THE EFFECTS OF BOARD MECHANISMS AND OWNERSHIP ON THE RELATIONSHIP BETWEEN CEO DUALITY AND EARNINGS MANAGEMENT IN CHINA'S LISTED COMPANIES

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Abstract

The question of whether CEO duality contributes to or constrains earnings management has been debated for decades. Yet there is conflicting evidence in previous literature, this paper firstly finds that CEO duality are positively related to earnings management in China's unique environment. Secondly our empirical evidence suggests that internal and external board mechanisms can moderate CEO duality's effects on earnings management. Board mechanisms, i.e. board independence level and audit committee can moderate the positive relationship between CEO duality and earnings management. Furthermore, the factor analysis shows that certain combination of board mechanisms can also mitigates the effects of CEO power on earnings management.

Keywords: CEO Duality, Earnings Management, Board Mechanisms

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1. Introduction

The *Code of Corporate Governance for Listed Companies in China* does not clearly require the separation of the role of CEO and chairperson. In other words, the regulators in China have allow the listed companies themselves to decide either to separate or unite these two top roles. In practice, the proportion of listed firms in mainland China having CEO duality has been decreasing, from approximately 60% in the early 1990's (Bai et al., 2004) to approximately 17% by the end of the 2010 (Lin et al., 2010). Evidently, there is a trend that an increasing number of firms opt to separate the role of CEO and chairperson. However, this trend is not fully supported by the empirical research as recent findings show that separating CEO and chairperson in China is not always beneficial to firms which are operated in a resource dependent and dynamic environment (Peng et al., 2007). Tian and Lau (2001) document that the separation of CEO and chair is negatively associated with firm performance, a finding supported by Song et al. (2006), when firms have a high level of state ownership. These findings use ROA, ROE and Tobin's Q as the measures of performance and show that duality firms outperform non-duality firms. Different to the above findings, this paper finds that there is a positive association between CEO duality and earnings management. The positive association can be mitigated by the establishment of audit committee and board independence. Disappointingly, there is limited evidence suggesting that non-controlling institutional investors can be a mechanism to counter CEO duality's positive association with earnings management considering the disproportional shareholdings between controlling shareholders and non-controlling institutional investors.

The remainder of the paper is structured as follows. Section two provides the literature review and hypotheses development. Section three explains the methods and the empirical results and discussion are presented in section four. The additional analyses are provided in section five and concluding comments are in section six.

2. Literature and hypotheses

The question of whether CEO duality contributes to or constrains earnings management has been debated for decades. CEO duality in the U.S. is common and research finds there are some benefits associated with duality. Vafeas and Theodorou (1998) and Weir and Laing (1999) find that duality does not have a negative impact on performance in the U.K. Furthermore, Boyd (1995) shows that CEO duality results in better performance in firms in the U.S. In practice, a large number of U.S. firms do not separate the role of the CEO and chairman (Finkelstein and Mooney, 2003). According to

stewardship theory, when the role of CEO and Chairman are held by the same person, the CEO can implement strategies with minimum board intervention (Rechner and Dalton, 1991). In contrast, based on agency theory, the separation of the CEO and chairman is to ensure that the CEO does not have too much power over the board. This conjecture is supported by the U.K.'s regulatory recommendation[1] that a board should be chaired by an independent director. Prior research on the association between CEO duality and earnings management is mixed. Klein (2002) finds that the absolute value of discretionary accruals is positively associated with the CEO who also hold a position on the nomination and compensation committees. The result implies that a CEO with excessive power can easily manipulate earnings. In investigating the relationship between the value of CEO stock options and the incidence of fraudulent financial reporting, O'Connor et al. (2006) find that CEO duality increases the likelihood of earnings management to boost CEO compensation. However, Abdul-

In China, the trend of separating CEO and chair is inevitable as the number of non-duality firms is increasing dramatically from late 1990s to 2010. Based on agency theory, duality can increase the cost of monitoring a board dominated by the CEO (Fama and Jensen, 1983). The separation of the CEO and chairman is to ensure that the CEO does not have too much power over management. However, the *Code of Corporate Governance for Listed Companies in China* does not clearly require the separation of the role of CEO and chairperson. Many board of directors in a traditional SOE is run by a CEO who is also the chairman of the Communist committee of the SOEs. Wu (2002) explains the institutional background for CEO duality in Chinese SOEs and show that CEO duality helps SOEs to perform better due to the lack of ultimate owners and weak supervision.

During the economic reform by the State Council in the 1990's, the CSRC starts to recommend the separation of roles of the CEO and chairman[2]. Separating these roles is likely to reduce earnings manipulation because the CEO is monitored by an independent chairman, which in turn, reduces the likelihood of the CEO disregarding the interests of shareholders. Li and Nai (2004) find that CEO duality is associated with lower Economic Value Added (EVA), a measure for valuing firm productivity, and reduces firm performance. Using a sample of 1954 firm year observations between 2001 and 2004, Wan and Liang (2008) show that CEO duality is associated with lower quality disclosures. Shen and Zhang (2002) find that the Chinese special treatment (ST)[3] firms are more likely to have CEO duality. In China, ST firms are treated as operational failures. Shen and Zhang suggest that CEO duality may be associated with board ineffectiveness in Chinese ST firms. CEO duality can entrust a CEO with dominant power without being monitored, and therefore the lack of supervision may encourage a CEO to manage earnings more often for personal gains in Chinese firms. This leads to the following hypothesis:

Hypothesis 1: There is a positive relationship between CEO duality and earnings management in Chinese listed firms.

Board independence

Even though the China's *Code of Conduct* does not clearly mandate the separation of the role of CEO and chairperson, it recommends an appropriate composition of a "good" board which includes such things as: the level of board independence, board activities and independent directors' expertises. Since then, Chinese firms actively follow the requirement to lift board independency levels (Li and Nai, 2004; Li and Naughton, 2007). A higher percentage of board independence can avoid the conflicts of interest between boards and management and safeguard the monitoring role of the boards. Another argument is the reputation concerns of independent directors in China. Chinese firms like to appoint academically and professionally excellent people as independent directors. These people are very concerned about their reputation because damage to their professional career can be catastrophic and costly. Any detected earnings manipulation or frauds in their affiliated companies can damage their reputation. Therefore, in order to protect their reputation and career, independent directors in China are motivated to increase their monitoring power of management and detect the occurrence of opportunistic earnings manipulation[4]. This study

[1] Please see the Cadbury Report (1992).

[2] Please see the Fourth Plenary Session of the Fifteenth Communist Party of China's Central Committee hosted by the retired President Jiang Zeming who was the incumbent president at the time of the Session in 1999 (http://news.xinhuanet.com/ziliao/2003-01/20/content_697219.htm).

[3] ST stands for special treatment. Since Aril 1998, the Shanghai and Shenzhen Stock Exchanges adopt the ST Rule. A Chinese listed firm is titled as "ST" when it makes two yearly losses consecutively or its net asset is lower than the firm's capitalisation. Investors may avoid buying the shares of these ST Chinese firms. In addition, the ST characteristics make it difficult for the firms to raise capital in share markets because these ST firms cannot pass the thresholds set by the CSRC before Right issues. There are 82 listed ST firms from 1998 to 2000 in Shen and Zhang's research.

[4] For example, recently, Mr. JunSheng Li, the vice chancellor of Central University of Finance and Economics, a leading Chinese university in Beijing, resigned his independent directorship in FHJS (Code: 000046) for reputation concern (http://news.xinhuanet.com/fortune/2011-01/23/c_121013207.htm).

predicts that as Chinese listed firms appoint more independent board members there will be an increase in board monitoring and deterrents to earnings management. The preceding discussion leads to the following hypothesis:

Hypothesis 2: The positive relationship between CEO duality and earnings management will be moderated by high level of board independence.

Audit committee

The monitoring role of the audit committee is important in China due to the weak legal protection in which minority shareholders are subject to expropriation by dominant shareholders and powerful CEO. Country characteristics explain much more of the variance in governance than firm level features(Aguilera and Jackson, 2003; Doidge et al., 2007). The political and economic systems, as well as the characteristics of the listed firms in China are important in considering audit committee effectiveness and their effect on earnings management in China. The role of the audit committee, as a governance mechanism, is to reduce the information asymmetry between stakeholders and managers and, therefore, mitigate agency costs. Audit committee oversight includes financial reporting, internal controls to assess risk, and auditor activity. The State Council published a Provision for Internal Auditing Management in Federal SOEs (October 2004), requiring SOEs to set up an independent audit committee under the board of directors in compliance with the *Code of Conduct* for listed firms and internal control mechanisms. As the State is influential in determining the compliance with the Corporate Governance Code in China (Chambers, 2005) and has increased the emphasis on the role of the audit committee, an independent audit committee is likely to constrain earnings management in China.

Hypothesis 3: The positive relationship between CEO duality and earnings management will be moderated by the presence of audit committee.

Non-controlling institutional investor

The privatisation of SOEs offers institutional investors a mean of pursuing investment opportunities in an emerging market. The Chinese regulators have enacted strategies to encourage financial institutions, domestic and foreign, to invest in listed firms and act as a monitoring party to improve corporate governance in China. In accordance with the partial privatisation of SOEs, financial institutions can raise their holdings in portfolio companies to participate in the growth of this emerging market. Foreign direct investment in China jumped 46% in the first half of 2008, according to government data (Ministry of Commerce, China) released on 4 July 2008. Overseas firms brought in $52.4 billion in investment during the six-month period. Theoretically, institutional investors have more wealth and resources to gather more informative and relevant information than individual investors through their substantial shareholdings (Jiambalvo et al. 2002). In doing so, the sophisticated institutional investors are able to monitor the firm's operation and deter managers from taking actions to harm the firm's long-term development strategies. However, not all of the institutional investors are from long-term perspectives. Short-term institutional shareholdings may encourage managers to manipulate the accounting figures to meet or beat earnings targets to obtain quick profit (Bushee, 1998).

Prior research suggests that financial institutions play a limited role in monitoring the governance of listed firms in China, mainly due to "concentrated State ownership, an immature regulatory environment, inadequate transparency and disclosure of financial information, and weak corporate governance within financial institutions themselves" (Yuan, 2008). However, Yuan's study was conducted in 2003 when there were fewer mutual funds and securities companies. It is therefore important to empirically test the role that non-controlling institutional investors play in the quality of earnings, and consequently, the effectiveness of the recent regulatory reforms. A company may commit to providing higher quality earnings to induce foreign investors to invest. Alternatively, foreign investors will put pressure on companies to improve the quality of their accounting information to protect their investment. Collectively, both foreign and domestic institutional investors may be able to exert pressure on a company to improve the quality of the financial statements. Firth et al., (2007) find the presence of foreign shareholders in Chinese listed firms being negatively associated with discretionary accruals, the measure of earnings management. However, they do not test the level of ownership of foreign investors. It is expected that the higher the collective share ownership of institutional investors, the lower earnings management will be. The preceding discussion leads to the following hypothesis:

Hypothesis 4: The positive relationship between CEO duality and earnings management will be moderated by the level of non-controlling institutional ownership.

3. Methods

Sample

Our sample firms are randomly selected from the top 500 in the Shanghai Stock Exchange (SHSE) and from the top 300 in the Shenzhen Stock Exchanges (SZSE) in 2008. Of the 482 firms we selected, 204 firms have a complete five years' observations. The remaining 278 firms have one to four years' observations because some firms commenced their listing on the exchanges during the sample period and some firms are delisted after experiencing three consecutive years of loss without turnaround.

Model

The model presented below is used to test the relationship between the level of earnings management and CEO duality. Also, other aspects of governance mechanisms, as we discussed in hypotheses two to four are collaboratively tested by equation (1).

$$AABA = \beta_0 + \beta_1 CEODUA + \beta_2 BDIND + \beta_3 AC + \beta_4 INS + \beta_5 LAROWN + \beta_6 STATE + \beta_7 GOV + \beta_8 ADT + \beta_9 BIG4 + \beta_{10} LEV + \beta_{11} ROA + \beta_{12} GROWTH + \beta_{13} INDUSTRY + e_{it} \quad (1)$$

AABA	=Absolute value of abnormal accruals obtained from modified Jones model
CEODUA	=Dummy variable of 1 if CEO is Chairperson at the same time; 0: otherwise
BDIND	=Number of independent directors divided by total number of directors on the board
AC	=Dummy variable of 1 if a firm has an audit committee; 0: otherwise
INS	=Number of shares held by the foreign and domestic institutional investors divided by
LAROWN	= Proportion of shares held by the controlling shareholder
STATE	=Dummy variable of 1 if the firms are controlled by the State; 0: otherwise
GOV	=Dummy variable of 1 if a government official is an independent director on the board;
ADT	=Number of years for current audit firm's appointment
BIG4	=Dummy variable of 1 if the annual report is audited by Big4; 0: otherwise
LEV	=(Long term debt + debt in current liabilities) / total assets
ROA	=Return on asset from Mint Global. It is calculated as earnings before interest and extraordinary income divided by total assets
GRWOTH	= Market capitalisation over book value of equity
INDUSTRY	=This dummy variable is categorised according to the GICS code, mainly focused on Consumer Staples, Material, Consumer Discretionary and Industrial

4. Empirical results and discussion

Table 1 presents the results of the descriptive statistics for the dependent, independent and control variables used in equation (1). The dependent variable AABA is the absolute value of residuals obtained from the cross-sectional regression modified Jones (Kothari et al. 2005). The mean of AABA is 0.170. There are 1033 (83.04%) firms separating the roles of CEOs and chairpersons. SOEs are more likely to separate the roles than the Non-SOEs. The occurrence of CEO duality and turnover are low in the sample. The sample Chinese firms have an average board independence of 35.35%, slightly above the benchmark of one-third of board independence recommended by the China's regulator. Not all of the listed firms have established an audit committee. 707 (56.83%) firms establish an audit committee in the sample. Firms directly or indirectly controlled by the state are more likely to appoint an audit committee than the non-State controlled firms. There was an increasing trend for firms to establish an audit committee from 2004 to 2008 due to the change in governance regulation. On average, the largest shareholders control 40% of the firm's shares, while 17.4 of the shares are collectively held by the non-controlling institutional investors. In comparison, the largest shareholders effortlessly overpower the non-controlling institutional investors with their dominant shareholding. The majority of the sample is made up of State-controlled enterprises (SCEs), which accounts for about 74.35% of the observations and 84.7% of the whole sample, like to employ government officials as independent directors. There are 95.97% of the sample firms disclosing the tenure of the audit firms. The mean of tenure is 6.2 years with a maximum of 17 years which is comparable to the findings by Chen and Xia (2006). Only 8% of the sample employs Big 4 accounting firms. This is consistent with Hu and Jiang's (2007) findings that audit market in China is less concentrated, featured by a number of local non-Big4 accounting firms.

Table 2 shows the correlation matrix between *AABA* and the independent and control variables. Overall, there are a number of statistically significant correlations between board characteristics, ownership and control variables. The correlation results are used as preliminary

guidance for the regression tests. The issue of multi-collinearity between independent variables and control variables is not evident. Most of the coefficients are not considered highly correlated. CEO duality, board independence, audit committee and non-controlling institutional investors are all correlated, as to be expected. The issue of multi-collinearity is avoided as these independent variables are not analyzed in the same regression.

The sample firms are classified into eight industries according to the 2-digit GICS code. When running each regression, *Industry* and *Year* are included as control variables. Variable regressions are run with and without different industry dummies. These regressions yield similar results. Due to the space limit, the regression result on each industry is not shown in the main table. Before interpreting the relationship between variables, it is important to examine the value of adjusted R^2 and VIF to determine whether multi-collinearity is an issue. Overall, nearly all the values of VIF are less than ten, implying that the multi-collinearity level is not high (Rawlings, 1988). Additionally, the value of adjusted R^2 obtained in this study is comparable with those in similar research, showing that 18% of the variance in discretionary accruals is explained by the primary model with the exception of model 2, which has an adjusted R^2 of 29.5%.

Table 3 shows support for H1 with the significant and positive relationship between *CEODUO* (.022, $p< .1$) and earnings management, indicating that Chinese firms with CEO duality are more likely to have a higher magnitude of earnings management. The separation of the roles of CEO and chairperson is one of the solutions to agency problems to ensure that a CEO is not entrusted with excessive power over the board. Avoiding CEO duality is consistent with previous research that criticises the adverse effects of CEO duality, such as domination by the CEO and lack of supervision (Shen and Zhang, 2002, Wang and Liang, 2008). However, the moderating effects of board independence, presence of audit committees and non-controlling institutional investors set in and mitigate the positive effects of CEO duality and earnings management. Therefore, H2 to H4 are supported. The introduction of *BDIND* and *AC* has reduced the positive relationship between *CEODUA* and *AABA* to be insignificant. The coefficient of *CEODUA_INS* and AABA is positively and significantly at 0.05 level. This finding may be interpreted as the institutional investors in China being short-term investors and encouraging management to manipulate earnings for quick profits. Last but not least, the controlling shareholders also contribute to earnings management together with *CEODUA*. Many Chinese listed companies' chairpersons act as the CEOs as their controlling stakes increases.

5. Additional analysis

Factor analysis is used to analyse interrelationships among internal and external corporate governance variables, and to condense the complex information into a smaller set of factors with minimal loss of information. Direct Oblimin rotation[5], principal components factor extraction, is performed to generate the factors. Principal axis factoring is used to compare the results and the findings are consistent (Larcker et al., 2007). The analysis identifies five factors that have an Eigen value of more than one. Furthermore, the Kaiser-Meyer-Olkin measure of sampling adequacy is near the recommended minimum threshold of .60 at a significant level of .01 (Tabachnick & Fiddell, 2001). Investigation of the component matrix detects the variables that loaded onto factors at a level above .50, following removal of cross loading items above .30.

Table 4 presents five factors in each model with loaded variables. These five factors are named based on their components. The results in Table 5 generate an interpretable outcome because in most cases, the variables with similar natures are loaded together at a level above .50. The first factor is *CEOPOWER*, composed of CEO duality and CEO turnover-after-loss. After firms make loss for years, its CEO can be forced out and the role of CEO can be taken over by the powerful chairperson in China. So it is not surprised that *CEODUA* and *CEOTOA* is loaded together. BD size and activity load onto *BDPOWER* with same direction, implying a large board meeting frequently has great board power. Board independence and audit committee independence is a useful tools to counter the excessive power of CEO duality. In addition, Big 4 accounting firms and audit tenure are positively loaded onto the factor named *AUDITOR*, suggesting the Big 4 accounting firms normally have a long engagement with their clients.

CEO power and Board power

The regression results (Table 6) using components generated from factor analysis reveal that certain mechanism needs to complement other mechanisms to become more efficient. Some board characteristics can weaken or strengthen the effectiveness of other mechanisms. First, the coefficient between *CEOPOWER* is positively associated with *AABA* (.137, $p < .05$) in the sample of 1240 firms. The results illustrates that both CEO duality and turnover are positively associated with earnings management and provide support for H1. Second, Table 6 shows that *BDPOWER* has a negative coefficient with *AABA* (-.263, $p <.05$).

[5]Also, Varimax rotation and principal axis factoring are employed in the analysis and they produce similar results.

This indicates that large boards with frequent meetings can be associated with low level of earnings management. Also, greater board power can offset the excessive CEO power and this is associated with lower level of earnings management.

In addition, AC presence as a dummy variable is used in the third model to test the effects of the establishment of an audit committee. However, the result is not significant but it does mitigate the positive relationship between CEO duality and *AABA*, which lend the support to H 3. Similar to Larcker et al. (2007), the result has an adjusted R^2 of .087 to .301. Some of the results are unexpected, such as the positive nature of industrial experience, making the explanation difficult.

6. Conclusion

By testing the relationship between CEO duality and earnings management, this study shows that it is supportive of agency theory rather than stewardship theory for CEO duality in China. The finding is also consistent with the recent trend of dramatic increase in the number of firms choosing to voluntarily separate the roles of CEO and chairperson. Stewardship theory and resource dependence theory may justify the need for CEO duality in conditions of resource scarcity and environmental dynamism (Peng et al., 2007). However, the empirical evidence shows that CEO duality is positively associated with earnings management, suggesting CEO duality is an important factor in management's fraudulent behaviour. Furthermore, the positive relationship between CEO duality and earnings management can be moderated by the board mechanisms, such as board independence and the establishment of an audit committee. The moderation of controlling shareholders' holding cannot reduce the CEO duality's effects on earnings management, suggesting it is hard for non-controlling institutional investors to challenge the dominant CEO power due to the entrenchment effects.

Table1. Descriptive Statistics (N=1242)

	AABA	CEODUA	BDIND	AC	INS	LAROWN	STATE
Mean	.170	.170	.354	.568	.174	.400	.744
Median	.110	.170	0	1	.144	.387	1
Std. Deviation	.246	.482	.052	.354	.125	.165	.418
Minimum	0	0	.118	0	.004	.065	0
Maximum	3.833	1	.750	1	.718	.852	1
	GOV	AUDT	BIG4	LEV	ROA	GROWTH	TA
Mean	.847	6.243	.082	.252	-.003	4.500	6734
Median	1	6.000	0	.233	.031	2.067	3255
Std. Deviation	.529	3.806	.438	.232	.608	25.962	16117
Minimum	0	1	0	.000	-20.548	-114.531	47
Maximum	1	17	1	3.040	1.992	645.083	347037

AABA: Absolute value of abnormal accruals obtained from Modified Jones Model. CEODUA: Dummy variable of 1 if CEO is Chairperson at the same time; 0: otherwise. BDIND: Number of independent directors divided by total number of directors on the board. AC:Dummy variable of 1 if a firm has an audit committee; 0: otherwise. INS: Number of shares held by the non-controlling institutional investors divided by the total issued share. LAROWN: Proportion of shares held by the controlling shareholder.STATE:1=State Controlled Enterprises, 0=otherwise. GOV: Dummy variable of 1 if a government official is an independent director on the board; 0: otherwise.BIG4:1=audited by Big4, 0= otherwise. LEV: (Short-term debts + long-term debts) / total assets.ROA: ROA at current year. GROWTH: Market capitalisation over book value of equity at current year. TA: total assets at current year, measured by million RMB.

Table 2. Pearson's correlations coefficients (N=1242)

	AABA	*CEODUA*	*BDIND*	*AC*	*INS*	*LAROWN*	*STATE*	*GOV*	*BIG4*	*LEV*	*ROA*
AABA	1										
CEODUA	.025***	1									
BDIND	-.036**	-.431**	1								
AC	-.027**	-.112**	.867**	1							
INS	.019	.036	-.144	-.157**	1						
LAROWN	.074*	.071*	-.062**	-.160**	-.094**	1					
STATE	-.038	.007	-.008	-.081**	.044	-.066*	1				
GOV	-.095**	-.237**	-.142**	-.175**	-.029	-.165**	.064*	1			
BIG4	-.082**	-.014	.009	.011	.034	-.038	.017	-.037	1		
LEV	.047	.144*	.075	.092	-.001	-.004	-.007	-.056	.033	1	
ROA	-.024**	-.136**	.492**	.047	-.021	-.124	-.076	-.075	.086	.566**	1
GOWTH	-.029**	-.051	.086	.647**	.068	-.178**	-.123*	.024	.010	.008	.061

Table 3. Regression results. Dependent variable: (*AABA*)

Variable	Sign	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	?	0.134***	0.107***	0.135***	0.118***	0.130***	0.238***
		(5.472)	(5.325)	(5.412)	(5.069)	(5.371)	(3.329)
CEODUA	+	0.022*	0.023	0.180	0.021	0.022	0.017
		(1.057)	(0.739)	(1.010)	(0.912)	(0.717)	(0.127)
BDIND	-		-0.070				-0.012*
			(1.052)				(.465)
CEODUA_BDIND			-0.109				
			(1.109)				
AC	-			-0.063			-0.037*
				(0. 717)			(.974)
CEODUA_AC				0.468			
				(0. 632)			
INS	-				0.046		0.029*
					(0.715)		(1.225)
CEODUA_INS					0.078**		
					(2.653)		
LAROWN	?					0.018*	-0.036*
						(1.013)	(1.137)
CEODUA_LAROWN						0.113**	
						(2.415)	
BIG4	-	-0.355***	-0.0274***	-0.029***	-0.0276***	-0.0278***	-0.033*
		(6.580)	(6.069)	(6.016)	(6.694)	(6.702)	(1.238)
GOV	?	-0.348***	-0.301***	-0.382***	-0.305***	-0.314***	-0.378***
		(13.326)	(10.005)	(10.059)	(10.502)	(10.536)	(10.838)
STATE	?	-0.045**	-0.051**	-0.052**	-0.054**	-0.056***	-0.061***
		(3.953)	(3.005)	(3.579)	(3.582)	(3.586)	(3.638)
GROWTH	_	-0.023**	-0.015***	-0.018***	-0.014***	-0.018***	-0.042***
		(5.351)	(5.245)	(5.175)	(5.125)	(5.346)	(4.642)
LEV	+	0.012*	0.033*	0.014*	0.034*	0.004*	0.064**
		(1.272)	(1.412)	(1.212)	(1.013)	(1.029)	(1.266)
ROA	_	-0.037**	-0.073**	-0.070***	-0.071***	-0.073***	-0.035***
		(4.743)	(4.049)	(4.016)	(4.162)	(4.683)	(4.364)
Industry	?	included	included	included	Included		Included
Year	?	included	included	included	Included		Included
Adjusted R^2		0.187	0.195	0.183	0.176		0.182
F		16.585***	11.900***	19.609***	18.013***	17.934***	19.603***
N		1242	1242	1242	1242	1242	1242

***. **.*. : Correlation is significant at the 0.01, 0.05, and 0.1level (2-tailed). *t* – Statistics are provided in parentheses under the estimated coefficient.
AABA: Absolute value of abnormal accruals obtained from Modified Jones Model. *CEODUA*: Dummy variable of 1 if CEO is Chairperson at the same time; 0: otherwise.*BDIND*: Number of independent directors divided by total number of directors on the board. *AC*: Dummy variable of 1 if a firm has an audit committee; 0: otherwise. *INS*: Number of shares held by the non-controlling institutional investors divided by the total issued share. *LAROWN*: Proportion of shares held by the controlling shareholder. *STATE*: 1=State Controlled Enterprises, 0=otherwise.*GOV*: Dummy variable of 1 if a government official is an independent director on the board; 0: otherwise. *BIG4*: 1 = audited by Big4, 0= otherwise.*LEV*: (Short-term debts + long-term debts) / total assets. *ROA*: ROA at current year. *GROWTH*: Market capitalization over book value of equity at current year.

Table 4. Exploratory principal component analysis (N=1240)

Factor	Variables	Loading
CEOPOWER	CEODUA	0.726
	CEOTOA	0.726
BDPOWER	BDSIZE	0.729
	BDACT	0.729
IND	BDIND	0.756
	ACIND	0.756
BDEXP	BDACC	0.712
	BDFIN	0.617
	BDINDS	-0.623
AUDITOR	BIG4	0.709
	AUDT	0.709
CEODUA: Dummy variable of 1 if a CEO is also the Chairperson; 0: otherwise. CEOTOA: Dummy variable of 1 if a CEO is changed after firms make a loss; 0: otherwise. BDSIZE: Number of directors on the board. BDIND: Number of independent directors divided by total number of directors on the board. ACIND: Number of independent directors divided by total number of directors on the audit committee. BDACC: Number of independent directors with accounting experience divided by total number of independent directors on the board. BDFIN: Number of independent directors with financial experience divided by total number of independent directors on the board. BDINDS: Number of independent directors with industrial experience divided by total number of independent directors on the board. BDACT: Number of board meetings during the financial year. BIG4: Dummy variable of 1 if the annual report is audited by Big4; 0: otherwise. AUDT: Number of years for current audit firms appointment.		

Table 5. Pearson and spearman's correlations coefficients for factor analysis (N=1240)

	AABA	*CEOPOWER*	*BDPOWER*	*BDEXP*	*IND*	*ACPRE*
AABA	1					
CEOPOWER	.045	1				
BDPOWER	-.012	-.030	1			
BDEXP	-.091**	-.188**	.125**	1		
IND	-.131**	.144*	.023	.086**	1	
AC	-.010	-.259	.023	.149**	.028	1
AUDITOR	.057*	.017	-.042	-.077**	-.033	-.121**
**.*, Correlation is significant at the 0.01 and 0.05 level (2-tailed).						

AABA: Absolute value of abnormal accruals obtained from Modified Jones Model
CEOPOWER: Factor of *CEODUO* and *CEOTOA*.
BDPOWER: Factor of BDSIZE and *BDACT*.
BDEXP: Factor of BDACC, *BDFIN* and *BDINDS*.
IND: Factor of *BDIND* and *ACIND*.
AC: Dummy variable, 1 = the presence of an audit committee. 0 = otherwise.
AUDITOR: Factor of *BIG4* and *AUDT*. *AUDT*: Auditor tenure, the number of years for current audit

Table 6. Regression results

Variable	Sign	Model 1	Model 2	Model 3	Model 4
Constant	?	.115***	.235***	.016***	.052***
		(2.645)	(3.930)	(3.283)	(5.983)
CEOPOWER	+	.137**	.108*	.117***	.039***
		(2.035)	(1.453)	(6.932)	(5.937)
BDPOWER	-		-.263**		-.082**
			(-1.727)		(2.843)
BDEXP	-		-.213***		-.081***
			(3.535)		(8.514)
IND	-			.132*	.134**
				(1.393)	(4.921)
AC	-			-.181	-.207**
				(1.281)	(2.348)
AUDITOR	?	-.052***	-.005**	-.010	-.021*
		(2.751)	(2.045)	(.236)	(1.923)
LEV	+	.006*	.007*	.012	.034**
		(1.076)	(1.052)	(.754)	(2.863)
ROA	_	-.039***	-.043***	-.046***	-.037***
		(3.821)	(7.867)	(7.987)	(9.829)
GROWTH	_	-.034***	-.044***	-.030***	-.037***
		(4.098)	(4.612)	(5.218)	(5.932)
Industry	?	included	included	included	Included
Year	?	included	included	included	Included
Adjusted R^2		.081	.197	.136	.146
F		15.628***	11.971***	14.628***	15.923***
N		1242	1242	1242	1242

***. **.*. : Correlation is significant at the 0.01, 0.05, and 0.1level (2-tailed). *t* – Statistics are provided in parentheses under the estimated coefficient.
AABA: Absolute value of abnormal accruals obtained from Modified Jones Model. *CEOPOWER*: Factor of *CEODUO* and *CEOTOA*. *BDPOWER*: Factor of *BDSIZE* and *BDACT*. *BDEXP*: Factor of *BDACC*, *BDFIN* and *BDINDS*. *IND:* Factor of *BDIND* and *ACIND*. *AC*: Dummy variable, 1 = the presence of an audit committee. 0 = otherwise. *AUDITOR*: Factor of *BIG4* and *AUDT*. *LEV*: (Short-term debts + long-term debts) / total assets.*ROA*: ROA at current year. *GROWTH*: Market capitalisation over book value of equity at current year.

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