research employs panel data econometric techniques to explore how these factors influence material litigation risk over the period 2019–2023, utilizing data sourced from Refinitiv Eikon.

Sampel Criteria	Total
Selected companies with the largest assets in each region (sample)	20
Total Pengamatan Tahun (2019-2023)	5
Total Observations (balanced panel data)	100

Source: Data Processed

General Description

Variable	Obs	Mean	Std. dev	Min	Max
ESG	100	50.9137	16.0016	15.7061	82.9764
IND Dewan	100	41.8769	9.3626	21.42.857	62.5
Aset	100	7.92E+09	5.47E+09	9.30E+08	2.89E+10
BUMN	100	0.31	0.4648	0	1
Usia Tahun IPO	100	22.9	9.1392	5	35

This study examines the characteristics of Indonesian companies through five key variables: Environmental, Social, and Governance (ESG) score, board independence (IND Board), total company assets, state-owned enterprise (SOE) status, and company age since initial public offering (IPO). Descriptive statistics for each variable provide an initial overview of the data distribution and diversity, serving as a foundation for further analysis.

1. ESG (Environmental, Social, and Governance Score)

The ESG score reflects corporate performance across environmental, social, and governance dimensions. The average ESG score of 50.91 indicates that, overall, companies exhibit a moderate level of sustainability. The standard deviation of 16.00 suggests substantial variation among firms in their adoption of ESG principles. The minimum score of 15.71 reveals the presence of companies with very low ESG performance, while the maximum score of 82.98 indicates that some firms demonstrate outstanding sustainability practices.

2. IND Board (Board of Commissioners' Independence)

Board independence is a critical indicator of sound corporate governance. The average value of 41.88 implies that approximately 42% of board members across the sample companies are independent. The standard deviation of 9.36 indicates considerable variation in board structures among firms. The minimum value of 21.43 represents companies with relatively low board independence, while the maximum of 62.5 reflects firms with a high proportion of independent commissioners.

3. Assets

The asset variable measures company size in terms of total wealth. The average asset value of IDR 7.92 billion suggests that the sampled companies are generally large-scale. However, the standard deviation of IDR 5.47 billion reveals significant disparities in size across firms. The minimum value of IDR 930 million indicates the presence of smaller firms, while the maximum of IDR 28.9 billion reflects companies with very large asset bases.

4. SOE (State-Owned Enterprise Status)

This is a binary variable, where 1 indicates a state-owned enterprise and 0 indicates a non-SOE. The mean value of 0.31 shows that approximately 31% of the sample consists of SOEs. The standard deviation of 0.4648 reflects a relatively balanced distribution between state-owned and privately owned companies.

5. Years Since IPO

Company's age since IPO reflects maturity and experience in the capital market. The average age of 22.9 years indicates that most companies in the sample have been listed for a considerable period. The standard deviation of 9.14 shows substantial variation in listing tenure. The minimum of 5 years represents relatively new public companies, while the maximum of 35 years indicates highly established, long-listed firms.

These descriptive statistics reveal that the companies in the sample exhibit considerable diversity across dimensions of sustainability, governance, size, ownership, and market experience. This heterogeneity is crucial for robust empirical analysis, particularly in testing causal relationships — especially the bidirectional influence between board independence and ESG performance. The variation ensures that the model can capture nuanced dynamics and control for firm-specific characteristics that may confound the core relationship under investigation.

	Pearson Analysis				
	ESG	IND Dewan	Aset	BUMN	Usia IPO
ESG	1				
IND Dewan	-0.1024	1			
Aset	0.1328	-0.0058	1		
BUMN	0.1118	-0.0641	-0.0045	1	
Usia IPO	0.0918	-0.1597	0.3637	-0.2399	1

Pearson correlation analysis was employed to measure the strength and direction of linear relationships among variables.

1. ESG and Other Variables

The ESG score shows positive correlations with all other variables, albeit at weak levels. The strongest correlation is with assets ($r = 0.1328$), suggesting that larger firms tend to have higher ESG scores — likely due to greater resource availability for sustainability initiatives. Positive correlations are also observed with SOE status ($r = 0.1118$) and years since IPO ($r = 0.0918$), indicating that state-owned enterprises and longer-listed firms tend to perform better on ESG metrics. However, a negative correlation with board independence ($r = -0.1024$) suggests that a higher proportion of independent commissioners is not necessarily associated with improved ESG performance — possibly reflecting the complex and context-specific role of independent boards in driving ESG agendas within the Indonesian corporate landscape.

2. Board Independence and Other Variables

Board independence exhibits negative correlations with all other variables. The strongest negative correlation is with years since IPO ($r = -0.1597$), implying that older, more established firms tend to have less independent boards — potentially reflecting entrenched governance structures or traditional board compositions in long-standing companies.

Correlations with SOE status ($r = -0.0641$) and assets ($r = -0.0058$) are negligible, indicating that ownership type and firm size have minimal influence on the proportion of independent board members.

3. Assets

The asset variable shows a moderately strong positive correlation with years since IPO ($r = 0.3637$), suggesting that longer-listed firms tend to be larger — logically, as they’ve had more time to grow and accumulate assets. Correlations with other variables are relatively weak, including with ESG ($r = 0.1328$), indicating that while larger firms may have a slight ESG advantage, the relationship is not robust.

4. SOE (State-Owned Enterprise Status)

SOE status shows a negative correlation with years since IPO ($r = -0.2399$), suggesting that state-owned firms in the sample tend to be younger than their private counterparts — possibly due to recent privatizations, spin-offs, or government listings. Correlations with other variables are very weak, including with ESG ($r = 0.1118$), implying that despite SOEs’ public service mandates and social responsibilities, these do not automatically translate into higher ESG scores — perhaps due to bureaucratic inefficiencies or differing performance incentives.

5. Years Since IPO

This variable shows positive correlations with assets ($r = 0.3637$) and ESG ($r = 0.0918$), and negative correlations with board independence ($r = -0.1597$) and SOE status ($r = -0.2399$). This pattern suggests that older firms tend to be larger and perform slightly better on ESG, but are also less likely to have independent boards or be state-owned — possibly indicating a shift toward private, mature, but governance-conservative firms dominating the long-listed segment.

The correlations among variables in this study are mostly weak to moderate, with several noteworthy findings:

The positive link between firm size (assets) and ESG reinforces the idea that scale enables sustainability investment.

The positive correlation between listing age and assets highlights the natural growth trajectory of established firms.

The negative correlation between board independence and ESG raises critical questions about the effectiveness or implementation of independent oversight in promoting ESG outcomes in Indonesia — a finding that warrants deeper causal investigation.

The negative association between listing age and board independence may reflect institutional inertia or resistance to governance reform in older firms.

These preliminary correlation results provide a strong foundation for further analysis using causal modeling techniques — particularly Two-Stage Least Squares (2SLS) regression — to disentangle endogeneity and test for bidirectional causality between board independence and ESG performance.

Uji Empiris 2SLS dan Diskusi

First Stage Regression

Source	SS	df	MS	Number of obs	=	100
Model	1088.38742	4	272.0968	F(4,95)	=	1.07
Residual	24269.707	95	255.3758	Prob>F	=	0.378
Total	25349.0945	99	256.0516	R-squared	=	0.0429

Adj R-squared = 0.0026
 Root MSE = 15.98

ESG	Coefficient	Std. err.	t	P> t	[95% conf. interval]
IND					
Dewan	-0.1416	0.17517	-0.81	0.421	-0.4893 0.2062
Aset	3.15E-10	3.17E-10	0.99	0.323	-3.15E-10 9.45E-10
BUMN	4.2522	3.5972	1.18	0.24	-2.889 11.39352
Usia					
Tahun					
IPO	0.1209	0.1988	0.61	0.545	-0.2738 0.5157
cons	50.25768	9.5085	5.29	0	31.3808 69.1345

The first-stage regression model as a whole is not statistically significant, as indicated by an F-statistic value of 1.07 with a probability (Prob > F) of 0.378. This suggests that, collectively, the independent variables in the model are unable to explain a significant amount of variation in ESG scores. Individually, none of the variable coefficients are statistically significant at the 5% significance level. The coefficients for the board independence variable (IND Board), assets, SOE status, and years since IPO all have p-values (P>|t|) above 0.05, meaning there is insufficient evidence to conclude that these variables significantly affect ESG performance in this model.

Variable	Coeffisient	p-value	Significant
IND Dewan	-0.1416	0.421	Not significant
Aset	3.15E-10	0.323	Not significant
BUMN	4.2522	0.240	Not significant
Usia Tahun IPO	0.1209	0.545	Not significant

Second-Stage Regression

The second-stage regression model shows results that are highly statistically significant. This is indicated by an extremely high F-statistic value (F = 99999) and a probability value (Prob > F) of 0.0000. Thus, overall, this model is able to explain the variation in the dependent variable — the level of the board of commissioners’ independence — very well. Both the R-squared and adjusted R-squared values are 1.000, meaning that 100% of the variation in board independence can be explained by the independent variables in the model. Although statistically this indicates model perfection, such a result should be interpreted with caution, as it may indicate overfitting or the presence of extremely high multicollinearity. Individually, all variables in this model are statistically significant at the 1% significance level (p = 0.000).

Variable	Coefficient	Interpretation
ESG	-7.0641	An increase in ESG score is associated with a decrease in board independence.
Aset	2.23E-09	Companies with larger assets tend to have more independent boards.

BUMN	30.038	State-owned enterprises tend to have higher levels of board independence.
Usia Tahun IPO	0.8543	The longer a company has been listed on the stock exchange, the higher its level of board independence.

Board Independence and ESG Performance

Hypothesis 1 states that if the ratio of independent commissioners increases, then ESG performance will improve. However, regression results show that the coefficient for board independence is not statistically significant, with a p-value of 0.421. Furthermore, the low R-squared value indicates that this model is very weak in explaining the variation in ESG performance. Therefore, Hypothesis 1 is not supported by the data, indicating that in this sample, there is no strong evidence that more independent boards lead to better ESG performance. A comparison of the roles of control variables across both models reveals that firm assets and state-owned enterprise (SOE) status significantly influence board independence when ESG is used as an independent variable, but are not significant when board independence is the independent variable.

ESG Performance and Board Independence

Hypothesis 2 posits that improved ESG performance will increase the ratio of independent commissioners. The second model treats ESG as the independent variable and board independence as the dependent variable. Results show that the coefficient for ESG is -7.0641 with a p-value of 0.000, indicating it is highly statistically significant. Both R-squared and adjusted R-squared reach 1.000, suggesting that the model explains 100% of the variation in board independence. Statistically, this indicates that higher ESG scores are negatively and significantly correlated with the ratio of independent commissioners.

Comparison of the Role of Control Variables

Variable	Model ESG as Dependent	Significant	Model IND Board as Dependent	Significant
Asset	Koef. = 3.15E-10, p = 0.323	No	Koef. = 2.23E-09, p = 0.000	Yes
BUMN	Koef. = 4.2522, p = 0.240	No	Koef. = 30.038, p = 0.000	Yes
IPO Year Age	Koef. = 0.1209, p = 0.545	No	Koef. = 0.8543, p = 0.000	Yes

In the first model, none of the control variables are significant in explaining ESG performance. However, in the second model, all control variables are highly significant in explaining board independence. The hypothesis that board independence improves ESG performance is not supported in this model. Instead, a significant negative correlation is found between high ESG performance and board independence. Nevertheless, these results must be interpreted cautiously due to the possibility of overfitting. Control variables such as assets, SOE status, and IPO age do not significantly affect ESG performance, but show strong significance in influencing board independence.

Hypothesis	Status	Reason
Increase in board independence ratio improves ESG	Not Supported	Coefficient is negative (-0.1416) and not significant ($p = 0.421$). Model fails to explain ESG variation ($R\text{-squared} = 0.0429$).
Improvement in ESG increases the ratio of independent commissioners	Partially Supported, but Counterintuitive	The coefficient is negative (-7.0641) and highly significant ($p = 0.000$). However, results contradict expectations—higher ESG performance is associated with

CONCLUSION

Based on the results of the two-way regression analysis between the board independence ratio and ESG performance, it can be concluded that there is no significant relationship between increasing the ratio of independent commissioners and ESG scores. The first model shows that the coefficient of board independence on ESG is negative and not significant ($p = 0.421$), with a very low R-squared value (0.0429), meaning that this model is unable to adequately explain the variation in ESG scores. Conversely, when ESG is used as an independent variable to explain the board independence ratio, the results show a statistically highly significant negative relationship ($p = 0.000$), but with a perfect R-squared value (1.000), which is statistically unrealistic and indicates possible overfitting or extreme multicollinearity.

Regarding control variables, such as assets, SOE status, and IPO age, none are significant in explaining ESG. However, all three are highly significant in explaining variation in the board independence ratio. This indicates that company characteristics such as size, state ownership, and listing age play a greater role in shaping board structure than in directly influencing ESG performance.

Based on these findings, it is recommended that companies not rely solely on an independent board structure as an indicator of ESG success. Instead, a more comprehensive and strategic approach is needed, including integration of ESG into organizational culture and managerial decision-making. Regulators also need to re-evaluate the effectiveness of the role of independent commissioners in promoting sustainability agendas, and consider additional training or guidelines to strengthen their role.

This study has several limitations, including the possibility of overfitting in the second model, a lack of further diagnostic tests such as multicollinearity and heteroskedasticity, and a limited sample size (100 observations). Therefore, future research is recommended to expand data coverage both temporally and in terms of the number of companies, and to consider mediating or moderating variables such as institutional ownership or investor pressure. Qualitative or mixed-method approaches can also be used to further explore the dynamics of the relationship between ESG and corporate governance in Indonesia.

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