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How CEO Work Experience Shapes Carbon Emission Disclosure: The Role of Board Size

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Abstract

This study examines the influence of CEO work experience on carbon emission disclosure (CED) and evaluates the moderating role of board size in Indonesian listed firms. Using a quantitative approach, the research analyzes secondary data from annual and sustainability reports of 69 companies from 2019 to 2023, applying panel regression to test the direct impact of CEO work experience and its interaction with board size. The results show that CEO work experience negatively affects CED, suggesting that more experienced CEOs tend to prioritize financial outcomes and risk avoidance over environmental transparency. This conservative orientation contributes to reluctance in engaging with voluntary carbon reporting. The findings further reveal that board size significantly moderates this relationship. Larger boards strengthen the negative effect of CEO work experience, as coordination challenges and reduced monitoring effectiveness provide experienced CEOs with greater discretion to limit disclosure. This highlights the critical role of governance structures in shaping sustainability reporting outcomes. The study acknowledges limitations, particularly the focus on only two variables indicating that future research should include additional governance mechanisms and executive characteristics to obtain a more comprehensive understanding of disclosure behavior. Practically, the results suggest that firms and regulators need to reconsider board composition to ensure effective oversight capable of counteracting managerial conservatism and supporting transparent carbon reporting. Overall, this study contributes to the literature by integrating executive attributes with governance dynamics, providing new evidence on how board size can influence the transparency of environmental disclosures in emerging markets such as Indonesia.

Keywords: *Carbon Emission Disclosure; CEO Work Experience; Board Size; Firm Size, Return on Equity, Firm Age*

INTRODUCTION

Climate change has become one of the most pressing global challenges, businesses today place high value on a sustainable business environment (Krisyadi et al., 2025). As responsible parties, companies are expected to take carbon emission issues seriously rather than concentrating solely on generating profits (Wahyuningrum et al., 2025). This sense of global urgency is illustrated by data from the International Energy Agency (IEA, 2025), which projects that total CO_2 emissions from energy will rise by 0.8% in 2024, reaching a record high of 37.8 gigatons. On a broader scale, the United Nations Environment Programme (UNEP, 2024) estimates that under current policies, global GHG emissions could hit approximately 57 gigatons of CO_2 equivalent by 2030, surpassing last year's projection and signaling that current mitigation efforts remain insufficient.

Continued increases in emissions threaten ecosystem balance and intensify natural disasters, including floods, droughts, and heatwaves (Harjito & Sutopo, 2024). Large corporations alone contribute more than 10% of total global emissions, increasing by about 1%

annually (Alfani & Diyanty, 2020), placing even greater emphasis on their environmental accountability. These figures reinforce the urgent call for companies particularly in emerging economies to adopt proactive sustainability practices and report transparently (Zhou et al., 2025).

Indonesia serves as a critical case for examining corporate governance and transparency regarding climate responsibility. Indonesia's position as a major source of greenhouse gas emissions, combined with its fast industrial growth, puts the country in a vulnerable environmental situation (Wahyuningrum et al., 2025). Complementing these national efforts, the Otoritas Jasa Keuangan (OJK) recorded carbon exchange transactions worth 36.79 billion rupiah between September 26, 2023, and June 28, 2024, with a total trading volume of 608,740 tons of CO_2 equivalent (Rahayu & Djumena, 2024). Carbon disclosure plays a central role in these efforts, as it pressures firms to manage and reduce emissions (Siddique et al., 2021). This reflects Indonesia's growing commitment to environmental accountability through the establishment and activation of a carbon trading system. Given these increasing demands for transparency, the internal characteristics of corporate leaders become highly influential in determining how companies respond.

Within this context, the role of top executives becomes crucial. Longer CEO work experience tends to be associated with reduced disclosure of carbon emissions. This effect can be explained by the tendency of long-serving CEOs to adopt more conservative and financially focused strategies rather than emphasizing sustainability disclosures. Zhang et al., (2025) study notes that older CEOs generally show a negative influence on disclosure, reflecting a conservative stance shaped by prolonged leadership experience. Similarly, Siregar & Komsiyah, (2023) finds that CEOs with extensive firm experience tend to prioritize financial performance over sustainability issues, a contrast to newly appointed CEOs who are more engaged in sustainability efforts.

Furthermore, less experienced CEOs often face tighter supervision from the board and stakeholders, which pushes them to be more proactive and transparent in reporting carbon-related information (Triyani & Sertyahuni, 2020). Kalfira & Shanti, (2025) adds that in the early tenure phase, CEOs are motivated to invest in disclosure projects to demonstrate their leadership and secure future benefits, but this motivation tends to wane over time. Khan et al., (2021) also highlights that early in their tenure, CEOs address social practices actively to avoid dismissal and career losses, which implies that longer tenure reduces such efforts. As a result, higher work experience is associated with lower levels of carbon emission disclosure. However, executive decisions do not occur in isolation. They operate within a governance structure that can either constrain or reinforce such tendencies.

Beyond executive characteristics, corporate governance structures specifically the board of directors shape the strategic direction and decision-making framework within firms. CEOs may influence governance mechanisms to align with their own preferences (Hemdan et al., 2023), which can potentially weaken the transparency of carbon emission disclosure. Recent research by Septiany et al., (2025) shows that CEO work experience is closely related to governance dynamics and significantly affects corporate sustainability decisions. This suggests that the interaction between Ceo work experience and board size reflects broader power dynamics within corporate governance. Board size itself defined as the total number of directors on the board (Itan & Angellina, 2023).

According to agency theory, firms with larger boards often experience free-rider problems and severe coordination and communication challenges (Dang et al., 2023), reducing the effectiveness of their monitoring functions. Empirical evidence supports this view: Odia & Ken-otokiti, (2021) find that board size significantly shapes the relationship between CEO characteristics and sustainability disclosure. Similarly, Ardiani et al., (2022) report that larger boards tend to exhibit weaker monitoring effectiveness, ultimately diminishing the quality of sustainability reporting, including carbon emission disclosure.

Although prior studies have consistently shown that CEO work experience negatively affects carbon emission disclosure (Zhang et al., 2025; Siregar & Komsiyah, 2023; Triyani & Sertyahuni, 2020), existing literature largely focuses on this direct relationship without considering governance mechanisms that may alter the effect. Meanwhile, research on board size practices (Fitriasari & Soewarni, 2024; Mansour et al., 2025) highlights the board's capacity to strengthen oversight and promote transparency. No studies have integrated these perspectives by examining how board structure interacts with executive experience.

Moreover, the increasing emphasis on ESG transparency, the mechanisms through which board composition shapes environmental disclosure particularly in emerging markets remain insufficiently explored (Itan et al., 2025). Thus, the novelty of this research lies in testing board size as a moderating variable in the relationship between Ceo work experience and carbon emission disclosure, offering new insights into how stronger board monitoring can counterbalance experienced CEOs' conservative tendencies toward limited environmental transparency.

Implications of this research highlight the importance of strengthening corporate governance mechanisms to improve environmental disclosure in emerging economies like Indonesia. Firms should recognize that relying solely on CEO characteristics to drive sustainability reporting may be insufficient or even counterproductive without effective board oversight. Companies are encouraged to optimize board composition to enhance monitoring functions and ensure balanced decision-making that supports transparent carbon reporting. Understanding the interaction between executive experience and board structure provides organizations with a clearer foundation for improving the credibility of carbon emission disclosures. Ultimately, fostering board environments that can mediate executive influence is essential for strengthening corporate accountability and supporting long-term firm value.

H1: CEO work experience has a significant negative impact on carbon emission disclosure

H2: Board size positively moderates the effect of CEO work experience and carbon emission disclosure

RESEARCH METHOD

This study used secondary data collected from the annual and sustainability reports of companies listed on the Indonesia Stock Exchange (IDX) for the period 2019–2023. The data were obtained from the official IDX website and company disclosures containing both financial and non-financial information. A purposive sampling method was applied, with the criteria that firms must have published complete annual reports and sustainability reports during the observation period and disclosed at least partial environmental or carbon-related information.

Based on these criteria, the final sample consisted of 69 firms, resulting in 345 firm-year observations.

The variables employed in this study included carbon emission disclosure (CED) as the dependent variable, CEO work experience (EXP) as the main independent variable, and board size (BSIZE) as the moderating variable. Control variables consisted of firm size (FSIZE), return on equity (ROE), and firm age (AGE), which are widely used in prior disclosure studies to minimize omitted variable bias and enhance model robustness. All variables were measured based on verifiable data from company annual reports, sustainability reports, and financial statements to ensure consistency and reliability across firms.

Panel data regression analysis was conducted using Stata statistical software. The panel approach was chosen because it captures both cross-sectional variation among firms and time-series variation across years, allowing for more efficient estimation of the relationships between variables. The fixed effects specification controlled for unobserved firm-specific characteristics and temporal effects that could bias the estimates. This method also enabled the study to test both the direct effect of CEO work experience on carbon emission disclosure and the moderating effect of board size. The regression models used in this study are as follows:

$$CED_{i,t} = \alpha 0 + \beta 1EXP_{i,t} + \beta 2FSIZE_{i,t} + \beta 3ROE_{i,t} + \beta 4AGE_{i,t} + YEAR\ FIXED\ EFFECT + \varepsilon_{i,t} \quad (1)$$

$$CED_{i,t} = \alpha 0 + \beta 1EXP_{i,t} + \beta 2BSIZE_{i,t} + \beta 3EXPXBSIZE_{i,t} + \beta 4FSIZE_{i,t} + \beta 5ROE_{i,t} + \beta 6AGE_{i,t} + YEAR\ FIXED\ EFFECT + \varepsilon_{i,t} \quad (2)$$

Dependent Variable (Carbon Emission Disclosure):

Carbon emission disclosure refers to a company's practice of reporting information related to its carbon footprint, emission reduction initiatives, and climate-related strategies to both internal and external stakeholders (Santika et al., 2022). Such disclosure aims to enhance corporate transparency by enabling stakeholders to assess the organization's environmental performance and its commitment to sustainability (Khamisu et al., 2024). To quantify the level of disclosure, a content analysis approach is employed. Each disclosure item relevant to carbon information is reviewed and coded with a score of 1 if the information is disclosed and 0 if it is not presented. The firm's overall carbon disclosure score is then determined by dividing the total number of disclosed items by the total number of expected items, resulting in a ratio that reflects the completeness and comprehensiveness of the company's carbon (Darmawan & Firmansyah, 2025).

Independent Variables (CEO Work Experience):

CEO work experience is defined as the length of the CEO's professional career, reflecting the accumulation of managerial and industry experience over time (Triyani & Sertyahuni, 2020). Conceptually, this variable captures the breadth of knowledge, skills, and exposure a chief executive has gained throughout their career (Ainun, 2020). In this study, EXP is operationalized as the total number of years since the CEO began his or her working career (or assumed the first managerial role), as reported in biographical records (Kor & Tan,

2025). This measure has been used in prior literature to proxy the CEO's career horizon and expertise

Moderating Variable (Board Size):

Board size itself defined as the total number of directors on the board (Itan & Angellina, 2023). It represents the breadth of oversight and diversity of expertise available in the firm's governance structure. Larger boards bring broader resources, wider networks, and greater external influence (Septian et al., 2025). We measure BSIZE as the count of board members (directors or commissioners) for each firm-year, as disclosed in annual reports (Nwokwu et al., 2019).

Control Variables (Firm Size, ROE, and Firm Age):

We include several control variables to account for other firm characteristics that might affect carbon disclosure. Firm Size (FSIZE) is controlled because larger firms are often under greater public scrutiny and may have more resources for sustainability reporting. We define firm size as the natural logarithm of total assets (Nasih et al., 2019). Profitability is also considered, since a firm's financial performance could influence its ability or willingness to invest in disclosure. We use Return on Equity (ROE), calculated as net income divided by total shareholders' equity, as a measure of profitability (Omenihu & Nwafor, 2025). Finally, we control for Firm Age (AGE), measured as the number of years since the company's incorporation (Salehi et al., 2019).

Table 1. Measurement of Variables

Variables		Variable Measurement
Dependent variable	Carbon Emission Disclosure	Total items disclosed by the firm / number of items expected to be disclosed (Darmawan & Firmansyah, 2025).
Independent variable	CEO Work Experience	Total number of years the CEO has spent in professional and managerial roles (Kor & Tan, 2025).
Moderating variable	Board Size	Count of board members each year (Nwokwu et al., 2019).
Control Variables	Firm Size	Natural logarithm of total assets (Nasih et al., 2019).
	Return On Equity	Ratio of net income to total shareholders' equity (Omenihu & Nwafor, 2025).
	Firm Age	Number of years since the company's incorporation or establishment (Salehi et al., 2019).

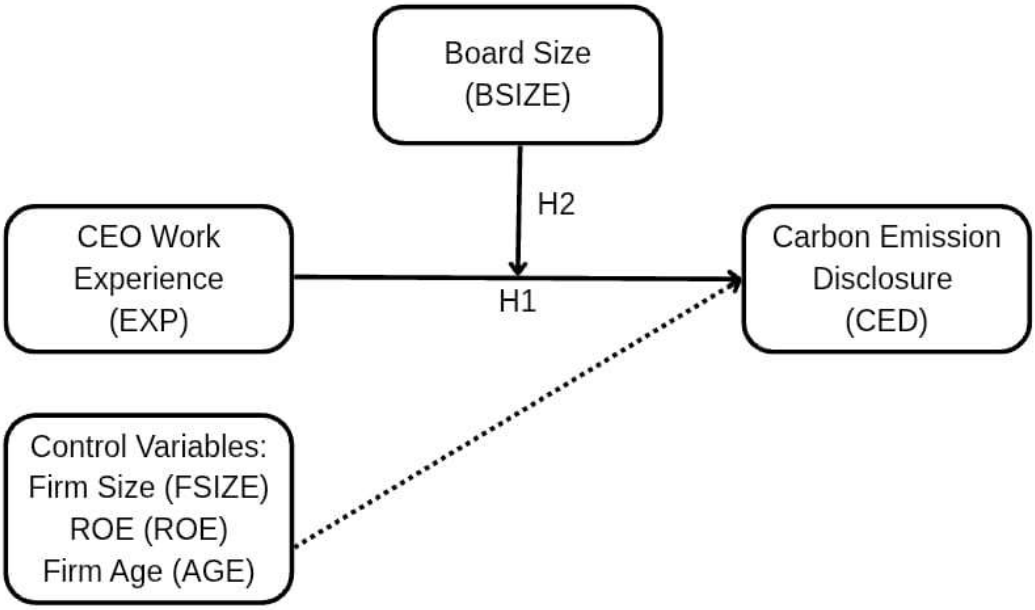

Figure 1. Conceptual Framework

RESULT AND DISCUSSION

The Descriptive Statistics provide a comprehensive overview of the fundamental statistical characteristics of the study's entire array of variables (Aljadba et al., 2023). The following table has been included to provide a concise overview of the key statistical values for each variable. These include the mean, standard deviation, minimum, median and maximum values. The following summary is provided for the purpose of providing an overview of the distribution and central tendencies of the data.

Table 2. Descriptive Statistic

	N	Mean	Standard Deviation	Minimum	Median	Maximum
CED	345	0.520	0.344	0.000	0.571	1.000
EXP	345	29.948	4.695	14.000	30.000	43.000
BSIZE	345	12.177	4.428	5.000	12.000	31.000
FSIZE	345	30.713	2.623	23.326	30.936	35.315
ROE	345	0.094	0.252	-2.543	0.086	1.275
AGE	345	48.707	22.768	5.000	49.000	128.000

The CED variable has an average value of 0.520, or 52.0%, indicating that, on average, companies disclose slightly more than half of the items required by the environmental disclosure indicators. The minimum value of 0.000 and the maximum of 1.000 show that the extent of disclosure varies widely, ranging from no disclosure at all to full disclosure. The standard deviation of 0.344, equivalent to about 66.1% of the mean, reflects a moderate level of variability in disclosure practices among companies. The EXP variable has an average value of 29.948, which represents the average years of experience held by the CEOs in the sampled firms. The minimum value of 14.000 years and the maximum of 43.000 years suggest that Ceo

work experience varies considerably across firms. The standard deviation of 4.695, or 15.7% of the mean, indicates a relatively consistent level of Ceo work experience overall.

The BSIZE variable shows an average value of 12.177, meaning that, on average, companies have around 12 members on their boards. The smallest board size is 5, while the largest is 31, highlighting substantial variation in governance structures. The standard deviation of 4.428, equal to 36.4% of the mean, suggests a moderate dispersion in board size among the observed companies. For the FSIZE variable, the mean value is 30.713, which reflects the average logarithmic size of the firms. The minimum of 23.326 and maximum of 35.315 indicate noticeable differences in company size, possibly representing both medium and large firms. The standard deviation of 2.623, or 8.5% of the mean, shows that firm size is relatively consistent across the sample.

The ROE variable has an average of 0.094, or 9.4%, indicating that firms, on average, generate a modest return on equity. The minimum value of –2.543 reveals that some companies experienced losses, while the maximum value of 1.275 shows that others achieved high profitability. The standard deviation of 0.252, nearly 268% of the mean, implies substantial variation in profitability levels. Lastly, the AGE variable records an average of 48.707, suggesting that, on average, firms have been established for about 49 years. The minimum of 5 and maximum of 128 years indicate a wide age distribution, with both relatively new and very long-established firms in the sample. The standard deviation of 22.768, or 46.7% of the mean, demonstrates significant variability in company age.

Table 3. Frequency Tabulation of Industries

SIC	Industry	Freq.	Percent	Cum.
1	Energy	60	17.39	17.39
2	Basic Materials	50	14.94	31.88
3	Industrials	20	5.80	37.68
4	Consumer Noncyclicals	35	10.14	47.83
5	Consumer Cyclical	5	1.45	49.28
6	Healthcare	20	5.80	55.07
7	Financials	80	23.19	78.26
8	Property and Real Estate	15	4.35	82.61
9	Infrastructure	50	14.49	97.10
10	Transportation & Logistics	10	2.90	100.00
		345	100.00	

The Frequency tabulation refers to the process of classifying numerical data into categories to summarize how often each category appears within the dataset (Cooksey, 2020). This approach helps clarify the overall composition of the sample and simplifies interpretation across sectors. As presented in Table 3, most firms fall under the financials sector, representing 23.19% of the total sample, indicating that this sector plays a dominant role in the dataset. The energy sector follows with 17.39%, while basic materials and infrastructure each contribute 14.49%, suggesting a fairly balanced distribution among major industries.

In contrast, the consumer cyclicals and transportation & logistics sectors record the smallest proportions, at 1.45% and 2.90%, respectively. This composition suggests that the

dataset captures a diverse yet slightly finance and energy oriented industrial representation, aligning with sectors that are often more exposed to sustainability and environmental disclosure requirements. Overall, the correlation results indicate that board size, profitability, and firm age are positively associated with environmental disclosure, while Ceo work experience and firm size show no significant relationship. These findings highlight that internal governance characteristics may play a more consistent role in influencing disclosure practices.

Table 4. Pearson Correlation

	CED	EXP	BSIZE	FSIZE	ROE	AGE
CED	1.000					
EXP	-0.037	1.000				
	(0.499)					
BSIZE	0.145***	0.103*	1.000			
	(0.007)	(0.055)				
FSIZE	-0.071	0.229***	0.425***	1.000		
	(0.191)	(0.000)	(0.000)			
ROE	0.128**	0.094*	0.021	-0.022	1.000	
	(0.017)	(0.082)	(0.693)	(0.679)		
AGE	0.116**	0.230***	0.455***	0.269***	0.088	1.000
	(0.032)	(0.000)	(0.000)	(0.000)	(0.105)	

p-values in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

The Pearson Correlation is a quantitative measure of the linear relationship between two variables. It provides a quantitative indication of the strength and direction of the relationship between two variables (Cooksey, 2020). As shown in Table 4, the correlation between CED and BSIZE yields a coefficient of 0.145 with a significant level of 0.007, indicating a positive and significant relationship at the 1% level. This result suggests that firms with larger boards tend to disclose more environmental information. Similarly, CED and ROE exhibit a positive correlation of 0.128, imply that firms with higher profitability levels are more inclined to provide greater disclosure. The relationship between CED and AGE is also positive (0.116), suggesting that older firms may possess stronger governance practices or a longer history of transparency in reporting environmental data.

In contrast, CED and EXP show a weak and statistically insignificant correlation (–0.037), indicating that Ceo work experience does not have a meaningful influence on the extent of environmental disclosure. Similarly, CED and FSIZE exhibit a weak and negative correlation (–0.071), which is statistically insignificant. This suggests that firm size, in this context, does not appear to strongly affect the level of environmental disclosure.

Table 5. Regression Analysis

	(1)	(2)
	CED	CED
EXP	-0.009***	-0.034***
	(-2.62)	(-3.58)
FSIZE	-0.010	-0.017***
	(-1.48)	(-2.91)
ROE	0.116*	0.099

	(1.83)	(1.62)
AGE	0.003***	0.001
	(3.09)	(1.21)
BSIZE		-0.043**
		(-2.25)
EXPXBSIZE		0.002***
		(3.18)
_cons	0.825***	1.673***
	(3.60)	(5.11)
Industry FE	Yes	Yes
Year FE	Yes	Yes
F	18.076	28.827
r2_a	0.265	0.307
N	345	345

t statistics in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

As presented in Table 5, Model 1 examines the direct relationship between CEO work experience and carbon emission disclosure (CED). The result shows a negative and statistically significant coefficient of -0.009 (t = -2.62, $p < 0.01$), indicating that firms led by more experienced CEOs tend to disclose less carbon-related information, thereby supporting H1. This finding aligns with the idea that longer CEO work experience is often associated with a more conservative managerial orientation (Kalfira & Shanti, 2025; Zhang et al., 2025; Siregar & Komsiyah, 2023; Khan et al., 2021).

Their experience gives them greater influence over disclosure policies because long-tenured CEO have accumulated authority, deep knowledge of internal operations, and established networks within the firm. This allows them to prioritize financial stability, risk avoidance, and proven routines over new or voluntary sustainability initiatives. As a result, they are more likely to limit carbon emission disclosures in order to protect the firm from reputational risks.

Model 2 introduces the moderating variable board size (BSIZE). The interaction term between Ceo work experience and board size (EXP × BSIZE) yields a positive and significant coefficient of 0.002 (t = 3.18, $p < 0.01$), suggesting that board size moderates the negative effect of Ceo work experience on CED. Consequently, H2 is supported, indicating that larger boards amplify the negative effect of Ceo work experience on carbon emission disclosure (Dang et al., 2023; Ardiani et al., 2022). This is because bigger boards often face coordination and communication challenges, as well as free-rider problems, which reduce the effectiveness of monitoring. As a result, conservative CEOs have more room to maintain limited carbon emission disclosure. This indicates that board size, under certain conditions, can inadvertently reinforce cautious managerial behavior rather than promoting transparency.

Regarding control variables, firm size (FSIZE) shows a negative and significant effect on CED in Model 2 (β = -0.017, t = -2.91, $p < 0.01$), implying that larger firms are less likely to disclose detailed carbon information, potentially due to higher reputational risks or complexity in emissions reporting (Choi et al., 2014). Profitability (ROE) has a positive but statistically insignificant effect (β = 0.099, t = 1.62), indicating that financial performance does not necessarily drive carbon disclosure (Zeng et al., 2020). Firm age (AGE) in Model 1

demonstrates a positive and significant effect (β = 0.003, t = 3.09, $p < 0.01$), suggesting that older firms tend to engage more in disclosure, likely because they face stronger stakeholder expectations and possess more established reporting structures (Ayu & Budiasih, 2021).

Meanwhile, board size (BSIZE) in Model 2 independently shows a negative and significant coefficient (β = -0.043, t = -2.25, $p < 0.05$), indicating that larger boards are not always associated with higher disclosure when considered in isolation. This result supports the notion that excessively large boards might face coordination difficulties that limit effective oversight.

Overall, both models demonstrate solid explanatory power, with adjusted R^2 values of 0.265 and 0.307, respectively, indicating that the included variables collectively explain a substantial portion of variation in carbon emission disclosure. These findings strengthen the argument that internal leadership characteristics and governance structures jointly shape firms' sustainability transparency, especially in emerging markets where disclosure remains largely voluntary (Nurnaningsih & Majidah, 2025).

Table 6. Robustness Analysis

Matching Summary		
	EXP = 0	**EXP = 1**
All	183	162
Matched	177	162
Unmatched	6	0
	(1)	(2)
	CED	CED
EXP	-0.010***	-0.032***
	(-2.87)	(-3.32)
FSIZE	-0.010	-0.019***
	(-1.57)	(-3.19)
ROE	0.151	0.135
	(1.64)	(1.55)
AGE	0.003***	0.002*
	(3.35)	(1.75)
BSIZE		-0.033*
		(-1.73)
EXPXBSIZE		0.002***
		(2.75)
_cons	0.849***	1.612***
	(3.72)	(4.78)
Year FE	Yes	Yes
Industry FE	Yes	Yes
F	18.580	30.340
r2_a	0.271	0.316
N	339	339

t statistics in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

After applying the matching procedure, the results remain consistent with the main analysis. Out of 183 firms led by less experienced CEOs (EXP = 0), 177 were successfully matched with similar firms, while from 162 firms under more experienced CEOs (EXP = 1), all were matched, indicating that the sample is well-balanced and free from major selection bias. The regression using the matched sample shows that Ceo work experience continues to have a negative and statistically significant impact on carbon emission disclosure (CED), with a coefficient of -0.010 and -0.032, both significant at the 1% level ($p < 0.01$). This supports the first hypothesis, suggesting that companies led by more experienced CEOs tend to disclose less information related to their carbon emissions. Such a tendency reflects a conservative leadership style, where seasoned CEOs often rely on established financial priorities and are less inclined to embrace voluntary transparency practices (Siregar & Komsiyah, 2023).

The interaction term between Ceo work experience and board size (EXP × BSIZE) also remains positive and significant (0.002, $p < 0.01$), The interaction term between Ceo work experience and board size (EXP × BSIZE) also remains positive and significant (0.002, $p < 0.01$), confirming the moderating role of board structure. highlighting the moderating role of board composition. This suggests that larger boards can intensify the effect of Ceo work experience on carbon disclosure. In other words, when a CEO is highly experienced, a bigger board tends to amplify the tendency to limit disclosure, possibly due to coordination and oversight challenges (Dang et al., 2023).

Among the control variables, firm size (FSIZE) exhibits a negative relationship with carbon disclosure, implying that larger firms may withhold some environmental details, possibly to manage reputation risk or due to complex reporting structures (Siddique & Sciulli, 2020). Meanwhile, firm age (AGE) remains positively associated with CED, showing that older companies tend to provide more comprehensive disclosures, likely driven by accumulated experience with stakeholder expectations and regulatory compliance (Wahyuningrum et al., 2025). Taken together, these robust results reinforce the earlier conclusion that Ceo work experience plays a significant role in shaping a firm's willingness to be transparent about its environmental impact.

CONCLUSION

This study found that CEO work experience negatively impacts carbon emission disclosure (CED) in Indonesian firms, as more experienced CEOs prioritize financial performance and risk aversion over transparency, often resisting voluntary sustainability reporting due to reputational fears or operational disruptions. Board size moderates this relationship by strengthening the negative effect, as larger boards face coordination challenges that weaken monitoring and grant experienced CEOs greater discretion to limit disclosures. Applying agency theory, the research highlights how governance structures in emerging markets like Indonesia balance executive power to enhance environmental accountability, contributing new evidence on the interplay between CEO traits and board composition. While recommending optimized board sizes and enhanced oversight to counter managerial conservatism and align with climate goals, the study notes limitations in its narrow focus on two variables. Future research should incorporate additional CEO traits, other governance

mechanisms, and cross-country or industry comparisons to provide a more holistic view of disclosure dynamics.

REFERENCES

Ainun, M. B. (2020). Pengaruh Tenure Ceo Terhadap Keterbacaan Narasi Pengungkapan. *Jurnal Ekonomi Bisnis Dan Kewirausahaan (JEBIK)*, *9*(1), 71–83. https://doi.org/http://dx.doi.org/10.26418/jebik.v9i1.37114

Alfani, G. A., & Diyanty, V. (2020). Determinants of Carbon Emission Disclosure. *Journal of Economics, Business, & Accountancy Ventura*, *22*(3), 333–346. https://doi.org/10.14414/jebav.v22i3.1207

Aljadba, A., Nawai, N., & Laili, N. H. (2023). A Descriptive Analysis of Corporate Governance Mechanisms and Earnings Management in Palestine. *Journal of Accounting and Invesment*, *24*(1). https://doi.org/10.18196/jai.v24i1.16187

Ardiani, F. P. N., Lindrawati, & Susanto, A. (2022). Pengaruh Mekanisme Good Corporate Governance Terhadap Pengungkapan Sustainability Report Pada Perusahaan Yang Terdaftar Di Bursa Efek Indonesia. *Jurnal Riset Akuntansi Mercu Buana*, *8*(1), 78–90.

Ayu, S. N. R. P., & Budiasih, I. G. A. N. (2021). The Effect of Environmental Performance , Profitability , and Institutional Ownership on Carbon Emission Disclosure. *EPaper Bisnis : International Journal of Entrepreneurship and Management*, *40*. https://doi.org/https://doi.org/10.61132/epaperbisnis.v2i3.479

Cooksey, R. W. (2020). *Illustrating Statistical Procedures : Finding Meaning in Quantitative Data*. https://doi.org/10.1007/978-981-15-2537-7_5

Dang, R., Houanti, L. H., Le, N. T., & Shut, J. M. (2023). Does Board Composition Influence CSR Disclosure ? Evidence from Dynamic Panel Analysis. *Management International*. https://doi.org/https://doi.org/10.7202/1077784ar

Darmawan, L., & Firmansyah, A. (2025). Carbon Emission Disclosure, Carbon Performance, and Firm Value: Exploring Intellectual Capital's Role. *JDA Jurnal Dinamika Akuntansi*, *17*(1), 85–101. https://doi.org/http://dx.doi.org/10.15294/jda.v17i1.19480

Fitriasari, R., & Soewarni, N. (2024). Rizka Fitriasari Noorlailie Soewarno Department of Accounting, Faculty of Economics and Business, Airlangga University, Indonesia. *Jurnal Aplikasi Manajemen*, *22*(3), 878–890. https://doi.org/http://dx.doi.org/10.21776/ub.jam.2024.022.03.18. 878

Harjito, Y., & Sutopo, B. (2024). Measuring Carbon Disclosure from CEO Characteristic. *Jurnal Akutansi Dan Auditing*, *21*(2), 200–217. https://doi.org/https://doi.org/10.14710/jaa.21.2.200-217

Hemdan, D. A. M., Rehman, S. U., & Khan, F. (2023). Ceo Power , Corporate Governance Mechanisms and Earnings Quality. *Asian Academy of Management Journal of Accounting and Finance*, *19*(1), 181–225. https://doi.org/https://doi.org/10.21315/aamjaf2023.19.1.7 ©

IEA. (2025). Global Energy Review 2025. *Elgar Encyclopedia of Energy Economics*. https://doi.org/https://doi.org/10.4337/9781035310371.00082

Itan, I., & Angellina, B. (2023). The Mediating Role of Board Size and Working Capital Management in Corporate Governance on Firm Performance. *Journal of Accounting, Finance and Auditing Studies*. https://doi.org/10.32602/jafas.2023.008

Itan, I., Hilrian, R. D., & Ramadana, M. (2025). The Role Of Board Composition On ESG Disclosure : An Analytical Study In Indonesia. *Owner*, *9*, 3312–3334. https://doi.org/7https://doi.org/10.33395/owner.v9i4.2817 The

Kalfira, D., & Shanti. (2025). The Influence of CEO Power Characteristics and Chief Sustainability Officer on ESG Performance. *Jurnal Akutansi Integratif*, *11*(2), 113–136. https://doi.org/10.29080/jai.v11i02.2190

Khamisu, M. S., Paluri, R. A., & Sonwaney, V. (2024). Environmental social and governance (ESG) disclosure motives for environmentally sensitive industry : an emerging economy perspective. *Cogent Business & Management*, *11*(1). https://doi.org/10.1080/23311975.2024.2322027

Khan, T. M., Bai, G., Fareed, Z., Quresh, S., Khalid, Z., & Khan, W. A. (2021). CEO Tenure, CEO Compensation, Corporate Social and Environmental Performance in China: The Moderating Role of Coastal and Non-coastal Areas. *Frontiers in Psychology*, *11*(January). https://doi.org/10.3389/fpsyg.2020.574062

Kor, Y. Y., & Tan, D. (2025). Interactive Effects of CEOs ' Firm-Speci fi c Experience and Versatile Experiences on Pursuit of New Growth Opportunity. *Journal of Management*, *51*(2). https://doi.org/10.1177/01492063231200820

Krisyadi, R., Masnita, Y., Yusran, H. L., & Jurnali, T. (2025). Towards Sustainable Eccellence: Exploring The Synergi of Ambidextrous Sustainability adn Sustainability Risk Management. *International Journal of Business and Quality Research*, *03*(02), 51–70. https://doi.org/https://doi.org/10.63922/ijbqr.v3i02.1711

Mansour, M., Abu-allan, A. J., Alshdaifat, S. M., & E, D. A. (2025). Board effectiveness and carbon emission disclosure : evidence from ASEAN countries. *Discover Sustainability*. https://doi.org/nsour et al. Discover Sustainability (2025) 6:604 https://doi.org/10.1007/s43621-025-01405-4

Nasih, M., Harymawan, I., Paramitasari, Y. I., & Handayani, A. (2019). Carbon emissions, firm size, and corporate governance structure: Evidence from the mining and agricultural industries in Indonesia. *Sustainability (Switzerland)*, *11*(9). https://doi.org/10.3390/su11092483

Nurnaningsih, N., & Majidah, M. (2025). Unveiling the Drivers of SDGS 8 Disclosure : Evidence from Governance , Firm Characteristics , and Strategic Factors in Indonesian Listed Firms. *American Journal of Economic and Management Business*, *4*(10), 1790–1805. https://doi.org/https://doi.org/10.58631/ajemb.v4i10.319

Nwokwu, T. C., Atapattu, A. M. C. P., & Athambawa, A. A. (2019). The Impact of Board Members Involvement on Return on Equity (ROE). *Scientific Research Publishing*, 1334–1347. https://doi.org/10.4236/me.2019.104090

Odia, J. O., & Ken-otokiti, D. (2021). The Moderating Effect of Board Size on the Relationship between CEO Characteristics and Sustainability Disclosures. *African Accounting and Finance Journal*, *3*(1), 27–51. https://doi.org/https://doi.org/10.26686/aafj.v3i1.9734

Omenihu, C. M., & Nwafor, C. (2025). Board Structure and Firm Performance: The Moderating Role of National Governance Quality. *Administrative Sciences*, *15*(8). https://doi.org/10.3390/admsci15080314

Rahayu, R. S. R., & Djumena, E. (2024). Transaksi Bursa Karbon Masih Jauh dari Potensi,

Baru Rp 36,79 Miliar Per Juni 2024 Sumber: https://money.kompas.com/read/2024/07/08/183900226/transaksi-bursa-karbon-masih-jauh-dari-potensi-baru-rp-36-79-miliar-per-juni. *Kompas*.

Salehi, M., Tarighi, H., & Rezanezhad, M. (2019). Empirical study on the effective factors of social responsibility disclosure of Iranian companies. *Journal of Asian Business and Economic Studies*, *26*(1), 34–55. https://doi.org/10.1108/JABES-06-2018-0028

Santika, I., Sari, S. P., Surakarta, U. M., & Surakarta, U. M. (2022). CARBON EMISSION DISCLOSURE BASED ON A. *Tanjungpura International Conference On Management, Economics And Accounting*, *1*.

Septian, E. D., Pulungan, A. H., & Nurcholifah, S. (2025). Examining the Impact of Board of Directors on Sustainability Performance : The Role of Board Size and Meetings. *Jurnal Dinamika Akutansi Dan Bisnis*, *12*(2), 303–324. https://doi.org/10.24815/jdab.v12i2.48175

Septiany, S., Mirabelle, E., Harsono, B., Tang, S., Serly, & Ivone. (2025). Ceo Tenure and Sustainability Performance: the Role of Institutional Ownership and Board Independence. *Global Financial Accounting Journal*, *9*(1), 41–55. https://doi.org/10.37253/gfa.v9i1.10286

Siddique, M. A., Akhtaruzzam, M., Rashid, A., & Hammami, H. (2021). International Review of Financial Analysis Carbon disclosure , carbon performance and financial performance : International evidence. *International Review of Financial Analysis*, *75*(March), 101734. https://doi.org/10.1016/j.irfa.2021.101734

Siddique, S., & Sciulli, N. (2020). Environmental Initiatives and Disclosures by Large companies : *Australasian Accounting, Business and Finance Journal*, *14*, 18–37. https://doi.org/10.14453/aabfj.v14i3.3

Siregar, A., & Komsiyah. (2023). The Effect Of Ceo Characteristics And Carbon Emission Disclosure. *ASSETS Jurnal Akuntansi Dan Pendidikan Jurnal Akuntansi Dan Pendidikan*, 25–45. https://doi.org/10.25273/jap.v12i1.12177

Triyani, A., & Sertyahuni, S. W. (2020). Pengaruh Karakteristik Ceo Terhadap Pengungkapan Informasi Environmental, Social, And Governance (ESG). *Jurnal Ekonomi Dan Bisnis*, *21*(2), 72–83. https://doi.org/10.30659/ekobis.21.2.72-83

UNEP. (2024). *Emissions Gap Report 2024*. United Nations Environment Programme. https://doi.org/https://doi.org/10.59117/20.500.11822/46404

Wahyuningrum, I. F. S., Agustina, L., Ihlashul, M., Jati, K. W., Sularsih, S., & Anwar, S. (2025). Carbon Emission Disclosure and Its Impact on Developing Countries. *Jurnal Ilmu Lingkungan*, *23*(2), 472–486. https://doi.org/10.14710/jil.23.2.472-486

Wahyuningrum, I. F. S., Baroroh, N., Yanto, H., & Hidayah, R. (2025). Corporate Governance : Driving Climate Change Disclosure and Advancing SDGs. *Journal of Risk and Financial Management*, 1–20. https://doi.org/https://doi.org/10.3390/jrfm18050234

Zeng, Y., Gulzar, M. A., Wang, Z., & Zhao, X. (2020). The effect of expected financial performance on corporate environmental responsibility disclosure : evidence from China. *Environmental Science and Pollution Research*, *Yang 2014*. https://doi.org/https://doi.org/10.1007/s11356-020-09719-8

Zhang, X., Badulescu, D., & Bac, D.-P. (2025). CEO Attributes and Sustainable Development

Goals : Employing a Configurational Approach Under Stakeholder Pressure. *Sustainability (Switzerland)*, 1–33. https://doi.org/https://doi.org/10.3390/su17209329

Zhou, B., Zhang, L., & Yu, F. (2025). A study on the impact of corporate executives ' green perceptions on carbon disclosure. *International Review of Economics and Finance*, *103*(March), 104406. https://doi.org/10.1016/j.iref.2025.104406