“Does internal audit matter? Audit committee, its attributes, and corporate social responsibility reporting quality”

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DOES INTERNAL AUDIT MATTER? AUDIT COMMITTEE, ITS ATTRIBUTES, AND CORPORATE SOCIAL RESPONSIBILITY REPORTING QUALITY

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Abstract

This study explores the nexus between internal audit, audit committee attributes, and Corporate Social Responsibility (CSR) disclosure quality in A-share listed companies on the Shanghai and Shenzhen stock exchanges from 2010 to 2019. Utilizing refined samples and robust datasets, this investigation reveals critical insights that a robust internal control system significantly correlates with higher-quality CSR disclosure, underscoring its pivotal role in safeguarding non-financial reporting integrity and enhancing transparency in CSR disclosures. Larger audit committees are positively associated with improved CSR disclosure quality. This highlights the strategic advantage of a diverse and expansive audit committee in navigating the complexities of CSR reporting. Contrary to expectations, the proportion of independent directors on the audit committee and the frequency of audit committee meetings do not show a significant positive relationship with CSR disclosure. Companies benefit from strategic investments in internal control systems, crucial for non-financial reporting integrity and fortified CSR disclosure practices. In conclusion, this study provides concise insights into critical factors influencing CSR disclosure quality in Chinese companies, offering actionable implications for corporate practices and regulatory frameworks.

Keywords audit committee, corporate governance, internal control, internal audit, corporate social responsibility assurance, corporate social responsibility disclosure, non-financial reporting, crisis management, information, sustainability reporting

JEL Classification G34, M14, M41

INTRODUCTION

The Role of the Audit Committee in Enhancing the Credibility of CSR Disclosure cannot be overstated in the contemporary corporate landscape. As Corporate Social Responsibility (CSR) assumes a pivotal role in shaping corporate reputation and stakeholder relationships, ensuring the credibility of CSR disclosures becomes imperative. The audit committee, situated at the intersection of corporate governance and financial oversight, emerges as a key player in navigating this terrain (Badolato et al., 2014; Velte, 2023).

Firstly, CSR disclosures are increasingly recognized as integral components of a company's overall reporting framework. Stakeholders, ranging from investors and customers to regulatory bodies, scrutinize these disclosures to gauge a company's commitment to sustainable and ethical practices. The audit committee, traditionally tasked with financial oversight, is strategically positioned to extend its purview to encompass CSR disclosures. This expansion aligns with the evolving

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expectations of stakeholders, who seek assurance not only on financial matters but also on the accuracy and reliability of CSR-related information (Handayati et al., 2022; Mardawi et al., 2023; Pasko, Zhang, Bezverkhyi, et al., 2021; Pasko, Zhang, Tuzhyk, et al., 2021; Zaid & Issa, 2023).

Secondly, audit committee involvement adds a layer of credibility to CSR disclosures. Given their fiduciary responsibilities and independence, audit committees bring an objective lens to the evaluation of CSR practices. By actively participating in the oversight of CSR disclosure processes, audit committees contribute to the transparency and reliability of the information presented. This, in turn, enhances the credibility of a company's CSR narrative, fostering trust among stakeholders (Appuhami & Tashakor, 2017; Choi et al., 2020; Pasko, Chen, Birchenko, et al., 2021; Pucheta-Martínez et al., 2023).

Moreover, the audit committee's role in scrutinizing CSR disclosures aligns with broader trends in corporate governance. Companies are increasingly recognizing the interconnectedness of financial and non-financial performance. As CSR disclosures impact a company's reputation, risk profile, and long-term sustainability, audit committee involvement becomes integral to holistic governance practices. It reflects a paradigm shift wherein governance structures adapt to encompass the broader spectrum of corporate responsibilities beyond financial metrics (Alkurdi et al., 2023; Pasko et al., 2022; Pasko, Chen, Tkal, et al., 2021; Ryu et al., 2021; Song, 2022).

In light of these considerations, the chosen topic addresses a critical knowledge gap. While the significance of CSR is widely acknowledged, the specific mechanisms through which the audit committee can enhance the credibility of CSR disclosures warrant focused exploration. This research endeavor responds to the evolving expectations of stakeholders, regulatory bodies, and the broader public, providing insights that can inform best practices in corporate governance (Abu Afifa et al., 2023; Alkayed & Omar, 2023; Bose et al., 2022; Mardawi et al., 2023).

As companies navigate an era marked by increased scrutiny of their environmental, social, and governance practices, understanding the role of the audit committee in bolstering the credibility of CSR disclosures becomes a strategic imperative. By shedding light on the nuanced dynamics at play, the research endeavors to empower companies and governance professionals in their pursuit of transparent and credible CSR reporting.

1. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

As corporate practices evolve, the role of internal audit and the attributes of the audit committee have gained increasing prominence, particularly concerning their impact on the credibility and quality of CSR disclosures. This section critically examines the existing body of knowledge, identifying key themes, trends, and research gaps in the domain to lay the foundation for the subsequent empirical investigation.

1.1. Internal control and CSR disclosure

Internal control serves as a foundational governance mechanism within organizations. Robust internal controls are designed to ensure accuracy and reliability in financial reporting, which reflects a commitment to transparency and accountability. This commitment to strong governance principles can naturally extend to the realm of CSR disclosure. Moreover, internal control systems are primarily designed to manage risks and ensure compliance with regulatory requirements. An organization that places a strong emphasis on internal control is likely to be more attuned to identifying, managing, and disclosing social and environmental risks. CSR disclosure, in this context, becomes an avenue for a company to communicate its commitment to responsible risk management (Badolato et al., 2014; Mardawi et al., 2023; Pasko, Zhang, Tkal, et al., 2021; Velte, 2023).

Furthermore, transparent internal controls contribute to building trust among stakeholders. As

CSR increasingly becomes a crucial aspect of a company's reputation, an organization with effective internal control systems may see CSR disclosure as an opportunity to reinforce its commitment to ethical business practices and sustainability. This can contribute positively to stakeholder trust and reputation management. Internal control is often intertwined with an organization's ethical values. Companies with a strong internal control environment are more likely to view CSR as an ethical imperative rather than merely a compliance requirement. This ethical alignment can drive proactive and meaningful CSR disclosure, showcasing the organization's commitment to social and environmental responsibility (Al-Najjar, 2011; Bataineh et al., 2023; Song et al., 2020; Velte, 2023).

For example, the results of experiments conducted by Bose et al. (2022) lend support to the hypothesis suggesting that the simultaneous existence of competence and independence constitutes a prerequisite for the effective monitoring of financial reporting by the Internal Audit Function (IAF). To encapsulate, the outcomes of the investigation elucidate that the impact of internal audit competence (and independence) on the quality of financial reporting is contingent upon the independence (and competence) of the internal auditor (Bose et al., 2022).

On the other hand, some argue that internal control systems are primarily designed to ensure the accuracy of financial reporting. In organizations where the focus is predominantly on financial metrics, CSR disclosure might not receive the same level of attention or importance, leading to a weak or negligible relationship (Appuhami & Tashakor, 2017). Moreover, organizations, particularly smaller ones with limited resources, might prioritize internal control efforts for financial compliance over CSR initiatives (Dwekat et al., 2022). In such cases, internal control may not necessarily translate into an active commitment to robust CSR disclosure. In larger organizations, internal control functions may operate in silos, primarily focusing on financial and regulatory compliance. CSR activities might fall under different departments, potentially leading to a lack of coordination and synergy between internal control efforts and CSR disclosure (Alkayed & Omar, 2023). Furthermore, in regions with limited regulatory pressure or mandatory requirements for CSR disclosure, organizations might not perceive a direct incentive to link internal control practices with CSR reporting (Dwekat et al., 2020). Therefore, the absence of external mandates could weaken the hypothesized positive relationship.

In conclusion, while the hypothesis posits a positive relationship between internal control and CSR disclosure, various organizational, cultural, and regulatory factors could influence the strength and direction of this relationship. A nuanced examination of these factors is crucial for a comprehensive understanding of the dynamics between internal control practices and CSR disclosure.

1.2. Audit committee size and CSR disclosure

It is believed that a larger audit committee brings together individuals with diverse expertise and perspectives. This diversity can contribute to a more comprehensive understanding of various aspects of the business, including social and environmental impacts. A larger committee may include members with backgrounds in sustainability, ethics, or corporate social responsibility, enhancing the committee's ability to guide and advocate for CSR disclosure (Dwekat et al., 2020; Fahad & Rahman, 2020; Yekini & Jallow, 2012).

Moreover, a larger audit committee is likely to have more resources and time to dedicate to oversight responsibilities (Badolato et al., 2014; Velte, 2023). This includes monitoring CSR initiatives and ensuring the accuracy and completeness of CSR disclosures. The increased accountability associated with a larger committee may drive a more diligent approach toward CSR reporting. A larger audit committee can engage in strategic discussions that encompass not only financial matters but also broader organizational strategies, including CSR (Wedari & Shafadila, 2022). The committee's involvement in strategic decision-making may lead to a proactive stance on CSR disclosure as part of the overall organizational strategy (Handayati et al., 2022).

Furthermore, a larger audit committee can better represent the diverse interests of stakeholders. Considering that CSR often involves addressing the concerns of various stakeholders, a committee with

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a larger size may be more attuned to the diverse expectations of stakeholders, leading to more comprehensive CSR disclosure (Handayati et al., 2022; Song et al., 2020; Zaid & Issa, 2023). On the other hand, while a larger audit committee brings diverse perspectives, it may also face challenges related to efficiency and decision-making speed. The abundance of voices and opinions may result in a slower decision-making process, potentially hindering the committee's ability to promptly address CSR disclosure requirements. Moreover, managing a larger audit committee may pose coordination challenges, particularly if the members have conflicting views or interests. This could impact the committee's ability to develop a unified approach to CSR disclosure, leading to inconsistencies or delays (Appuhami & Tashakor, 2017; Song, 2022).

Furthermore, a larger audit committee may demand more resources in terms of time, finances, and administrative support. In organizations with resource constraints, these demands could divert attention away from CSR-related activities, impacting the committee's capacity to ensure comprehensive CSR disclosure. The size of the audit committee may not have a direct correlation with its effectiveness in overseeing CSR matters. A smaller, highly specialized committee could be equally or more effective in guiding CSR disclosure if its members possess relevant expertise and a strong commitment to CSR principles (Arif et al., 2021; Dwekat et al., 2020).

In conclusion, the hypothesis suggests that audit committee size positively influences CSR disclosure, leveraging the potential benefits of diverse perspectives and enhanced oversight. However, challenges related to efficiency, coordination, resource constraints, and the absence of a direct correlation should be carefully considered to provide a nuanced understanding of the relationship.

1.3. Audit committee independence and CSR disclosure

It is expected that independent directors are expected to bring an objective and unbiased perspective to decision-making. In the context of CSR disclosure, a higher proportion of independent directors on the audit committee may contribute to more objective assessments and a heightened sense of accountability in ensuring accurate and transparent CSR reporting (Al-Najjar, 2011; Qaderi et al., 2023; Uyar et al., 2023).

Moreover, independent directors are less likely to be influenced by managerial or internal interests that could compromise the integrity of CSR disclosure. Their autonomy from the day-to-day operations may enable a more critical evaluation of CSR initiatives and disclosure practices, reducing the potential for conflicts of interest (Pucheta-Martínez et al., 2021).

Furthermore, independent directors often serve as representatives of shareholder interests. A higher proportion of independent directors on the audit committee ensures that the perspectives and expectations of external stakeholders, who are increasingly concerned with CSR, are well-represented (Fallah & Mojarrad, 2019). This representation may lead to a more thorough and responsive approach to CSR disclosure. Many regulatory frameworks and governance codes recommend or mandate the inclusion of independent directors on key committees. Adhering to these standards, including a sufficient proportion of independent directors on the audit committee, may signal the company's commitment to governance best practices, which can extend to CSR disclosure (Buallay & Al-Ajmi, 2019; Garas & ElMassah, 2018; García-Sánchez et al., 2012).

On the other hand, independent directors may lack industry-specific, or CSR expertise compared to executives with an operational background. Their limited understanding of the industry nuances and CSR intricacies might result in a less informed approach to CSR disclosure, potentially overlooking industry-specific concerns. Moreover, independent directors, not being involved in day-to-day operations, might be less attuned to the practical challenges and opportunities associated with CSR initiatives. This potential alienation could hinder their ability to advocate for comprehensive and feasible CSR disclosure strategies (Garas & ElMassah, 2018; Pucheta-Martínez et al., 2021; Uyar et al., 2023).

Furthermore, independent directors are often selected for their financial expertise. While this is valuable for oversight functions, it might lead to a bias toward financial aspects of CSR reporting rather than a holistic view that encompasses environmental, social, and governance dimensions. The commitment of independent directors to CSR priorities may vary.

Some may prioritize financial performance over CSR, viewing the latter as secondary (Qaderi et al., 2023). This divergence in priorities among independent directors could result in a lack of consensus on the strategic importance and depth of CSR disclosure (Pucheta-Martínez et al., 2021).

In summary, the hypothesis suggests that a higher proportion of independent directors on the audit committee positively influences CSR disclosure by ensuring objectivity, accountability, and stakeholder representation. However, challenges related to industry expertise, potential alienation, a focus on financial aspects, and varied commitment levels should be considered for a comprehensive understanding of the relationship.

1.4. Audit committee meetings and CSR disclosure

Regular audit committee meetings are believed to provide a platform for in-depth discussions and oversight of corporate activities, including CSR initiatives. Increased meeting frequency allows committee members to stay informed, ask pertinent questions, and actively supervise the CSR disclosure process, leading to more robust and comprehensive reporting (Appuhami & Tashakor, 2017; Musallam, 2018).

Moreover, frequent meetings enable the audit committee to stay abreast of emerging CSR-related issues. In a rapidly changing business environment, having more opportunities to convene allows the committee to respond promptly to new developments, ensuring that CSR disclosure remains relevant, timely, and aligned with evolving stakeholder expectations. Regular meetings facilitate proactive identification of CSR-related risks and opportunities (Jizi et al., 2014). The audit committee, through frequent discussions, can assess potential risks to the company's reputation and financial performance arising from CSR activities. This proactive approach may result in more thorough risk disclosures and strategies to capitalize on CSR-related opportunities (Al-Shaer & Zaman, 2018; Appuhami & Tashakor, 2017; Dwekat et al., 2020; Qaderi et al., 2023).

Furthermore, frequent audit committee meetings establish effective communication channels among committee members, executives, and relevant departments. This ensures a seamless flow of information regarding CSR initiatives, challenges, and progress. Such open communication fosters a collaborative environment that supports accurate and comprehensive CSR disclosure (Song, 2022).

On the other hand, excessive meeting frequency might lead to fatigue among committee members, potentially resulting in less effective discussions. In such cases, meetings could become routine and less focused on critical CSR disclosure matters, leading to inefficiency rather than enhanced oversight (Al-Shaer & Zaman, 2018; Song, 2021, 2022).

Moreover, frequent meetings may limit the time available for an in-depth review of CSR-related documents and reports. Committee members might prioritize other agenda items over CSR disclosure, potentially resulting in a superficial assessment that does not capture the complexity and nuances of CSR activities (Appuhami & Tashakor, 2017; Jizi et al., 2014).

Furthermore, if meetings become too frequent, there is a risk of overreliance on routine reporting templates, with a focus on meeting deadlines rather than delving into the substance of CSR initiatives. This could lead to a checkbox approach to disclosure, where the quantity of information takes precedence over its quality (Fallah & Mojarrad, 2019; Garas & ElMassah, 2018; Velte, 2023).

Excessive meeting frequency may divert the committee's attention from strategic discussions to routine operational matters. CSR disclosure is a strategic aspect that requires thoughtful consideration; however, if meetings become too frequent, there is a risk of losing sight of the broader strategic implications of CSR activities (Uyar et al., 2023; Velte, 2023).

In conclusion, the hypothesis suggests that more frequent audit committee meetings positively influence CSR disclosure by enhancing oversight, enabling timely responses, facilitating risk identification, and fostering effective communication. However, potential drawbacks such as meeting fatigue, limited time for com-

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prehensive review, overreliance on routine reporting, and diminished strategic focus should be considered for a nuanced understanding of the relationship.

The table (see Appendix A1) encapsulates the outcomes of preceding research on the impact of audit committees and their characteristics on the quality of CSR reporting. This compilation assimilates the findings deemed most significant, from the authors' perspective, in the current discourse on this subject matter. The table serves not only as a repository of empirical data but also as a testament to the evolving understanding of the role that audit committees play in enhancing the transparency and reliability of CSR disclosures. Through a meticulous selection process, the included studies highlight the multifaceted relationship between audit committee attributes, such as composition, expertise, and frequency of meetings, and the qualitative dimensions of CSR reporting. This synthesis underscores the criticality of robust governance mechanisms in fostering a culture of accountability and sustainability within organizations.

Therefore, the aim of this study is to investigate the influence of corporate governance mechanisms on CSR disclosure practices. Specifically, it seeks to explore how internal control systems, audit committee size, the proportion of independent directors in the audit committee, and the frequency of audit committee meetings affect the extent and quality of CSR disclosures made by companies. The hypotheses posit that stronger internal controls, larger audit committee sizes, a higher proportion of independent directors on the audit committee, and more frequent audit committee meetings are each positively related to the level of CSR disclosure, suggesting that these governance factors play a crucial role in enhancing transparency and accountability in CSR practices.

Thus, drawing upon the comprehensive review of existing literature and the underlying rationales discussed therein, this study posits the subsequent hypotheses for examination:

H1: Internal control is positively related to CSR disclosure.

H2: Audit committee size is positively related to CSR disclosure.

H3: The proportion of independent directors of an audit committee is positively related to CSR disclosure.

H4: Audit committee meeting is positively related to CSR disclosure.

2. DATA AND RESEARCH DESIGN

2.1. Sample selection and data sources

This paper selects A-share listed companies in Shanghai and Shenzhen stock exchanges from 2010 to 2019 as the research samples. To ensure the validity of the sample data, financial listed companies are removed, ST and *ST listed companies are removed, and data vacancies are removed. Finally, 2,613 observation data were obtained (Table 1). CSR information disclosure data come from the HEXUN CSR system; internal control data come from the DIB Database; other company characteristics come from the China Stock Market & Accounting Research (CSMAR) Database. In addition, to eliminate the influence of outliers, all continuous variables have been narrowed down according to the 1% and 99% quantiles.

Table 1. Sampling

Steps	Filter applied	Sample by the end of the step
1	A-share listed company in China's Shanghai and Shenzhen stock	28,904
2	Exclude the financial industry	847
3	Eliminate ST and *ST Company	2,270
4	Eliminate companies with missing data	23,174
5	Number of samples	2,613

2.1.1. Model and variables

The model design is based on previous analysis and hypotheses, combined with the variable design situation, and the model is designed to test the influence of internal control and audit committees on CSR disclosure. The following model is established:

$$CSR = \beta_0 + \beta_1 IC + \beta_2 AC\_SIZE + \beta_3 AC\_IND + \beta_4 AC\_MEET + \beta_5 BD\_SIZE + \beta_6 BD\_IND + \beta_7 SIZE + \beta_8 ROA + \beta_9 LEV + \beta_{10} GROWTH + \beta_{11} LOSS + \varepsilon. \quad (1)$$

2.1.2. Dependent variable

This paper uses the social responsibility score published by the HEXUN database as an indicator to measure the level of CSR. Hexun's professional evaluation system for the social responsibility report of listed companies calculates the CSR scores of all listed companies from five dimensions: shareholders, employees, customers (consumer rights) and suppliers, environment, and society.

2.1.3. Independent variables

Internal control (*IC*). This paper measures the quality of internal control using the internal control index of Shenzhen DIIB Enterprise Risk Management Technology Co., Ltd.

The size of the audit committee (*AC_SIZE*) is measured by the total number of audit committees of listed companies (Vafeas, 2005). The proportion of independent directors in the audit committee (*AC_IND*) is measured by the ratio of the number of independent directors in the audit committee to the total members of the audit committee (Krishnan, 2005). Audit committee meetings (*AC_MEET*) are measured by the number of meetings held by the audit committee each year (Kent & Stewart, 2008).

2.1.4. Control variables

The quality of CSR will be affected by other factors, so the papers refer to prior studies to select control variables (Al-Shaer & Zaman, 2018; Alkayed & Omar, 2023; Allegrini & Greco, 2013; Appuhami & Tashakor, 2017; Arif et al., 2021; Barnea & Rubin, 2010; Dwekat et al., 2020, 2022). The variables and definitions are shown in Appendix A2.

3. EMPIRICAL RESULTS

3.1. Descriptive statistics and correlations

Table 2 lists the descriptive statistical results of the main research variables. The average value of CSR is 28.08 and the standard deviation is 17.70, which reflects that the overall quality of CSR disclosure in China is not high. The average value of IC is 656.7, and the maximum and minimum are 995.4 and 0, respectively, indicating that the quality of internal control of different listed companies is quite different. The average number of *AC_SIZE* is only 3.366, indicating that the audit committees of sample companies are mostly at a small level with only 3-4 people; the average number of *AC_IND* is 0.701, and the average number of *AC_MEET* is 4.987. It can be seen that although the sample companies have set up audit committees, their scale and professionalism are at a relatively low level, and the management and supervision of the internal control of the companies are of limited effectiveness, and it urgently needs to be further strengthened.

Table 2. Descriptive statistics

Variables	(1) N	(2) mean	(3) SD	(4) min	(5) max	(6) median
CSR	2,613	28.08	17.70	−9.560	89.01	24.11
IC	2,613	656.7	133.4	0	995.4	677.47
AC_SIZE	2,613	3.366	0.768	2	7	3
AC_IND	2,613	0.701	0.123	0.200	1	0.667
AC_MEET	2,613	4.987	1.943	1	22	5
BD_SIZE	2,613	8.874	1.771	4	18	9
BD_IND	2,613	0.377	0.0594	0.231	0.800	0.364
SIZE	2,613	22.90	1.681	16.70	28.64	22.615
ROA	2,613	0.0384	0.0715	−2.008	0.921	0.033
LEV	2,613	0.473	0.265	0.0224	6.684	0.460
GROWTH	2,613	0.560	13.94	−0.877	701.6	0.107
LOSS	2,613	0.0674	0.251	0	1	0

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According to the descriptive statistics of the control variables, the average *BD_SIZE* is only 8.874 indicating that the board of directors of the sample companies is not large; The maximum and minimum values of *BD_IND* are 0.800 and 0.231, respectively, and the average is 0.377, indicating that the sample companies generally follow the CSRC's opinion to control the proportion of independent directors to more than one-third. However, the lack of more independent directors shows that the boards of directors of the sample companies are not very independent. The average total assets (*SIZE*) of the sample company is 22.90, the average operating income (*ROA*) is 0.0384, the average asset-liability ratio (*LEV*) is 0.473, the average company growth rate (*GROWTH*) is 0.560, and the average corporate loss (*LOSS*) is 0.0674.

Table 3 reports the correlation analysis of the main variables. The correlation between the various variables shows that the quality of CSR disclosure is significantly positively correlated with internal control (*IC*), the audit committee size (*AC_SIZE*), and the proportion of independent directors of the audit committee (*AC_IND*) at the 1% level. The audit committee meeting (*AC_MEET*) is negatively correlated but not significant and partially supports the research hypotheses proposed in this paper. Correlation analysis can only show that there is a certain correlation between the variables and cannot be used to determine whether there must be a causal relationship between the independent variable and the dependent variable. Therefore, further regression analysis is needed to determine the relationship between the variables. The Mean VIF is 1.29, indicating that there will be no serious multicollinearity when variables are included in the regression model at the same time.

3.2. Regression results

3.2.1. Main results

Appendix A3 (column (1) and column (3)) shows that the coefficient of internal control (*IC*) is 0.017, which is significant at the 1% level, which shows that high-quality internal control can significantly improve the quality of CSR disclosure and confirm the hypothesis H1.

Columns (2) and (3) of Appendix A3 show that among the coefficients of audit committee characteristic variables, the regression coefficient of audit committee size (*AC_SIZE*) and CSR is significantly positive at the 5% level. This indicates that increasing the size of audit committees can improve the quality of disclosing CSR, which supports hypothesis *H2* of this paper.

The coefficient between the proportion of independent directors of the audit committee (*AC_IND*) and the CSR disclosure is positive, which is consistent with the expected sign, but not significant. Combined with the descriptive statistics, there is a requirement that the proportion of independent directors on the audit committee of listed companies does not meet the requirements of the board of supervisors, and independent directors of the audit committee may be vacant, and independent directors did not play their due supervisory role, so hypothesis *H3* has not been supported.

Table 3. Correlations matrix

	CSR	IC	AC SIZE	AC IND	AC MEET	BD SIZE	BD IND	SIZE	ROA	LEV	GROWTH	LOSS
CSR	1											
IC	0.260***	1										
AC SIZE	0.090***	0.0240	1									
AC IND	0.073***	0.049**	–0.238***	1								
AC MEET	–0.00600	0.049**	–0.0190	0.089***	1							
BD SIZE	0.107***	0.061***	0.223***	0.00500	–0.0160	1						
BD IND	0.0260	0.0100	0.00100	0.159***	0.100***	–0.449***	1					
SIZE	0.250***	0.211***	0.174***	0.281***	0.181***	0.190***	0.194***	1				
ROA	0.243***	0.283***	–0.034*	–0.0170	–0.0100	–0.00200	–0.00600	–0.034*	1			
LEV	–0.00900	–0.131***	0.109***	0.085***	0.066***	0.038*	0.099***	0.336***	–0.282***	1		
GROWTH	0	–0.106***	0.038*	–0.0190	–0.0170	–0.0290	0.0200	–0.00600	0.038*	0.0110	1	
LOSS	–0.264***	–0.313***	–0.035*	0.034*	–0.045**	–0.00800	0.0130	–0.055***	–0.479***	0.118***	–0.00900	1

The regression coefficient between the audit committee meeting (*AC_MEET*) and CSR is significantly negative at the 1% level, indicating that the more audit committee meetings, the more detrimental they will be to the quality of the CSR disclosure, which is inconsistent with hypothesis *H4*.

3.2.2. Additional analysis

This paper conducts regression analysis according to model (1) and introduces dummy variables, *DUALITY*. The results are shown in Appendix A4, columns (1) and (2). When the CEO and the chairman of the board are not the same person, internal control in promoting CSR disclosure is more significant, so hypothesis *H1* is proved. The reason is that in a corporation where the two roles are not integrated, the owner, as the long-term owner of the company, pays more attention to the sustainable development of the company and pays attention to the long-term income of the company. It can give full play to the supervisory role of the manager and prevent and curb various possibilities. Inappropriate behavior that damages the interests of the company further promotes the fulfillment of CSR.

When the CEO and the chairman of the board are the same person, audit committee size is significantly positively correlated with CSR disclosure at the 5% level, indicating that when the size of the audit committee is larger, it can restrict the CEO's power and promote CSR disclosure; When the CEO and the chairman are not the same person, the audit committee size is positively correlated with CSR disclosure but not significant. Regardless of whether the CEO and the chairman are the same person, the ratio of independent directors of the audit committee and CSR disclosure coefficient are positive, but not significant, which shows that the independent director of the audit committee has not played the role of supervision. When the CEO and the chairman are not the same person, the audit committee meeting and CSR disclosure coefficient is negative and significant at the 1% level. When the CEO and the chairman are the same person, the audit committee meeting and CSR coefficient is negative and not significant. This shows that when the CEO and the chairman are not the same person, the audit committee meeting has a significant negative effect on CSR disclosure, which is not conducive to CSR disclosure.

Further regression analysis found that the full sample was divided into the state-owned enterprise group and the non-state-owned enterprise group based on the nature of property rights. Columns (3) and (4) in Appendix A4 represent the regression results of the state-owned enterprise group and the non-state-owned enterprise group respectively. Regardless of whether it is in the state-owned enterprise group or the non-state-owned enterprise group, the internal control regression coefficient is significantly positive at the 1% level, indicating that both state-owned enterprises and non-state-owned enterprises recognize that fulfilling social responsibility is a necessary condition for the sustainable development of enterprises. Audit committee size and the proportion of independent directors and the disclosed CSR coefficient are positive, but not significant. This shows that the governance role of the audit committee of the board of directors is not prominent in the enterprise. Among them, in the state-owned enterprise group, the audit committee meeting and CSR coefficient is –0.641, which is significant at the 1% level. In the non-state-owned enterprise group, the coefficient of audit committee meetings and CSR is negative and not significant. This shows that in state-owned enterprises, audit committee meetings have a significant negative effect on CSR disclosure.

3.2.3. Addressing endogeneity concerns

To overcome the endogenous problem, the paper uses the instrumental variable method to perform a two-stage least squares regression to further test the moderating effect of internal control and audit committee characteristics on the quality of CSR disclosure.

This paper adopts the one-period lagging internal control (*IC_lag*) that reflects the quality of internal control as an instrumental variable of internal control (IC) to perform a two-stage least squares regression. In the two-stage regression, the control variables of the model are still the control variables listed in the previous model (Appendix A2). As shown in Appendix A5, in the first stage of regression, the Wald chi2 value is 371.01, which is statistically significant at the 1% level, indicating that the overall model is robust. *IC_lag* and *IC* are significantly positively correlated at the 1% level, indicating that *IC_lag* is appropriate as an instrumental variable of *IC*. The regression results

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of the second stage show that the F value is 31.85, which is statistically significant at the 1% level, indicating that the overall model is robust. IC and CSR are significantly positively correlated at the 1% level, indicating that high-quality internal control can promote the improvement of the quality of CSR disclosure, which is consistent with the previous results.

In order to solve the endogenous problem, Appendix A5 column (3) takes the internal control of one period lagging, the size of the audit committee lagging one period, the proportion of independent directors of the audit committee lagging one period, and the alternative model of audit committee meeting lagging one period to replace previous independent variables, the regression results found that the quality of internal control, the audit committee size, and the audit committee meetings and CSR information disclosure were consistent with the previous results. The proportion of independent directors of the audit committee and the coefficient of CSR information disclosure level are positive and correlated at the level of 5%. This shows that the independent directors of the audit committee play their due supervisory role and can promote the improvement of the quality of CSR information disclosure. The results show that the sign directions of the coefficients of each test item have not changed, but the significance is slightly different, indicating that the research conclusion is still valid after controlling the endogenous problem.

3.3. Robustness analyses

This paper uses the propensity score matching method to test the robustness. The sample is divided into the state-owned enterprise group and the non-state-owned enterprise group based on the nature of property rights. The state-owned enterprise of listed companies in the sample is taken as the processing group, and correspondingly, the sample of non-state-owned enterprises is taken as the control group, using the PSM kernel matching method for matching.

The OLS result is estimated based on all observations, and the estimated effect ATT is 2.598, which is significant at the 1% level; while PSM_OLS is estimated based on 2,606 observations successfully matched, and the estimated effect ATT is 2.087, which is significant at the 10% level.

Column (2) of Table 4 is the regression result after using PSM kernel matching. The coefficient of internal control and CSR disclosure after matching is 0.0166, and the result is significant and positively correlated at 5%, indicating that internal control has a significant positive role in promoting CSR disclosure and supports hypothesis *H1*. After matching, the audit committee size is correlated with the CSR disclosure coefficient at the level of 10%, indicating that the audit committee size has a significant positive role in promoting CSR disclosure and supports hypothesis *H2* of this paper. After the matching, the proportion of independent directors of the audit committee and the CSR disclosure coefficient are positive but not significant, consistent with the previous results, and hypothesis *H3* is not supported. After the matching, the audit committee meeting and the CSR disclosure coefficient is negative at the 5% level, which is consistent with the previous results and does not support hypothesis *H4*.

Table 4. Regression analysis IV

Variables	(1)	(2)
	OLS	PSM_OLS
SOE	2.598***	2.087*
	(3.58)	(2.16)
IC	0.0172***	0.0166**
	(6.51)	(2.90)
AC_SIZE	0.838	1.399*
	(1.84)	(2.06)
AC_IND	3.205	5.074
	(1.12)	(1.10)
AC_MEET	–0.483**	–0.580**
	(–2.91)	(–2.63)
BD_SIZE	0.417	0.210
	(1.90)	(0.61)
BD_IND	2.976	6.173
	(0.47)	(0.72)
SIZE	1.934***	1.750***
	(8.09)	(5.55)
ROA	36.38***	11.96
	(6.89)	(1.31)
LEV	–1.177	1.734
	(–0.88)	(1.20)
GROWTH	0.0122	–0.400
	(0.53)	(–0.94)
LOSS	–10.22***	–13.11***
	(–6.93)	(–5.66)
Constant	–36.58***	–33.93***
	(–6.91)	(–4.68)
N	2613	2606
Adj. R-sq	0.170	0.146

Note: *** p < 0.01, ** p < 0.05, * p < 0.1. t-statistics in parentheses.

4. DISCUSSIONS

This study aimed to explore the relationship between various corporate governance mechanisms and the level of CSR disclosure. Four hypotheses were posited to guide the investigation. The findings have contributed nuanced insights into these relationships, as will be discussed herein.

Hypothesis *H1*, which posited a positive relationship between internal control and CSR disclosure, was supported by the findings and is on par with prior studies (Al-Shaer & Zaman, 2018; Allegrini & Greco, 2013; Appuhami & Tashakor, 2017; Arif et al., 2021; Dwekat et al., 2020, 2022). It was observed that a robust internal control system is indeed associated with enhanced CSR disclosure. This suggests that companies with strong internal controls are more likely to engage in transparent and comprehensive CSR reporting, possibly because these controls foster a culture of accountability and ethical behavior.

Similarly, hypothesis *H2*, which suggested that the size of the audit committee is positively related to CSR disclosure, found support in the research results like in prior studies on the subject matter (Al-Shaer & Zaman, 2018; Appuhami & Tashakor, 2017; Arif et al., 2021; Dwekat et al., 2020, 2022). The findings imply that larger audit committees, possibly due to a diversity of expertise and increased oversight capabilities, are better positioned to influence the breadth and depth of CSR disclosure practices.

Contrary to expectations, and previous research in the field (Al-Shaer & Zaman, 2018; Allegrini & Greco, 2013; Appuhami & Tashakor, 2017; Arif et al., 2021; Dwekat et al., 2020, 2022), hypothesis *H3*, which proposed a positive relationship between the proportion of independent directors on the audit committee and CSR disclosure, was not supported. The data did not indicate a significant link between the proportion of independent directors and the level of CSR disclosure. This outcome may suggest that the mere presence of independent directors does not automatically lead to improved CSR disclosure, hinting at the complexity of factors that influence such practices.

Lastly, hypothesis *H4*, which asserted a positive relationship between the frequency of audit committee meetings and CSR disclosure, did not find empirical support. This also runs counter previous research findings (Al-Shaer & Zaman, 2018; Allegrini & Greco, 2013; Appuhami & Tashakor, 2017; Arif et al., 2021; Dwekat et al., 2020, 2022). This result challenges the assumption that more frequent meetings of the audit committee necessarily translate into better CSR disclosure. It could be inferred that the quality of discussions and the focus of the meetings are more critical than their frequency.

In conclusion, the findings of this study underscore the multifaceted nature of corporate governance mechanisms and their influence on CSR disclosure. While some aspects of corporate governance, such as internal controls and audit committee size, are positively associated with CSR disclosure, other factors like the proportion of independent directors and the frequency of audit committee meetings do not exhibit a straightforward relationship. These insights contribute to the ongoing dialogue on effective corporate governance practices and their role in promoting transparency and responsibility in CSR activities. Further research is encouraged to explore these complex dynamics and to uncover the underlying mechanisms that facilitate or impede CSR disclosure in the corporate sector.

In conclusion, this study significantly advances the understanding of how audit committee attributes influence CSR assurance adoption. It offers practical guidance for stakeholders involved in shaping corporate governance practices and regulatory frameworks. As CSR continues to evolve into a central facet of corporate strategy, the critical role of audit committees is highlighted, necessitating a nuanced comprehension of their impact on CSR assurance dynamics. This study not only fills a gap in the literature by providing empirical evidence on the interplay between corporate governance mechanisms and CSR disclosure but also offers a roadmap for future research in this vital area of corporate governance and sustainability.

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CONCLUSIONS

The final study found that there is a multifaceted relationship between corporate governance mechanisms and the quality of CSR disclosure among A-share listed companies on the Shanghai and Shenzhen stock exchanges from 2010 to 2019. The investigation focused on assessing how internal control quality, the dimensions of the audit committee, the proportion of independent directors within such a committee, and the frequency of audit committee meetings correlate with the extent and quality of CSR disclosure.

It was established that the quality of internal controls is positively associated with CSR disclosure, underscoring the significance of robust internal control systems in enhancing a firm's transparency and accountability in social and environmental matters. This association affirms the hypothesis that effective internal control mechanisms are indicative of a firm's dedication to ethical responsibility and risk management practices conducive to transparency.

Furthermore, the study confirmed the hypothesis that an increase in the size of the audit committee positively impacts CSR disclosure. This finding suggests that larger audit committees, with their diverse expertise and perspectives, play a pivotal role in scrutinizing and focusing on CSR activities and reporting, thereby emphasizing the importance of social and environmental considerations in corporate governance.

Contrary to initial expectations, the hypothesis that a higher proportion of independent directors on the audit committee would positively influence CSR disclosure was not supported. This outcome suggests that the independence of audit committee members, while essential for financial oversight, does not directly contribute to enhanced CSR disclosure. Similarly, the hypothesis that the frequency of audit committee meetings would positively affect CSR disclosure was also not supported, indicating that the sheer number of meetings does not necessarily lead to better CSR practices.

In summary, the findings illuminate the complex interplay between corporate governance attributes and CSR disclosure. The positive correlation between strong internal controls, a larger audit committee size, and CSR disclosure highlights the importance of these governance mechanisms in promoting transparency. However, the lack of a significant relationship between the independence of audit committee members, the frequency of their meetings, and CSR disclosure calls for a reevaluation of these aspects. These insights contribute to the broader discourse on corporate governance's role in advancing CSR activities and delineate avenues for future research. For practitioners, the study highlights the need to focus not only on the structural but also on the functional aspects of governance mechanisms to foster effective CSR disclosure.

AUTHOR CONTRIBUTIONS

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APPENDIX A

Table A1. Prior studies on the relationship between internal audit and CSR reporting quality

Authors	Dependable variables	Independent variables	Sample	Main findings	Relationship
Alkayed & Omar (2023)	The extent and quality of CSRD	The presence of an audit committee	18 Jordanian companies between 2010 and 2015	The following factors were found to have a significant relationship with both the extent and quality of CSRD: … the presence of audit committees (Alkayed & Omar, 2023, p. 1206)	+
Dwekat et al. (2022)	The adoption of CSR assurance	The committee attributes: financial expertise, independence, meeting frequency and size	European companies listed on the STOXX 600 index over the period 2012–2018	"The findings show that attributes related to audit committee financial expertise, audit committee independence and audit committee meeting frequency and the existence of a CSR committee, are positively linked with the adoption of CSR assurance" (Dwekat et al., 2022, p. 718)	+
Arif et al. (2021)	ESG reporting quality = GRI_Compliance	AC activism (meeting frequency) and independence	Energy sector firms in Australia for the period 2009–2018	"We find that AC activism and independence have a strong positive influence on the quality and quantity of ESG disclosures" (Arif et al., 2021, p. 507)	+
Dwekat et al. (2020)	Environmental, Social, and Governance (ESG) score as a proxy to measure CSR disclosure	AC independence AC size AC meeting AC financial expert AC chair independence	The top 100 European companies based on market capitalization for the period 2016–2018	"According to our findings, AC independence, board independence, AC financial expert, AC chair independence, and gender diversity, affect CSR disclosure positively" (Dwekat et al., 2020, p. 2890)	+
Al-Shaer & Zaman (2018)	Sustainability reporting assurance	Number of audit committee members; audit committee independence; proportion of audit committee members with financial expertise; number of audit committee meetings held during the year	All the companies listed in 2012 in the UK FTSE350	"We find support for our hypothesis, which indicates that they add credibility to sustainability reporting" (Al-Shaer & Zaman, 2018, p. 973)	+
Appuhami & Tashakor (2017)	Variety, Volume and Focus of CSR disclosure	Size of AC Frequency of AC meetings AC independence independence chair financial expertise members' gender diversity	Australian firms listed on the ASX for financial year-ends between July 2012 and June 2013	"Using a sample of 300 ASX listed firms, the results show that AC characteristics such as size, frequency of meetings, committee independence and gender diversity are significantly and positively associated with the level of CSR disclosure of Australian listed firms" (Appuhami & Tashakor, 2017, p. 415)	+
Allegrini & Greco (2013)	Disclosure score	Audit committee activity	All non-financial companies listed on the Italian Stock Exchange in 2007	"We found that board size and diligence show a positive relationship with voluntary disclosure. The audit committee meeting frequency also show a positive impact on the amount of information voluntarily disclosed (Allegrini & Greco, 2013, p. 209).	+

Table A2. Variable definitions

Variables		Definitions
Dependent Variables	CSR	CSR score provided by HEXUN CSR system
Independent Variables	IC	Internal Control Index comes from DIB Database
	AC_SIZE	Total number of audit committee members
	AC_IND	The ratio of the independent directors in the audit committee
	AC_MEET	Total number of audit committee meetings
Control Variables	BD_SIZE	The number of directors serving on a company's board of directors
	BD_IND	The proportion of independent directors serving on a board
	SIZE	The natural log of total assets
	ROA	Net Income to Total Assets
	LEV	Total liability divided by total assets
	GROWTH	The growth of the company is measured by the growth rate of the business income
	LOSS	1 if the firm reported negative net income, 0 otherwise.
Moderator Variables	DUALITY	If the same person holds the positions of CEO and chairman in a company, it equals 1, otherwise 0
	SOE	If the listed company is a state-owned enterprise, the value is 1, otherwise 0

Table A3. Regression analysis I

Variables	(1)	(2)	(3)
	CSR	CSR	CSR
IC	0.017***		0.017***
	(6.33)		(6.37)
AC_SIZE		1.041**	1.054**
		(2.29)	(2.33)
AC_IND		4.467	4.493
		(1.56)	(1.58)
AC_MEET		–0.502***	–0.507***
		(–2.99)	(–3.05)
BD_SIZE	0.677***	0.560**	0.550**
	(3.20)	(2.57)	(2.55)
BD_IND	5.329	3.439	4.042
	(0.85)	(0.54)	(0.64)
SIZE	2.186***	2.494***	2.153***
	(9.89)	(10.97)	(9.29)
ROA	35.344***	40.170***	35.327***
	(6.68)	(7.62)	(6.69)
LEV	–0.666	–2.018	–0.783
	(–0.50)	(–1.51)	(–0.58)
GROWTH	0.012	–0.008	0.009
	(0.54)	(–0.37)	(0.41)
LOSS	–10.075***	–12.077***	–10.209***
	(–6.82)	(–8.28)	(–6.91)
Constant	–41.367***	–39.191***	–43.168***
	(–8.39)	(–7.88)	(–8.67)
Observations	2,613	2,613	2,613
R-squared	0.165	0.157	0.170
F test	0	0	0
r2_a	0.162	0.154	0.166
F	64.21	48.42	48.38

Note: *** p < 0.01, ** p < 0.05, * p < 0.1. t-statistics in parentheses.

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Table A4. Regression analysis II

Variables	(1)	(2)	(3)	(4)
	DUALITY=1	DUALITY=0	SOE=1	SOE=0
IC	0.013**	0.018***	0.017***	0.015***
	(1.99)	(6.00)	(4.72)	(4.10)
AC_SIZE	2.786**	0.804	0.933	0.770
	(2.32)	(1.61)	(1.58)	(1.03)
AC_IND	1.194	4.951	4.703	1.109
	(0.20)	(1.55)	(1.28)	(0.23)
AC_MEET	−0.262	−0.546***	−0.641***	−0.069
	(−0.83)	(−2.84)	(−2.73)	(−0.31)
BD_SIZE	0.656	0.523**	0.462	0.188
	(1.46)	(2.12)	(1.61)	(0.54)
BD_IND	18.890	1.289	4.500	2.677
	(1.49)	(0.18)	(0.52)	(0.28)
SIZE	2.681***	2.023***	1.651***	2.263***
	(4.95)	(7.68)	(4.92)	(6.58)
ROA	45.596***	33.864***	80.439***	22.479***
	(4.08)	(5.64)	(6.74)	(4.46)
LEV	−4.754	−0.452	1.450	−2.137
	(−1.34)	(−0.31)	(0.73)	(−1.17)
GROWTH	0.002	−0.101	−0.540	0.013
	(0.11)	(−0.40)	(−0.99)	(0.67)
LOSS	−10.122***	−10.198***	−5.849***	−12.282***
	(−3.58)	(−6.00)	(−2.59)	(−6.40)
Constant	−63.046***	−38.483***	−32.134***	−39.647***
	(−5.48)	(−6.72)	(−4.38)	(−4.55)
Observations	528	2,085	1,457	1,156
R-squared	0.233	0.158	0.160	0.179
F test	0	0	0	0
r2_a	0.217	0.154	0.154	0.171
F	14.26	35.46	25.05	22.68

Note: *** p < 0.01, ** p < 0.05, * p < 0.1. t-statistics in parentheses.

Table A5. Regression analysis III

Variables	(1)	(2)	(3)
	IC	CSR	CSR
IC		0.038***	
		(5.11)	
IC_lag	0.388***		0.014***
	(19.20)		(5.10)
AC_SIZE	−0.149	1.125**	0.884*
	(−0.04)	(2.23)	(1.77)
AC_IND	9.374	4.074	6.279**
	(0.42)	(1.30)	(2.00)
AC_MEET	1.067	−0.673***	−0.555***
	(0.79)	(−3.53)	(−2.90)
BD_SIZE	−0.286	0.097	0.130
	(−0.16)	(0.39)	(0.53)
BD_IND	−52.697	0.152	−1.405
	(−1.01)	(0.02)	(−0.19)
SIZE	12.441***	1.452***	1.864***
	(6.50)	(4.81)	(6.93)

Table A5 (cont.). Regression analysis III

Variables	(1)	(2)	(3)
	IC	CSR	CSR
ROA	227.932***	20.327***	29.509***
	(5.32)	(3.12)	(4.90)
LEV	–42.700***	1.394	–0.166
	(–3.67)	(0.82)	(–0.10)
GROWTH	6.837**	–0.621	–0.412
	(2.15)	(–1.38)	(–0.92)
LOSS	–96.307***	–8.650***	–12.125***
	(–8.51)	(–4.88)	(–7.65)
Constant	139.577***	–36.005***	–30.908***
	(3.42)	(–5.99)	(–5.37)
Wald chi2	371.01***		
F		31.85***	
Observations	1,815	1,815	1,815
R-squared		0.146	0.164

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. t-statistics in parentheses.

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