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GOVERNANCE MATTERS: THE IMPACT OF BOARD CHARACTERISTICS ON SUSTAINABILITY DISCLOSURE IN CHINA

This study investigates how board characteristics influence sustainability reporting among Chinese listed firms. Using a comprehensive panel dataset of A-share companies from 2013 to 2023, we examine the effects of board size, board independence, CEO duality, board meeting frequency, and the number of specialized board committees on two key outcomes: sustainability report disclosure levels and ESG scores. The analysis shows that board independence and the number of committees are positively and significantly associated with stronger sustainability reporting, highlighting the value of independent oversight and specialized governance structures. In contrast, board size and CEO duality show no significant effects, suggesting that these widely discussed governance features may play more context-dependent roles. Notably, frequent board meetings are negatively linked to sustainability disclosure, signaling that more meetings do not necessarily improve ESG outcomes. Robustness tests confirm the consistency of these findings. While the study offers valuable insights for scholars, practitioners, and policymakers, it also acknowledges limitations, including its focus on Chinese firms and quantitative design. Future research should explore additional governance dimensions and cross-country comparisons to deepen understanding of how board structures shape corporate sustainability performance.

Keywords: *corporate governance, corporate social responsibility, sustainability reporting, ESG disclosure, board characteristics, China, CEO duality, board independence, board committees*

JEL Classification: G34, M14, Q56, M41, L25

1. Introduction. Corporate sustainability has become one of the most pressing issues in global business practice (Jiang et al., 2023; Madhura et al., 2024; Pasko et al., 2023; Pasko, Yang, et al., 2022). No longer confined to optional corporate social responsibility (CSR) initiatives, sustainability today stands at the core of how firms define their long-term strategies, reputations, and stakeholder relationships. Increasing public attention, combined with heightened regulatory and investor scrutiny, has placed new demands on companies to disclose detailed, transparent, and credible information about their environmental, social, and governance (ESG) performance (Abu Khalaf, 2024; Buch Thu, 2024; Pasko, Chen, et al., 2022). Yet despite the growing global emphasis on sustainability, the organizational factors that determine the quality and scope of ESG reporting remain underexplored, particularly in the context of emerging economies.

Boards of directors play a pivotal role in shaping firms' sustainability strategies (Abu Khalaf, 2024; Anyigbah et al., 2023). As the highest governance body, the board not only oversees management but also sets the tone for the company's values, risk management practices, and long-term goals. Scholars have long debated which board features matter most for effective governance: Does a larger board bring more expertise and resources, or does it introduce inefficiency? Are independent directors able to strengthen ESG oversight, or are their impacts limited by institutional constraints? Does the combination of CEO and chair roles weaken governance, or can it enhance alignment and accountability? While these questions have been widely investigated in the context of financial outcomes, their relationship to non-financial reporting – especially ESG disclosures – has received less systematic attention(Abu Khalaf, 2024; Khan et al., 2021).

China offers a unique setting to investigate these issues. As one of the largest and fastest-growing economies, China has seen a remarkable rise in both the scale and complexity of its capital markets. Over the past decade, Chinese regulators have intensified efforts to improve corporate governance, encourage sustainability initiatives, and align domestic firms with global ESG standards. Nonetheless, corporate sustainability practices in China remain highly uneven. Some firms have become international leaders in ESG innovation, while many others lag in both reporting quality and substantive performance. This heterogeneity raises critical questions about the internal governance mechanisms that drive ESG engagement.

This study aims to contribute to the literature by systematically analyzing how board characteristics affect the sustainability reporting practices of Chinese listed firms. Using a panel dataset of A-share companies from 2013 to 2023, we explore five key board dimensions: size, independence, CEO duality, meeting frequency, and the number of specialized board committees. By linking these governance features to two distinct measures – sustainability report disclosure levels (CSRI) and ESG scores – we offer a robust empirical assessment of how corporate governance structures shape firms' ESG transparency.

Theoretically, we draw on both agency theory and resource dependence theory to frame our inquiry. Agency theory emphasizes the monitoring role of the board, suggesting that independent directors and formal governance structures improve management accountability, including in non-financial domains. Resource dependence theory, on the other hand, highlights how boards provide access to external resources, expertise, and legitimacy, which can enhance firms' ability to navigate complex sustainability demands. By integrating these perspectives, we provide a nuanced understanding of the pathways through which board structures influence sustainability outcomes.

Beyond its academic contributions, this research offers practical insights for policymakers, corporate leaders, and investors. For regulators, identifying which governance features promote higher-quality sustainability reporting can inform future corporate governance reforms. For firms, understanding the governance drivers of ESG performance can help shape internal practices and improve stakeholder engagement. For investors, especially those pursuing ESG-aligned investment strategies, insights into the governance–sustainability nexus can enhance portfolio selection and risk management.

The remainder of this paper is organized as follows. Section 2 presents a detailed review of the relevant literature and develops the study's hypotheses. Section 3 describes the dataset, variables, and empirical models used in the analysis. Section 4 reports the main regression results and robustness checks. Section 5 offers a discussion of the findings in relation to prior research and practical implications. Finally, Section 6 concludes by summarizing the key contributions, identifying limitations, and outlining directions for future research.

2. Literature Review and Hypotheses Development. The growing importance of corporate sustainability has prompted researchers to examine how internal governance structures shape firms' ESG practices. While external pressures, such as regulatory frameworks and investor expectations, undeniably influence disclosure, it is the board of directors that ultimately determines whether firms will meaningfully engage with sustainability or treat it as a box-ticking exercise. Understanding which board characteristics matter most offers vital insights for theory and practice.

Board size has traditionally been viewed as a double-edged sword. On one hand, larger boards bring a wider range of expertise and resources, potentially improving oversight of sustainability-related matters and enhancing firms' capacity to address ESG risks (Beji et al., 2021; Bravo & Reguera-Alvarado, 2019; Pasko et al., 2021, 2024). On the other hand, overly large boards can suffer from coordination problems, slow decision-making, and diluted accountability, which may weaken the effectiveness of sustainability governance (Bayong et al., 2024; Pasko, Lagodiienko, et al., 2022). Prior research offers mixed evidence, making it crucial to test whether board size plays a decisive role in shaping ESG disclosures.

Board independence is widely considered a cornerstone of effective governance. Independent directors are expected to strengthen board monitoring, provide impartial oversight, and advocate for broader stakeholder interests, all of which can enhance sustainability reporting (Azzam, 2024). Yet critics point out that independent directors may lack deep operational knowledge or be marginalized within the board, limiting their capacity to influence non-financial outcomes (Ma & Chen, 2024; Pasko, Lagodiienko, et al., 2022; Zhu et al., 2024). Clarifying this relationship is essential for understanding how board composition affects ESG performance.

CEO duality, the combination of the roles of CEO and board chair, has sparked ongoing debate. Agency theory suggests that duality concentrates power in the hands of the CEO, reducing the board's independence and weakening its ability to challenge management on sustainability issues (Kazim et al., 2024; Khan et al., 2021; Mirza et al., 2024; Pasko et al., 2021; Zhang et al., 2024). In contrast, stewardship theory argues that unified leadership can improve strategic alignment and decision-making, potentially advancing ESG goals (Abu Khalaf, 2024; Buch Thu, 2024; Madhura et al., 2024; Pasko et al., 2021; Voinea et al., 2022). The empirical evidence on this issue remains inconclusive, underscoring the need for further investigation.

The **frequency of board meetings** is another important, though less frequently studied, governance dimension. More frequent meetings can indicate an active, engaged board that stays informed and responsive to emerging ESG challenges (Khan et al., 2021; Pasko et al., 2024; Yiheng et al., 2024; Zhu et al., 2024). However, frequent meetings can also reflect governance inefficiencies or underlying problems, distracting from long-term sustainability goals (Bayong et al., 2024; Ma & Chen, 2024; Pasko, Lagodiienko, et al., 2022). Understanding how meeting regularity interacts with ESG reporting is an important empirical question.

Finally, the **number of board committees** reflects the specialization and depth of governance processes. A greater number of specialized committees can promote focused attention on ESG matters and strengthen oversight capacity (Anyigbah et al., 2023; Arif et al., 2021; Bravo & Reguera-Alvarado, 2019; Buch Thu, 2024; Jiang et al., 2023). Yet excessive reliance on committees may lead to fragmented governance, overlapping responsibilities, and blurred accountability (Arif et al., 2021; Bravo & Reguera-Alvarado, 2019; Yiheng et al., 2024; Zhu et al., 2024). Whether committee structures support or hinder sustainability reporting remains an open question.

Building on these theoretical perspectives and the gaps identified in the literature, this study develops the following hypotheses:

– **Hypothesis 1**: Board size is positively associated with sustainability reporting.

– **Hypothesis 2**: Board independence is positively associated with sustainability reporting.

– **Hypothesis 3**: CEO duality is negatively related to sustainability reporting.

– **Hypothesis 4**: Board meeting frequency is negatively associated with sustainability reporting.

– **Hypothesis 5**: The number of committees is positively related to sustainability reporting.

3. Methods

3.1 Data Source and Sample Selection. This study uses data from Chinese A-share listed companies over the period 2013 to 2023, covering firms on both the Shanghai and Shenzhen Stock Exchanges. Information on sustainability report disclosures, board characteristics, and control variables was drawn from the CSMAR database, while ESG scores were sourced from Huazheng Index Co., Ltd.

To ensure data integrity, original annual reports were reviewed to correct missing or erroneous entries. Continuous variables were winsorized at the 1% level to reduce the influence of outliers.

The sample was refined through a three-step process: (1) firms with abnormal listing status, including ST and delisted companies, were excluded; (2) financial firms were removed; and (3) companies with incomplete data were omitted. The final balanced panel dataset comprises 2,017 firms and 22,187 firm-year observations.

All data preparation and analysis were conducted using Stata 18 and Excel 2021.

3.2 Variable Definition. This study examines two key dependent variables: the disclosure of sustainability reports (CSRI) and the ESG score (ESG_Score), the latter used for robustness checks. CSRI is measured as the natural logarithm of the sum of ten disclosure items reported in the CSMAR database. A higher CSRI value indicates more comprehensive disclosure of sustainability information. The ESG score captures the firm's performance across the environmental, social, and governance dimensions; a higher score signals stronger overall ESG performance (see Table 1).

The independent variables reflect five core aspects of board characteristics. **Board size (BoardSize)** refers to the total number of board members in a given fiscal year. While a larger board may bring more diverse perspectives, it can also reduce decision-making efficiency. **Board independence (BDIndep)** is calculated as the proportion of independent directors to total board members, reflecting the strength of external oversight; a higher proportion typically enhances governance quality. **CEO duality (CEODuality)** is a dummy variable indicating whether the chairman also serves as CEO, capturing potential governance effects of leadership concentration. **Board meeting frequency (BDMeetings)** is measured as the natural logarithm of the number of board meetings held annually. Frequent meetings may signal active problem-solving but can also suggest complex or contentious decision-making processes. **Number of board committees (BDCommittees)** captures the count of formal committees, such as audit or nomination committees, reflecting the depth and specialization of the board's governance structure (see Table 1).

Control variables include **return on assets (ROA)**, an indicator of corporate profitability and resource efficiency; **leverage (LEV)**, calculated as the debt-to-equity ratio, which reflects financial risk; **firm age (AGE)**, expressed as the natural logarithm of the years since founding, indicating governance maturity; **firm size (SIZE)**, measured as the natural logarithm of total assets, representing the scale of operations and public exposure; and **Big4 audit status (Big4)**, a dummy variable identifying whether the firm is audited by one of the Big Four accounting firms, widely associated with higher audit quality and financial reliability (see Table 1).

3.3 Regression Model. To test these hypotheses, we estimate the following two models using balanced panel regression models. Model 1 tests the impact of board characteristics on sustainability reporting disclosure, and Model 2 is used for robustness tests.

$$\begin{gathered} CSRI_{it} = \alpha_0 + \alpha_1 BoardSize_{it} + \alpha_2 \mathrm{BDIndep}_{it} + \\ +\alpha_3 \mathrm{CEODuality}_{it} + \alpha_4 \mathrm{BDMeetings}_{it} + \alpha_5 \mathrm{BDCommittees}_{it} \\ +\alpha_6 \mathrm{ROA}_{it} + \alpha_7 \mathrm{Leverage}_{it} + \alpha_8 \mathrm{Age}_{it} + \alpha_9 \mathrm{Size}_{it} + \\ +\alpha_{10} \mathrm{Big4}_{it} + \varepsilon_{it} \end{gathered} \quad \text{(Eq1)}$$

$$\begin{gathered} ESG_{Scoreit} = \alpha_0 + \alpha_1 BoardSize_{it} + \alpha_2 \mathrm{BDIndep}_{it} + \\ +\alpha_3 \mathrm{CEODuality}_{it} + \alpha_4 \mathrm{BDMeetings}_{it} + \alpha_5 \mathrm{BDCommittees}_{it} + \\ +\alpha_6 \mathrm{ROA}_{it} + \alpha_7 \mathrm{Leverage}_{it} + \alpha_8 \mathrm{Age}_{it} + \alpha_9 \mathrm{Size}_{it} + \\ +\alpha_{10} \mathrm{Big4}_{it} + \varepsilon_{it} \end{gathered} \quad \text{(Eq2)}$$

Table 1 – Variable definitions and measurements

Variable	Abbreviation	Variable Definition
Dependent Variable: Sustainability Report		
Sustainability Report Disclosure	CSRI	Disclosure of sustainable development reports, logarithm of the sum of 10 disclosure items in the Guotai An database
ESG Scores	ESG_Score	Huazheng ESG Score
Independent Variable: Board characteristics		
Board size	BoardSize	Total number of board members
Ratio of independent directors	BDIndep	Number of independent directors/total number of board members
CEO duality	CEODuality	Chairman concurrently serves as CEO = 1; Other=0
Board meeting frequency	BDMeetings	The natural logarithm of the number of board meetings held in the year
Number of committees	BDCommittees	Number of committees established in the board of directors
Control Variables		
Return on Assets	ROA	The ratio of net profit to total assets
Leverage Ratio	LEV	Total liabilities divided by total assets
Firm Age	AGE	The natural logarithm of the value obtained by subtracting the establishment year of the firm from the reporting period of the firm
Firm Size	SIZE	The natural logarithm of the firm's total assets
Big4 Audit	Big4	Audited by the Big Four audit firms = 1; Other=0

In both models, i is the i th firm. t is the t th year. $CSRI_{it}$ is the sustainability report publication of the i th firm in year t . $BDIndep_{it}$ denotes Independence of the board of directors. $BDIndep_{it}$ denotes Independence of the board of directors. $CEODuality_{it}$. denotes Chairman also serves as CEO. denotes $BDMeetings_{it}$ Frequency of board meetings. $BDCommittees_{it}$ denotes Number of committees established. denotes Return ROA_{it} on assets. denotes $Leverage_{it}$ Debt-to-asset ratio. Age_{it} denotes Number of years the company has been listed. $Size_{it}$ denotes Size of the company's assets. $Big4_{it}$ denotes Whether it is audited by one of the Big Four accounting firms. α_0 is the constant term. α_i is the coefficient of independent variables, which can judge the positive and negative direction of the influence of the variable. ε_{it} . represents the error term.

4. Results

4.1 Descriptive Statistics. Table 2 presents the descriptive statistics of all variables analyzed in this study. It reports the sample size (Obs), minimum (Min), maximum (Max), mean (Mean), median (Median), and standard deviation (SD). The average value of sustainability report disclosure (CSRI) is 1.722, suggesting that while most companies disclose some or all sustainability-related information, a notable share still provides no such disclosure. The average board size (BoardSize) is 8.588, indicating that Chinese listed companies typically have about nine directors. The mean proportion of independent directors (BDIndep) stands at 0.377, reflecting a relatively low but internationally comparable level of board independence. The average CEO duality (CEODuality) value is 0.232, showing that approximately 23% of firms combine the chairman and CEO roles.

In addition, the control variables reveal considerable variation: return on assets (ROA) points to differences in profitability; leverage (Leverage) indicates varying financial risk; firm age (Age) reflects differences in market experience; firm size (Size) captures asset scale disparities; and Big Four audit status (Big4) highlights differences in audit quality. These characteristics together provide a solid basis for the subsequent regression analysis (see Table 2).

4.2 Correlation Test. Table 3 shows the results of the correlation analysis among the variables.

The correlation analysis provides an initial understanding of the relationships among the variables and their influence on sustainability reporting. The results show that the correlation coefficients are consistently low, with none exceeding the 0.80 threshold, suggesting minimal multicollinearity concerns and limited interference with the regression outcomes. Board size shows a slight positive correlation with CSRI, while the proportion of independent directors also displays a weak positive link, indicating that greater board independence may enhance the quality of sustainability disclosures. The correlation between CEO duality and CSRI is near zero, suggesting that combining the roles of chairman and CEO has little effect on sustainability reporting. Board meeting frequency

Table 2 – Descriptive statistics

VarName	Obs	Min	Max	Mean	Median	SD
CSRI	19921	0.000	2.303	1.722	1.946	0.550
BoardSize	22187	3.000	18.000	8.588	9.000	1.695
BDIndep	22187	0.167	0.800	0.377	0.364	0.058
CEODuality	21414	0.000	1.000	0.232	0.000	0.422
BDMeetings	21488	0.693	4.060	2.213	2.197	0.394
BDCommittees	22187	0.000	8.000	3.961	4.000	0.481
ROA	22187	-30.688	108.366	0.029	0.030	0.793
Leverage	22187	-0.195	178.345	0.461	0.444	1.231
Age	22187	0.000	3.497	2.492	2.639	0.642
Size	22187	14.942	28.697	22.536	22.376	1.380
Big4	21327	0.000	1.000	0.068	0.000	0.252

Source : Authors' calculations.

Table 3 – Pearson Correlation Test

	CSRI	BoardSize	BDIndep	CEODuality	BDMeetings	BDCommittees	ROA	Leverage	Age	Size	Big4
CSRI	1										
BoardSize	0.041***	1									
BDIndep	0.015**	-0.489***	1								
CEODuality	0.005	-0.192***	0.119***	1							
BDMeetings	0.016**	-0.005	0.055***	-0.002	1						
BDCommittees	0.042***	0.046***	0.028***	-0.032***	0.058***	1					
ROA	0.031***	0.001	0.002	0.013**	-0.014**	-0.002	1				
Leverage	-0.022***	0.017**	0.002	-0.021***	0.047***	0.015**	-0.277***	1			
Age	-0.025***	0.114***	-0.015**	-0.183***	0.035***	0.058***	-0.004	0.057***	1		
Size	0.191***	0.254***	0.033***	-0.145***	0.239***	0.116***	-0.008	0.036***	0.304***	1	
Big4	0.079***	0.100***	0.053***	-0.061***	0.043***	-0.000	0.003	0.016**	0.090***	0.384***	1

Note: *** $p<0.01$, ** $p<0.05$, * $p<0.1$。

shows a modest positive association with CSRI, and firms with a larger number of board committees tend to report sustainability information more comprehensively. Among the control variables, firm size shows a strong positive correlation with sustainability reporting, while leverage is slightly negatively correlated.

4.3 Regression Results. The regression analysis (Table 4) investigates the influence of board characteristics on firms' sustainability reporting. The results indicate that board size has no significant relationship with sustainability disclosure, providing no support for Hypothesis H1. In contrast, the proportion of independent directors shows a significant positive association with CSRI, supporting Hypothesis H2 and suggesting that greater board independence improves the quality of sustainability reporting.

The combined role of chairman and CEO, measured by CEO duality, does not display a significant relationship with CSRI, offering no strong support for Hypothesis H3. Interestingly, the frequency of board meetings is negatively associated with sustainability report disclosure, aligning with Hypothesis H4 and implying that more frequent meetings may reflect governance inefficiencies or internal complexity that reduce disclosure levels.

Furthermore, firms that establish a higher number of board committees demonstrate significantly greater levels of sustainability reporting, thus validating Hypothesis H5. The analysis also reveals meaningful effects from control variables: firm age, size, and Big Four audit status exhibit consistent positive associations with sustainability reporting, while leverage shows a negative relationship. Return on assets (ROA), however, remains statistically insignificant in this context.

These findings, presented in Table 4, enhance the explanatory power of the model by confirming that specific governance features, particularly board independence and committee structure, play critical roles in shaping the depth and quality of corporate sustainability disclosure.

To ensure the robustness of the study's conclusions, we conducted additional tests using ESG scores as an alternative dependent variable (Table 5). The results show that board size is significantly negatively associated with ESG scores in simple models, but this relationship disappears when multivariate controls are applied. This reinforces the earlier finding that board size has no meaningful effect on sustainability reporting.

We find a strong and significant positive relationship between the proportion of independent directors and ESG scores, further supporting Hypothesis 2. In contrast, the relationship between CEO duality and ESG scores remains negative but statistically insignificant, offering no support for Hypothesis 3.

Interestingly, the frequency of board meetings shows a significant negative association with ESG scores, confirming Hypothesis 4 and suggesting that more frequent meetings may reflect governance challenges rather than effective oversight. Moreover, companies with a higher number of board committees demonstrate a significant positive relationship with ESG scores, validating Hypothesis 5 and indicating that specialized committee structures contribute to stronger sustainability performance.

Table 4 – Regression Results

	(1) CSRI	(2) CSRI	(3) CSRI	(4) CSRI	(5) CSRI	(6) CSRI	(7) CSRI
BoardSize		0.000					0.003
		(0.10)					(0.80)
BDIndep			0.154*				0.192**
			(1.96)				(2.00)
CEODuality				-0.016			-0.015
				(-1.50)			(-1.46)
BDMeetings					-0.026**		-0.028***
					(-2.55)		(-2.69)
BDCommittees						0.035***	0.036***
						(2.96)	(2.98)
ROA	-0.014	-0.014	-0.014	-0.014	-0.014	-0.014	-0.014
	(-1.15)	(-1.15)	(-1.15)	(-1.14)	(-1.18)	(-1.14)	(-1.15)
Leverage	-0.007**	-0.007**	-0.007**	-0.007**	-0.007**	-0.007**	-0.007**
	(-2.37)	(-2.37)	(-2.37)	(-2.37)	(-2.33)	(-2.37)	(-2.32)
Age	0.116***	0.116***	0.115***	0.112***	0.113***	0.116***	0.108***
	(10.93)	(10.86)	(10.81)	(10.37)	(10.59)	(10.88)	(9.89)
Size	0.062***	0.062***	0.062***	0.062***	0.065***	0.061***	0.063***
	(8.63)	(8.58)	(8.66)	(8.37)	(8.91)	(8.49)	(8.48)
Big4	0.060**	0.060**	0.061**	0.061**	0.059**	0.061**	0.061**
	(2.20)	(2.19)	(2.22)	(2.17)	(2.16)	(2.24)	(2.16)
_cons	0.014	0.013	-0.046	0.046	0.016	-0.102	-0.168
	(0.10)	(0.08)	(-0.30)	(0.30)	(0.11)	(-0.66)	(-1.01)
N	19080	19080	19080	18405	19064	19080	18389

*Note: All variables are defined as shown in Table 1. Robust t statistics are in brackets. *** p<0.01, ** p<0.05, * p<0.1.*

Table 5 – Robustness Test

	(1) ESG_Score	(2) ESG_Score	(3) ESG_Score	(4) ESG_Score	(5) ESG_Score	(6) ESG_Score	(7) ESG_Score
BoardSize		-0.022***					-0.000
		(-3.41)					(-0.05)
BDIndep			1.004***				1.084***
			(6.49)				(5.76)
CEODuality				-0.002			-0.009
				(-0.10)			(-0.46)
BDMeetings					-0.108***		-0.109***
					(-5.38)		(-5.33)
BDCommittees						0.058**	0.054**
						(2.47)	(2.23)
LONG	-0.006	-0.006	-0.006	-0.006	-0.006	-0.006	-0.006
	(-0.81)	(-0.78)	(-0.79)	(-0.82)	(-0.77)	(-0.82)	(-0.77)
Leverage	-0.009*	-0.009*	-0.009*	-0.009*	-0.009*	-0.010*	-0.009*
	(-1.92)	(-1.92)	(-1.91)	(-1.89)	(-1.76)	(-1.93)	(-1.72)
Age	-0.155***	-0.163***	-0.162***	-0.153***	-0.164***	-0.155***	-0.169***
	(-8.23)	(-8.60)	(-8.60)	(-8.00)	(-8.66)	(-8.25)	(-8.76)
Size	0.211***	0.215***	0.212***	0.207***	0.222***	0.209***	0.219***
	(15.61)	(15.84)	(15.73)	(15.04)	(16.27)	(15.49)	(15.70)
Big4	0.204***	0.212***	0.209***	0.209***	0.200***	0.207***	0.211***
	(3.72)	(3.85)	(3.81)	(3.71)	(3.64)	(3.77)	(3.76)
_cons	-0.302	-0.182	-0.697**	-0.211	-0.301	-0.499*	-0.826***
	(-1.07)	(-0.64)	(-2.43)	(-0.74)	(-1.07)	(-1.71)	(-2.64)
N	21232	21232	21232	20501	21215	21232	20484

*Note: All variables are defined as shown in Table 1. Robust t statistics are in brackets. *** p<0.01, ** p<0.05, * p<0.1.*

Control variables such as return on assets, leverage, age, firm size, and Big Four audit affiliation also display varying levels of significance and direction of effect on ESG outcomes, further strengthening the explanatory power of the model (Table 5).

Discussion. This study provides valuable insights into how board characteristics shape the sustainability reporting practices of Chinese listed firms. The results offer a mixed yet nuanced picture, enriching our understanding of the governance–sustainability relationship.

First, the finding that board size shows no significant relationship with sustainability disclosure challenges some earlier assumptions in the literature. While larger boards are often expected to bring diverse expertise and improve oversight, our results suggest that size alone does not guarantee better ESG outcomes. This aligns with prior work emphasizing that overly large boards can introduce inefficiency and weaken accountability, limiting their capacity to drive meaningful sustainability practices.

Second, the strong and significant positive association between board independence and sustainability reporting confirms the importance of independent oversight. Firms with a higher proportion of independent directors tend to disclose more comprehensive sustainability information, supporting the idea that independent voices help hold management accountable on ESG matters. This result echoes earlier research that positions board independence as a key pillar of effective governance (Anyigbah et al., 2023; Azzam, 2024).

Third, the lack of a significant relationship between CEO duality and sustainability disclosure points to the complexity of this governance feature. While agency theory warns that combining the roles of CEO and chair concentrates power and weakens board independence, stewardship theory suggests that unified leadership can strengthen strategic alignment. Our findings suggest that, in the Chinese context, CEO duality neither significantly enhances nor harms ESG reporting. This result adds to the growing body of evidence highlighting the contextual nature of CEO duality's impact (Kazim et al., 2024; Voinea et al., 2022).

Fourth, the significant negative association between the frequency of board meetings and sustainability disclosure presents an intriguing insight. Rather than signaling active engagement, more frequent meetings may reflect underlying governance challenges or crisis management, reducing the board's ability to focus on long-term ESG goals. This finding reinforces prior studies that caution against interpreting high meeting frequency as a universal marker of good governance (Bayong et al., 2024; Zhu et al., 2024).

Finally, the positive and significant effect of the number of board committees on sustainability reporting underscores the value of specialized governance structures. Firms with more committees appear better positioned to address the complex, multi-dimensional demands of ESG disclosure. This result aligns with studies showing that committees focused on audit, risk, or sustainability can strengthen board capacity and enhance the quality of non-financial reporting (Arif et al., 2021; Buch Thu, 2024).

Importantly, the robustness tests using ESG scores as an alternative outcome variable confirm the stability of these

Table 6 – Summary of hypothesis test results

Hypotheses	Description	Exp. Sign	Findings	Conclusion
H1	Board size is positively associated with sustainability reporting.	+	Not significant +	Not supported
H2	Board independence is positively associated with sustainability reporting.	+	Significant +	Supported
H3	CEODuality is negatively associated with sustainability reporting.	-	Not significant -	Not supported
H4	The frequency of board meetings is negatively associated with sustainability reporting.	-	-	Supported
H5	The number of committees is positively correlated with sustainability reporting.	+	Significant +	Supported

findings. The consistency between the main models and robustness checks strengthens confidence in the results and signals that governance factors matter not only for formal disclosure practices but also for broader ESG performance (Table 6).

Overall, this study contributes to the literature by offering evidence from an emerging market context, addressing gaps identified in prior research (Jiang et al., 2023; Madhura et al., 2024). While board independence and committee structures emerge as central drivers of sustainability disclosure, the roles of board size, CEO duality, and meeting frequency appear more complex and context-dependent. For scholars, these findings highlight the need for nuanced, context-aware theorizing about governance effects. For practitioners, they point to the governance features most likely to strengthen ESG practices, offering guidance for firms and regulators seeking to align with international sustainability standards.

Conclusion. The aim of this study was to examine how board characteristics influence sustainability reporting among Chinese listed firms. Using a large panel dataset covering A-share companies from 2013 to 2023, we analyzed the effects of board size, board independence, CEO duality, board meeting frequency, and the number of board committees on firms' sustainability disclosures. To ensure the robustness of the findings, we conducted additional tests using ESG scores as an alternative dependent variable.

The results offer several key insights. Board independence and the number of committees showed a significant positive relationship with sustainability reporting, highlighting the importance of strong governance structures and specialized oversight. In contrast, board size and CEO duality did not show significant effects, suggesting that these commonly studied features may have more limited or context-dependent influence on ESG practices. Interestingly, we found that frequent board meetings were negatively associated with sustainability disclosure, indicating that more meetings do not necessarily translate into better governance or stronger ESG outcomes.

While these findings contribute valuable evidence to the governance–sustainability literature, they also come with limitations. This study focuses solely on Chinese listed firms, and the results may not generalize to firms in other institutional or cultural settings. In addition, while the analysis captures key board characteristics, it does not account for informal governance dynamics or the quality of board interactions, which may also shape ESG outcomes.

Future research could extend this work by exploring how board member expertise, diversity, or social networks influence sustainability performance. Comparative studies across different countries or regions could also shed light on how institutional contexts shape the governance – sustainability link. Finally, qualitative research could help uncover the mechanisms behind the observed quantitative patterns, offering a richer understanding of how boards drive ESG practices in practice.

References:

1. Abu Khalaf, B. (2024). Impact of board characteristics on the adoption of sustainable reporting practices. *Cogent Business & Management*, *11*(1). https://doi.org/10.1080/23311975.2024.2391563

2. Anyigbah, E., Kong, Y., Edziah, B. K., Ahoto, A. T., & Ahiaku, W. S. (2023). Board Characteristics and Corporate Sustainability Reporting: Evidence from Chinese Listed Companies. *Sustainability*, *15*(4), 3553. https://doi.org/10.3390/su15043553

3. Arif, M., Sajjad, A., Farooq, S., Abrar, M., & Joyo, A. S. (2021). The impact of audit committee attributes on the quality and quantity of environmental, social and governance (ESG) disclosures. *Corporate Governance: The International Journal of Business in Society*, *21*(3), 497–514. https://doi.org/10.1108/CG-06-2020-0243

4. Azzam, M. (2024). The association between CEO characteristics and privileges and the extent of firms' sustainability disclosure: The role of board independence. *Uncertain Supply Chain Management*, *12*(3), 1603–1610. https://doi.org/10.5267/j.uscm.2024.3.020

5. Bayong, D., Bawuah, B., & Amoah, E. (2024). Advancing environmental, social, and governance disclosure in emerging economies: does regulatory environment and ownership structure matter? *SN Business & Economics*, *5*(1), 11. https://doi.org/10.1007/s43546-024-00766-8

6. Beji, R., Yousfi, O., Loukil, N., & Omri, A. (2021). Board Diversity and Corporate Social Responsibility: Empirical Evidence from France. *Journal of Business Ethics*, *173*(1), 133–155. https://doi.org/10.1007/s10551-020-04522-4

7. Bravo, F., & Reguera-Alvarado, N. (2019). Sustainable development disclosure: Environmental, social, and governance reporting and gender diversity in the audit committee. *Business Strategy and the Environment*, *28*(2), 418–429. https://doi.org/10.1002/bse.2258

8. Buch Thu, P. T. (2024). Research on Effects of Board of Directors' Characteristics on Corporate Social Responsibility Disclosure - Manufacturing Listed Firms on the Stock Exchange of Vietnam. *Asian Journal of Business and Accounting*, *17*(1), 147–171. https://doi.org/10.22452/ajba.vol17no1.5

9. Jiang, Y., García-Meca, E., & Martinez-Ferrero, J. (2023). Do board and ownership factors affect Chinese companies in reporting sustainability development goals? *Management Decision*, *61*(12), 3806–3834. https://doi.org/10.1108/MD-01-2023-0113

10. Kazim, I., Wang, F., & Zhang, X. (2024). Unlocking the link: Foreign-experienced board of directors and environmental violations in China. *Finance Research Letters*, *60*, 104912. https://doi.org/10.1016/j.frl.2023.104912

11. Khan, M. K., Zahid, R. M. A., Saleem, A., & Sági, J. (2021). Board Composition and Social & Environmental Accountability: A Dynamic Model Analysis of Chinese Firms. *Sustainability*, *13*(19), 10662. https://doi.org/10.3390/su131910662

12. Ma, A. K. F., & Chen, Y. (2024). Board attributes, ownership structure, and corporate social responsibility: evidence from A-share listed technological companies in China. *Society and Business Review*, *19*(2), 181–206. https://doi.org/10.1108/SBR-08-2022-0225

13. Madhura, G., Dissanayake, H., & Iddagoda, A. (2024). *The Impact of Corporate Governance on Corporate Sustainability: Empirical Insights from Listed Companies in Emerging Economy* (pp. 525–538). https://doi.org/10.1007/978-3-031-71329-3_32

14. Mirza, S. S., Huang, C., & Khan, A. (2024). Managing CEO duality and economic uncertainty: strategies for aligning corporate sustainability and innovation in China's energy market. *Environment, Development and Sustainability*, *26*(5), 12815–12841. https://doi.org/10.1007/s10668-023-04013-2

15. Pasko, O., Chen, F., Kuts, T., Sharko, I., & Ryzhikova, N. (2022). Sustainability reporting nexus to corporate governance in scholarly literature. *Environmental Economics*, *13*(1), 61–78. https://doi.org/10.21511/ee.13(1).2022.06

16. Pasko, O., Kharchenko, T., Kovalenko, O., Tkachenko, V., & Kuts, O. (2024). Is corporate governance a significant factor in corporate social responsibility disclosure? Insights from China. *Investment Management and Financial Innovations*, *21*(1), 63–75. https://doi.org/10.21511/imfi.21(1).2024.06

17. Pasko, O., Lagodiienko, N., Kudlaieva, N., Riabenko, L., & Gerasymenko, N. (2022). Does corporate governance moderate the effect of corporate social responsibility on a firm's financial performance? *Problems and Perspectives in Management*, *20*(4), 588–601. https://doi.org/10.21511/ppm.20(4).2022.44

18. Pasko, O., Yang, Z., Tkachenko, V., Proskurina, N., & Pushkar, I. (2022). Does female representation on corporate boards boost the strengthening of internal control in socially responsible firms? *Investment Management and Financial Innovations*, *19*(4), 294–308. https://doi.org/10.21511/imfi.19(4).2022.24

19. Pasko, O., Zhang, L., Oriekhova, A., Hordiyenko, M., & Tkal, Y. (2023). Corporate social responsibility and corporate tax aggressiveness: Evidence of mandatory vs. voluntary regulatory regimes impact. *Problems and Perspectives in Management*, *21*(2), 682–700. https://doi.org/10.21511/ppm.21(2).2023.61

20. Pasko, O., Zhang, L., Tuzhyk, K., Proskurina, N., & Gryn, V. (2021). Do sustainability reporting conduct and corporate governance attributes relate? Empirical evidence from China. *Problems and Perspectives in Management*, *19*(4), 110–123. https://doi.org/10.21511/ppm.19(4).2021.10

21. Voinea, C. L., Rauf, F., Naveed, K., & Fratostiteanu, C. (2022). The Impact of CEO Duality and Financial Performance on CSR Disclosure: Empirical Evidence from State-Owned Enterprises in China. *Journal of Risk and Financial Management*, *15*(1), 37. https://doi.org/10.3390/jrfm15010037

22. Yiheng, G., Kassim, A. A. M., Heng, X., & Kai, Z. (2024). The impact of environmental, social, and governance on corporate financial performance: Empirical evidence based on Chinese a-share listed companies. *International Journal of Applied Economics, Finance and Accounting*, *18*(1), 142–157. https://doi.org/10.33094/ijaefa.v18i1.1336

23. Zhang, W., Lee, C.-J., Wei, H.-H., & Hsu, S.-C. (2024). Impact of CEO Duality and Overconfidence on Construction Technology Innovation: Evidence from China. *Journal of Management in Engineering*, *40*(5). https://doi.org/10.1061/JMENEA.MEENG-6019

24. Zhu, N., Aryee, E. N. T., Agyemang, A. O., Wiredu, I., Zakari, A., & Agbadzidah, S. Y. (2024). Addressing environment, social and governance (ESG) investment in China: Does board composition and financing decision matter? *Heliyon*, *10*(10), e30783. https://doi.org/10.1016/j.heliyon.2024.e30783

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ВРЯДУВАННЯ МАЄ ЗНАЧЕННЯ: ВПЛИВ ХАРАКТЕРИСТИК РАДИ ДИРЕКТОРІВ НА РОЗКРИТТЯ ІНФОРМАЦІЇ ЩОДО СТАЛОГО РОЗВИТКУ В КИТАЇ

Метою даного дослідження є вивчення впливу характеристик ради директорів на практики розкриття інформації зі сталого розвитку серед публічних компаній Китаю. Для досягнення цієї мети автором було використано панельний набір даних, що охоплює A-share компанії, котрі котируються на Шанхайській та Шеньчженьській фондових біржах протягом 2013–2023 років. Загальний розмір вибірки становив 21 232 спостереження на рівні компанія-рік, що забезпечує широку емпіричну базу для тестування гіпотез. Основними змінними дослідження виступають розмір ради директорів, незалежність членів ради, дуалізм посади генерального директора (поєднання ролей голови ради та CEO), частота проведення засідань ради, а також кількість спеціалізованих комітетів у складі ради директорів. Для перевірки основних гіпотез використовувалися два показники результативності: рівень розкриття інформації у звітах зі сталого розвитку (CSRI) та ESG-рейтинги компаній. Основні результати демонструють, що незалежність ради директорів і кількість спеціалізованих комітетів позитивно та значущо пов'язані з більш високими показниками розкриття *інформації, підкреслюючи важливість незалежного нагляду та спеціалізованих управлінських структур для забезпечення якісної звітності зі сталого розвитку. Натомість розмір ради директорів і дуалізм генерального директора не виявили статистично значущого впливу, що свідчить про контекстну залежність їхнього впливу на ESG-практики. Додатково було виявлено, що частота проведення засідань ради має негативний і значущий зв'язок із рівнем розкриття інформації, що може вказувати на те, що збільшення кількості засідань не завжди означає підвищення ефективності ESG-нагляду. Для підвищення надійності висновків автор провів робастні перевірки з використанням ESG-рейтингу як альтернативної залежної змінної, результати яких підтвердили основні висновки. Таким чином, дослідження робить цінний внесок у літературу з корпоративного управління, розширюючи розуміння того, як внутрішні управлінські механізми впливають на нефінансову звітність у контексті економіки, що розвивається. Водночас автор визнає низку обмежень дослідження. Зокрема, результати базуються на вибірці лише китайських компаній, що може обмежувати можливість їхньої генералізації на інші інституційні чи культурні контексти. Крім того, кількісний підхід не дозволяє врахувати неформальні управлінські аспекти або якість внутрішньої взаємодії в раді директорів, які також можуть впливати на результати ESG. Подальші дослідження можуть зосередитися на аналізі експертизи та різноманіття членів ради, а також на міжкраїнових порівняннях для кращого розуміння контекстних чинників управління сталим розвитком.*

Ключові слова: *корпоративне управління, корпоративна соціальна відповідальність, звітність зі сталого розвитку, розкриття ESG-інформації, характеристики ради директорів, Китай, дуалізм генерального директора, незалежність ради директорів, комітети ради директорів.*