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## Impact of CEO-board social ties on accounting conservatism: Internal control quality as a mediator

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### ABSTRACT

The paper aims to explore the association between CEO-board social ties and accounting conservatism. We found there is a negative relationship between CEO-board social ties and accounting conservatism. It implies that more CEO-board social ties reduce board's monitoring function and encourage CEO's tendency to adopt less conservative principles for their own personal gains. We also found the mediating effect of the quality of internal control system between CEO-board ties and accounting conservatism. This piece of finding further implies that the internal control system decided by the board could be the means via which CEO realizes less conservative principles. Contributions, limitations, and implications to corporate governance as well as security exchange commission are also discussed.

### 1. Introduction

Prior literature has studied how CEO-board social ties impact the effectiveness of the board after a CEO packs it with supporters (Mace, 1986; Wade, O'Reilly, & Chandratat, 1990). These studies concluded that close personal relationships between the CEO and the board of directors negatively influence the board's ability to monitor the CEO's decision-making process. Board directors who have close personal relationships with the CEO exert less vigilance in monitoring and controlling (Walsh & Seward, 1990).

We extend this line of research by investigating the influence of CEO-board social ties on accounting conservatism. Resource allocation plays an important role in the CEO's strategic decision-making process. While the timely disclosure of accurate information helps to improve the effectiveness and efficiency of resource allocation, it also increases the possibility of detecting an unreasonable decision-making process by the CEO (Subrahmanyam, 2008). Conservatism accounting requires recognizing bad news before recognizing good news (Basu, 1997; Watts, 2003a, 2003b). CEO chooses as to whether to apply conservatism accounting play an important role in resource allocation procedures. The existence of CEO-board social ties results in the lack of monitoring and control on CEO decision-making processes and helps the CEO to avoid penalties. CEOs have an incentive to allocate resources for private benefits (Subrahmanyam, 2008). In this context, a CEO would tend to ignore conservatism accounting as it provides or discloses accurate and timely information in resource allocation procedures. Exploring the relation between CEO-board social ties and accounting conservatism is important because prior research suggests that CEO-board social ties critically impair a board's capacity to monitor and control management decision making and performance, thus diminishing effective board involvement in the strategy-making process (Westphal, 1999). For stakeholders, accounting conservatism is an important signal which could be observed and analyzed through financial disclosure of public firms, helping stakeholders to understand such influences from poor corporate

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governance (Lara, Osmá, & Penalva, 2009), like CEO-board social ties.

We further explore how CEO-board social ties influence accounting conservatism through influencing internal control quality. Internal control systems play an important role in corporate governance by reducing agency costs (Fama & Jensen, 1983a, 1983b; Jensen, 1993). Strong internal controls could motivate firms to use conservatism as a governance mechanism (Goh & Li, 2011). Weak internal controls impede the timely recognition of losses and report gains only. CEO-board social ties weaken board monitoring and lead to less effective penalties. When internal control is weak, CEO is more likely to take advantage of the system and implement control activities that maximize private benefits rather than to maximize shareholder's value (Subrahmanyam, 2008). In this situation, the mission and objectives of the internal control system are ignored and replaced with deficient standards compared to COSO internal control standards or others. Therefore, internal control quality could be one of the mechanisms through which CEO-board ties influence accounting conservatism.

Our objectives in this paper are two-fold: first, to examine the relationship between CEO-board ties and accounting conservatism; second, to test the potential mediating effect of internal control quality on the relationship between CEO-board ties and accounting conservatism. Our paper contributes to the research on CEO-board social ties from an accounting conservatism perspective. Existing studies have investigated the influence of CEO-board social ties on CEO turnover (Nguyen, 2012), earnings statement (Fracassi & Tate, 2012), CEO compensation (Hoitash, 2011) and mergers and acquisitions (M&A) transactions (Chikh & Filbien, 2011; Schmidt, 2015). To our knowledge, prior research does not demonstrate the relation between CEO-board social ties and accounting conservatism. Nor does it explore the mechanism of how CEO-board social ties influence accounting conservatism. The remainder of the paper is organized as follows: Section 2 presents the discussion of previous literature and develops the hypotheses. Section 3 presents the research design and variable measurement. Section 4 presents the sample selection and empirical results. Section 5 concludes the paper with a discussion about the implications and limitations.

## 2. Literature review and hypotheses development

### 2.1. CEO-board social ties

The impact of social connections between CEOs and their board has been extensively studied in management, strategy, and corporate governance research. The CEO-board ties in this study refers to the existence of the similar educational experiences, employment experiences, or personal family relations among the CEO and board of directors (Butler & Gurun, 2012; Fracassi & Tate, 2012; Hoitash, 2011; Nguyen, 2012). Two main conclusions could be drawn from prior studies about the influence of CEO-board social ties. First, CEO-board ties tend to weaken the effectiveness of the board. These studies found CEO-board social ties impair the capacity of the board's monitoring mechanism. For example, Larcker, Richardson, Seary, and Tuna (2005) indicated that CEO-board social ties diminish the board's effectiveness of monitoring for the outside directors' violating independence. Guedj and Barnea (2009) found CEO-board social ties not only "soften" the monitoring mechanism on CEOs but also improve CEO bargaining power with the board for more private benefits, like compensation and tenure. Secondly, CEO-board social ties impair the effectiveness of the strategic decision process. Studies indicate that a lack of independence in the board of directors who have social connections with the CEO results in a loss of control in strategic decision processes. CEOs will keep boards largely passive and uninvolved in strategic decision processes assuming that board directors are supporters (Wade et al., 1990). Outside directors will feel socially obligated to support the decisions that the CEO favored (Wade et al., 1990). Building upon these studies, we will test how CEO-board social ties influence accounting conservatism, which is an important and classic strategic decision-making process. Moreover, our paper will go further to examine internal control quality as the mechanism underlying this relationship.

### 2.2. The effect of CEO-board social ties on accounting conservatism

Accounting conservatism requires the recognition of "bad news" before the recognition of "good news" (Basu, 1997; Watts, 2003a, 2003b). The CEO plays an important role in applying conservative accounting in the business operation. Accounting conservatism could prevent management's opportunistic decision to benefit themselves, constrain agency problems in strategic decisions, and reduce litigation costs (Ball & Shivakumar, 2005). CEO-board social ties weaken the monitoring intensity of the board (Hermalin & Weisbach, 1998). The CEO may tend to ignore the application of conservative accounting methods to seek benefits for themselves. For example, accounting conservatism generates the numbers that support the removal of managers' short-term horizon to invest in negative NPV projects and increase the cost to biasing financial reports upward (Guay & Verrecchia, 2006). These numbers from accounting conservatism impede the realization of the CEO's strategic goal or commitment to performance growth, which is required by the board. The CEO prefers to give up conservative accounting methods and apply aggressive or optimistic methods in valuation and estimation. Those board directors who have social connections with the CEO will feel obligated to support this strategic decision process (Westphal, 1999). These aggressive or optimistic accounting methods magnify the positive performance and underestimate the loss of operation in disclosures of financial reporting. For instance, the CEO prefers to apply the advantage inventory evaluation method to adjust the net realizable value of inventory. In the financial statement, the adjustment will show the performance that the CEO is looking for. The plausibility of these methods could be recognized and supported without inquiries by the board because of the absence of monitoring capability. Thus, more CEO-board social ties lead to less conservative reports.

H1: There is a negative relation between CEO-board social ties and accounting conservatism.

Prior studies have found that independent and effective boards could resolve internal control problems (Hoitash, Hoitash, & Bedard, 2009; Krishnan, 2005). However, when CEO gains power through building more ties with the board, the board tends to lose

its independence and thus effectiveness in dealing with internal control problems (Lisic, Neal, Zhang, & Zhang, 2016). CEO has incentives to take advantage of his influence on the board to keep internal control weak in order to facilitate rent extraction, which benefits his own interests. Weak internal control makes the misappropriate asset easier for the CEO, for example, asking the company to reimburse his individual expenses. Weaker internal control could not prevent the CEO's discretion over financial reporting because of the lack of formal policies (Hogan & Wilkins, 2008). CEO could change an aging accounts receivable table by overriding the credit policy, resulting in sales-boosting in the income statement. Weak internal control also makes it more convenient for CEO to give lower-quality financial information (Doyle, Ge, & McVay, 2007), which provides the opportunity to earn profits from insider trading, misappropriate assets or other ways for CEO, to extract rents from current shareholders (Skaife, Veenman, & Wangerin, 2013). Beasley, Carcello, Hermanson, and Neal (2009) found that the board relies on management when evaluating the effectiveness of internal control. The monitoring intensity of the board will depend on the amount and quality of internal control information the management provided. Management thus has incentives to manipulate this information to reduce the monitoring intensity of the board while influencing board to keep weaker internal control systems. Similarly, Skaife et al. (2013) stated that the CEO's influence on the board motivates the CEO to prevent the board from removing internal control problems. In conclusion, these literature suggest that CEO is more likely to keep weak internal control to earn individual profits (Skaife et al., 2013), extract rents from shareholders (Bruynseels & Cardinaels, 2014) and reduce the monitoring intensity of the board (Beasley et al., 2009) when CEO's influence on the board becomes powerful. We therefore expected that CEO-board social ties increase CEO's power in the board, that leads to a lower internal control quality.

H2: There is a negative relation between CEO-board social ties and internal control quality.

### 2.3. Internal control quality, accounting conservatism, and CEO-board social ties

Accounting conservatism could reduce agency problems and improve the effectiveness and efficiency of managerial decisions in the business (Ball & Shivakumar, 2005; Holthausen & Watts, 2001). Accounting conservatism could prevent the manager's ability or motivations to overstate the profits and assets by applying higher verification standards to gain recognition and prevent the management to cover loss information in a timely manner. The protection from accounting conservatism could stop overcompensation or bonus to management because of the manager's tenure consideration. In the debt contract, accounting conservatism prevents management to avoid the dividend policy and transfers the value from bondholders to the shareholder, thereby mitigating dead-weight losses and increasing firm value (Zhang, Zhou, & Zhou, 2007). Accounting conservatism can limit the control right of managers and transfer those right back to the providers of finance earlier (Ball & Shivakumar, 2005).

Prior studies suggest that the choice of accounting conservatism is shaped by the company's contracting and governance environment (LaFond & Roychowdhury, 2008; Nikolaev, 2010). For example, LaFond and Roychowdhury (2008) concluded that the severity of the increasing agency problem could drive demand for greater accounting conservatism. The internal control system plays an important governance role within the firm to monitor managers' behavior and to minimize agency costs (Fama & Jensen 1983a, 1983b; Jensen, 1993). A strong internal control system could motivate the application of favor accounting conservatism on financial reporting. A strong internal control system promotes a good internal control culture and a strong tone at the top, which helps the firms to better understand the benefits of accounting conservatism in the governance environment. The firms with a strong internal control system are more likely to implement and emphasize more on conservative reporting (Goh & Li, 2011). In contrast, weak internal control systems generate inaccurate or erroneous information and cannot recognize the loss in a timely manner, and thus lead to lower accounting conservatism. For example, unqualified accounting staffs may lack of the expertise to estimate the future cash flows of assets such as goodwill and fixed assets, and identify any reduction in future cash flows that would trigger early recognition of impairment losses. Building upon these previous literature, we expect that:

H3a: There is a positive relationship between internal control quality and accounting conservatism.

The above arguments for hypothesis 1 and 2 imply a mediating effect of internal control quality through which CEO-board ties influence the accounting conservatism. CEO-board social ties weaken the monitoring intensity of the board (Hermalin & Weisbach, 1998) and make directors feel an obligation to support the CEO's decision (Westphal, 1999). Skaife et al. (2013) and Beasley et al. (2009) documented that CEO has incentives to keep internal control weak so as to earn personal gains and extract rents from shareholders. Weak internal controls can cause estimation errors in accounting numbers (Ashbaugh-Skaife, Collins, Kinney, & LaFond, 2008; Doyle et al., 2007). These errors make the contractible variables less reliable for contracting and monitoring purposes. This can reduce the effectiveness of conservatism as a governance mechanism and, hence, the incentives to implement conservatism. Weak internal controls could impede the timely recognition of losses that could lead to lower accounting conservatism (Goh & Li, 2011). Therefore, we argue that having more CEO-board social ties reduces the monitoring function of the board, and thus leaves room for a weak internal control system, which lead to lower accounting conservatism.

H3b: Internal control quality has a mediating effect on the relationship between CEO-board social ties and accounting conservatism.

## 3. Research design

### 3.1. Measures of CEO-board social ties

The social tie variable was constructed following prior literature in which the board directors and the CEO had been students at the same institution (Dey, Engel, & Liu, 2011), came from the same hometown, or had worked together (Cohen, Frazzini, & Malloy,

2008, 2010, 2012). We chose these three relations as the measures of social ties: attending the same university, growing up in the same town, and working together over 5 years before. Chidambaran, Liu, and Prabhala (2010) state that having the same cultural background does not matter in social ties. In Chinese culture, being from the same town and cultural background is a very important social tie. For example, most employees of Alibaba (Nasdaq: BABA) are citizens from Zhejiang province, and most employees of JingDong (Nasdaq: JD) are citizens from Jiangsu province. Finally, we use the proportion of directors who have two or more of the connections mentioned above to operationalize social ties in the paper.

### 3.2. Measures of internal control quality

We use an internal control quality index from the Shanghai Stock Exchange (SSE) to measure the internal control quality of each firm in the sample. Dibo Information System Technology Company (DIB) develops the internal control quality index for the Chinese Stock Exchange (including the Shanghai Stock Exchange and Shenzhen Stock Exchange). The database of DIB internal control and risk management follows the Audit Analytics Database in Compustat. The database design also includes the theory of COSO integrated internal control framework and the requirements of the Basic Norms for Enterprise Internal Controls (similar to the Sarbanes-Oxley Act (SOX) in China). The database evaluates the internal control quality on four levels: strategic objectives, operational objectives, reporting objectives, and compliance objectives. The database constructs a scale table system for each objective and calculates a weighted score for each public firm ranging from 0 to 1000. The scoring system has been recognized by the Ministry of Finance and China Securities Regulatory Commission similar to the U.S. Securities and Exchange Commission (SEC) in China) and it represents semi-official standards in China. In our paper, we use the natural logarithm of the score of each firm which comes from the DIB internal control and risk management database in our test.

### 3.3. Measures of accounting conservatism

In prior studies, accounting conservatism was discussed as conditional conservatism or unconditional conservatism (Basu, 1997). Unconditional conservatism emphasizes the difficulty of valuing the numbers in assets and influencing the prediction of future income. Conditional conservatism emphasizes the efficiency given by management incentives to report biased numbers (Beaver & Ryan, 2005). Conditional conservatism is a better indicator of the measurement of corporate governance than is unconditional conservatism. We use the firm-specific asymmetric timeliness score developed by Khan and Watts (2009). Khan and Watts (2009) estimate the timeliness of good news by a G-score and bad news by a C-score. The G-score and C-score are modeled as below:

$$\frac{EPS_{i,t}}{P_{i,t-1}} = \alpha_0 + \alpha_1 DR_{i,t} + \alpha_2 RET_{i,t} + \alpha_3 DR_{i,t} \times RET_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$G_{SCORE} = \alpha_2 = \mu_0 + \mu_1 SIZE_i + \mu_2 LEV_i + \mu_3 MB_i \quad (2)$$

$$C_{SCORE} = \alpha_3 = \lambda_0 + \lambda_1 SIZE_i + \lambda_2 LEV_i + \lambda_3 MB_i \quad (3)$$

Where *SIZE* is the market value of equity; *MB* is the market value of equity divided by the book value of equity, and *LEV* is total debt divided by total assets. Replacing  $\alpha_1$  and  $\alpha_2$  from Eqs. (2) and (3) into regression Eq. (1) yields:

$$\begin{aligned} \frac{EPS_{i,t}}{P_{i,t-1}} = & \alpha_0 + \alpha_1 DR_{i,t} + (\mu_0 + \mu_1 SIZE_i + \mu_2 LEV_i + \mu_3 MB_i) RET_{i,t} + (\lambda_0 + \lambda_1 SIZE_i + \lambda_2 LEV_i + \lambda_3 MB_i) DR_{i,t} \times RET_{i,t} \\ & + (\delta_1 SIZE_i + \delta_2 LEV_i + \delta_3 MB_i + \delta_4 SIZE_i \times DR_{i,t} + \delta_5 LEV_i \times DR_{i,t} + \delta_6 MB_i \times DR_{i,t}) + \varepsilon_{i,t} \end{aligned} \quad (4)$$

We apply cross-sectional regression to Eq. (4) and applied estimates from Eq. (4) to Eq. (3) to obtain the level of conservatism.

### 3.4. Research model and mediation effect test

We present the main research model as below:

$$\begin{aligned} LNIC_{i,t} = & \gamma_0 + \gamma_1 Social\_tie_{i,t} + \gamma_2 TOP1_{i,t} + \gamma_3 INST_{i,t} + \gamma_4 STATE_{i,t} + \gamma_5 AGE_{i,t} + \gamma_6 ROA_{i,t} + \gamma_7 SIZE_{i,t} + \gamma_8 LEV_{i,t} + \gamma_9 MB_{i,t} + \gamma_{10} \\ & YEAR + \gamma_{11} INDUSTRY + \varphi_{i,t} \end{aligned} \quad (5)$$

Where,  $LNIC_{i,t}$  is the natural logarithm of the score index of internal control quality which was retrieved from DIB database in *i* firm at *t* year.  $Social\_tie_{i,t}$  measures the proportion of board directors who have two or more connections to the CEO in *i* firm at *t* year. The control variables (Bruynseels & Cardinaels, 2014) are defined in Table 1.

We use the causal steps approach to verify the mediation effect of internal control quality between CEO-board social ties and accounting conservatism (Baron & Kenny, 1986). We apply cross-sectional regressions to Eqs. (6) and (7) and estimate  $\beta_1$  and  $\theta_2$ . If  $\beta_1$  in Eq. (6),  $\gamma_1$  in Eq. (5) and  $\theta_2$  in Eq. (7) are all statistically significant, the mediating effect of internal control quality does exist between  $Social\_tie_{i,t}$  and  $C_{SCORE_{i,t}}$ . While  $\theta_1$  is not significant, it implies a complete mediation effect. If  $\theta_1$  is significant, there are two

**Table 1**  
Control Variables Definition.

Variable	Variable Definition
TOP1	The proportion of the first largest shareholder
INST	The proportion of institutional shares
STATE	Whether or not a state-owned enterprise, if so, state = 1, otherwise = 0
AGE	The age of the firm
ROA	Net profit/Average total assets
YEAR	Dummy variable, to control time fixed effect
INDUSTRY	Dummy variable, to control industry fixed effect

results depending on the sign of  $\gamma_1, \theta_2$  and  $\theta_1$ . If  $\gamma_1, \theta_2$  and  $\theta_1$  have the same sign, a partial mediation effect exists. Otherwise, it implies a masking effect.

$$C_{SCORE_{i,t}} = \beta_0 + \beta_1 Social\_tie_{i,t} + \beta_2 TOP1_{i,t} + \beta_3 INST_{i,t} + \beta_4 STATE_{i,t} + \beta_5 AGE_{i,t} + \beta_6 ROA_{i,t} + \beta_7 YEAR + \beta_8 INDUSTRY + \varphi_{i,t} \quad (6)$$

$$C_{SCORE_{i,t}} = \theta_0 + \theta_1 Social\_tie_{i,t} + \theta_2 LNIC_{i,t} + \theta_3 TOP1_{i,t} + \theta_4 INST_{i,t} + \theta_5 STATE_{i,t} + \theta_6 AGE_{i,t} + \theta_7 ROA_{i,t} + \theta_8 YEAR + \theta_9 INDUSTRY + \varphi_{i,t} \quad (7)$$

#### 4. Samples selection and results

We utilized a sample of public firms in the Shanghai Stock Exchange (SSE) with available information in the Guotaian Database (CSMAR) from 2013 to 2015, a popular academic research database in China recognized by accounting and management journals. We removed financial services firms (Industry Classification: J) from the sample as these firms are subject to different regulatory requirements and unique promulgated principles. We also removed firms from the sample that went public between 2013 and 2015 due to unusual financial volatility in their financial statement. We removed the firms from the sample, which were designated for special treatment (ST) in the market by the China Securities Regulatory Commission. Special treatment means the firm's net profit was negative in two consecutive fiscal years. It is a unique regulatory designation in the Chinese Stock Exchanges. We also have removed some firms due to missing financial data in the CSMAR database. Furthermore, in our test utilizing social ties, we require the firm to have information on the personal resume of each CEO and each board director as a public document in the SSE. Our final sample consisted of 2451 firm-year.

We present the descriptive statistics of our sample in Table 2. Using the measure of CEO-board social ties based on the proportion of board directors who have two or more connections with the CEO, *Social\_tie*, we find 22.3% board directors in our firm years have multiple social relations to the CEO. The proportion reaches a maximum of 77.8% in some firms and implies almost all board directors have two or more social relations to those CEOs. The measure of conditional conservatism, *C-Score*, is 0.018 and consistent with previous research (Khan & Watts, 2009). The measure of internal control quality, the natural logarithm of the score index of internal control (*LNIC*), is 6.467 (maximum is 6.801).

Table 3 presents the correlations between our social tie measures, accounting conservatism measures and control variables. Consistent with H1, the measure of accounting conservatism, *C-Score*, is negatively correlated with *Social\_tie* and significant at the 1% level in Pearson/Spearman correlation. The Pearson/Spearman correlation between *LNIC* and *Social\_tie* is negative and significant at the 1% level, consistent with H2. The correlation between *C\_Score* and *LNIC* is positive and significant at the 1% level, consistent with H3a. However, these results are explained with caution as they do not reflect the joint effect of CEO-board social ties and internal controls on accounting conservatism.

**Table 2**  
Descriptive Statistics.

Variables	Max	Min	Mean	Median	SD
C_SCORE	0.243	-0.186	0.018	0.022	0.071
Social_tie	0.778	0	0.223	0.222	0.181
LNIC	6.801	5.169	6.467	6.487	0.148
TOP1	0.891	0.003	0.377	0.364	0.163
INST	1.009	0	0.480	0.493	0.210
STATE	1	0	0.633	1	0.482
AGE	36	3	18.02	18	4.420
ROA	1.560	-0.391	0.033	0.027	0.062
SIZE	28.510	17.390	22.670	22.540	1.447
LEV	0.927	0.092	0.514	0.513	0.201
MB	1.563	0.015	0.445	0.377	0.296

**Table 3**  
Correlations between CEO-board Social tie, Conservatism measures, and other variables Spearman (Pearson) correlation is above (below) the diagonal.

VAR.	C_SCORE	Social_tie	LNIC	TOP1	INST	STATE	AGE	ROA	SIZE	LEV	MB
C_SCORE	1	-0.144***	0.184***	0.095***	0.108***	0.018	-0.053***	0.230***	0.164***	-0.241***	-0.031
Social_tie		1	-0.726***	-0.181***	0.000	0.371	0.009	0.000	0.000	0.000	0.123
LNIC			1	0.000	0.000	0.000	0.053	0.000	0.000	0.014	-0.073***
TOP1				1	0.000	0.131***	-0.049**	0.378***	0.359***	0.497	0.000
INST					1	0.000	0.015	0.000	0.000	0.015	0.158***
STATE						1	-0.285***	0.095***	0.345***	0.469	0.000
AGE							1	0.000	0.000	0.008	0.223***
ROA								1	0.400***	0.070***	0.168***
SIZE									1	0.000	0.000
LEV										1	0.000
MB											1

\*, \*\*, and \*\*\* note the statistical significance at the 10%, 5%, and 1% level, respectively.

**Table 4**  
The Moderating Effect of Internal Control Quality on the Relation between CEO-board social ties and Accounting Conservatism.

Model Variables	(6) C_SCORE	(5) LNIC	(7) C_SCORE
Social_tie	-0.032*** (-3.92)	-0.429*** (-3.85)	-0.019 (-1.92)
LNIC			0.029** (2.38)
TOP1	0.036*** (3.27)	-0.021 (-1.12)	0.036*** (3.28)
INST	0.013 (1.57)	0.025* (1.71)	0.012 (1.40)
STATE	-0.005 (-1.55)	0.010* (1.77)	-0.005* (-1.64)
AGE	-0.001** (-2.19)	0.0003 (0.49)	-0.001** (-2.18)
ROA	0.202*** (8.51)	0.335*** (8.07)	0.192*** (8.01)
SIZE		0.015*** (5.83)	
LEV		-0.014 (-0.93)	
MB		0.025** (2.10)	
YEAR	YES	YES	YES
INDUSTRY	YES	YES	YES
Conts	0.028* (1.74)	6.162*** (106.88)	-0.157** (-1.98)
N	2451	2451	2451
R <sup>2</sup>	0.148	0.449	0.150
ADJ. R <sup>2</sup>	0.123	0.432	0.125

#### 4.1. The relation between CEO-board tie and accounting conservatism

Table 4 presents the estimation of Eq. (6). We use Khan and Watts (2009) C-score as the dependent variable to test for the relation between CEO-board social ties and accounting conservatism. In column model 6, we report the effect of CEO-board social ties on C-Score, which measures accounting conservatism in our paper. The coefficient on *Social\_tie* is negative and significant (p-value < 0.001). We expected that bad news is not reported in a timely manner if the CEO has more social connections to board directors. The results are consistent with our hypothesis 1. All control variables are consistent with the results of prior studies. For instance, the coefficient on *TOP1* is positive and significant (p-value < 0.001) and *AGE* is negative and significant, which indicate that a higher concentration of shareholdings or a shorter firm history use more conditionally conservative accounting as found in Ramalingegowda and Yu (2012) and Khan and Watts (2009). The coefficient of *ROA* is positive and significant (p-value < 0.01), which was consistent with more conservative practices improving earnings quality (Penman & Zhang, 2002).

#### 4.2. The relation between CEO-board social ties and internal control quality

Table 4 also presents the estimation of Eq. (5), using the index of internal control quality as the dependent variable, which tests for the relation between CEO-board social ties and internal control quality. Consistent with H2, we find a negative and significant coefficient on the measure of CEO-board social ties. The result, indicating that more personal connections between the CEO and board directors impair the independence of board directors and weaken the monitoring capability of the board, consistent with Larcker et al. (2005). The findings of control variables are all similar to reported findings in existing studies. For instance, we find a positive relationship between internal control quality and institutional shareholders and a positive relation between internal control quality and state-ownership, consistent with the findings in Tang and Xu (2010) and Lu and Yao (2006).

#### 4.3. The relation between accounting conservatism and internal control quality

Table 4 also presents the estimation of Eq. (7), using Khan and Watts (2009) C-score as the dependent variable, which tests for the relationship between internal control quality and accounting conservatism. Consistent with H3a, we find a significant positive relationship between internal control quality and accounting conservatism. The result, indicating that internal controls act as a mechanism that facilitates conservatism, is consistent with Goh and Li (2011). The findings of control variables are all similar to reported findings in existing studies. The coefficients on the control variables are generally consistent with expectations and the previous results reported.



4.4. Mediating effect of internal control quality

To investigate the effect of internal control on the relation between CEO-board social ties and accounting conservatism, we construct a simultaneous-equations model, including Eq. (5), Eq. (6), and Eq. (7). We present the results of estimations of Eq. (5), Eq. (6) and Eq. (7) in Table 4 for understanding the mediating effect of internal control between CEO-board social ties and accounting conservatism. We find a strong negative relation between accounting conservatism, measured by *C-Score* and CEO-board social ties reported by *Social\_tie* ( $\beta_1 = -0.032$ , p-value < 0.01) in Eq. (6). We also find a positive and significant relation between accounting conservatism, measured by *C-Score* and internal control quality reported by *LNIC* ( $\theta_2 = 0.029$ , p-value < 0.05) in Eq. (7). Additionally, we find a negative and significant coefficient on the measure of CEO-board social ties in Eq. (5) ( $\gamma_1 = -0.429$ , p-value < 0.01). These results all indicate that the mediating effect of internal control quality between CEO-board social ties and accounting conservatism does exist for three coefficients,  $\beta_1$ ,  $\gamma_1$  and  $\theta_2$ , all significant (Baron & Kenny, 1986). Furthermore, the estimation of the coefficient of *Social\_tie* in Eq. (7) is not significant ( $\theta_1 = -0.019$ , p-value > 0.1), indicating a complete mediating effect of internal control quality between CEO-board social ties and accounting conservatism (Baron & Kenny, 1986). We expect that more social connections between a CEO and board directors impair the independence of board directors, leading to lower accounting conservatism, and internal control quality has a complete mediating effect in the relation. Overall, we find a significant mediating effect of internal control quality between CEO-board social ties and accounting conservatism, and internal control quality has a complete mediating effect in the effect of CEO-board social ties on accounting conservatism, consistent with H3b. We explain the mechanism by which CEO-board social ties affect accounting conservatism. The result implies that changes to internal controls by the CEO is the pathway by which he/she can delay recognition of bad news, resulting in lower accounting conservatism.

4.5. Additional robustness test

In addition to the above tests, we perform two additional robustness checks. First, we use the Bootstrap method to test the mediating effect of internal control quality between CEO-board social ties and accounting conservatism. Even though cause steps approach accepts our hypotheses above and more effective in the tests of mediating effect (Fritz, Morris, & Richler, 2012; Bolin & Hayes, 2014), we will use another important approach, Bootstrap, to validate our conclusion. We apply the method in Bolin and Hayes (2014) to test hypothesis 3b. We conduct process regression on the path equation model using Eq. (5), Eq. (6) and Eq. (7) in SPSS. Table 5 presents the statistical results of the model. In panel A, we test the direct effect of CEO-board social ties on accounting conservatism while the effect of the moderator, internal control quality, is controlled. We do not find a significant relation between CEO-board social ties and accounting conservatism (p-value = 0.6798). In panel B, we find that there is no zero in the range, in which the maximum value is 0.2223 (BootULCI) and the minimum value is 0.0347 (BootLLCI), at the level 0.05. It means we find a significant relation between CEO-board social ties and accounting conservatism and a mediating effect of internal control quality between the effects of CEO-board social ties on accounting conservatism is also significant and complete. Overall, we find the results support the hypotheses that a mediating effect of internal control quality exists in the relation between CEO-board social ties and accounting conservatism, which are consistent with the main tests in our paper.

Second, we utilize the additional measure of accounting conservatism based on earnings in the stock returns model, as proposed in Basu (1997). We develop the structure equations as below and all control variables remain consistent with prior models:

$$\frac{EPS_{i,t}}{P_{i,t-1}} = \alpha_0 + \alpha_1 DR_{i,t} + \alpha_2 RET_{i,t} + \alpha_3 DR_{i,t} \times RET_{i,t} + \beta_1 Socialtie_{i,t} + \beta_2 Scocialtie_{i,t} \times DR_{i,t} + \beta_3 Social\_tie_{i,t} \times RET_{i,t} + \beta_4 Social\_tie_{i,t} \times DR_{i,t} \times RET_{i,t} + \omega_i \sum Controls + \varphi_{i,t} \tag{8}$$

$$LNIC_{i,t} = \gamma_0 + \gamma_1 Social\_tie_{i,t} + \gamma_2 TOP1_{i,t} + \gamma_3 INST_{i,t} + \gamma_4 STATE_{i,t} + \gamma_5 AGE_{i,t} + \gamma_6 ROA_{i,t} + \gamma_7 SIZE_{i,t} + \gamma_8 LEV_{i,t} + \gamma_9 MB_{i,t} + \gamma_{10} YEAR + \gamma_{11} INDUSTRY + \varphi_{i,t} \tag{9}$$

**Table 5**  
The Moderating Effect of Internal Control Quality on the Relation between CEO-board social ties and Accounting Conservatism using Bootstrap Approach.

Panel A: Direct effect of CEO-board social ties on Accounting Conservatism (Moderators controlled in the models)					
Effect	SE	t	p	LLCI	ULCI
-0.013	0.0316	-0.4128	0.6798	-0.0749	0.0488
Panel B: Indirect effect of CEO-board social ties on Accounting Conservatism (Involving internal control quality moderating effect in path models)					
	Effect	BootSE	BootLLCI	BootULCI	
LNIC	0.1105	0.0463	0.0347	0.2223	



**Table 6**  
Regression of Basu Earnings/stock return on CEO-board social tie and Control Variables.

Equation	(8) EPS/P	(9) LNIC	(10) EPS/P
DR	0.001 (0.38)		0.196 (1.40)
RET	0.018*** (7.65)		-0.136 (-1.40)
RET × DR	0.034* (1.83)		2.297** (2.74)
Social_tie	-0.012* (-2.11)	-0.427*** (-3.50)	0.002 (0.27)
Social_tie × RET	-0.028*** (-3.43)		-0.018* (-1.69)
Social_tie × DR	-0.023* (-1.66)		-0.035** (-2.06)
Social_tie × RET × DR	-0.046* (-1.76)		-0.204** (-2.41)
LNIC			0.034*** (3.44)
LNIC × RET			0.023 (1.57)
LNIC × DR			-0.030 (-1.38)
LNIC × RET × DR			0.344*** (2.70)
TOP1	0.002 (0.46)	-0.021 (-1.23)	0.003 (0.60)
INST	0.005 (1.33)	0.023* (1.77)	0.004 (1.18)
STATE	-0.002 (-1.43)	0.010* (1.89)	-0.002* (-1.69)
AGE	-0.000 (-0.02)	0.000 (0.32)	-0.000 (-0.14)
ROA	0.368*** (34.98)	0.301*** (8.00)	0.354*** (33.65)
SIZE	0.008*** (12.43)	0.016*** (7.19)	0.007*** (11.21)
LEV	-0.017*** (-4.54)	-0.017 (-1.30)	-0.016*** (-4.37)
MB	0.018*** (7.77)	0.012 (1.49)	0.018*** (7.64)
YEAR	YES	YES	YES
INDUSTRY	YES	YES	YES
Conts	-0.161*** (-11.33)	6.155*** (121.55)	-0.362*** (-5.59)
N	2451	2451	2451
R <sup>2</sup>	0.609	0.484	0.621
ADJ. R <sup>2</sup>	0.596	0.468	0.607

$$\frac{EPS_{i,t}}{P_{i,t-1}} = \alpha_0 + \alpha_1 DR_{i,t} + \alpha_2 RET_{i,t} + \alpha_3 DR_{i,t} \times RET_{i,t} + \beta_1 Social\_tie_{i,t} + \beta_2 Social\_tie_{i,t} \times DR_{i,t} + \beta_3 Social\_tie_{i,t} \times RET_{i,t} + \beta_4 Social\_tie_{i,t} \times DR_{i,t} \times RET_{i,t} + \theta_1 LNIC_{i,t} + \theta_2 LNIC_{i,t} \times DR_{i,t} + \theta_3 LNIC_{i,t} \times RET_{i,t} + \theta_4 LNIC_{i,t} \times DR_{i,t} \times RET_{i,t} + \omega_i \sum Controls + \varphi_{i,t} \quad (10)$$

The coefficient of  $\alpha_2$  in Eq. (10) presents the relation between earnings and positive stock returns, indicating whether earnings quickly reflected 'good news' or not. The coefficient of  $\alpha_3$  in Eq. (10) presents the relation between earnings and negative stock returns, indicating whether earnings quickly reflected 'bad news' or not. Accounting conservatism is found in the firm when the coefficient of  $\alpha_3$  is greater than zero. Table 6 reports the estimations of Eqs. (8)–(10). We find that the estimation of the coefficient  $\alpha_3$  in Eqs. (8) and (10) are both positive and significant, which indicates that public firms in the sample all prefer accounting conservatism. We also find a negative and significant relation between CEO-board social ties and accounting conservatism ( $\beta_4 = -0.204$ , p-value < 0.05) in Eq. (10). The estimation of the coefficient  $\theta_4$  is significant and positive ( $\theta_4 = 0.344$ , p-value < 0.05) in Eq. (10), indicating that the mediating effect of internal control quality on the relation between CEO-board social ties and accounting conservatism is significant. Overall, our findings fully support our hypotheses, where CEO-board social ties are negatively related to accounting conservatism and there is a significant mediating effect of internal control on the relation between CEO-board social tie and accounting conservatism.

## 5. Conclusions, implications, and limitations

Recent studies in management and social network are interested in investigating the relationship between CEO-board social ties and investor decision making, independence of auditing committees and decision making in boards. We contribute to this literature by providing evidence on the effect of CEO-board social ties on accounting conservatism application, which is important to strategic decision making in boards. Because CEO-board social ties override internal control systems, which leads to CEOs to apply their favorite accounting policies instead of standard internal control processes, we predict that CEO-social tie and accounting conservatism will be negatively related and internal control quality will have a significant and complete mediating effect on the relation between CEO-board social ties and accounting conservatism. Using 2451 firm-years from 2013 to 2015 in the Shanghai Stock Exchange, we find evidence of a significant negative relation between CEO-board social ties and accounting conservatism and a significant and complete mediating effect of internal control quality on the relation between CEO-board social ties and accounting conservatism. Furthermore, we find that the changes in CEO-board social ties are negatively related to accounting conservatism by negatively changing internal control quality to transmit the effect. Our results hold to a battery of robustness and additional tests. Overall, our results are consistent with CEO-board social ties having a significant negative effect on accounting conservatism and the effect was transmitted by changing internal control processes. Using accounting conservatism application as the example of an important strategic decision-making strategy in corporate governance, our paper provides strong evidence of the effect of CEO-board social ties on corporate governance and explore the mechanism of how CEO-board social ties make it happen.

Our findings have several important implications to firm's corporate governance and security exchange commission's policy-making. We found CEO-board ties may reduce accounting conservatism through weakening the internal control quality. Therefore, to encourage accounting conservatism, firms need to increase their internal control quality. One means to achieve higher internal control quality, as our findings suggest, is firms could consider appointing CEO or board of directors who have weaker and fewer connections with each other. From a normative policymaker's perspective, security exchange commission could consider requiring firms to disclose CEO-board ties in their annual report in order to better oversee their corporate governance as well as internal control quality.

Despite its merits, our paper is not without limitations. For example, due to the constraint of our measurement of social ties, the sample size for our analysis of social ties is relatively small. This may hamper the generalizability of our results. Further, although we have performed the test for endogeneity, we can not be sure that there is no more endogeneity in the model. Caution must be exercised when interpreting the results. Finally, future studies using alternative measurement for internal control quality are needed in order to test the robustness of our results. However, Dibo Index is already recognized and used by China Securities Regulation Commission (organization that is similar to US Securities Exchange Commission) as the official public index of internal control quality. Our results are thus robust substantially with the Dibo Index recognition being published.

## CRedit authorship contribution statement

**Meiqun Yin:** Conceptualization, Methodology, Data curation. **Jidong Zhang:** Writing - original draft, Supervision. **Jing Han:** Writing - review & editing, Formal analysis.

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