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Do Chief Audit Executives Affect the Relationship Between Earnings Management and Firm Risk?

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Abstract: This study aims to obtain empirical evidence on the effect of real earnings management (REM) on firm risk. Furthermore, this study also examines the effect of Chief Audit Executive (CAE) tenure in weakening the positive relationship between real earnings management and firm risk. The study examined manufacturing companies listed on the Indonesia Stock Exchange from 2012 to 2018. The statistical analysis used in this study was panel-random effect data regression, considering that the panel random effect data test allows control of unobserved heterogeneity between companies, resulting in more efficient estimates. The research results show that companies that engage in real earnings management have a positive impact on firm risk. REM not only reduces the quality of financial reports but also increases firm risk. Likewise, CAE tenure has a positive impact on firm risk. Longer CAE tenure can weaken the effectiveness of internal oversight, exposing the firm to greater risks. However, CAE tenure does not affect the relationship between real earnings management and firm risk. A strategy of strengthening the CAE's role through rotation alone is unable to mitigate the increase in firm risk due to real earnings management, requiring a more comprehensive governance approach. This study fills the gap regarding research on the effect of real earnings management on firm risk and the role of CAE tenure on the relationship between real earnings management and firm risk in manufacturing companies in Indonesia, which is still rarely researched.

Keywords: Firm risk; real earnings management; chief audit executives; tenure

Introduction

Increasingly fierce business competition and high-profit targets can encourage management to manage earnings (Kollar, 2021). Management manages so that the value of the firm's income increases and is attractive to investors. Earnings management is the manipulation of financial statements to achieve specific goals, such as increasing profits or avoiding taxes. Such actions can adversely affect the firm, including loss of investor trust, legal sanctions, and even bankruptcy. One type of earnings management is real earnings management, which companies carry out to avoid decreased profits or losses (Roychowdhury, 2006). Real earnings management activities include providing sales discounts, ease of granting sales credit, producing on a large scale to obtain a smaller cost of goods sold value, and cutting discretionary spending budgets such as advertising, research and development, training, and education of employees (Roychowdhury, 2006; Cohen, Dey, and Lys, 2008).

Real earnings management is a type of earnings management that is difficult to detect compared to accrual earnings management (Kim and Sohn, 2013). However, losses resulting from real earnings management activities can affect future firm conditions, such as decreasing the firm's operational performance (Gunny, 2010; Tabassum, Kaleem, and Nazir,

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2015; Sutrisno, 2019).

Based on an ACFE survey in 2019, it was noted that the firm's internal audit plays an essential role in detecting fraud. The Head of Internal Audit (Chief Audit Executive) runs an audit program supporting the firm's operational effectiveness, including disclosing unbiased financial reports. In addition, Isaac (2022); Hassan et al. (2023) explain the importance of auditor competence in checking the quality of existing financial statements so that the sales value is not manipulated at the end of the firm period.

Chief Audit Executive (CAE) has a crucial role in examining the firm's financial statements, including assessing the effectiveness of the firm in carrying out operational activities (Dal Mas and Barac, 2018; Ismael and Kamel, 2020; Lobo et al., 2022). CAE with professional expertise and competence are expected to find deviant indications in the firm. CAE with high competence, expertise, and independence can reduce earnings management actions (Ismael and Kamel, 2020). Likewise, CAE with financial expertise can identify manipulation and assess accounting and financial fraud (Taufiq, 2023). Likewise, Lobo et al. (2022) show that the turnover of CAE with lower financial expertise affects the quality of financial statements and the effectiveness of internal control.

However, Taufiq (2023) shows that the time CAE serve in a firm can reduce integrity and objectivity in the internal audit function. In contrast, Lobo et al. (2022) stated that CAE with longer tenures will have more expertise and competence, thus increasing the effectiveness of the supervisory function. The length of tenure of the chief audit executive is expected to limit earnings management behavior to improve the quality of the firm's financial statements (Hassan et al., 2023; Lobo et al., 2022; Taufiq, 2023). Ismael and Kamel (2020) also show that good internal audit quality can reduce earnings management practices. Earnings management that is difficult to detect by external auditors should be prevented by the role of CAE in performing an effective internal control function.

The problem arises from corporate governance in Indonesia, which is relatively weak, with ownership dominated by family firms, creating unique challenges in internal monitoring. This research gap arises because although previous studies have examined the role of CAE in developed countries, there is little research on the influence of CAE tenure and characteristics in developing countries with weaker corporate governance mechanisms. Therefore, this study aims to examine the impact of CAE tenure and qualifications on the relationship between real earnings management and firm risk.

This research contributes to developing the literature regarding the length of CAE tenure and the relationship between real earnings management and firm risk, which is rarely researched. Real earnings management activities are predicted to have a negative impact on the firm, such as a decrease in operational performance in the long term (Gunny, 2010; Tabassum, Kaleem, and Nazir, 2015; Cupertino and Martinez, 2016; Sutrisno, 2019) as well as the firm's low competitive advantage in the future (Kim and Sohn, 2013). The length of CAE tenure is one of the essential points in determining whether rotation should be carried out. The length of CAE tenure is predicted to reduce the effectiveness of CAE in performing internal audit functions due to reduced independence and objectivity (Taufiq, 2023; Carcello et al., 2011). On the other hand, Lobo et al. (2022) showed that the longer the tenure of the CAE, the more it will increase the experience, expertise, and competence of the CAE in carrying out internal control activities to minimize activities that can harm the firm. This study suspects that CAE tenure influences the positive relationship between real earnings management and firm risk, which has not been studied in previous research.

This study sampled manufacturing companies in Indonesia because the real earnings management test is more suitable for manufacturing companies, as overproduction is a key component of real earnings management. Furthermore, Indonesia is a country where most public companies are family-owned. The structure and form of family companies are highly susceptible to expropriation due to strong control over the company (Lai and Tai, 2019). One of the novelties of this study is its focus on companies in a developing country, Indonesia, which is dominated by family ownership and tends to have weak corporate governance.

Therefore, the results of this test can differentiate the dynamics of CAE effectiveness from those in developed countries.

The research has the following structure: Section 1 is the background of the study, which discusses the purpose and contribution. Section 2 discusses the literature review and hypothesis development. Section 3 describes the sample and data used, operational definitions of variables, and research models. Section 4 explains the results of descriptive statistics and hypothesis testing. Section 5 is about conclusions and suggestions for future research.

Concept and Hypothesis

Real Earnings Management and Firm Risk

Agency theory explains that each individual tries to maximize their welfare so that conflicts of interest can arise between owners and management (Jensen and Meckling, 1976). The existence of information asymmetry conditions between owners and management can provide opportunities for earnings manipulation. Earnings manipulation can be in the form of accrual earnings management and real earnings management. However, Cohen and Zarowin (2010) show that firm management tends to manipulate real activities rather than accrual manipulation. One form of earnings management is earnings management through real activities. The purpose of real earnings management is to avoid losses or a decrease in profits (Roychowdhury, 2006). Real earnings management is a real action taken by management to influence financial statements in real terms, such as increasing production, cutting advertising expenditure budgets, research and development, or providing large discounts to increase sales, which in turn can boost the value of profits (Cohen and Zarowin, 2010; Sutrisno, 2019). Real earnings management actions can provide short-term benefits for management, such as increasing the value of profits and incentives. However, they can also have a detrimental impact on the firm. Giving large discounts or providing credit more leniently can decrease the value of cash flow, so the firm will lack money to continue its operations in the future (Roychowdhury, 2006). Likewise, real earnings management activities such as discretionary spending budget cuts can also reduce the firm ability to compete in the future (Kim and Sohn, 2013). Gunny (2010) also shows that real earnings management can reduce the firm's future financial performance. In addition, Khurana, Pereira, and Zhang (2018); Haider (2022) state that real earnings management is more dangerous in damaging the firm's stock price, so that the impact on the firm will be more significant. Mendoza et al. (2023) also show that accrual earnings management practices can increase firm risk.

This study suspects that real earnings management activities can increase the firm's risk due to giving too large discounts, providing soft credit, overproduction, which can increase storage costs and product obsolescence, or cutting discretionary spending, which can hinder the firm's competitive advantage in the future. The first hypothesis of this study can be described as follows:

H1: Real earnings management has a positive effect on firm risk.

Chief Audit Executives Tenure, Real Earnings Management and Firm Risk

The tenure of Chief Audit Executives (CAE) is the length of time a head of internal audit serves in a firm. For a long time, CAE has had sufficient opportunity to understand the firm's existing business flow, so it will provide tips that can be useful for detecting things that are not under applicable standards (Lobo et al., 2022).

Long tenure raises the potential for bias due to the emergence of close relationships with various parties. Ali et al. (2018) explained an inverted U-shaped relationship between CAE tenure and audit quality: at the beginning of the term of office, audit quality increases,

but audit quality decreases when the term of office is too long. The tenure of CAE in a firm makes CAE avoid complex audit processes and systems, which can ultimately reduce skepticism, independence, and objectivity in carrying out the internal audit function (Taufiq, 2023). There are several other challenges due to long tenure; CAE can become less responsive to innovation and use fewer new approaches in auditing, so it is necessary to rotate CAE periodically to maintain objectivity and ensure new perspectives in the audit process (Carcello, Hermanson, and Ye, 2011).

The audit committee must supervise the CAE's role in ensuring audit quality is maintained so that the time the CAE serves does not reduce the quality of the firm's internal audit. In addition, the CAE tenure provides a better understanding of the organization so that the CAE can easily find indications of deviant actions. However, the CAE needs to overcome resistance to change, the threat of intimidation from management, and the threat of closeness in the firm (Coetzee, 2016).

The long tenure of CAE, on the one hand, can increase the competence and experience of CAE to carry out the internal audit process more effectively, but it can also allegedly reduce the attitude of independence, skepticism, and objectivity in performing the audit function. This study predicts that the length of the CAE position can affect the relationship between real earnings management and firm risk. Real earnings management activities, such as sales with soft credit or discounts, massive production, and discretionary spending budget cuts, can harm the firm in the future. They should also be a concern of internal auditors to ensure the firm's financial performance continuity. Thus, the role of CAE is expected to be able to minimize the impact of real earnings management activities on firm risk. However, some previous studies show that the length of CAE tenure can reduce the firm's internal control process's independence, objectivity, and effectiveness (Taufiq, 2023; Carcello et al., 2011). The hypothesis of this study can be described as follows:

H2: Chief audit executive tenure affects the relationship of real earnings management to firm risk.

Method

The data source of this research is the annual reports of manufacturing companies listed on the Indonesia Stock Exchange from 2012 to 2019. The 2012-2019 period is used to avoid fluctuating economic conditions due to COVID-19. Data for chief audit executive tenure and characteristics were hand-collected from company annual reports and company websites. Financial data were obtained from Thompson Reuters Datastream. This study employed panel random effect statistical testing. Testing using panel random effect data was conducted to capture variations between companies that are not fully observable but are relevant in explaining differences in CAE characteristics in the relationship between real earnings management and firm risk. Nguyen et al. (2024) stated that panel random effect testing can overcome the problem of unobserved heterogeneity in the tests conducted. This study used unbalanced panel data. Outlier data in this study were winsorized (2.98) for the variables MTB, ROA, Leverage, FA_Ratio, and Vol_ROA.

Model and Variables

This research model is described as follows:

$$RISK_{it+1} = \beta_0 + \beta_1 REM_{it} + \beta_2 CAE\_Tenure_{it} + \beta_3 CAE\_TenureREM_{it} + \beta_4 CAE\_Out_{it} + \beta_5 CAE\_In_{(it)} + \beta_6 FAM + \beta_7 LOSS_{it} + \beta_8 MTB_{it} + \beta_9 ROA_{it} + \beta_{10} LEV_{it} + \beta_{11} FixedAsset_{it} + \beta_{12} SIZE_{it} + \beta_{13} VOLROA_{it} + \beta_{14} VOLCFO_{it} + (1)$$

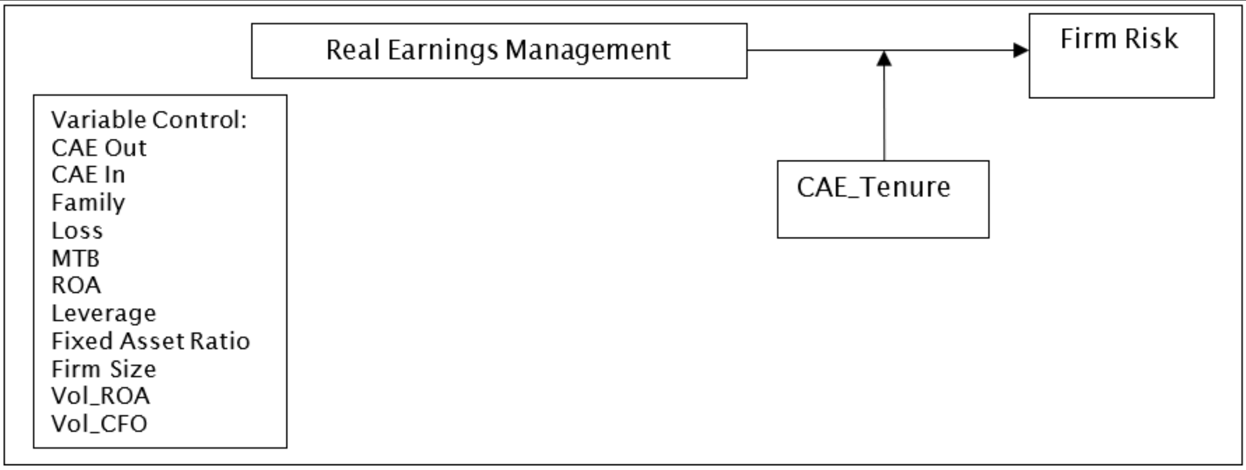

Figure 1. Research Framework

Firm risk is measured using the value of the firm's uncertainty in the future, with the volatility of weekly stock returns in the following year (April to March). The individual stock price index eliminates the impact of firm actions such as stock splits, rights issues, dividends, and actions that cause stock price movements (Guenther et al., 2017; Bhatti et al., 2022).

Measurement of Real Earnings Management using a cross-sectional model for each industry and year. Roychowdhury (2006) states that real earnings management activities include making abnormal sales (providing easy credit or large sales discounts, excessive production, and cutting discretionary spending budgets such as research and development, advertising, education, and employee training. Real earnings management is calculated by adding the standardized residual value per industry per year of abnormal sales, abnormal production, and abnormal discretionary spending (Cohen and Zarowin, 2010) as follows:

$$CFO_t / A_{t-1} = \alpha_{1t} [1/ A_{t-1}] + \beta_{1t} [S_{(t)}/ A_{t-1)}] + \beta_{2t} [\Delta S_t / A_{t-1}] + \varepsilon_t \quad (1)$$

$$PROD_t /A_t -1= \alpha_{1t} [1 / A_{t-1}] + \beta_{1t} [S_t / A_{t-1}] + \beta_{2t} [\Delta S_t/ A_{t-1}] + \beta_{3t} [\Delta S_{t-1}/ A_{t-1}] +\varepsilon_t \quad (2)$$

$$DIEXP_t /A_{t-1} = \alpha_{1t} [1 / A_{t-1}] + \beta_{1t} [S_{t-1}/ A_{t-1}] + \varepsilon_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots..(3)$$

CFO value is the firm operational cash flow; At - 1 is the value of total assets in the previous period; St is total annual sales; St-1 is the prior year's sales; ΔSt is the change in sales of the prior year; ΔSt-1 is the t-1 change in sales of previous years; then PRODt is the amount of change in inventory and cost of goods sold; and DIEXPt is discretionary spending, the amount of research and development costs, selling costs, general expenses and administrative costs. The calculation of real earnings management is described as follows:

REM=Abnormal Production-Abnormal Sales-Abnormal Discretionary Expenditure (4)

Chief Audit Executive tenure is calculated based on the length of service of the CAE who worked at the company during the study period. Limiting CAE tenure to the study period ensures that all data used is valid, available, and consistent across entities. When calculating tenure over the CAE career, baseline data may be unavailable or inconsistent in documentation. Using tenure measures over the entire period can introduce temporal inconsistencies between observed variables. Limiting tenure duration to the study period helps highlight significant changes over the same period as other variables tested, thus enhancing internal validity.

This study added several control variables; the CAE inside was given a value of one if the CAE had two positions in the same firm and a value of zero otherwise. CAE outside is given a value of one when the CAE has another position outside the firm; Market to Book (MTB) is calculated by dividing the market value of outstanding shares by total assets; Family

is a firm that is owned, managed, and operated by family parties who are related by blood, adoption, and marriage; LOSS is a firm loss, value one if the firm has a net loss before tax, value zero otherwise; Return on Assets (ROA) is calculated by dividing net income by total assets; Leverage (LEV) is the ratio of debt / total assets; Fixed Asset Ratio (FAR) is calculated by dividing fixed assets by total assets; Firm Size is the natural logarithm of total assets; VOL_ROA is standard deviation of return on assets over five years; VOL_CFO is standard deviation of operating cash flow divided by total assets.

Result and Discussion

Table 1 descriptive statistics shows that the average value of firm risk is 0.064, which means that the average manufacturing companies in Indonesia have relatively low firm risk compared to Australia, Hong Kong, Taiwan, Japan, Singapore, the US, France, and Germany (Lin et al. 2009). REM (Real Earnings Management) has an average of -0.183, which means that the firm performs earnings management to reduce profits on average. CAE_Tenure has an average value of almost 2.8, meaning that, on average, CAE served in a firm during the study period of 2.8 years. CAE outside has an average of 0.036, which means that only 3.6% of the research sample has CAE working in other companies. CAE_inside has an average value of 0.065, which means that only 6.5% of CAE have multiple positions in the same firm. CAE certification has an average of 0.158, which means that only 1.58% of the research sample has CAE with CA, CIA, and QIA certifications.

Table 1. Statistic Descriptive

Variable	Mean	Std. Dev.	Min	Max
Firm Risk	0.064	0.037	0.003	0.256
REM	-0.183	2.003	-13.43	10.41
CAE_Tenure	2.815	1.765	1	7
CAE_Outside	0.065	0.247	0	1
CAE_Inside	0.036	0.187	0	1
CAE_Sertif	0.158	0.365	0	1
FAM	0.589	0.492	0	1
LOSS	0.209	0.407	0	1
MTB	1.471	1.919	0.170	16.58
ROA	0.038	0.094	-0.380	0.430
LEV	0.307	0.214	0	1.089
FAR	0.451	0.248	0.010	0.980
SIZE	21.282	1.705	15.34	26.55
VOL_ROA	-0.057	0.066	0.003	0.390
VOL_CFO	0.095	0.221	0.003	2.946

Firm Risk is the standard deviation of weekly IHSI (Individual Stock Price Index) stock returns for period t+1; REM is Real Earnings Management (combined value of abnormal sales, abnormal production & abnormal discretionary expenditure); CAE_Tenure is the number of years the CAE served in the company during the study period; CAE_Outside is a dummy variable, value one if the CAE has another position outside the company, value zero otherwise; CAE_Inside is a dummy variable, value one if the CAE has multiple positions in the same company. CAE_Certificates is the number of CAE with CA, CIA, and QIA certifications. Family (FAM) is a dummy variable, value one if the company is owned, managed, and operated by family parties who are related by blood, adoption, and marriage; LOSS is a dummy variable, value one if the company has a net loss before tax, value zero otherwise; MTB (market to book) is the division between the market value of outstanding shares and total assets; ROA (Return on Assets) is the ratio of net income to total assets; LEV (Leverage) is the ratio value of the value of debt / total assets; FIXED ASET Ratio (FAR) is fixed assets

divided by total assets; SIZE is the natural logarithm of total assets; VOL_ROA is the volatility of return on assets (standard deviation of return on assets for five years); VOL_CFO is the volatility of operating cash flow divided by total assets (standard deviation of operating cash flow divided by total assets for five years).

Hypothesis Testing

Table 2 shows the results of testing the research hypothesis. The Hausman test shows that random effect panel data is better used to test the equality of the research model. Hypothesis 1 testing shows that the p-value ≤ 0.05 in all three research models indicates that real earnings management positively affects firm risk. Several previous studies have shown that companies that carry out real earnings management will have a negative impact on the firm, such as a decrease in operational performance due to massive discounting or overproduction (Gunny, 2010; Tabassum, Kaleem, and Nazir, 2015; Sutrisno, 2019). Likewise, companies that carry out real earnings management, such as discretionary budget cuts, will reduce the firm's competitiveness in the future (Kim and Sohn, 2013). Ortega and Cifuentes (2018) also show that accrual earnings management can increase the firm's risk. The findings of this study indicate that the higher the firm performs real earnings management activities, the higher the firm's risk will be, as measured using stock return volatility. Companies that increase sales by providing large discounts or soft credit will find it challenging to get high income in the future. Likewise, when the firm overproduces to reduce the value of the cost of goods sold, it can cause other problems, such as high storage costs or product obsolescence. Likewise, the firm will lose competitiveness if it does not invest in discretionary spending that can benefit it. The findings of this study support the type II agency theory, in the sample of companies in Indonesia which families dominate, they have strategic positions in management and supervision so that they use earnings management as a manipulative tool to achieve their goals such as protecting assets, avoiding penalties, or fulfilling debt agreements which ultimately can increase the firm risk itself.

CAE tenure positively influences firm risk with a p-value of ≤ 0.05 in models 2 and 3. The length of CAE tenure in a firm will increase firm risk. Lobo et al. (2022) showed that the length of CAE tenure will reduce the effectiveness of the internal control function. Meanwhile, Taufiq (2023) shows that CAE with longer tenure encourages real earnings management. Likewise, Salehi et al. (2022) show that the length of external auditor rotation will encourage accrual earnings management. The more profit the CAE tenure makes, the more careless the CAE is in carrying out the internal supervisory function in the firm. Lobo et al. (2022); Taufiq (2023) state that the length of the CAE tenure will decrease independence and objectivity in performing the internal control function. The research findings support Type II agency theory, which suggests that CAE who remain in office for too long in family-dominated companies are more likely to succumb to internal pressures. Long tenure in family-dominated companies can weaken the effectiveness of internal oversight, increasing the likelihood of risks such as fraud, misleading financial reporting, or opportunistic earnings management practices that are more difficult to control.

The results of testing hypothesis 2 in model 3 show that the p-value≥ 0.05 indicates that CAE Tenure does not influence the relationship of real earnings management to firm risk. The length of CAE tenure in a firm cannot affect the relationship of real earnings management to firm risk. The length of CAE tenure can reduce the firm's internal supervision effectiveness, independence, and objectivity (Lobo et al., 2022; Taufiq, 2023). In contrast to external auditors, who are considered more independent and objective, the effectiveness of the supervisory function by the firm's internal control can be weak if it is not supported by good governance in the firm (Yang, Tan, and Ding, 2012; Mathew, Ibrahim, and Archbold, 2018). Thus, the length of CAE tenure cannot be used as a governance mechanism that can mitigate the relationship between real earnings management and firm risk.

Table 2. Hypothesis Testing

Variables	Expected Sign	Model (1)		Model (2)		Model (3)	
		Coeff	P-Value	Coeff	P-Value	Coeff	P-Value
REM	+	0.003***	(0.000)	0.004***	(0.000)	0.004**	(0.031)
CAE_Tenure	+			0.003**	(0.018)	0.003**	(0.019)
REM_CAETenure	(+/-)					0.0003	(0.527)
Variable Control:							
CAE_Outside	+			-0.001	(0.214)	-0.010	(0.209)
CAE_Inside	+			0.008	(0.466)	0.009	(0.445)
FAM	+	0.006**	(0.043)	0.005	(0.254)	0.005	(0.226)
LOSS	+	-0.001	(0.862)	-0.002	(0.571)	-0.002	(0.631)
MTB	-	0.005***	(0.000)	0.006***	(0.000)	0.006***	(0.000)
ROA	-	-0.062***	(0.003)	-0.080***	(0.005)	-0.080***	(0.005)
Leverage	+	0.004	(0.632)	0.005	(0.666)	0.005	(0.676)
FAR	-	-0.004	(0.604)	-0.007	(0.409)	-0.007	(0.419)
SIZE	-	-0.001	(0.530)	-0.0003	(0.788)	-0.0003	(0.817)
VOL_ROA	-	0.046*	(0.083)	0.081*	(0.052)	0.081*	(0.051)
VOL_CFO	-	0.005	(0.495)	-0.018	(0.133)	-0.018	(0.136)
Constant		0.072***	(0.000)	0.071***	(0.004)	0.069***	(0.005)
D. Year		Included		Included		Included	
D. Industry		Included		Included		Included	
Adj. R2		18.14%		25.52%		25.54%	
F.Test		121.51		125.13		124.69	
F. Sig		0.0000		0.0000		0.0000	

P-val in parentheses *** p<0.01, ** p<0.05, * p<0.1

Sensitivity Test

Sensitivity testing in Table 3 and Table 4 is done by testing real earnings management against firm risk as measured by the standard deviation of monthly stock returns - industry adjusted and the standard deviation of weekly stock returns - industry adjusted. The results of sensitivity testing in Table 4 and Table 5 show that real earnings management has a positive effect on firm risk as measured by the standard deviation of monthly stock returns - industry adjusted, and the standard deviation of weekly stock returns - industry adjusted, with a p-value ≤ 0.05 in all three equation models. ≤ This finding is consistent with the results of the primary test of hypothesis 1. Likewise, CAE_ Tenure positively influences firm risk as measured by the standard deviation of monthly stock returns - industry adjusted and the standard deviation of weekly stock returns - industry adjusted with a p-value ≤ 0.05. The test results are also consistent with the main test results contained in Table 2. Likewise, the testing of hypothesis 2 shows that CAE tenure does not affect the relationship between real earnings management and firm risk as measured by the standard deviation of monthly stock returns - industry adjusted, and the standard deviation of weekly stock returns - industry adjusted, with a p-value ≥ 0.05. These findings are consistent with the main test results of hypothesis 2.

Table 3. Sensitivity Testing Week_Adjusted Industry

	WEEK_Adj_Ind					
	Model (1)		Model (2)		Model (3)	
Variables	**Coeff**	**P-Value**	**Coeff**	**P-Value**	**Coeff**	**P-Value**
REM	0.004***	(0.000)	0.005***	(0.000)	0.004**	(0.015)
CAE_Tenure			0.002**	(0.049)	0.002**	(0.049)
REM*CAETenure					0.0003	(0.450)
Variable Control:						
CAE_Outside			-0.013	(0.127)	-0.013	(0.126)
CAE_Inside			0.019	(0.132)	0.019	(0.123)
FAM	0.006**	(0.042)	0.007*	(0.085)	0.007*	(0.071)
LOSS	0.002	(0.563)	0.001	(0.808)	0.002	(0.763)
MTB	0.004***	(0.000)	0.005***	(0.000)	0.005***	(0.000)
ROA	-0.020	(0.310)	-0.014	(0.607)	-0.013	(0.629)
Leverage	-0.007	(0.487)	-0.009	(0.455)	-0.009	(0.450)
FAR	0.003	(0.680)	0.004	(0.704)	0.004	(0.690)
SIZE	-0.002*	(0.053)	-0.002	(0.152)	-0.001	(0.163)
VOL_ROA	-0.006	(0.811)	-0.025	(0.496)	-0.023	(0.526)
VOL_CFO	0.009	(0.269)	-0.014	(0.279)	-0.013	(0.284)
Constant	0.022	(0.226)	0.024	(0.314)	0.023	(0.339)
D. Year	Included		Included		Included	
D. Industry	Included		Included		Included	
Adj. R2	10.04%		15.62%		15.65%	
F. Test	53.26		62.80		63.06	
F. Sig	0.0001		0.0000		0.0000	

P-val in parentheses *** p<0.01, ** p<0.05, *p<0.1

Table 4. Sensitivity Testing Month_Adjusted Industry

	MONTH_Adj_Ind					
	Model (1)		Model (2)		Model (3)	
Variables	**Coeff**	**P-Value**	**Coeff**	**P-Value**	**Coeff**	**P-Value**
REM	0.005***	(0.001)	0.008***	(0.002)	0.0104**	(0.024)
CAE_Tenure			0.006**	(0.048)	0.006**	(0.048)
REM*CAETenure					-0.001	(0.583)
Variable Control:						
CAE_Outside			-0.041*	(0.058)	-0.041*	(0.061)
CAE_Inside			0.021	(0.501)	0.020	(0.523)
FAM	0.007	(0.299)	0.011	(0.360)	0.010	(0.403)
LOSS	0.001	(0.876)	-0.002	(0.888)	-0.002	(0.839)
MTB	0.008***	(0.000)	0.012***	(0.000)	0.012***	(0.000)
ROA	-0.042	(0.323)	-0.076	(0.306)	-0.077	(0.300)
Leverage	-0.004	(0.856)	0.004	(0.889)	0.004	(0.894)
FAR	0.009	(0.544)	-0.006	(0.801)	-0.006	(0.796)
SIZE	-0.003	(0.143)	-0.0002	(0.950)	-0.0003	(0.925)
VOL_ROA	-0.054	(0.313)	-0.162*	(0.0903)	-0.165*	(0.086)
VOL_CFO	0.0280	(0.104)	-0.040	(0.645)	-0.043	(0.623)
Constant	0.007	(0.299)	0.014	(0.841)	0.017	(0.806)
D. Year	Included		Included		Included	
D. Industry	Included		Included		Included	
Adj. R2	12.55%		10.47%		10.55%	
F. Test	27.09		43.94		44.28	
F. Sig	0.0296		0.0078		0.0101	

P-val in parentheses *** p<0.01, ** p<0.05, *p<0.1

Additional Testing

This study conducts additional testing in Table 5 by testing CAE_sertif on the relationship between real earnings management and firm risk. Chief Audit Executives with various skills and competencies in conducting audits can help detect and prevent corporate earnings management (Baatwah, Omer, & Aljaaidi, 2021; Lobo et al., 2022; Taufiq, 2023). The findings of Taufiq (2023) indicate that CAE with professional certification can mitigate the occurrence of real earnings management. Table 5 shows that real earnings management positively affects firm risk with a p-value ≤ 0.05 in all three equation models. These results are consistent with the test of the first hypothesis in the main and sensitivity tests. CAE certification negatively affects firm risk with a p-value ≤ 0.05. Companies with CAE, CA, CIA, and QIA certifications will potentially reduce firm risk. The existence of a CAE professional certificate shows the high professionalism and competence of a CAE, so that they are more objective and effective in carrying out internal control functions (Lobo et al. 2022; Taufiq 2023)

In testing, model 3 shows that CAE_Sertif weakens the positive relationship of real earnings management to firm risk. CAE with professional certifications such as CA, CIA, and QIA demonstrate the value of competence and increased professionalism so that CAE with certification expertise can mitigate the positive relationship of real earnings management to firm risk. CAE with professional certifications are generally better able to adapt their roles to new rules, including professional ethical standards, which can increase their effectiveness in performing internal control functions (Lobo et al., 2022).

Table 5. Additional Testing CAE Certification

	Model 1		Model 2		Model 3	
Variables	**Coeff**	**P-Value**	**Coeff**	**P-Value**	**Coeff**	**P-Value**
REM	0.005***	(0.005)	0.006***	(0.003)	0.006***	(0.000)
CAE_certification			-0.009**	(0.024)	-0.009**	(0.020)
REM*CAE_certification					-0.003**	(0.033)
Variable Control:						
CAE_Tenure			0.002***	(0.001)	0.002***	(0.001)
CAE_Outside			-0.014**	(0.046)	-0.014**	(0.039)
CAE_Inside			0.012**	(0.049)	0.012**	(0.030)
FAM	0.006*	(0.078)	0.009**	(0.027)	0.009**	(0.021)
LOSS	0.001	(0.470)	-0.001	(0.797)	-0.002	(0.751)
MTB	0.004**	(0.038)	0.006***	(0.0005)	0.006***	(0.001)
ROA	-0.04	(0.171)	-0.047	(0.155)	-0.052	(0.105)
Leverage	-0.012	(0.140)	-0.016	(0.295)	-0.018	(0.263)
FAR	0.006	(0.553)	0.007	(0.572)	0.006	(0.622)
SIZE	-0.001**	(0.045)	-0.001	(0.258)	-0.001	(0.229)
VOL_ROA	-0.052	(0.157)	-0.092***	(0.007)	-0.096***	(0.006)
VOL_CFO	0.019	(0.157)	-0.004	(0.678)	-0.005	(0.616)
Constant	0.021	(0.106)	0.025	(0.218)	0.028	(0.180)
D. Year	Included		Included		Included	
D. Industry	Included		Included		Included	
Adj. R2	11.40%		18.37%		18.96%	
F. Test	45.92		26.28		24.70	
F. Sig	0.0001		0.0003		0.0003	

P-val in parentheses *** p<0.01, ** p<0.05, * p<0.1

Conclusion

This study examines the influence of CAE tenure, real earnings management, and firm risk. This study's results indicate a positive influence of real earnings management and firm risk. Companies with high real management activities can increase firm risk because real

earnings management activities have adverse effects on the firm in the future, such as low competitive ability, high storage costs or product use, and low sales ability in the future. This study also shows that CAE tenure positively affects firm risk. The tenure of a CAE in a firm can reduce the level of independence and objectivity in carrying out the internal audit function.

This study provides practical implications that companies need to consider rotating CAE to improve professionalism, objectivity, and independence in carrying out internal oversight functions. Furthermore, additional testing also found that CAE with professional certifications such as CA, CIA, and QIA were able to suppress real earnings management activities. Likewise, additional testing results in this study indicate that CAE with professional certifications can mitigate the relationship between real earnings management and firm risk. Therefore, companies need to consider selecting CAE with professional certifications that can enhance the effectiveness of internal oversight because CAE with professional certifications will have higher ethical and professional standards. Furthermore, regulators can consider requiring a maximum tenure for CAE to avoid the risk of entrenchment and strengthen certification requirements, such as CA, CIA, or QIA, for CAE to improve competency standards. They can require CAE to participate in audit committees to improve oversight.

This research also provides theoretical implications for the growing literature on the impact of real earnings management activities on high firm risk. Furthermore, this research shows that the length of time a CAE has served at a company can increase firm risk, as longer tenure can diminish independence, objectivity, and effectiveness in internal control functions. However, CAE with professional certification can actually promote more effective oversight and be viewed favorably by investors.

The research has several limitations, such as the measurement of CAE tenure only being calculated during the research period. For further research, it is necessary to calculate CAE tenure from when CAE serves in a firm, without being limited to the research period. This study also measured CAE certifiers only with professional certifications such as CA, CIA, and QIA, and which should still many other professional certifications obtained by CAE. For further research, other professional certification tests can be added.

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