

Board characteristics and financial misconduct

Yijie Zhu

University of Illinois Urbana-Champaign, Champaign, Illinois, USA

zhuyijiehappy@163.com

Abstract. This paper investigates how three features of board structure relate to financial reporting misconduct in China. The analysis covers 63,650 firm-year observations for A-share companies between 2000 and 2025 and considers the proportion of independent directors, the combination of the CEO and board-chair positions, and female representation on the board. Financial restatement serves as the observable measure of misconduct. The estimates show that CEO duality is associated with fewer restatements. Board independence also has a negative coefficient, although the association weakens and loses statistical significance when the other board attributes are included. Female board representation has the most stable result: firms with more female directors have a significantly lower probability of restatement. Additional tests indicate that ownership type moderates the association with CEO duality but not the associations with board independence or female representation. These results show that board attributes differ in their relation to reporting outcomes and that the consequences of leadership structure depend on institutional context.

Keywords: corporate governance, financial misconduct, financial restatement, board independence, CEO duality, female directors

1. Introduction

Financial reporting misconduct continues to impair capital markets even as accounting rules, governance requirements, and enforcement have become more developed. Manipulated statements and later restatements impose losses on investors and creditors and can damage confidence in reported information. The Association of Certified Fraud Examiners' 2024 occupational fraud report shows that financial statement fraud is less frequent than other reported fraud categories but produces the largest median loss. Misconduct also makes firms' disclosures less credible, widens information gaps between insiders and investors, and can distort the allocation of capital. Identifying internal arrangements that constrain reporting misconduct therefore remains an important accounting question.

The board of directors is central to this question because it monitors executives and oversees major corporate decisions, including financial reporting [1]. Recent governance reforms have altered both board composition and leadership arrangements. Independence requirements have expanded, investors have pressed firms to diversify their boards, and scholars continue to disagree about whether one person should hold the CEO and chair positions. These developments involve distinct aspects of governance rather than a single measure of board quality. A board's capacity to monitor, the allocation of authority at its top, and the range of perspectives represented in its deliberations may each shape managers' reporting choices.

This paper asks how those dimensions of board structure are associated with corporate financial misconduct. It examines board independence, CEO duality, and female director representation together because each reflects a different governance mechanism. Independent directors can provide scrutiny that is less closely tied to management. CEO duality determines whether executive authority and board leadership are concentrated in one person. Female representation broadens the composition of the board and may affect participation, information exchange, and deliberation [2]. Studying the three characteristics in the same setting permits a direct comparison of their associations with reporting misconduct.

China offers a useful setting because its governance institutions differ from those of many developed markets. Share ownership in Chinese listed companies is often concentrated, state ownership remains substantial, and external mechanisms such as private litigation and the market for corporate control are less developed than in the United States [3]. These features can change managerial incentives and the practical influence of a board. China has strengthened its accounting and governance rules, yet reporting failures and enforcement actions remain relevant concerns. Evidence from A-share firms can therefore show whether familiar board mechanisms operate similarly in a market with concentrated ownership and extensive state participation.

The empirical analysis uses 63,650 observations for Chinese A-share firms over 2000-2025 and identifies misconduct through annual-report restatements. Three results emerge. Female representation is consistently associated with a lower probability of restatement. Board independence has a negative but less stable association that becomes insignificant in the specification containing all three board measures. CEO duality also has a negative association, contrary to the standard agency-theory prediction, and this association differs between state-owned enterprises and other firms.

The paper contributes by placing three board attributes in a common empirical framework. Earlier studies often consider independence, leadership structure, or gender diversity separately [2, 4, 5]. Here, the measures represent monitoring capacity, concentration of leadership, and diversity in board deliberation. Their coefficients differ in strength and stability, indicating that board characteristics should not be treated as interchangeable proxies for governance quality.

The Chinese sample also extends evidence obtained mainly in Western institutional environments. Concentrated ownership and state participation can affect both the demand for board monitoring and directors' ability to exercise it. The results thus clarify how institutional and ownership conditions relate to the effectiveness of internal governance mechanisms in financial reporting.

Finally, the evidence informs the debate over CEO duality. Agency theory links combined leadership to weaker oversight, whereas the estimates in this sample associate it with fewer restatements, particularly outside the state sector. The result does not establish that duality is universally beneficial. Instead, it suggests that its reporting consequences may reflect a balance between reduced board independence and potential gains from clearer authority, coordination, and accountability.

2. Literature review and hypothesis development

2.1. Board independence and corporate financial misconduct

Agency theory provides the main basis for expecting independent directors to constrain reporting misconduct. Managers control information about operations and may benefit from withholding bad news or altering reported performance, creating a conflict with shareholders [6]. Directors without close managerial ties should be better able to assess that information and challenge executives when their interests diverge from those of shareholders [1]. Independence can therefore increase the credibility of board oversight.

This monitoring role is especially relevant when accounting rules leave managers discretion. Executives may use that discretion to obscure poor results, avoid an adverse market response, or protect compensation and career prospects. Independent directors can question management's explanations, request supporting evidence, and press for more transparent reporting. Such scrutiny may stop an irregular accounting choice before it leads to a material misstatement or later restatement [5].

Prior findings generally support this argument. Beasley [4] reports that companies involved in financial statement fraud have fewer outside directors than comparable non-fraud firms. In China, Chen et al. [7] link weaker governance structures to a higher incidence of fraud. Klein [5] also finds that stronger board and audit-committee independence is associated with less earnings management. Although these studies use different outcomes and settings, each connects independent oversight with constraints on opportunistic reporting.

Accordingly, a larger independent presence should improve scrutiny of management and narrow the scope for questionable reporting choices. This reasoning yields the first hypothesis:

Hypothesis 1: Board independence is negatively associated with the likelihood of corporate financial misconduct.

2.2. CEO duality and corporate financial misconduct

CEO duality exists when one person serves as both chief executive and board chair. Combining the positions may affect oversight and organizational coordination in opposite ways, so theory does not imply an unambiguous relation with financial misconduct.

Under agency theory, those responsible for managerial decisions should not control the body that evaluates those decisions [1, 6]. A CEO-chair may shape board agendas, influence the information supplied to other directors, and make challenges to management more difficult. Concentrating the two roles can therefore weaken independent review and entrench the chief executive [8].

The risk becomes important when management exercises judgment over financial reports. Reduced board scrutiny can make it easier to delay bad news or choose accounting treatments that favor reported performance. Consistent with this concern, Bao and Xue [9] associate CEO duality in Chinese listed firms with both accrual and real earnings management. Araújo et al. [10] find that a requirement to separate the CEO and chair positions reduces discretionary accruals. These results support the prediction that duality can expand managerial discretion and raise reporting risk.

Stewardship theory starts from a different view of executive motivation. It allows managers to act in the organization's interests rather than treating private benefit as their dominant objective [11, 12]. Combining the two positions may then give a chief executive the authority needed to implement decisions efficiently, reduce conflict between the board and management, and make responsibility for outcomes easier to identify.

The same logic can apply to reporting accountability. When one executive leads both management and the board, that person has less scope to attribute a reporting failure to divided authority. Brickley et al. [13] caution that separation is not costless because it may create coordination and information problems. Finkelstein and D'Aveni [14] likewise describe duality as involving a tradeoff between entrenchment and unity of command. If clearer responsibility and faster coordination outweigh the loss of independent leadership, a CEO-chair may face stronger personal incentives to avoid a reporting failure.

Agency and stewardship theories therefore generate opposing predictions. Duality may facilitate opportunism by weakening board oversight, or it may discourage misconduct by unifying authority and responsibility. The direction of the association is left to the evidence.

The following competing hypotheses are tested:

Hypothesis 2a: CEO duality is positively associated with the likelihood of corporate financial misconduct.

Hypothesis 2b: CEO duality is negatively associated with the likelihood of corporate financial misconduct.

2.3. Female directors and corporate financial misconduct

Female board representation may influence governance through directors' participation and the way a board evaluates information. Reviews of this literature identify monitoring, human-capital, social-capital, and resource-dependence explanations for gender-related board effects [15]. For financial reporting, the most direct mechanisms concern oversight and deliberation.

Adams and Ferreira [2] find that female directors attend more board meetings and more often serve on monitoring committees. Greater participation can increase the attention given to managerial decisions and make it more likely that directors question an unusual accounting treatment. On this account, female representation matters when it changes the board's engagement with oversight rather than simply its demographic composition.

Board diversity may also affect the evaluation of complex or uncertain information. Gul et al. [16] connect gender-diverse boards with more informative stock prices, consistent with an improved information environment. Nielsen and Huse [17] show that women's contribution to board decision making depends on participation and perceptions of equality. Alternative perspectives and more active questioning can reduce conformity in board discussion. In a reporting context, those processes may help directors notice warning signs and examine management's assumptions before an aggressive choice develops into a restatement.

Ilaboya and Lodikero [18] provide more direct evidence on financial statement fraud. They find that female gender diversity strengthens the association between board independence and lower fraud. Their evidence suggests that representation can complement formal board structures by improving the operation of monitoring in practice.

The literature thus points to two related channels: female directors may participate more actively in oversight and may broaden board deliberation. Both channels should increase the probability that questionable reporting is identified and challenged. This study therefore predicts:

Hypothesis 3: Firms with a higher proportion of female directors are less likely to engage in corporate financial misconduct.

3. Sample and research model

3.1. Sample selection

The initial sample contains 77,449 firm-year observations for Chinese A-share companies from 2000 through 2025. Financial and director-level data are drawn from the China Stock Market & Accounting Research (CSMAR) database. Merging the two data sets produces 72,357 firm-year observations.

Observations that lack any variable required by the baseline model are removed. The resulting estimation sample contains 63,650 firm-year observations.

CSMAR is the sole data source for the financial, ownership, audit, and board variables used in the analysis.

3.2. Research model and variable definitions

The following logit specification in Equation (1) is estimated to test the hypotheses:

$$Restate_{i,t} = \alpha_0 + \alpha_1 Duality/Indep/female_{i,t} + Control\ variables + \varepsilon \quad (1)$$

Restate equals one when a company restates its annual report for year t and zero otherwise. Duality identifies observations in which the CEO also chairs the board. Indep and Female measure the proportions of

independent and female directors, respectively. The model also includes firm characteristics that may be related to restatement; the Appendix gives complete definitions.

3.3. Descriptive statistics

Table A2 summarizes the sample. Restate has a mean of 0.124, so 12.4% of the firm-year observations involve an annual-report restatement. Duality averages 0.284, indicating that the CEO also chairs the board in 28.4% of observations. The mean proportion of independent directors is 0.365, close to the one-third threshold commonly observed among Chinese listed companies. Female directors represent 17.2% of board membership on average. Each governance measure displays sufficient variation for the regression analysis.

3.4. Correlations

Table A3 reports pairwise correlations. The three focal board measures are not highly correlated: the coefficients are 0.136 for Duality and Indep, 0.082 for Duality and Female, and 0.071 for Indep and Female. These values do not indicate a severe multicollinearity problem among the principal explanatory variables.

4. Empirical results

4.1. Baseline results

Table A4 presents the logit estimates. In column 1, the coefficient on Duality is -0.098 and significant at the 1% level. It remains negative and significant when all three board variables enter the model in column 4 (-0.089, $p < 0.01$). Thus, firms in which the CEO also chairs the board have a lower estimated probability of restatement. This result is inconsistent with the agency prediction that combined leadership necessarily impairs monitoring, but it accords with the possibility that unified authority improves coordination or makes accountability clearer.

The evidence for board independence is less stable. Indep has a coefficient of -0.499 ($p < 0.05$) in column 2, but its magnitude falls to -0.356 and is no longer statistically significant in the joint specification. The separate estimate is consistent with a monitoring benefit, whereas the joint estimate does not establish an association after accounting for the other board characteristics. Formal independence may overlap with those characteristics or may not, by itself, ensure effective scrutiny of reporting decisions.

Female has the most consistent association with restatement. Its coefficient is -0.459 ($p < 0.01$) in column 3 and -0.449 ($p < 0.01$) in column 4. The limited change across specifications indicates that the result is not explained by the included measures of independence or duality. The sign is consistent with the argument that female representation strengthens monitoring and introduces additional perspectives into board deliberations.

Several controls are also statistically significant. Asset is negatively related to restatement, as are Cash, Intensity, and Big4. Liability has a positive coefficient, consistent with greater reporting pressure among more highly leveraged firms. Institutional ownership is also positively associated with restatement. Because these estimates are associations, the positive coefficient on institutional ownership may reflect differences in firm complexity or scrutiny rather than a causal effect of institutional investors.

Taken together, the baseline estimates support Hypothesis 3 and the negative alternative in Hypothesis 2b. Hypothesis 1 receives support only when independence is examined separately. The contrast among the three measures also shows why a single board-quality construct can conceal differences across governance mechanisms.

4.2. Cross sectional analysis by state ownership

The analysis next examines whether state ownership changes the estimated associations. Model 2 interacts the SOE indicator with each focal board characteristic, as shown in Equation (2):

$$\text{Restate}_{i,t} = \rho_0 + \rho_1 \text{SOE}_{i,t} + \rho_2 \text{SOE}_{i,t} \times \psi_{i,t} + \rho_3 \psi_{i,t} + \text{Control Variables} \\ \text{Year Fixed} + \text{Firm Fixed} + \varepsilon_{i,t} \quad (2)$$

In Model 2, W denotes Duality, Indep, or Female. The coefficient on $\text{SOE} \times W$ tests whether the association for state-owned enterprises differs from that for non-state-owned firms.

Table A5 reports three specifications, each containing one interaction between SOE and a board measure. The main coefficient on the board measure describes the association among non-SOEs; adding the interaction coefficient gives the corresponding association among SOEs.

Column 1 shows a negative coefficient on Duality for non-SOEs (-0.137, $p < 0.01$) and a positive interaction with SOE (0.189, $p < 0.01$). The sum of these estimates is 0.052 for SOEs. Consequently, the negative association between duality and restatement is concentrated among non-state firms and is reversed in sign, though not separately tested here, for state-owned firms. Differences in authority, monitoring, or executive incentives across ownership types may account for this pattern.

Column 2 reports a negative coefficient on Indep among non-SOEs (-0.682, $p < 0.05$). The SOE interaction is positive but insignificant (0.576, $t = 1.17$). The analysis therefore provides no statistical evidence that the association between independence and restatement differs by state ownership.

In column 3, Female remains negatively associated with restatement (-0.429, $p < 0.01$), while $\text{Female} \times \text{SOE}$ is insignificant (-0.102, $t = -0.64$). The estimated relation between female board representation and reporting quality does not differ significantly between SOEs and non-SOEs.

Only the interaction involving CEO duality is statistically significant. Ownership type therefore appears relevant to the consequences of leadership concentration, whereas the estimates for independence and female representation are comparatively similar across the two ownership groups.

5. Conclusion

This study relates three board characteristics to annual-report restatements using 63,650 firm-year observations for Chinese A-share companies from 2000 to 2025. The analysis considers board independence, CEO duality, and female board representation in a common empirical setting.

CEO duality is negatively associated with restatement in both the separate and joint specifications. This result favors the stewardship-based alternative over the conventional agency prediction in the full sample, although it does not demonstrate that combined leadership improves reporting. Board independence has a negative coefficient when examined alone but becomes insignificant after the other board measures are added. Female representation has the strongest and most stable negative association across the baseline models.

Ownership-based tests qualify the result for CEO duality. Its negative association is found among non-SOEs and is significantly weaker among SOEs. State ownership does not significantly alter the coefficients on board independence or female representation. Leadership arrangements may therefore depend more heavily on ownership context than the two composition measures examined here.

The findings have two implications. First, independence, leadership structure, and gender representation capture different aspects of board governance and should not be treated as equivalent indicators. Second, an arrangement's association with reporting misconduct may change with the institutional setting in which the

board operates. The estimates are associational and use restatement as the observable proxy for misconduct; future research could address causal identification and distinguish among types and causes of restatement.

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Appendix

Table A1. Variable definitions

Variable name	Definition
<i>Dependent variable</i>	
Restate	1 if the firm restates its annual report for year t, and 0 otherwise.
<i>Independent variables</i>	
Duality	1 if the CEO also serves as chair of the board, and 0 otherwise.
indep	Percentage of independent directors on the board.
female	Percentage of female directors on the board.
<i>Control variables</i>	
asset	Natural logarithm of total assets.
liability	Total liabilities divided by total assets.
cash	Cash divided by total assets.
intensity	Net fixed assets divided by total assets.
big4	1 if the signing auditor is affiliated with a Big Four audit firm, and 0 otherwise.
SOE	1 if the firm is a state-owned enterprise, and 0 otherwise.
insti	Percentage of shares held by institutional investors.
loss	1 if net profit is negative, and 0 otherwise.

Table A2. Summary statistics

	Mean	Std. Dev.	Median	min	max
Restate	0.124	0.33	0.000	0	1
Duality	0.284	0.451	0.000	0	1
indep	0.365	0.07	0.333	0	0.571
female	0.172	0.172	0.167	0	0.667
asset	22.015	1.358	21.815	19.293	26.483
liability	0.437	0.221	0.427	0.05	1.049
cash	0.185	0.138	0.147	0.006	0.677
intensity	0.216	0.166	0.183	0.001	0.708
big4	0.059	0.235	0.000	0	1
SOE	0.366	0.482	0.000	0	1
insti	0.43	0.248	0.450	0.001	0.91
loss	0.166	0.372	0.000	0	1

Table A3. Correlation matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1)Restate	1.000											
(2) Duality	-0.021 ***	1.000										
(3) indep	-0.016 ***	0.136 ***	1.000									
(4) female	-0.029 ***	0.082 ***	0.071 ***	1.000								
(5) asset	-0.048 ***	-0.125 ***	0.092 ***	-0.035 ***	1.000							
(6) liability	0.062 ***	-0.142 ***	-0.038 ***	-0.063 ***	0.344 ***	1.000						
(7) cash	-0.040 ***	0.086 ***	0.021 ***	0.009 **	-0.169 ***	-0.378 ***	1.000					
(8)intensity	0.011 ***	-0.098 ***	-0.107 ***	-0.046 ***	0.010 ***	0.091 ***	-0.323 ***	1.000				
(9) big4	-0.0328 ***	-0.044 ***	0.017 ***	-0.044 ***	0.328 ***	0.080 ***	-0.028 ***	0.002	1.000			
(10) SOE	0.0147 ***	-0.311 ***	-0.123 ***	-0.128 ***	0.271 ***	0.253 ***	-0.103 ***	0.187 ***	0.108 ***	1.000		
(11) insti	0.008 **	-0.190 ***	0.017 ***	-0.090 ***	0.357 ***	0.169 ***	-0.020 ***	0.106 ***	0.217 ***	0.425 ***	1.000	
(12) loss	0.024 ***	0.020 ***	0.028 ***	0.022 ***	-0.097 ***	0.226 ***	-0.154 ***	0.036 ***	-0.045 ***	-0.017 ***	-0.102 ***	1.000

Note: This table reports pairwise correlations. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Table A4. Baseline regression results

VARIABLES	(1) restate	(2) restate	(3) restate	(4) restate
Duality	-0.098*** (-3.39)			-0.089*** (-3.05)
Indep		-0.499** (-2.18)		-0.356 (-1.54)
Female			-0.459*** (-6.27)	-0.449*** (-6.13)
asset	-0.183*** (-17.41)	-0.181*** (-17.13)	-0.181*** (-17.12)	-0.180*** (-16.99)

Table A4. Continued

liability	0.990*** (15.88)	0.997*** (15.99)	0.982*** (15.71)	0.969*** (15.48)
cash	-0.659*** (-6.28)	-0.669*** (-6.38)	-0.671*** (-6.39)	-0.663*** (-6.31)
intensity	-0.167** (-2.15)	-0.170** (-2.18)	-0.167** (-2.14)	-0.178** (-2.27)
big4	-0.313*** (-4.97)	-0.313*** (-4.96)	-0.338*** (-5.21)	-0.335*** (-5.16)
SOE	0.030 (1.06)	0.047* (1.67)	0.037 (1.32)	0.014 (0.49)
insti	0.281*** (4.79)	0.286*** (4.87)	0.280*** (4.76)	0.257*** (4.34)
loss	-0.042 (-1.26)	-0.042 (-1.25)	-0.039 (-1.16)	-0.035 (-1.05)
Constant	1.690*** (7.43)	1.785*** (7.52)	1.698*** (7.44)	1.860*** (7.77)
Observations	63,650	63,650	63,650	63,650
Pseudo R2	0.015	0.014	0.015	0.015

Note: The dependent variable, Restate, equals one when the firm restates its annual report for year t and zero otherwise. Variable definitions appear in the Appendix. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Table A5. Cross sectional analysis by state ownership

VARIABLES	(1) restate	(1) restate	(1) restate
Duality*SOE	0.189*** (2.66)		
Duality	-0.137*** (-4.25)		
Indep*SOE		0.576 (1.17)	
Indep		-0.682** (-2.28)	
Female*SOE			-0.102 (-0.64)
Female			-0.429*** (-4.91)
SOE	0.000 (0.00)	-0.165 (-0.90)	0.052 (1.41)
asset	-0.182*** (-17.34)	-0.181*** (-17.24)	-0.181*** (-17.24)

Table A5. Continued

liability	0.965*** (15.96)	0.979*** (16.22)	0.970*** (16.06)
cash	-0.636*** (-6.09)	-0.649*** (-6.21)	-0.659*** (-6.30)
intensity	-0.160** (-2.06)	-0.162** (-2.07)	-0.167** (-2.14)
big4	-0.332*** (-5.11)	-0.330*** (-5.09)	-0.342*** (-5.26)
insti	0.290*** (4.94)	0.297*** (5.06)	0.286*** (4.90)
Constant	1.668*** (7.38)	1.863*** (7.35)	1.676*** (7.43)
Observations	63,650	63,650	63,650
Pseudo r2	0.0146	0.0143	0.015

Note: The dependent variable, Restate, equals one when the firm restates its annual report for year t and zero otherwise. Variable definitions appear in the Appendix. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.