Family CEO and earnings management in Indonesia: does separation of control right and cash flow right moderate the result?

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Abstract: This paper aims to examine the influence of family CEOs on earnings management. Further, this research was also performed to find out whether the separation of control rights and cash flow rights moderates the tendency of family CEO to perform earnings management. This study utilised a quantitative approach and explored 597 firm year observations from public non-financial companies listed on the Indonesian Stock Exchange from 2013 through 2017. The analysis used panel data regression analysis. The results showed that family CEOs have a greater tendency to perform earnings management compared to non-family CEOs. The trend of family CEO performing earnings management is higher in firms with higher separation of control rights and cash flow rights.

Keywords: family chief executive officer; FCEO; chief executive officer; CEO; earnings management; control right; cash flow rights; CFRs; Indonesia.

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1 Introduction

Studies on the influence of family control on financial reporting practices still generate varied results. Some studies found that family businesses tend to expropriate the rights of minority shareholders and have low performance and low reporting quality (Morck et al., 1988; Fama and Jensen, 1983; Shleifer and Vishny, 1997; Fan and Wong, 2002; Ding et al., 2011). Meanwhile, other studies showed the opposite. Businesses controlled by families were found to have better performance or reporting quality compared to non-family firms (Anderson and Reeb, 2003; Wang, 2006; Ali et al., 2007; Lourenço et al., 2018; Shiri et al., 2018).

Varied results from studies on reporting quality in family businesses are what motivate this paper to re-examine this topic with deeper consideration for the characteristics of each family business (Stockmans et al., 2010; Paiva et al., 2016). Reporting quality is often proxied by earnings management (EM), where higher EM indicates lower reporting quality. EM is a manager's effort to intervene with the financial reporting process using judgment to gain the desired earnings figures. Paiva et al. (2016) explained that research on EM in family companies still considers that all family

companies are homogeneous and overlooks differences in the characteristics of each family company that might affect the practice of EM. Villalonga and Amit (2006) stated that each family company could have different control intensities caused by differences in the proportions of ownership, family management, and control mechanisms they have, such as the separation of ownership (also known as cash flow right – CFR) and control [also known as control right (CR) or voting right]. CFR denotes shareholder's right to gain cash from the company, such as the right to receive dividend; while CR demonstrates shareholders' right to vote members of director and decision on corporate policy (Claessens et al., 2000; Abdullah and Pok, 2015).

Family shareholders can gain control over a firm by directly involving themselves through strategic positions such as chief executive officer (CEO) (Shleifer and Vishny, 1997; Morck et al., 2005). Azouzi and Jarboui (2017) show that CEO's emotional intelligence level can drive decisions about performance reporting and affects dividend distribution policies. The existence of a family chief executive officer (FCEO) will allow the owner to exercise active control over the company's operations and financial reporting processes.

Family involvement in a company as CEO may result in different reporting quality as compared to those with non-FCEO. Until currently, very few numbers of studies have observed the influence of FCEO on reporting quality. Hasso and Duncan (2012) studied the role of FCEO in Australian public companies listed on the Australian Securities Exchange. They found that FCEO-led family companies showed better accrual quality than other companies. These results should not be generalised, especially for countries with low investor protection such as Indonesia. Leuz et al. (2003) demonstrated that EM was stronger in countries with low protection to minority outside investors. Conflict of interest between controlling investors and outside investors has forced controlling shareholders to perform EM to hide the actual company performance, preventing outside investors from finding out the private control benefits of the controlling shareholders (Leuz et al., 2003). Several studies in Indonesia have observed EM in family businesses but overlooked the roles of FCEOs (e.g., Siregar and Utama, 2008; Sanjaya, 2011).

Family involvement in firms as CEO can be viewed from two perspectives. The first perspective assumes that FCEO is a means to overcome agency problems between owners and management, which in turn will have positive consequences on the performance and quality of reporting (Anderson and Reeb, 2003; Jiang and Peng, 2011; Liu et al., 2012). The second perspective, on the other hand, believes that FCEO will bring an adverse impact on business output due to agency problems between family, as a controlling shareholder, and outside investors, as minority shareholders. FCEO will potentially raise EM as they tend to follow the wish of the family as the majority shareholder and ignore minority shareholder's interest (La Porta et al., 1999; Shleifer and Vishny, 1997)

Standing on a competing hypothesis that defines the relation between FCEO and EM, we are interested in exploring the organisational factors affecting FCEO's behaviour towards EM. Studies on reporting quality is very often influenced by agency problems and monitoring mechanisms to align the interests of many parties within a firm. Based on the argument, we assume that FCEO's behaviour in performing EM is affected by organisational factors that may support or monitor FCEO's actions. Organisational factors observed in this paper are the separation of CR and CFR (SEP).

Claessens et al. (2000) stated that public companies in East Asia have cash flow leverage (CFL) or ratio CFR to CR averagely 74.6%. The ratio proves that there is a

separation between ownership and control in the ownership structure of public companies in East Asia. Conflict of interest between majority and minority shareholders will increase when the ultimate owner's CR exceeds their CFR (Shleifer and Vishny, 1997; La Porta et al., 1999). When CR is higher than CFR, majority shareholders may have an incentive to take value from minority shareholders because the CFR is unable to hold it. (Faccio and Lang, 2002; Claessens et al., 2000). Family owners may ask FCEO to expropriate minority shareholders through the decisions they make (Claessens et al., 2002; Gao et al., 2017).

This research aims at observing the influence of FCEO on EM and examine whether SEP may act as moderating variables that strengthen the impact of FCEO on EM. This study observes public companies listed on the Indonesia Stock Exchange (IDX). Indonesian public companies have more prominent characteristics compared to those of other countries. Most Indonesian public companies (84.6%) are managed by family as controlling shareholder. The percentage is the second-highest after Malaysia. Indonesia has 66.96% of public companies in pyramid form, with a ratio of CFL averagely 78.4%, the second-highest after Japan (Claessens et al., 2000).

This research uses the perspective of agency theory. This study is the first research that explores the influence of organisational factors that separate CRs and CFRs on FCEO's tendency to perform EM in Indonesia. This study contributes to three things. First, the contribution is made to literature on the characteristics of CEOs that influence EM in a family business, particularly the CEO, whose familial relationship with controlling owner. Second, this research contributes to the literature on the influence of ownership structure on FCEO behaviour in performing EM. The writing systematics of this paper is arranged as follows: Section 1 presents the introduction, Section 2 covers literature review and hypothesis development, Section 3 explains methodology, Section 4 presents research findings and discussion, and Section 5 contains conclusions, limitation, and suggestion for future researches.

2 Literature review and hypotheses development

2.1 FCEO and EM

Controlling shareholders in a family business often desires to take control by appointing family member(s) to sit in the top management position(s) (Morck et al., 2005). CEO is the most crucial position in a company hierarchy, due to its primary responsibility for company performance and duty to deliver company information to the public. Several studies have explored the influence of CEO characteristics on earnings quality, among others: CEO tenure (Ali and Zhang, 2015; Baatwah et al., 2015); CEO financial experience and age (Jiang et al., 2013; Huang et al., 2012), CEO ethical leadership and gender (Ho et al., 2015; Zalata et al., 2018), CEO managerial ability (Demerjian et al., 2013), and CEO financial expertise (Baatwah et al., 2015).

Very few researches have explored the influence of FCEO on EM in the family business. FCEO in the family business may affect EM differently when compared to non-FCEOs due to the agency problem. The involvement of family owners in management as FCEO can reduce agency costs between owner and manager and will align the owner's interest and management's interest. Yang (2010) shows that FCEO in Taiwan has EM less than a non-FCEO. Hasso and Duncan (2012) demonstrated that

FCEO brought a positive impact on the quality of accruals in the Australian Securities Exchange, which means that FCEO has a negative impact on EM.

We suggest that research by Hasso and Duncan (2012) and Yang (2010) can have different results if done in Indonesia because the level of investor protection in Indonesia is low, and many public companies in Indonesia have a pyramid structure (Leuz et al., 2003; Claessens et al., 2000). Pyramid ownership structure boosts the motivation in majority owner (family) to expropriate the rights of minority shareholders who are commonly non-family parties, so that FCEOs have greater agency problem between principals (type II) compared to non-FCEOs (Chau and Gray, 2002; Villalonga and Amit, 2006; Anderson et al., 2012). Family involvement as CEO may legitimate the authority of family owners and empower them to take action that benefits family, so the condition renders FCEOs to have a higher chance of giving rise to entrenchment effect (Shleifer and Vishny, 1997; Morck et al., 2005). Based on this description, we state Hypothesis 1 as follows.

Hypothesis 1   Family firms with FCEOs have a higher EM than non-FCEOs.

2.2   *Moderating effect of separation of CR and CFR*

Shareholders of family companies are usually concentrated in particular families who are controlling shareholders. Agency theory explains that concentrated family ownership can minimise agency problems between managers and owners, but on the other hand can lead to agency problems between majority owners and minorities (Shleifer and Vishny, 1997; Morck et al., 2005). Through significant ownership, family owners find it easier to expropriate minority shareholders' earnings. With dominant ownership, family shareholders also have the ability and desire to control reporting policies and limit information content for personal gain (Chaney et al., 2011; Chi et al., 2015). Chaney et al. (2011) states that a centralised ownership structure usually has a political relationship that can influence companies to produce low-quality reporting.

The controlling family of companies in East Asia tends to increase family control through the structure of the pyramid. The structure of the pyramid will cause shareholder CRs to exceed CFRs (Shleifer and Vishny, 1997). The structure of the pyramid will increase agency problems between controlling shareholders and minority shareholders, which can affect the quality of information that is worse (Ali et al., 2007; Hsu and Liu, 2016).

Prior studies stated that conflict of interest between majority and minority shareholders would increase when the ultimate owner's CR exceeds their CFR (Shleifer and Vishny, 1997; La Porta et al., 1999). Faccio and Lang (2002) stated that majority shareholders with higher CR than CFR might have the incentive to extract value from minority shareholders as CFR fails to contain it. Controlling shareholders may ask FCEO to assist them in expropriating minority shareholders through the decisions they take (Claessens et al., 2002; Gao et al., 2017). Therefore, decisions made by FCEO are more focused on facilitating family rather than accommodating the interest of minority shareholders (Villalonga and Amit, 2006; Anderson et al., 2012; Gao et al., 2017).

Claessens et al. (2002) provided evidence that the difference between CFR and CR concerns with market valuation, which means that such a distinction will increase agency cost and, therefore, decrease company value. The greater difference between CR and CFR leads to higher information asymmetry and negatively related earnings quality (Hsu

and Liu, 2016). Fan and Wong (2002) support the argument of the entrenchment effect that differences in ownership and CRs of ultimate shareholders are negatively related to earnings information. Controlling shareholders who want to protect proprietary information would create gaps in ownership and control through pyramid structures or cross-shareholdings. EM is a method performed by FCEOs to hide the actual company performance and preventing the outside investors from finding out the private control benefits of the controlling shareholders (Leuz et al., 2003). Liu and Sun (2010) show that public companies in China have worse disclosure quality when the ultimate shareholders are individuals and have greater differences between CFR and CR. Public companies with separation of CR and CFR will have more significant agency problems (Wangfeng and Lihong, 2016).

Based on this argument, the tendency of FCEO in performing EM will be higher for firms with higher separation of CR and CFR.

Hypothesis 2 Separation of CR and CFR will strengthen the effect of FCEO on EM.

3 Methodology

3.1 Research samples and data

The population of this study covered non-financial firms categorised as family-owned businesses that were listed on the IDX throughout 2013–2017. The family-owned company is a firm whose ultimate owner is an individual or family with at least 5% of CRs percentage (Villalonga and Amit, 2006; Peng and Jiang, 2010). The ratio is calculated from the sum of the multiplication results of the portion of each ownership chain (Claessens et al., 2000; Wangfeng and Lihong, 2016).

This study used panel data analysis. The samples were selected using purposive sampling with the following criteria: firms with complete financial data and information of ultimate ownership available. Ownership data were obtained by observing annual reports and retrieving info from the General Law Administration section of the Department of Law and Human Rights. The profiles of the CEO and the board of commissioners were obtained from annual reports. Throughout 2013–2016, 120 firms met our criteria. In 2017, one company was delisted, and two firms merged in 2017, rendering a total company number of 117 in 2017. That left us with a total of 597 observations.

This study started the research period from 2013 to adjust with the start of the full enforcement of new accounting standards in Indonesia. Several researchers have shown that the new accounting standard regime has had negative impacts on EM in Asian countries such as Vietnam and Malaysia (Hoang and Joseph, 2019; Ismail and Kamarudin, 2013). The Indonesian Government is committed to fully implementing the IFRS convergence since 2012. This research required financial data from 2012 to perform DAcc estimation. The research period ended in 2017 as the latest available data of public companies were obtained from the concerned year.

3.2   Variables

3.2.1   Dependent variable

The dependent variable of this study was EM. EM is a manager's effort to intervene with the financial reporting process using judgment to gain earnings figures. EM was measured using absolute values from discretionary accrual (ABS_DAcc). Young (1999) states that managers prefer to use accruals in EM because this method is considered cheaper and more difficult to observe compared to other methods. Some researchers have previously used DAcc as a proxy for EM (Becker et al., 1998; Francis and Krishnan, 1999; Krishnan, 2003; Chi et al., 2015).

This study uses the model of Kothari et al. (2005) as the primary analysis. Kothari et al. (2005) enters company performance in the previous period ($ROA\ t - 1$) and therefore becoming more reliable as EM varies with performance (Kothari et al., 2005). This model is also believed to be able to reduce heteroscedasticity and misspecification in aggregate accrual model (Sun et al., 2011; Abdullah and Ismail, 2015). In addition to using the Kothari model, this study also added analysis with the Dechow model in each analysis. Some researchers claimed that Dechow's model has the power to perform DAcc estimation (Dechow et al., 1995; Alzoubi, 2016).

The steps to measuring DAcc were as follows:

$$TACCit = NI_{i,t} - CFO_{i,t} \tag{1}$$

$$TACCit = \beta_0 + \beta_1 \left(\Delta REV_{i,t} - \Delta AR_{i,t} \right) + \beta_2 PPEit + \beta_3 ROA_{i,t-1} + \varepsilon_{i,t} \tag{2}$$

$$NDAccit = \beta_0 + \beta_1 \left(\Delta REV_{i,t} - \Delta AR_{i,t} \right) + \beta_2 PPEit + \beta_3 ROA_{i,t-1} \tag{3}$$

$$DAccit = TACC_{i,t} - NDA_{i,t} \tag{4}$$

Descriptions

The Dechow model does not include $ROA_{i,t-1}$, so the model becomes $TACCit = \beta_0 + \beta_1 (\Delta REVit - \Delta ARit) + \beta_2 PPE_{i,t} + \varepsilon_{i,t}$.

TACC is the total accruals; *NI it*: net income company *i*, year *t*; *CFO it*: cash from operation for company *i*, year *t*; *ΔREVit* is a change in net revenue for company *i*, year *t*; *ΔARit*: change in accounts receivable for a company *i*, year *t*; *PPE it*: property, plant, and equipment for a company *i* and year *t*; ROA_{it-1}: return on assets for a company *i* and year $t - 1$; *NDAcc* is non-discretionary accruals for a company *i* and year *t*. *DAcc* is discretionary accruals for a company *i* and year *t*. All variables are scaled by using the company's total assets *i* in year $t - 1$.

In step 1, total accrual was calculated from every firm observation, i.e., net income minus cash flow from operation. In step 2, estimation was made using equation (2), cross-sectional per year to gain coefficient in the total accrual model. In step 3, the coefficient obtained in equation (2) was used to estimate non-discretionary accrual in equation (3). Last, in step 4, DAcc was calculated by reducing TACC with the estimated NDAcc obtained from equation (3).

3.2.2 Independent variable

The independent variable of this research was CEO. CEO is the top management position, also known as president director in Indonesia. CEO is the dummy variable. 1 indicates FCEO with a familial relationship with the controlling owner, and 0 means a non-FCEO. The familial relationship was determined by the observation of the CEO profile and the disclosure stated affiliation between the board of commissioners, the board of directors, and controlling shareholders. In case there was no disclosure of the familial relationship between the CEO, management, the board of commissioners, and controlling shareholders, the status was determined based on name similarity (Tabalujan, 2002).

3.2.3 Moderation variable

This study uses SEP as moderation variables. SEP is a variable that shows the separation of CRs and CFRs. This variable is measured by CFL, which is the ratio of CFR to CR. Ratio < 1 indicates the separation of CR and CFR. The smaller the ratio CFL means the greater separation. In other words, the closer the CFL ratio to zero, the separate is higher. For CFL to be directly proportional to SEP, so it is multiplied by −1. So the SEP is CFL * −1.

We calculate the value of the SEP starting by determining the value of the CFR and CR, which begins by searching for data on the percentage of ownership. Data on ownership is obtained from annual reports on company profiles. Each company gives a slightly different title, such as the structure of major and controlling shareholders, the structure of share ownership of the company business group, or the structure of the company group.

The ownership of a company can be gotten directly or indirectly. In direct share ownership, the calculation of CFR and CR is only carried out to the immediate ownership. The percentage of direct share ownership is the value of CFR and CR. If share ownership is carried out indirectly, then share ownership data is traced from immediate ownership to ultimate ownership. The CFR value is the sum of the multiplications of each ownership chain, while CR is the weakest percentage of each ownership chain (La Porta et al., 1999; Claessens et al., 2000; Gao et al., 2017). Ownership shareholders show CFR.

The following are examples of CFR and CR calculations. Company C is a public company whose shares are owned by company B as the immediate owner of 40%. Furthermore, it was traced that the largest shareholder of company B is family A, which is the ultimate owner with a proportion of 60% ownership. From this example, the CFR of family A to company C is 24%, which is calculated by multiply of the ownership chain 60% × 40%; The CR is 40%, which is the lowest percentage of the ownership chain between 60% and 40%. From here, CFL is 0.24 / 0.4 = 0.60, SEP is −0.60. Thus we say that the ultimate shareholders of PT C have CFR 0.24, CR 0.40. CFL 0.60 and SEP −0.60. Substantial shareholders are families or individuals with the largest CR, which is family A. In direct ownership, Ownership shareholders indicate CFRs.

3.2.4 Control variables

This study included financial variables in the regression equation model to control the influence of company characteristics on EM. Control variables covered profitability, firm

size, and leverage. Profitability was measured by ROA, which is a ratio of net income to total assets; leverage (LEV) was measured by total debt to total assets ratio; and firm size (SIZE) was measured by log of total assets (Zalata et al., 2018). Larger companies and higher profitability often have more transparent information as compared to smaller firms, and therefore EM in large companies tends to be at the lower side (Dechow and Dichev, 2002). LEV has a positive impact on EM as companies have an obligation to comply with the provisions of debt agreement (Prencipe and Bar-Yosef, 2011; Chi et al., 2015; Siagian and Tresnaningsih, 2011).

3.3   Research model

For hypothesis testing, this research used a panel data regression model. The panel data regression analysis has taken into account the variation between each company and time and therefore is more suitable to use than the OLS model. To determine whether to use the fixed effects model (FEM) or random effects model (REM), we performed the Hausman test. The Hausman test generated a non-significant result ($p = 0.2070$), which means that the zero hypotheses from the REM model could not be rejected. This is the reason behind the utilisation of REM in this study. Model 1 was used to test Hypothesis 1 on the main effect. Models 2 and 3 were used to test Hypotheses 2 and 3 on the impact of moderation by involving an interaction variable. The moderating effects from SEP to FCEO were shown by the significance of the interaction coefficient *FCEO * SEP*.

- Model 1:

$$EM\ i,t = \beta_0 + \beta_1 FCEO\ i,t + \beta_2 ROA\ i,t + \beta_3 LEV\ i,t + \beta_4 SIZE\ i,t + \varepsilon\ i,t$$

- Model 2:

$$EM\ i,t = \beta_0 + \beta_1 FCEO\ i,t + \beta_2 ROA\ i,t + \beta_3 LEV\ i,t + \beta_4 SIZE\ i,t + + \beta_5 SEP\ i,t \\ + \beta_6 FCEO * SEP\ i,t + \varepsilon\ i,t$$

Descriptions

EM   Earnings management, measured by absolute discretionary accrual (ABS_DA) estimated using a modified Jones model by Kothari et al. (2005).

FCEO   Family chief executive officer, measured with a dummy variable, Figure 1, for family CEO, and 0 for other.

SEP   Separation of CR and CFR, measured by ratio of CFR to CR * –1.

ROA   Return on assets, measured by net income to total assets.

LEV   Leverage, measured by total debt to total asset.

SIZE   Firm size, measured by log of total assets.

4 Result and discussion

4.1 Descriptive statistics

The descriptive statistics for dependent and independent variables are shown in Table 1, which reports each variable with the mean, median, minimum, maximum, standard deviation, skewness, and kurtosis values. Variable EM with proxy ABS_DA generated a mean of 7.7%. This figure is higher than the findings by Sanjaya (2011) and Siagian and Tresnaningsih (2011) at consecutively 6.27% and 7.3%. Almost half of the observed research samples (48.74%) were companies with FCEOs. The mean of CFL was 0.869, which was lower than those reported by Claessens et al. (2000) at 0.784.

Table 1 Descriptive statistics

Variable	Mean	Median	Minimum	Maximum	STD	P 25	P 75
EM k	0.077	0.053	0.000	0.617	0.080	0.023	0.111
EM d	0.078	0.054	0.000	0.585	0.081	0.021	0.112
FCEO	0.487	0.000	0.000	1.000	0.501	0.000	1.000
CFL	0.869	1.000	0.341	1.000	0.185	0.774	1.000
SEP**	−0.869	−1.000	−1.000	−0.341	0.185	−1.000	−0.774
ROA	0.043	0.036	−0.455	0.394	0.082	0.005	0.080
LEV	0.425	0.427	0.007	0.988	0.209	0.256	0.589
SIZE	6.312	6.334	4.544	7.987	0.635	5.854	6.743

Notes: EM k: Earnings management of Kothari model; EM d: Earnings management of Dechow model.
**SEP is calculated by CFL * −1.

Table 2 shows the variation of data (mean) during the study period. The dependent variable (EM) varies considerably from year to year and tends to experience a declining trend. The mean data for the independent variable FCEO does not experience variations and tends to be constant. The SEP variable is also a small variation.

Table 2 Variation of mean variables for five years

Year	EM k	EM d	FCEO	SEP	ROA	LEV	SIZE
2013	0.103	0.106	0.500	-0.853	0.067	0.435	6.252
2014	0.079	0.080	0.500	-0.853	0.044	0.423	6.293
2015	0.075	0.075	0.500	-0.886	0.034	0.426	6.324
2016	0.068	0.072	0.500	-0.888	0.033	0.424	6.355
2017	0.057	0.057	0.436	-0.867	0.035	0.418	6.334

4.2 Correlation analysis

Table 3 presents the Pearson correlation matrix. The correlation between independent variables was lower than 0.5. This indicates that there are no serious problems related to multicollinearity. The VIF value of each independent variable, which is low and lower than ten, can also indicate that the issue of multicollinearity is not a serious one.

Table 3   Pearson correlation

	Variable	EM	FCEO	SEP	ROA	LEV	SIZE	VIF
1	EM	1.000						
2	FCEO	0.121**	1.000					*1.106*
5	SEP	0.175**	0.089*	1.000				*1.034*
6	ROA	−0.072	0.034	0.002	1.000			*1.230*
7	LEV	0.087*	−0.064	0.020	−0.244**	1.000		*1.127*
8	SIZE	−0.121**	0.000	−0.010	0.181**	0.079	1.000	*1.167*

Notes: **Correlation is significant at the 0.01 level (two-tailed).
       *Correlation is significant at the 0.05 level (two-tailed).
       Source: Data processed

Dependent variable EM showed a significantly positive relation with SEP and FCEO. This means that firms with high SEP will report higher EM, and FCEO will report higher EM compared to non-FCEO. The correlation of EM and SIZE, ROA variables showed negative relations, while LEV variable showed a significantly positive correlation with EM. The relationship between EM and ROA, LEV, SIZE was in line with the previous expectation in determining the control variable.

4.3   Regression results

Table 4 presents the result of the regression test with equation models 1 and 2. Model 1 was used to test the influence of the independent variable, FCEO on EM, as stated in Hypothesis 1. Model 2 was used to test the moderating effect of SEP in the relation between FCEO and EM. The adjusted R square for equations (1) and (2) were 0.021, 0.043.

Coefficient β_2 (FCEO) in equation (1) was significantly positive ($\rho < 0.01$). This result supported Hypothesis 1. FCEO * SEP coefficient in equation (2) was significantly positive ($\rho < 0.05$), and therefore supporting Hypothesis 2. The results of the regression showed that control variables LEV and SIZE were significant ($\rho < 0.05$), whereas the coefficient of ROA was not significant.

The result of Hypothesis 1 testing showed that companies in Indonesia with FCEO tend to do stronger EM than those with non-FCEO. It means that FCEO acts more as an agent than a steward. It is in line with the management entrenchment theory which states that ownership concentration and family management will result in expropriation behaviour by family members by sacrificing minority shareholders (Wang, 2006; Yang, 2010; Hashmi et al., 2018). Morck et al. (1988) argued that the FCEO has extensive control over the company. Such a condition may lead to an entrenchment effect. A similar opinion was coined by Gomez-Mejia et al. (2014), stating that decisions about financial reporting in family businesses are motivated by the owner's desire to secure the family's socio-emotional wealth (SEW). The desire to maintain SEW may bring an entrenchment effect, which eventually leads to a negative impact on financial reporting quality.

Table 4   Influence of FCEO on earning management

Equation (1) $EM_{i,t} = \beta_0 + \beta_1 FCEO_{i,t} + \beta_2 ROA_{i,t} + \beta_3 LEV_{i,t} + \beta_4 SIZE_{i,t} + \varepsilon_{i,t}$

Equation (2) $EM_{i,t} = \beta_0 + \beta_1 FCEO_{i,t} + \beta_2 ROA_{i,t} + \beta_3 LEV_{i,t} + + \beta_4 SIZE_{i,t} + + \beta_5 SEP_{i,t} + \beta_6 CEO * SEP_{i,t} + \varepsilon_{i,t}$

	Kothari model				Dechow model			
	Dependent variable: EM				Dependent variable: EM			
	Equation (1)		Equation (2)		Equation (1)		Equation (2)	
	Main effect		Interaction		Main effect		Interaction	
Independent variables	β coeff	p-value	β coeff	p-value	β coeff	p-value	β coeff	p-value
Intercept	0.145	0.000[a]	0.166	0.000[a]	0.140	0.000[a]	0.162	0.000[a]
FCEO	*0.019*	*0.008[a]*	0.087	0.012[b]	0.083	0.015[b]	0.090	0.010[b]
ROA	−0.010	0.825	0.006	0.894	−0.023	0.596	−0.028	0.523
LEV	0.043	0.025[b]	0.040	0.032[b]	0.039	0.046[b]	0.036	0.057[c]
SIZE	−0.015	0.016[b]	−0.015	0.013[b]	−0.014	0.034[b]	−0.014	0.028[b]
SEP			0.023	0.441			0.024	0.417
Interaction								
FCEO * SEP			0.080	0.038[b]			0.085	0.030[b]
R^2	0.028		0.053		0.025		0.053	
Adj. R^2	0.021		0.043		0.019		0.043	
F-stat	4.190		5.487		3.846		5.476	
Prob	0.002		0.000		0.004		0.000	
n	597				597			

Notes: [a]Significant level $p < 0.001$, [b]significant level $p < 0.05$, [c]significant level $p < 0.10$.
    **EM: Earnings management, measured by absolute discretionary accrual (ABS_DA) estimated using the modified Jones model (Kothari et al., 2005)
    and Dechow et al. (1995).

The influence of FCEOs on EM can also be explained using proprietary information (Fan and Wong, 2002). Substantial control from the FCEO in reporting policies will lead to information asymmetry between the controlling shareholder and minority shareholders as external parties. This condition allows FCEO to protect certain information from outsiders (non-family), particularly those connected to expropriation actions. Based on this argument, this study assumes that a FCEO would result in higher EM as an effort to hide expropriation actions from the public (Fan and Wong, 2002).

The resulting finding also supports Hypothesis 2, which stated that the influence of FCEO on EM would increase in companies with higher separation of CRs and CFRs. The result is consistent with Hsu and Liu (2016), which shows that the greater difference between CR and CFR leads to higher information asymmetry and negatively related earnings quality. An ownership structure that separates CRs and CFRs will increase agency problem type 2 between the family owner and minority shareholder (Anderson et al., 2012; Villalonga and Amit, 2006).

The intensity of separation CR over CFR will determine the ability and incentive of controlling shareholders in performing expropriation of company resources that may omit the rights of minority shareholders (La Porta et al., 1999). The higher, CR to CFR ratio, the more intense the conflict of interest between majority and minority shareholders. Separation of CR and CFR will also increase agency problems that may result in an entrenchment effect (Wangfeng and Lihong, 2016). Increasing agency problems will result in low performance and low information qualities generated by the company (Attig et al., 2006; Liu and Sun, 2010).

4.4   Robust test

Robust test aims to analyse more deeply the effect of separation of CR and CFR (SEP) on the relationship between the CEO Family and EM. We divide the sample into two sub-samples. Subdivision of samples using cut off the mean value of the SEP variable. Sub-samples with SEP below the mean value are classified as low SEP, while sub-samples with SEP above the mean value are classified as high SEP. From this analysis, it appears that the influence of FCEO on EM occurs in companies that have a high SEP. In a low SEP condition, the FCEO coefficient is not significant, so it can be concluded that in a low SEP condition, the FCEO's behaviour in managing earnings is not different from non-FCEO.

We show Figure 1 and Figure 2 to clarify the effect of SEP on the relationship between CEO status and EM. In this analysis, we classify SEP based on the mean value, namely –0.869. SEP above the mean value is grouped as high, and below the mean value are classified as low. The figure is obtained by analysing the two-way ANOVA test. Variable of SEP is made into two categorical variables, namely low SEP and high SEP. We give notation 1 for the SEP low and 2 for the SEP high. After grouping the SEP and CEO, univariate analysis is performed, and a plot is chosen so that the resulting Figure 1 and Figure 2 are generated. Figure 1 is based on the DA estimation model from Kothari et al. (2005), and Figure 2 is based on the DA estimation model from Dechow et al. (1995).

Table 5 Influence of FCEO on EM

Equation	$EM_{i,t} = \beta_0 + \beta_1 FCEO_{i,t} + \beta_2 ROA_{i,t} + \beta_3 LEV_{i,t} + \beta_4 SIZE_{i,t} + \varepsilon_{i,t}$						(1)
Independent variables	*Full sample*		*Low SEP*		*High SEP*		*Equation (3) Interaction*
	β coeff	*p-value*	*β coeff*	*p-value*	*β coeff*	*p-value*	
C	0.145	0.000[a]	0.154	0.000[a]	0.128	0.024[b]	
FCEO	*0.019*	0.008[a]	0.002	0.779	0.045	*0.000[a]*	
ROA	−0.010	0.825	-0.032	0.699	−0.021	0.793	
LEV	0.043	0.025[b]	0.023	0.204	0.062	0.079[c]	
SIZE	−0.015	0.016[b]	−0.015	0.008[a]	−0.013	0.098[c]	
R^2	0.028		0.025		0.096		
Adj. R^2	0.021		0.014		0.080		
F-stat	4.190		2.431		5.471		
Prob	0.002		0.047		0.000		
n	597		391		206		

Notes: [a]Significant level $p < 0.001$, [b]significant level $p < 0.05$, [c]significant level $p < 0.10$.
Low SEP vs. high SEP EM estimated using modified Jones model (Kothari et al., 2005).

Table 6 Influence of FCEO on EM

Equation	$EM_{i,t} = \beta_0 + \beta_1 FCEO_{i,t} + \beta_2 ROA_{i,t} + \beta_3 LEV_{i,t} + \beta_4 SIZE_{i,t} + \varepsilon_{i,t}$						(1)
	Dependent variable: EM		*Dependent variable: EM*		*Dependent variable: EM*		
Independent variables	*Full sample*		*Low SEP*		*High SEP*		*Equation (3) Interaction*
	β coeff	*p-value*	*β coeff*	*p-value*	*β coeff*	*p-value*	
C	0.140	0.000[a]	0.140	0.000[a]	0.138	0.011	
FCEO	*0.083*	0.015[b]	−0.000	0.958	0.046	0.000[a]	
ROA	−0.023	0.596	−0.060	0.492	−0.063	0.406	
LEV	0.039	0.046[b]	0.018	0.307	0.060	0.079[c]	
SIZE	−0.014	0.034[b]	−0.013	0.035[b]	−0.014	0.066[c]	
R^2	0.025		0.021		0.111		
Adj. R^2	0.019		0.011		0.093		
F-stat	3.846		2.077		6.262		
Prob	0.004		0.083		0.000		
n	597		391		206		

Notes: [a]Significant level $p < 0.001$, [b]significant level $p < 0.05$, [c]significant level $p < 0.10$.
Low SEP vs. high SEP EM estimated using modified Jones model (Dechow et al., 1995).

Figure 1   Earning management and the interaction effect CEO and SEP (Kothari) (see online version for colours)
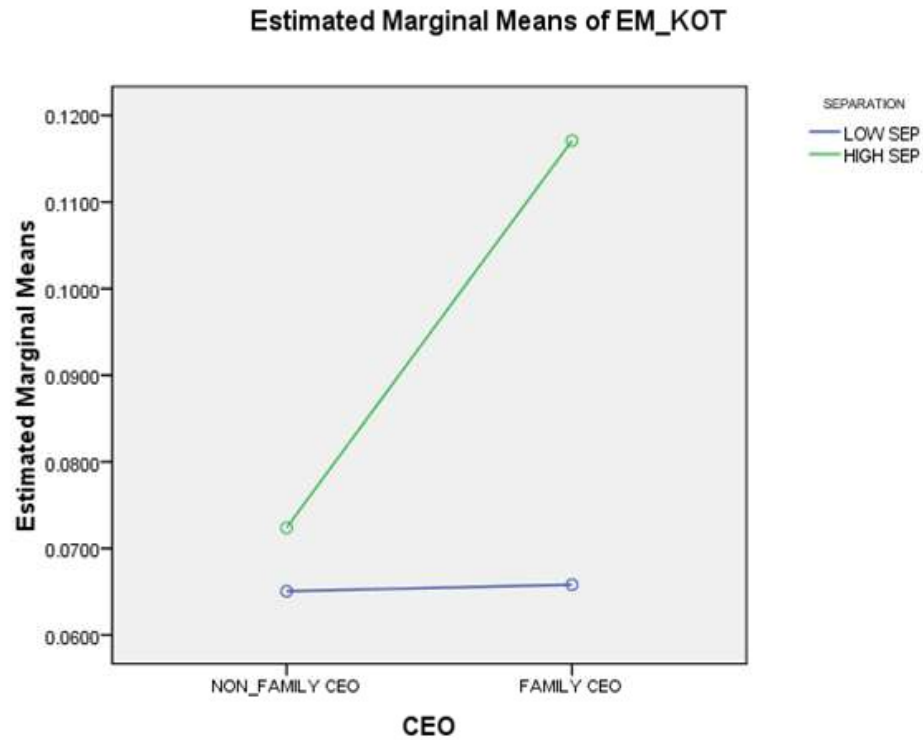

Figure 2   Earning management and the interaction effect CEO and SEP (Dechow) (see online version for colours)
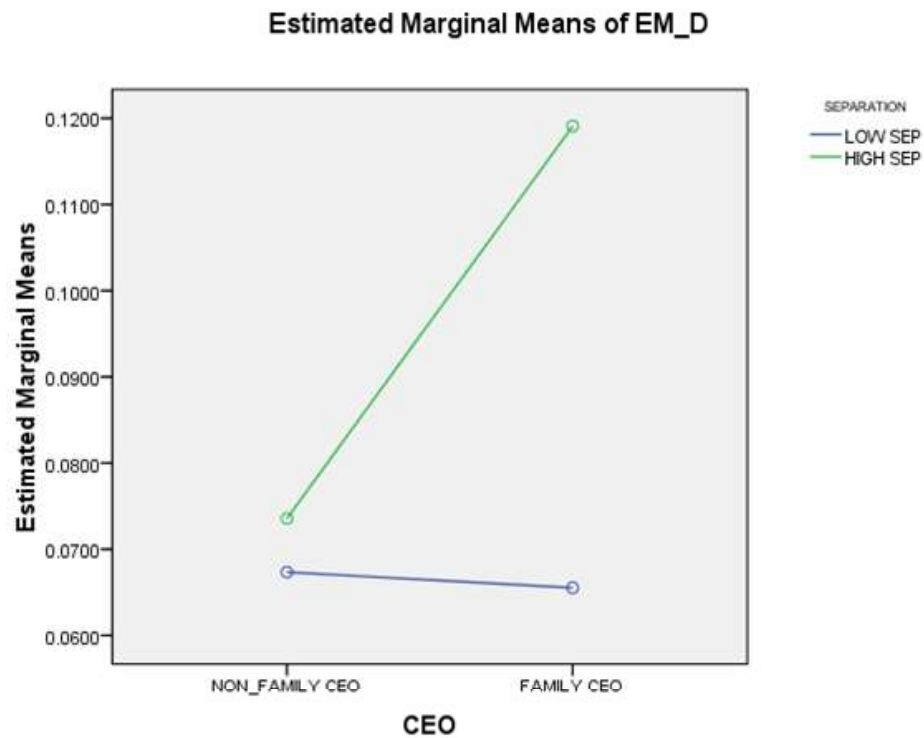
Figure 1 and Figure 2 show that the EM level between FCEO and non-FCEO is almost the same in companies that have a small separation whereas in companies with a high separation structure, FCEO has a much higher EM level than non-FCEO

4.5 Additional analysis

The additional analysis aims to determine the effect of SIZE on the tendency of FCEO to do EM, and whether the relationship of FCEO with EM in the high SEP group is stronger than the low SEP group. The separation of small and big groups was done based on the cut off of the mean value of SIZE (log TA) 6.312. The results of the analysis are shown in Table 7 and Table 8.

Table 7   Influence of FCEO on earning management: small size vs. big size

Equation	$EM_{i,t} = \beta_0 + \beta_1 FCEO_{i,t} + \beta_2 ROA_{i,t} + \beta_3 LEV_{i,t} + \varepsilon_{i,t}$							(1)
Equation	$EM_{i,t} = \beta_0 + \beta_1 FCEO_{i,t} + \beta_2 ROA_{i,t} + \beta_3 LEV_{i,t} + \beta_4 SEP_{i,t} + \beta_5 FCEO * SEP_{i,t} + \varepsilon_{i,t}$							(2)

Independent variables	Dependent variable: EM				Dependent variable: EM			
	Small				Big			
	Equation (1)		Equation (2)		Equation (1)		Equation (2)	
	Main effect		Interaction		Main effect		Interaction	
	β coeff	p-value	β coeff	p-value	β coeff	p-value	β coeff	p-value
Intercept	0.068	0.000[a]	0.116	0.000[a]	0.043	0.001[a]	0.054	0.015
FCEO	0.014	0.115	0.041	0.274	0.027	0.005[a]	0.122	0.000[a]
ROA	−0.023	0.778	−0.024	0.776	−0.091	0.255	−0.088	0.287
LEV	0.008	0.733	0.004	0.855	0.054	0.026[b]	0.051	0.036[b]
SEP			0.052	0.123			−0.011	0.651
Interaction								
FCEO * SEP			0.033	0.454			0.112	0.004[a]
R^2	0.009		0.038		0.055		0.098	
Adj. R^2	−0.000		0.021		0.046		0.084	
F-stat	0.947		2.289		5.856		6.511	
Prob	0.418		0.046		0.000		0.000	
n	294				303			

Notes: [a]Significant level $p < 0.001$, [b]significant level $p < 0.05$, [c]significant level $p < 0.10$.
    **EM: Earnings management, measured by absolute discretionary accrual (ABS_DA) estimated using the modified Jones model (Kothari et al., 2005).

The analysis shows that the tendency for FCEO to do EM is greater than non-FCEO for large companies. Company size is usually related to complexity (Miller et al., 2013). Hsu and Liu (2016) state that complexity increases information asymmetry between internal and external parties. Information asymmetry will lead to an increase in agency problems because management becomes increasingly difficult to monitor so that the risk of misconduct will increase. Hope and Thomas (2008) find that managers are more likely to engage in non-value-maximising investments when information asymmetry increases.

Leuz et al. (2003) state that the tendency for managers to make non-value-maximising investments will be accompanied by aggressive financial reporting to mask the adverse effects of suboptimal investment decisions related to firm performance. Sudaryono et al. (2019) stated that executives in large companies are more aggressive because they have political connections and have strong bargaining power. This reasoning can also be used to explain that the FCEO in large companies will be more aggressive in managing earnings so that the influence of FCEO on EM in larges companies becomes more robust than the small one.

Table 8   Influence of FCEO on earning management: small size vs. big size

Equation	$EM\ i,t = \beta_0 + \beta_1 FCEO\ i,t + \beta_2 ROA\ i,t + \beta_3 LEV\ i,t + \varepsilon\ i,t$		(1)
Equation	$EM\ i,t = \beta_0 + \beta_1 FCEO\ i,t + \beta_2 ROA\ i,t + \beta_3 LEV\ i,t + \beta_4 SEP\ i,t + \beta_5 FCEO * SEP\ i,t + \varepsilon\ i,t$		(2)

Independent variables	Dependent variable: EM				Dependent variable: EM			
	Small				Big			
	Equation (1)		Equation (2)		Equation (1)		Equation (2)	
	Main effect		Interaction		Main effect		Interaction	
	β coeff	p-value	β coeff	p-value	β coeff	p-value	β coeff	p-value
Intercept	0.072	0.000[a]	0.119	0.002[a]	0.048	0.000[a]	0.057	0.011
FCEO	0.014	0.128	0.051	0.173	0.025	0.010[b]	0.122	0.000[a]
ROA	−0.059	0.504	−0.060	0.505	−0.114	0.167	−0.112	0.197
LEV	0.005	0.843	0.000	0.975	0.053	0.028[b]	0.049	0.039[b]
SEP			0.051	0.123			0.009	0.697
Interaction								
FCEO * SEP			0.044	0.310			0.116	0.004[a]
R^2	0.012		0.045		0.055		0.099	
Adj. R^2	0.001		0.028		0.046		0.083	
F-stat	1.192		2.685		5.807		6.535	
Prob	0.313		0.022		0.000		0.000	
n	294		294		303		303	

Notes: [a]Significant level $p < 0.001$, [b]significant level $p < 0.05$, [c]significant level $p < 0.10$.
    **EM: Earnings management, measured by absolute discretionary accrual (ABS_DA) estimated using the modified Jones model (Dechow et al., 1995).

Entrancement theory states that concentrated family control will endeavour to create power and information asymmetry so that it is easier for them to carry out acts of expropriation at the expense of minority shareholders (Yang, 2010; Hashmi et al., 2018). From this description, it can be understood that FCEO's motivation to do EM will be greater for large companies. Furthermore, the motivation of FCEO to do EM will be even stronger in a company structure that has a high SEP level.

Miller et al. (2013) stated that when the company was a small, FCEO's decision would be oriented towards business interests. However, as the company grows bigger, FCEO's orientation shifts to decisions that prioritise the termination of the family, which will further increase the tendency to do EM.

4.6 Endogeneity test

The purpose of this study is to analyse whether the FCEO has a greater EM than non-FCEOs. This study suspects that the appointment of FCEO is one of the efforts of family companies to make it easier to control the company's policies, including those in reporting policies that affect EM. However, there is also the possibility that the company chose FCEO as a strategy to respond to EM in the previous period.

This study adopts the method used by Rashid (2015) to examine the possibility of an endogeneity problem caused by a reciprocal relationship between FCEO and EM. Test 1 by regressing FCEO on CEO lag, EM lag, and lag control variables, and analysis 2 by regressing EM on LagEM, LagCEO, and control variables.

1   FCEOt = c + LagCEO + LagEM + LagROA + LagLEV + LagSIZE

2   EM t = c + Lag EM + LagFCEO + LagROA + LagLEV + LagSIZE.

The result of testing models 1 and 2 are shown in Tables 9 and 10. Table 9 shows that lagged EM has no effect on FCEO, and Table 10 shows that lagged FCEO affects EM. Based on the results of these two regressions, it can be said that there is no reverse casualty relationship between FCEO and EM.

Table 9   Regression between lagged EM and FCEO t

	Dependent Variable: FCEO			
Independent variables	*Kothari model*		*Dechow model*	
	Dependent variable: FCEO t		*Dependent variable: FCEO t*	
	β coeff	*p-value*	*β coeff*	*p-value*
C	0.103	0.288	0.105	0.281
Lag FCEO	0.790	0.000[a]	0.791	0.000[a]
Lag EM	*-0.039*	*0.820*	*−0.092*	*0.571*
LagROA	−0.201	0.210	−0.201	0.211
LagLEV	0.073	0.243	0.074	0.233
LagSIZE	−0.005	0.771	−0.005	0.778
R^2	0.627		0.627	
Adj. R^2	0.624		0.624	
F-stat	158.732		158.870	
Prob	0.000		0.000	

Notes: [a]Significant level $p < 0.001$, [b]significant level $p < 0.05$, [c]significant level $p < 0.10$.
   **EM: Earnings management, measured by absolute discretionary accrual (ABS_DA) estimated using the modified Jones model (Kothari et al., 2005) and Dechow (1995).

Table 10   Regression between lagged FCEO and EM t

Independent variables	Kothari model		Dechow model	
	Dependent variable: EM t		*Dependent variable: EM t*	
	β coeff	*p-value*	*β coeff*	*p-value*
C	0.049	0.102	0.053	0.093[c]
Lag EM	0.294	0.000[a]	0.283	0.000[a]
Lag FCEO	*0.011*	*0.081[c]*	*0.010*	*0.122*
LagROA	–0.003	0.937	–0.005	0.897
LagLEV	–0.035	0.025[b]	–0.034	0.035[b]
LagSIZE	0.001	0.836	0.000	0.898
R^2	0.134		0.012	
Adj. R^2	0.125		0.112	
F-stat	14.619		12.975	
Prob	0.000		0.000	

Notes: [a]Significant level $p < 0.001$, [b]significant level $p < 0.05$, [c]significant level $p < 0.10$.
**EM: Earnings management, measured by absolute discretionary accrual (ABS_DA) estimated using the modified Jones model (Kothari et al., 2005) and Dechow (1995).

5   Conclusions

This study examined whether family businesses led by FCEOs have higher EM compared to other firms. Further examination was performed to prove whether SEP can moderate the influence of FCEO on EM. Using Indonesian public-listed family-owned firms as samples, we provide empirical evidence that FCEO has a positive effect on EM. Further observation found that SEP can moderate the influence of FCEO on EM. FCEO-led companies will intensify EM when the separation of CRs and CFRs is higher. The results of this study indicate that FCEO in public companies in Indonesia has a greater tendency to conduct EM compared to non-FCEO. However, FCEO's tendency to do EM will vary according to the degree of separation of CR and CFR. Additional analysis also shows that size influences the relationship between FCEO and EM. FCEO conducts EM, especially in companies that have large SIZE, while in small SIZE companies, FCEO's EM is no different from non-FCEO.

This research has made several contributions. First, this research contributes to the addition of empirical evidence of the occurrence of the entrenchment effect in the FCEO-led family business whose ownership structure separates CR and CFR. The finding indicates that stronger monitoring is required in such a condition. Second, this research enriches the studies on the influence of CEO characteristics on EM in family-owned businesses. The findings also showed that independent boards have crucial roles in influencing FCEO so that better earnings quality can be achieved.

This study provides several implications for regulators. First, regulators must strengthen the governance roles to protect minority shareholders. Attention should be paid to, particularly, FCEO-led firms with high separation of CR and CFR. Second, as the

risk of entrenchment effects is more pronounced in companies with the separation of CR and CFR, regulators need to devise control and limitation on the ultimate ownership structure. Third, the findings of this study strengthen our support to the Indonesian Financial Services Authority (OJK) which has attempted to improve the transparency of public company ownership structure with the issuance of OJK regulation that specifies companies to report a minimum 5% of share ownership and a minimum 0.5% of share ownership change. OJK must take the next step, which is to strengthen the supervision of public companies in complying with the policy.

This research still has several limitations, so that it provides an opportunity for subsequent researchers to develop similar research. First, this study uses DAC as a proxy for measuring EM, so the accuracy of EM is highly dependent on the model used. Although researchers always try to develop DAcc estimation models to reduce errors, up to now, there is no agreement on the best DAcc models. Future studies could explore other proxies based on external indicators such as restatement or litigation events against the company. Kravet and Shevlin (2010) and Dechow et al. (2010) suggest that restatements reflect errors that cause investors to revise their beliefs about information precision associated with the firm's earnings. Second, this study only examined the CEO's family relationship with shareholders as one of the CEO characteristics that influenced EM. Future researchers still have the opportunity to explore deeper into other CEO characteristics, such as education, gender, tenure, and expertise. Third, this research may still be developed to see the possibility of other factors that can affect the relationship between FCEO and EM, such as the presence of other shareholders or the company's governance mechanism. The existence of multiple dominant shareholders and governance can provide a role as a check and balance in carrying out an efficient monitoring function. Liu and Shi (2015) show that the active role of large shareholders can play a balancing function so that it can reduce EM and improve earnings quality. Boubaker and Sami (2011) found that the existence of multiple dominant shareholders can reduce agency costs, thereby increasing earnings informativeness.

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