

Does accountant CFO matter to auditor?

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ABSTRACT

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Chief Financial Officer (CFO) is a chief executive whose responsibilities are related to accounting and audit work. However, there is a downward trend in hiring CFOs with an accounting background. Therefore, we aim to study the relationship between accountant CFO and audit outcomes. This paper use samples of non-financial firms listed on the Indonesia Exchange Stock (IDX) from 2010 to 2018 and using OLS with a cluster by the firm in Stata 17.0 to analyze the relationship between accountant CFO and audit outcomes. We document that accountant CFOs tend to appoint Big4 accounting firms because they demand a higher audit quality. Furthermore, the results suggest that accountant CFOs are more likely to have a higher audit fee, a higher audit quality, and a shorter audit report lag. This finding shows that the accountant CFO can be related to the audit outcomes and this shows how auditors value the accountant CFOs. We expect this paper contributes to enrich the literature on accountant CFO and helps firms in hiring their CFO.

Introduction

CFOs (Chief Financial Officer) have become the second-highest position after CEO or namely the successor of the CEO in a firm (Hoitash et al., 2016). CEOs have responsibilities to supervise financial reporting and budgeting, supervise internal control, ensure the firm complies with relevant accounting regulations, as well as influence investment and operating costs. They influence corporate outcomes, such as external financing and cost efficiency (Hoitash et al., 2016). Not only that, but also the CFOs have a role during the audit planning meeting. Prior research posits that the CFO seeks to influence audit planning, especially in the aspect of internal control and the scope of the audit (Hellman, 2011).

Nowadays, the role of the CFO places less emphasis on financial skills and leans toward strategic activities. A survey shows that 41% of CFOs spend most of their time managing non-financial tasks which will become the input for decision-making in business (Ross, 2019). It has also been argued that the CFO position tends to be a business partner rather than a financial planner ("The Ideal CFO is More Business Partner Than Accountant", 1998). The hiring of a CFO who has CPA certification had a downward trend during the 2010s. In 2013, the new CFOs who had CPAs were only 18% while, in 2012 and 2011, it was 34% and 29%, respectively (Murphy, 2013). This trend is perplexing as the CFO's main responsibility is related to accounting.

Several studies have researched the effect of the background of the CFO on a firm. The results indicate that there are several differences when the CFO has an accounting background. Accountant CFO tends to be conservative in research and development investment as well as external financing and shows higher cost efficiency (Hoitash et al., 2016). They also have a better quality of financial reporting and a lower probability of financial restatement (Aier et al., 2005), as well as better management of internal control (Li et al., 2010).

According to prior studies, audit outcomes, which consist of auditor choice, audit fees, audit quality, audit report lag, are affected by several factors. For example, auditor choice can be caused by the corporate governance mechanism of the firm (Habib, Wu, et al., 2019), while audit fees can be affected by the risk perceived by the auditor, effort exerted by the auditor, and the audit quality provided (Guan & Su, 2016). While audit quality is positively correlated with the experience and independence of auditors (Francis, 2011). Audit report lag is also associated with the auditor's effort and the experience of the audit team (Knechel & Payne, 2001). Previous studies have explored the effect of the CFO's background on firm-related factors such as investment decisions, financial reporting quality, and internal control. However, this paper specifically focuses on the relationship between CFOs with an accounting background and audit outcomes, which includes auditor

choice, audit fees, audit quality, and audit report lag. The paper aims to fill the gap in the existing literature by investigating the impact of CFO background on these specific audit outcomes.

Based on the several determinants of audit outcomes, we are interested to examine the relationship between accounting background CFO with its audit outcomes because the auditor has the responsibility to ascertain the information in a financial statement prepared by the company and this aspect is related to CFO's responsibility. Moreover, in carrying out their duties, CFOs tend to meet auditors frequently, so that they have relation and interaction when carrying out their duties (Payne & Williamson, 2021). Practically, this study is supported by Upper Echelons theory, which mentions that the certain experience and value of executives can influence the process of executives when making decision (Hambrick, 2007). Therefore, this study wants to know the value which the auditor places on accountant CFO, and it will be measured by audit outcomes which consist of auditor choice, audit fees, audit quality, and audit report lag. And this study wants to examine the relationship between CFOs with an accounting background and audit outcomes. The focus is on understanding how the background of CFOs, specifically those with accounting qualifications, influences various audit outcomes such as auditor choice, audit fees, audit quality, and audit report lag. This study is important as the responsibilities of CFO are related to audit of financial statements (Hoitash et al., 2016) and there is no research studying about this relationship yet.

This study uses sample of CFOs in public firms listed on the Indonesia Stock Exchange (IDX) from year 2010 – 2018. This study categorizes CFO into two groups, which are CFO with accounting background and CFO with non-accounting background. CFO with accounting background is CFO with CPA (Certified Public Accountant) certification, or has prior experience as controller or auditor (internal & external).

This study employs fixed-effect regression to analyze the relationship between accountant CFO and audit outcomes. The results of multivariate analysis indicate that accountant CFOs are more likely to appoint a Big4 accounting firm. Furthermore, they are significantly associated with higher audit fees and audit quality, while they have a shorter audit report lag. This finding shows that the accountant CFO can be related to the audit outcomes because of the accounting background they have and how auditors value the accountant CFOs.

This paper makes two contributions. First, it enriches the literature of CFO, specifically CFO with an accounting background. Moreover, we expect this study can enhance the literature of audit outcomes, especially in the setting of Indonesia. Second, this study may help firms in choosing a suitable CFO for their firm as the CFO's responsibility is related to audit work, and can be useful for the outside parties to assess the performance and take decision related to audit outcomes of firms with accounting background CFO.

This paper will continue with the following arrangement: Section 2 as the literature review and hypothesis development, Section 3 as sample construction and variables definition, section 4 as the empirical results, and section 5 as conclusion.

Literature Review

Previous Studies

Accountant CFO

Practically, accountant CFO is a CFO who has work experience as accounting profession, such as audit partners, controllers, chief accounting officers, or other related accounting roles (Hoitash et al., 2016). According to that study, an experience related to an accounting career can affect the CFO performance. This is in accordance with an existing theory called upper echelon theory. This theory states that experience of executives can affect their interpretations toward situation and affect their choices (Hambrick, 2007).

In general, the CFO is one of the top management, who has the responsibility to supervise a company's financial reporting and management of internal control as well as budgeting, ensure the company complies with relevant accounting regulation, and takes part in making corporate spending decisions (Bedard et al., 2014). However, the role of a CFO covers more than that. For example, the CFO is able to reduce audit fees during recession when the CFO has more power (example: CFO tenure) than the audit committee (Beck & Mauldin, 2014). The CFO also tries to influence audit planning, especially in the aspect of internal control and the scope of audit (Hellman, 2011).

Based on previous research, accounting expertise has many great benefits to a CFO. Accountant CFOs tend to be more conservative in the investment of research and capital expenditures as well as external financing in high-growth industry and higher degree of cost efficiency in low-growth industry (Hoitash et al., 2016). CFOs with accounting expertise are also associated with lower corporate effective tax rate as they have better ability in taking advantage of tax planning alternatives (Chen et al., 2020), and are able to perceive less pressure when they are pressured by the CEO to misstate financial statement as they have greater experience and expert power.

Several studies have discussed about CFOs who have an MBA degree, CPA certification, and work experience as a CFO. CFOs with those characteristics have a lower likelihood to restate company's earnings and thus leads to a higher quality of financial reporting (Aier et al., 2005), better management of internal control and less likelihood to receive adverse SOX 404 opinion (Li et al., 2010), and lessen the concern of shareholders about

a company's corporate governance, which indicates that shareholders have more credence toward CFOs who have those qualification (Sun et al., 2015).

Audit outcomes

In this study, we assess the audit outcomes which consist of auditor choice, audit fee, audit quality, and audit report lag. Practically, audit outcomes can be direct or non-direct, for example, audit report is a final direct outcome, and earnings quality is indirect outcome (Zhang, 2018).

According to prior study, there are some factors that could affect the auditor choice, such as corporate governance, firm-level ownership, economic determinants, and country-level institutional determinants (Habib, Wu, et al., 2019). While, audit fee represents economic cost to auditors, which can be affected by client size, complexity, risk, performance, and financial reporting quality (Hay et al., 2006). Prior literature suggests that audit quality is inversely related to audit failures, which shows that the lower the failure rate, the higher the audit quality, and vice versa (Jere R Francis, 2004). Audit report lag is the number of days between the fiscal year-end and the audit report date, which can be caused by client complexity, size, and performance (Abernathy et al., 2019).

According to prior studies, there are several factors related to audit outcomes, such as client characteristics, auditor characteristics, engagement-specific characteristics, and institutions (Zhang, 2018). In this study, we focus on the factor of client characteristics that can affect the audit outcomes, for example the corporate governance mechanism of firm.

Hypothesis Development

Accountant CFOs and auditor choice

According to prior study, corporate governance mechanism can be one of the determinants of a firm to make a decision regarding its auditor choice (Habib, Wu, et al., 2019) because corporate governance mechanism has an important role to mitigate agency problems and improve firm's financial reporting quality.

Practically, in carrying out their duties, CFOs are required to interact extensively with the auditor to collaborate in audit planning and providing audit evidence (Beck & Mauldin, 2014); therefore, the background of CFOs may affect their decision of auditor choice.

According to previous study, the CFO might perceive that having a Big4 auditor can be look better in the financial marketplace, because Big4 accounting firms are more likely to have consistent resources, such as people, products, training, and other resources (Gray & Ratzinger, 2010). The CFO identifies that Big4 accounting firms are better at identifying risks, and a Big4 auditor contributes to the value relevance of accounting information (Lee & Lee, 2013).

Furthermore, CFOs have an important role in connecting the firms and public investors (Guo et al., 2021); therefore, CFOs with an accounting background will consider carefully the decision regarding the auditor firm, because, according to prior research, CFOs with accounting work experience are more likely risk-averse (Hoitash et al., 2016). Therefore, they might demand more high-quality financial reporting by assigning a Big4 auditor for the firm, since Big4 auditors do perform higher quality audits (Eshleman & Guo, 2014). Hence, we propose the first hypothesis as follows:

H₁: Accountant CFOs are more likely to appoint a Big4 accounting firm

Accountant CFOs and audit fee

Audit fees can be interpreted as compensation for higher audit effort and residual risk (Guan & Su, 2016). Based on the model from prior study, the higher the engagement risk, the higher the amount of effort which auditors will exert to reduce the risk and the higher the charged audit fees (Simunic, 1980). However, if auditors cannot reduce the engagement risk to acceptable level even through incremental audit effort, they will charge higher audit fees as risk premium (Evelina, 2019)

According to prior study, CFOs position often influence or control the fee negotiation because they interact closely with the auditor (Beck & Mauldin, 2014). Sometimes, they influence the audit fees through direct negotiation. Moreover, in the context of CFOs with accounting background, they tend to have more knowledge, which could improve financial reporting outcomes (Bernard et al., 2021; Li et al., 2010). Moreover, CFOs with accounting background appear more effective at monitoring financial reporting and internal control functions (Aier et al., 2005), higher cost efficiency (Hoitash et al., 2016), and better management of tax planning (Chen et al., 2020). Hence, they might be charged with a lower audit fee.

However, there is also a downside of this higher expertise. A CFO who has substantial expertise related to their position has higher risk to commit fraud (Albrecht et al., 2018). This risk is even higher when the CFO is pressured by the CEO who has substantial power over firm and high equity incentive (Feng et al., 2011).

Albrecht et al. (2018) argue that accounting expertise has positive association with the risk of material misstatement. Prior study also posits that those having comprehensive accounting expertise also have considerable auditing procedures employed by audit firms (Lennox, 2005).

Based on these counter arguments, we propose the second hypothesis as follows:

H₂: Accountant CFOs are associated with a lower (higher) audit fee

Accountant CFO and audit quality

Previous research has suggested that accountant CFO brings positive benefit to the firm, such as higher cost efficiency (Hoitash et al., 2016), better management of tax planning (Chen et al., 2019), higher quality of financial reporting (Aier et al., 2005) as well as better management of internal control (Li et al., 2010).

Practically, CFOs tend to not disappoint the investors with unsatisfactory financial reports (Jiang et al., 2010). Moreover, in the context of CFOs with accounting background, they are likely to demand a high financial reporting quality, which is inseparable with high audit quality (Gaynor et al., 2016).

According to Gaynor et al. (2016), pre-audit financial reporting quality can influence audit quality, because financial reporting quality can determine the input, process, and outputs of the audit. Hence, in the context of accountant CFO it is perceived to have a higher quality of financial reporting (Aier et al., 2005); therefore, it could affect a better audit quality. Thus, the third hypothesis in this study is as follows:

H₃: Accountant CFOs are associated with a higher audit quality

Accountant CFO and audit report lag

According to Knechel and Payne (2001), factors that affect audit report lag aside of auditor's effort are the experience of audit team and the extent of negotiable non-audit service. The higher the experience of audit team and negotiable non-audit issues is, the lower the audit report lag will be. In addition to that, Albrecht et al. (2018) argue that auditors view executives with accounting expertise positively. This is consistent with the argument which posits that accountant CFOs have higher quality of financial reporting, lower probability of restatement, and better internal control (Aier et al., 2005; Li et al., 2010).

Prior study points out that a CFO with auditor working experience tends to have shorter audit report lag (Condie et al., 2021). This is relevant because board characteristics can be one of the factors that affect the audit report timeliness (Habib, Bhuiyan, et al., 2019). Therefore, financial reporting prepared by accountant CFOs will assist the auditors to provide relevant information in a timely fashion. Therefore, this study predicts that accountant CFO is likely to have shorter audit report lag.

H₄: Accountant CFOs are associated with shorter audit report lag

Research Methodology

Sample Selection

The data used in this research are derived from annual reports published by firms and OSIRIS database. We exclude firms with any missing data and firms operating in financial, insurance, and real-estate industry (SIC number 6). The final sample of each variable is different because of different amount of missing data.

The total sample firms derived after sample selection is 2,811 firm-years for auditor choice (*BIG4*), 1,138 firm-years for audit fee (*AFEE*), 2,775 firm-years for audit quality (*AQ*), and 2,828 firm-years for audit report lag (*ARL*). The sample selection of each variable in the audit outcomes is shown in Table 1.

Table 1. Sample Selection Process

	BIG4	AFEE	AQ	ARL
Initial observation firms from 2010-2018 on IDX	4,390	4,390	4,390	4,390
Excluded by:				
Firms in financial, insurance, and real-estate industry (SIC 6)	(917)	(917)	(917)	(917)
Firms with missing data	(662)	(2,335)	(698)	(645)
Total final observations	2,811	1,138	2,775	2,828

This study collects CFO manually by examining their education and work experience. Subsequently, CFO is separated into two groups, which are CFO with accounting background and CFO with non-accounting background. CFO is categorized to have accounting background if CFO has prior work experience as auditor (internal or external), controller, and has CPA (Certified Public Accountant) (Hoitash et al., 2016).

Similar with previous studies (Bedard et al., 2014; Hoitash et al., 2016; Li et al., 2010), a CFO who fulfills the criteria is classified as one and zero otherwise. For audit outcomes, this study uses natural logarithm

for both audit fees and audit report lag. The detailed definition of each variable is shown in Table Appendix-1. Furthermore, the following Table 2 presents the sample distribution based on industry classification and differentiates the variable between non accountant and accountant CFO.

Table 2. Sample Distribution Based on Industry Classification

Panel A: Sample Distribution for Variable Auditor Choice (<i>BIG4</i>)					
Industry (SIC)	Non-Accountant	Percentage	Accountant	Percentage	TOTAL
	CFO		CFO		
	Total	%	Total	%	
Agriculture, Forestry, & Fishing (0)	88	77.88%	25	22.12%	113
Mining & Construction (1)	243	53.64%	210	46.36%	453
Manufacturing (2)	548	73.66%	196	26.34%	744
Manufacturing (3)	351	69.50%	154	30.50%	505
Transportation & Public Utilities (4)	232	52.60%	209	47.40%	441
Wholesale & Retail Trade (5)	174	62.37%	105	37.63%	279
Services (7)	152	65.80%	79	34.20%	231
Services (8)	22	48.89%	23	51.11%	45
TOTAL	1,810	64.39%	1,001	35.61%	2,811
Panel B: Sample Distribution for Variable Audit Fee (<i>AFEE</i>)					
Industry (SIC)	Non-Accountant	Percentage	Accountant	Percentage	TOTAL
	CFO		CFO		
	Total	%	Total	%	
Agriculture, Forestry, & Fishing (0)	49	81.67%	11	18.33%	60
Mining & Construction (1)	107	47.77%	117	52.23%	224
Manufacturing (2)	226	68.90%	102	31.10%	328
Manufacturing (3)	128	67.01%	63	32.99%	191
Transportation & Public Utilities (4)	76	41.53%	107	58.47%	183
Wholesale & Retail Trade (5)	34	41.97%	47	58.03%	81
Services (7)	32	54.24%	27	45.76%	59
Services (8)	3	25%	9	75%	12
TOTAL	655		483		1,138
Panel C: Sample Distribution for Variable Audit Quality (<i>AQ</i>)					
Industry (SIC)	Non-Accountant	Percentage	Accountant	Percentage	TOTAL
	CFO		CFO		
	Total	%	Total	%	
Agriculture, Forestry, & Fishing (0)	88	77.88%	25	22.12%	113
Mining & Construction (1)	233	52.60%	210	47.40%	443
Manufacturing (2)	546	73.98%	192	26.02%	738
Manufacturing (3)	349	69.38%	154	30.61%	503
Transportation & Public Utilities (4)	231	52.62%	208	47.38%	439
Wholesale & Retail Trade (5)	176	62.63%	105	37.37%	281
Services (7)	148	65.49%	78	34.51%	226
Services (8)	13	40.62%	19	59.38%	32
TOTAL	1,784		991		2,775
Panel D: Sample Distribution for Variable Audit Report Lag (<i>ARL</i>)					
Industry (SIC)	Non-Accountant	Percentage	Accountant	Percentage	TOTAL
	CFO		CFO		
	Total	%	Total	%	
Agriculture, Forestry, & Fishing (0)	88	77.88%	25	22.12%	113
Mining & Construction (1)	257	55.03%	210	44.97%	467
Manufacturing (2)	550	73.63%	197	26.37%	747
Manufacturing (3)	351	19.23%	155	80.77%	1,825
Transportation & Public Utilities (4)	232	52.60%	209	47.39%	441
Wholesale & Retail Trade (5)	174	62.37%	105	37.63%	279
Services (7)	151	65.65%	79	34.35%	230
Services (8)	22	48.89%	23	51.11%	45
TOTAL	1,825		1,003		2,828

From the Table 2, we can infer that accountant CFOs are more likely can be found in the service firms with the industrial code number eight. The result is consistent with each sample of audit outcomes. Furthermore,

based on that sample distribution, we find that the number of non-accountant CFOs are the highest in the agriculture, forestry, and fishing industry firms, with the industrial code number 1.

Variable Definition and Measurement

Accountant CFO

Accountant CFO is a CFO who has work experience as accountant, such as audit partners, controllers, or other related accounting roles (Hoitash et al., 2016). Practically, CFO has responsibility to oversee the financial report, manage internal control, and ensure the compliance with accounting regulation. In this study, we specifically examine the position of CFO which has accounting background, therefore we use an indicator variable to identify this variable. This variable is coded as 1 if the CFO has work experience as accounting profession, such as audit partners, controllers, accountant (internal and external), or other related accounting roles, and coded as 0 for otherwise.

Auditor choice

Auditor choice is a decision of a firm to select a certain audit firm. Therefore, auditor choice shows a preference of a management toward an auditor. According to previous study, there are some determinants of auditor choice, such as agency problems, firm-level corporate governance characteristics, economic condition that driven by risk of information asymmetry, and country-level institutional factor (Habib, Wu, et al., 2019). In this study, we specifically want to examine the preference of management to Big 4 accounting firms. Therefore, we use Big 4 accounting firm as our measurement, which is coded as 1 if a firm is audited by Big 4 accounting firm, and 0 for otherwise.

Audit fee

Audit fees can be interpreted as compensation for higher audit effort and residual risk (Guan et al., 2016). Furthermore, from the perspective of client, audit fee can be indicated as monitoring cost (Widmann et al., 2021). However, audit fee somehow can be a proxy to see client’s risk based on auditor perception. In this study, we use the value of natural logarithm of the audit fee charged to the firm.

Audit Quality

Prior study points out that audit quality is assumed to perform as a monitoring mechanism that would assist in deterring managers to manipulate earnings (Alzoubi, 2018). In this study, we measure audit quality by using accrual quality model developed by Dechow & Dichev (2002). The model will evaluate the quality of accruals and this model conder whether accruals are turned into cash or not in the following year (Dechow & Dichev, 2002). Thus, we use the following model to measure the audit quality.

$$\Delta WC_t = \beta_0 + \beta_1 CFO_{t-1} + \beta_2 CFO_t + \beta_3 CFO_{t+1} + \varepsilon_t \dots\dots\dots(1)$$

with the following detail:

ΔWC_t = change in working capital

CFO_{t-1} = the cash flows that created cash flows in the previous period but the effect of them on the earnings took place in the period (t)

CFO_t = the cash flows that both create cash flows and affect the earnings in the period (t)

CFO_{t+1} = the cash flows that affect the earnings in the period (t) although they will create cash flows in the following period

ε_t = represents accruals that are not turned into cash and their standard deviation is considered as the measure of the firm’s accrual quality

In this study, we use a residual value from the above equation. However, to indicate the audit quality, we absolute the value and multiply it by minus 1. Therefore, after perform this treatment, it implies that if the result is positive, it indicates a higher audit quality and if the result is negative, it means a lower audit quality.

Audit report lag

Audit report lag is the number of days from a company’s fiscal year-end to the date of its auditor’s report (Knechel & Payne, 2001). According to prior research, the longer the audit report lag indicates an increased audit work (Durand, 2019). Moreover, audit report lag has been used to measure the audit efficiency or audit effort. In this study, we measure audit report lag as the natural logarithm of interval between fiscal-year end and the date of audit report of firm.

Control variables

Since we have four dependent variables, we have some different control variables for each model. We follow from prior studies, that we use two kinds of control variables, such as variables related to the firm governance and firm characteristics (Cho et al., 2021; Lin & Liu, 2009; Oradi, 2021; Xiao et al., 2020). We use firm size, leverage, profitability, firm loss, firm growth, firm age, operating cash flow, and firm tenure to control the relationship between accountant CFO and Big 4 auditor choice. For the second hypothesis, we use Big 4 auditor, firm rotation, subsidiaries, current ratio, sum of inventory and receivable, firm size, leverage, profitability, loss, and firm growth. Furthermore, we use Big 4 auditor, firm size, Tobins Q, leverage, loss, firm growth, firm age, operating cash flow, and firm tenure for the third hypothesis. For the fourth hypothesis, we employ the variable of Big 4 auditor, firm rotation, subsidiaries, current ratio, firm size, leverage, profitability, loss, and firm age.

Empirical Model

In this study, we have several research models for each hypothesis. The research model is shown in the following equation. The following research equation represents the research model for the first, second, third, and fourth hypothesis respectively.

$$BIG4_{it} = b_0 + b_1CFOACC_{it} + b_2SIZE_{it} + b_3LEVERAGE_{it} + b_4ROA_{it} + b_5LOSS_{it} + b_6GROWTH_{it} + b_7AGE_{it} + b_8OCF_{it} + b_9FIRMTENURE_{it} + b_{10}INDUSTRY_{it} + b_{11}YEAR_{it} + e_t \dots\dots\dots(2)$$

$$AFEE_{it} = b_0 + b_1CFOACC_{it} + b_2BIG4_{it} + b_3FIRMROTATION_{it} + b_4SUB_{it} + b_5CURR_{it} + b_6INVEREC_{it} + b_7SIZE_{it} + b_8LEVERAGE_{it} + b_9ROA_{it} + b_{10}LOSS_{it} + b_{11}GROWTH_{it} + b_{12}INDUSTRY_{it} + b_{13}YEAR_{it} + e_t \dots\dots\dots(3)$$

$$AQ_{it} = b_0 + b_1CFOACC_{it} + b_2BIG4_{it} + b_3SIZE_{it} + b_4TOBINSQ_{it} + b_5LEVERAGE_{it} + b_6LOSS_{it} + b_7GROWTH_{it} + b_8AGE_{it} + b_9OCF_{it} + b_{10}FIRMTENURE_{it} + b_{11}INDUSTRY_{it} + b_{10}FIRMTENURE_{it} + e_t \dots\dots\dots(4)$$

$$ARL_{it} = b_0 + b_1CFOACC_{it} + b_2BIG4_{it} + b_3FIRMROTATION_{it} + b_4SUB_{it} + b_5CURR_{it} + b_6SIZE_{it} + b_7LEVERAGE_{it} + b_8ROA_{it} + b_9LOSS_{it} + b_{10}AGE_{it} + b_{11}INDUSTRY_{it} + b_{12}YEAR_{it} + e_t \dots\dots\dots(5)$$

Results and Discussion

Univariate Analysis

The descriptive statistic of each variable is shown in Table 3. The results show the mean of *CFO_ACC* in Panel A with value of 0.3522. Furthermore, the mean of auditor choice (*BIG4*), audit fee (*AFEE*), audit quality (*AQ*), and audit report lag (*ARL*) are respectively 0.387, 2.505, -0.222, and 4.362.

Table 3. Descriptive Statistic

	Mean	Median	Minimum	Maximum
<i>CFO_ACC</i>	0.352	0.000	0.000	1.000
<i>BIG4</i>	0.387	0.000	0.000	1.000
<i>AFEE</i>	20.505	20.465	18.198	23.691
<i>AQ</i>	-0.222	-0.095	-2.696	-0.002
<i>ARL</i>	4.362	4.394	3.584	5.187
<i>SIZE</i>	28.177	28.209	23.327	32.086
<i>LEVERAGE</i>	0.549	0.502	0.031	3.017
<i>ROA</i>	3.232	2.890	-34.680	35.140
<i>LOSS</i>	0.249	0.000	0.000	1.000
<i>GROWTH</i>	-0.366	0.008	-39.959	20.891
<i>AGE</i>	14.178	14.000	1.000	34.000
<i>OCF</i>	0.055	0.046	-0.306	0.442
<i>FIRMTENURE</i>	3.593	3.000	0.000	9.000
<i>FIRMROTATION</i>	0.152	0.000	0.000	1.000
<i>SUB</i>	0.861	1.000	0.000	1.000
<i>CURR</i>	2.353	1.398	0.056	30.370
<i>INVREC</i>	0.268	0.233	0.006	0.793
<i>TOBINSQ</i>	1.197	0.565	0.043	11.952

Accountant CFO and Audit Outcomes

Accountant CFO and auditor choice

The result of the first hypothesis is shown in Table 4. The result shows that accountant CFOs have significant positive association to auditor choice, which is shown in the variable Big4 auditor. The result shows a significance

level of 5% with a coefficient value = 0.035 and t-value = 2.00. This suggests that accountant CFOs are more likely to appoint Big4 accounting firms.

Based on the results, we can infer that the result is relevant with prior findings that stated corporate governance characteristic can be a determinant of auditor choice decision (Habib, Wu, et al., 2019). Therefore, accounting background of CFO can affect their decision of auditor choice, because they are more likely to consider carefully the decision regarding the auditor firm, because, according to prior research, CFOs with accounting working experience are more likely risk-averse (Hoitash et al., 2016). Because of the characteristics they have, they will tend to demand more a high-quality financial reporting by assigning a Big4 auditor for the firm, since Big4 auditors perform higher quality audits (Eshleman & Guo, 2014), and they have important role in connecting the firms and public investors (Guo et al., 2021). This result is in accordance with existing theory of Upper Echelon, which mention that the experience of executives could affect them when interpret or make a decision (Hambrick, 2007). This result shows that the CFO who has accounting background experience could affect their preference to choose Big 4 accounting firms.

Table 4. Regression Result of Accountant CFO to Auditor Choice (First Hypothesis)

	(1) BIG4
CFO_ACC	0.035** (2.00)
Control Variables	Included
_cons	-2.886*** (-20.96)
Adjusted r2_	0.307
N	2811

t statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Accountant CFO and audit fee

Each of the results of regression analysis are clustered by year and industry (vce) to get unbiased results (Petersen, 2009). Audit fees are considered to be compensation for audit effort and risk perceived by auditors (Guan et al., 2016). Additionally, the quality of audit also becomes a factor that determines the audit fees. This study discovers that accountant CFO is perceived as high risk by auditor and, thereby, the charged audit fees is high.

The result of regression analysis of audit fees (AFEE) is shown in Table 5. The variable of CFO_ACC has coefficient of 0.157 with the significance level at 1% (t value =3.26). This indicates that accountant CFO is charged with high audit fees. This might happen because CFOs who have substantial expertise related to their position (accounting background) could have a higher risk to commit fraud (Albrecht et al., 2018). Therefore, this condition can cause a background accounting CFO to be charged a higher audit fee by the auditor.

Moreover, the positive association of accountant CFOs to the audit fee can be caused by the result of the first hypothesis that shows accountant CFOs tend to appoint Big4 accounting firms. According to prior study, Big4 firms are associated with higher audit fees (Hay, 2013). Therefore previous study suggests that Big4 accounting firms have higher fees relative to other Big4 auditors (Basioudis & Francis, 2007).

Table 5. Regression Result of Accountant CFO to Audit Fee (Second Hypothesis)

	(1) AFEE
CFO_ACC	0.157*** (3.26)
Control Variables	Included
_cons	7.477*** (12.12)
Adjusted r ² _	0.614
N	1138

Accountant CFO and audit quality

The result of the third hypothesis is shown in Table 6. We document that accountant CFO has positive significant association to audit quality, with 5% significance level. Based on Table 6, the coefficient value is 0.027 and t-value is 2.24. Therefore, the results suggest that accountant CFOs are more likely to have a higher audit quality. This is related to prior findings that stated CFOs with accounting background are likely to demand a high

financial reporting quality which is inseparable from high audit quality (Gaynor et al., 2016). Hence, a good quality of pre-audit financial reporting quality prepared by accountant CFOs can influence audit quality, because financial reporting quality can determine the input, process, and outputs of the audit (Gaynor et al., 2016).

Table 6. Regression Result of Accountant CFO to Audit Quality

	(1) AQ
CFO_ACC	0.027** (2.24)
Control Variables	Included
_cons	-0.408*** (-3.06)
Adjusted r ²	0.113
N	2775

t statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Accountant CFO and audit report lag

Audit report lag is the interval between fiscal-year end and the date of audit report. Audit report lag is associated with the effort which auditors exerted during engagement and the extent of the audit team experience (Knechel & Payne, 2001). This study is interested in finding the lag of audit report for firms that employ accountant CFO. This study expects that accountant CFO is correlated with short audit report lag.

Table 7. Regression Result of Accountant CFO to Audit Report Lag

	(1) ARL
CFO_ACC	-0.043*** (-4.02)
Control Variables	Included
_cons	4.897*** (48.54)
Adjusted r ²	0.127
N	2828

t statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

The result of regression analysis of audit report lag (ARL) is shown in Table 7. It shows that variable CFO_ACC has coefficient of -0.043 with the significance level at 1% ($t = -4.02$). This indicates that accountant CFO is associated with short audit report lag. The findings that Big4 audit firms are negatively correlated with audit report lag is consistent with the findings from Knechel and Payne (2001). Interestingly, this study also finds that firms with larger size are associated with shorter audit report lag.

Robustness Test

In this study, there is a potential endogeneity problem regarding the existence of accountant CFOs. Prior study points out that having an accountant CFO is likely endogenous because firm characteristics could affect the choice of an accountant CFO (Hoitash et al., 2016). Therefore, we perform Coarsened Exact Matching (CEM) test as our robustness test in this study for each hypothesis. According to the Table 8 panel A, we display the matching summary of the variables. The matching method generates a total of 964 out of 1001 accountant CFOs firms matched with 1744 out of 1810 non-accountant CFOs firms for the first hypothesis. After generating the matching variables, we perform the coarsened exact matching regression that shown in panel B. However, in this test does not show a consistent significant result with the prior result for the first hypothesis.

Furthermore, we perform coarsened exact matching test for the second hypothesis and based on Table 9 panel A, we obtain 879 out of 948 accountant CFOs firms matched with 1416 out of 1666 non-accountant CFOs firms. In panel B, the result suggests the coarsened exact matching regression with a consistent significant result for the second hypothesis. Therefore, we document that accountant CFOs are more likely to have a higher audit fee, which is significant at 1% based on this robustness test.

Table 8. Coarsened Exact Matching of the First Hypothesis

Panel A: Matching Summary		
	CFO_ACC=1	CFO_ACC=0
All	1001	1810
Matched	964	1744
Unmatched	37	66
Panel B: Coarsened Exact Matching Regression		
		(1)
		BIG4
CFO_ACC		0.028
		(1.57)
Control Variables		Included
_cons		-2.932***
		(-20.85)
Adjusted r ²		0.315
N		2708

t statistics in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 9. Coarsened Exact Matching of the Second Hypothesis

Panel A: Matching Summary		
	CFO_ACC=1	CFO_ACC=0
All	948	1666
Matched	879	1416
Unmatched	69	250
Panel B: Coarsened Exact Matching Regression		
		(1)
		AFEE
CFO_ACC		0.153***
		(2.99)
Control Variables		Included
_cons		8.116***
		(12.32)
Adjusted r ²		0.593
N		1001

t statistics in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

We perform the robustness test for the hypothesis that shown in the Table 10. Panel A shows that this test generates 879 out of 948 accountant CFOs firms matched with 1416 out of 1666 non-accountant CFOs firms. Panel B indicates the coarsened exact matching regression, and we document the result is insignificant for this hypothesis.

Table 10. Coarsened Exact Matching of the Third Hypothesis

Panel A: Matching Summary		
	CFO_ACC=1	CFO_ACC=0
All	948	1666
Matched	879	1416
Unmatched	69	250
Panel B: Coarsened Exact Matching Regression		
		(1)
		AQ
CFO_ACC		0.006
		(0.58)
Control Variables		Included
_cons		-0.234***
		(-2.68)
Adjusted r ²		0.100
N		2638

t statistics in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

The following Table 11 shows the robustness test for the fourth hypothesis. Panel A shows that we obtain 951 out of 1003 accountant CFOs matched with 1649 out of 1827 non-accountant CFOs. While in panel B shows the consistent result of the fourth hypothesis, that accountant CFOs have a significant negative relationship with audit report lag, which implies that accountant CFOs are more likely to have a shorter period of audit report lag.

Table 11. Coarsened Exact Matching of the Fourth Hypothesis

Panel A: Matching Summary		
	CFO_ACC=1	CFO_ACC=0
All	1003	1827
Matched	951	1649
Unmatched	52	178
Panel B: Coarsened Exact Matching Regression		
		(1)
		ARL
CFO_ACC		-0.041*** (-3.82)
Control Variables		Included
_cons		4.906*** (46.48)
Adjusted r ²		0.138
N		2598

t statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Conclusion

Previous study suggests that accountant CFO has characteristics as conservative, risk adverse, and exhibit higher quality of financial reporting (Aier et al., 2005; Hoitash et al., 2016). They are also said to have better management in internal control (Li et al., 2010). This study aims to study the relationship between accountant CFO and audit outcomes which consist of four variables, which are auditor choice, audit fees, audit quality, and audit report lag.

The test result of hypothesis one shows that accountant CFOs have significant positive association to auditor choice, which is shown in the variable Big4 auditor. The result shows a significance level of 5% with a coefficient value = 0.035 and t-value = 2.00. This suggests that accountant CFOs are more likely to appoint Big4 accounting firms. This result is in accordance with existing theory of Upper Echelon, which mention that the experience of executives could affect them when interpret or make a decision (Hambrick, 2007).

The test result of hypothesis two shows that variable of CFO_ACC has coefficient of 0.157 with the significance level at 1% (t value =3.26). This indicates that accountant CFO is charged with high audit fees. This might happen because CFOs who have substantial expertise related to their position (accounting background) could have a higher risk to commit fraud (Albrecht et al., 2018). Therefore, this condition can cause a background accounting CFO to be charged a higher audit fee by the auditor.

The test result of hypothesis three shows that that accountant CFO has positive significant association to audit quality, with 5% significance level. Based on Table 6, the coefficient value is 0.027 and t-value is 2.24. Therefore, the results suggest that accountant CFOs are more likely to have a higher audit quality. Hence, a good quality of pre-audit financial reporting quality prepared by accountant CFOs can influence audit quality, because financial reporting quality can determine the input, process, and outputs of the audit (Gaynor et al., 2016).

And the last test result of hypothesis four shows that variable CFO_ACC has coefficient of -0.043 with the significance level at 1% (t=-4.02). This indicates that accountant CFO is associated with short audit report lag. The findings that Big4 audit firms are negatively correlated with audit report lag is consistent with the findings from Knechel and Payne (2001). Interestingly, this study also finds that firms with larger size are associated with shorter audit report lag.

Therefore, the results suggest that the accounting background of a CFO could affect their preference regarding the auditor choice. This study gives evidence that the experience and values of accountant CFOs could affect their interpretation toward something, and affect the outcomes that related to audit. Moreover, based on this study, we can know the value which the auditor places on an accountant CFO by examining the audit outcomes, which consist of auditor choice, audit fees, audit quality, and audit report lag.

This study matters because practically CFOs have a role during the audit planning meeting, so that the certain characteristics of CFO could affect the audit outcomes. We expect the result of this study to be useful for firms in considering their CFO with accounting background. Furthermore, we expect this study can enhance the

literature of audit outcomes, especially in the setting of Indonesia. Second, this study may help firms in choosing a suitable CFO for their firm as a CFO's responsibility is related to audit work, and can be useful for the outside parties to assess the performance and take decisions related to audit outcomes of firms with accounting background CFO.

Future research could examine further the impact of accounting background of CFOs to another strategic decision, since executives who have accounting background experience have special characteristics that make them differ with other profession experience. In this study, we limit to study the relationship between accountant CFOs with audit outcomes that consist of auditor choice, audit fee, audit quality, and audit report lag. Therefore, future research can explore other audit outcomes in the context of companies with an accounting background CFO with another special setting.

References

- Abernathy, J. L., Guo, F., Kubick, T. R., & Masli, A. (2019). Financial statement footnote readability and corporate audit outcomes. *Auditing: A Journal of Practice & Theory*, 38(2), 1–26.
- Aier, J. K., Comprix, J., Gunlock, M. T., & Lee, D. (2005). The financial expertise of CFOs and accounting restatements. *Accounting Horizons*, 19(3), 123–135.
- Albrecht, A., Mauldin, E. G., & Newton, N. J. (2018). Do auditors recognize the potential dark side of executives' accounting competence? *The Accounting Review*, 93(6), 1–28.
- Alzoubi, E. S. S. (2018). Audit quality, debt financing, and earnings management: Evidence from Jordan. *Journal of International Accounting, Auditing and Taxation*, 30, 69–84.
- Basioudis, I. G., & Francis, J. R. (2007). Big 4 audit fee premiums for national and office-level industry leadership in the United Kingdom. *Auditing: A Journal of Practice & Theory*, 26(2), 143–166.
- Beck, M. J., & Mauldin, E. G. (2014). Who's really in charge? Audit committee versus CFO power and audit fees. *The Accounting Review*, 89(6), 2057–2085.
- Bedard, J. C., Hoitash, R., & Hoitash, U. (2014). Chief Financial Officers as Inside Directors. *Contemporary Accounting Research*, 31(3), 787–817. <https://doi.org/https://doi.org/10.1111/1911-3846.12045>
- Bernard, D., Ge, W., Matsumoto, D., & Toynbee, S. (2021). Implied Tradeoffs of Chief Financial Officer Accounting Expertise: Evidence from Firm-Manager Matching. *Management Science*, 67(9), 5776–5799.
- Chen, M.-C., Chang, C.-W., & Lee, M.-C. (2020). The effect of chief financial officers' accounting expertise on corporate tax avoidance: the role of compensation design. *Review of Quantitative Finance and Accounting*, 54(1), 273–296.
- Cho, M., Kwon, S. Y., & Krishnan, G. V. (2021). Audit fee lowballing: Determinants, recovery, and future audit quality. *Journal of Accounting and Public Policy*, 40(4), 106787.
- Condie, E. R., Obermire, K. M., Seidel, T. A., & Wilkins, M. S. (2021). Prior Audit Experience and CFO Financial Reporting Aggressiveness. *Auditing: A Journal of Practice & Theory*, 40(4), 99–121.
- Dauth, T., Pronobis, P., & Schmid, S. (2017). Exploring the Link Between Internationalization of Top Management and Accounting Quality: The CFO's International Experience Matters. *International Business Review*, 26(1), 71–88.
- Dechow, P. M., & Dichev, I. D. (2002). The Quality of Accruals and Earnings: The Role of Accrual Estimation Errors. *The Accounting Review*, 77, 35–59. <http://www.jstor.org/stable/3203324>
- Durand, G. (2019). The determinants of audit report lag: a meta-analysis. *Managerial Auditing Journal*.
- Eshleman, J. D., & Guo, P. (2014). Do Big 4 auditors provide higher audit quality after controlling for the endogenous choice of auditor? *Auditing: A Journal of Practice & Theory*, 33(4), 197–219.
- Evelina, L. W. (2019). Komunitas adalah Pesan: Studi Netnografi Virtual di Situs Wisata TripAdvisor. *Warta ISKI*, 1(02), 65–74. <https://doi.org/10.25008/wartaiski.v1i02.19>
- Feng, M., Ge, W., Luo, S., & Shevlin, T. (2011). Why do CFOs become involved in material accounting manipulations? *Journal of Accounting and Economics*, 51(1–2), 21–36. <https://econpapers.repec.org/RePEc:eee:jaecon:v:51:y:2011:i:1-2:p:21-36>
- Francis, J. R. (2011). A Framework for Understanding and Researching Audit Quality. *Auditing: A Journal of Practice & Theory*, 30(2), 125–152.

- Francis, Jere R. (2004). What do we know about audit quality? *The British Accounting Review*, 36(4), 345–368.
- Gaynor, L. M., Kelton, A. S., Mercer, M., & Yohn, T. L. (2016). Understanding the relation between financial reporting quality and audit quality. *Auditing: A Journal of Practice & Theory*, 35(4), 1–22.
- Gray, G. L., & Ratzinger, N. V. S. (2010). Perceptions of preparers, users and auditors regarding financial statement audits conducted by Big 4 accounting firms. *International Journal of Disclosure and Governance*, 7(4), 344–363.
- Guan, Y., & Su, L. (2016). Wu, D., & Yang, Z.(2016). Do school ties between auditors and client executives influence audit outcomes. *Journal of Accounting and Economics*, 61(2–3), 506–525.
- Guo, J., Kim, S., Yu, Y., & Kim, J. Y. J. (2021). Does CFO accounting expertise matter to corporate social responsibility disclosure in 10-Ks? *Journal of Applied Accounting Research*.
- Habib, A., Bhuiyan, M. B. U., Huang, H. J., & Miah, M. S. (2019). Determinants of audit report lag: A meta-analysis. *International Journal of Auditing*, 23(1), 20–44.
- Habib, A., Wu, J., Bhuiyan, M. B. U., & Sun, X. (2019). Determinants of auditor choice: Review of the empirical literature. *International Journal of Auditing*, 23(2), 308–335.
- Hambrick, D. C. (2007). *Upper echelons theory: An update*. Academy of Management Briarcliff Manor, NY 10510.
- Hay, D. (2013). Further evidence from meta-analysis of audit fee research. *International Journal of Auditing*, 17(2), 162–176.
- Hay, D. C., Knechel, W. R., & Wong, N. (2006). Audit fees: A meta-analysis of the effect of supply and demand attributes. *Contemporary Accounting Research*, 23(1), 141–191.
- Hellman, N. (2011). Chief Financial Officer Influence on Audit Planning. *International Journal of Auditing*, 15(3), 247–274. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1943328
- Hoitash, R., Hoitash, U., & Kurt, A. C. (2016). Do accountants make better chief financial officers? *Journal of Accounting and Economics*, 61(2–3), 414–432.
- Jiang, J. X., Petroni, K. R., & Wang, I. Y. (2010). CFOs and CEOs: Who have the most influence on earnings management? *Journal of Financial Economics*, 96(3), 513–526.
- Knechel, W. R., & Payne, J. L. (2001). Additional evidence on audit report lag. *Auditing: A Journal of Practice & Theory*, 20(1), 137–146.
- Lee, H., & Lee, H. (2013). Do Big 4 audit firms improve the value relevance of earnings and equity? *Managerial Auditing Journal*.
- Lennox, C. (2005). Audit quality and executive officers' affiliations with CPA firms. *Journal of Accounting and Economics*, 39(2), 201–231.
- Li, C., Sun, L., & Ettredge, M. (2010). Financial executive qualifications, financial executive turnover, and adverse SOX 404 opinions. *Journal of Accounting and Economics*, 50(1), 93–110.
- Lin, Z. J., & Liu, M. (2009). The impact of corporate governance on auditor choice: Evidence from China. *Journal of International Accounting, Auditing and Taxation*, 18(1), 44–59.
- Murphy, M. (2013). Boards look for CFOs with general-management chops. *Wall Str. J.*, B6.
- Oradi, J. (2021). CEO succession origin, audit report lag, and audit fees: Evidence from Iran. *Journal of International Accounting, Auditing and Taxation*, 45, 100414.
- Payne, J. L., & Williamson, R. (2021). An examination of the influence of mutual CFO/audit firm tenure on audit quality. *Journal of Accounting and Public Policy*, 40(4), 106825.
- Petersen, M. A. (2009). Estimating standard errors in finance panel data sets: Comparing approaches. *The Review of Financial Studies*, 22(1), 435–480.
- Ross, J. (2019). *The Future of the CFO: From Number Cruncher to Value Driver*. *Visual Capitalist*.
- Simunic, D. A. (1980). The Pricing of Audit Services: Theory and Evidence. *Journal of Accounting Research*, 18(1), 161–190. <https://doi.org/10.2307/2490397>

- Sun, L., Johnson, G., & Rahman, F. A. (2015). CFO financial expertise and corporate governance concerns. *International Journal of Law and Management*, 57, 573–581.
- Widmann, M., Follert, F., & Wolz, M. (2021). What is it going to cost? Empirical evidence from a systematic literature review of audit fee determinants. *Management Review Quarterly*, 71(2), 455–489.
- Xiao, T., Geng, C., & Yuan, C. (2020). How audit effort affects audit quality: An audit process and audit output perspective. *China Journal of Accounting Research*, 13(1), 109–127.
- Zang & Liu, W. (2010). Research on the Relation between the CFO Characteristic Variables in Chinese Listed Companies and the Quality of Accounting Information. *International Conference on Information Management, Innovation Management and Industrial Engineering*, 477–482.
- Zhang, J. H. (2018). Accounting comparability, audit effort, and audit outcomes. *Contemporary Accounting Research*, 35(1), 245–276.

APPENDIX

Appendix-1. Definition of variables

Variables	Measurement of variables	Data Source
Variable of interest		
<i>CFO_ACC</i>	1 if the CFO has accounting background, 0 otherwise	Annual report
Outcome variables		
<i>BIG4</i>	1 if firm <i>i</i> is audited by Big4 audit firms, 0 otherwise	Annual report
<i>AFEE</i>	the natural logarithm of total audit fees of firm <i>i</i> in year <i>t</i>	Annual report
<i>AQ</i>	The absolute value from the accrual quality model by Dechow & Dichev (2002). Furthermore we multiply the value by -1 to make it easier to interpret the result. If the result is positive, it means a higher audit quality, and vice versa.	OSIRIS
<i>ARL</i>	the natural logarithm of interval between fiscal-year end and the date of audit report of firm <i>i</i> in year <i>t</i>	Annual report
Control variables		
<i>BIG4</i>	1 if firm <i>i</i> is audited by Big4 audit firms, 0 otherwise	Annual report
<i>FIRMTENURE</i>	the number of consecutive years that the same audit firm audit the financial statement of firm <i>i</i> and issue an opinion	Annual report
<i>FIRMROTATION</i>	1 if the firm <i>i</i> experience an audit rotation, and 0 for otherwise.	Annual report
<i>SUB</i>	1 if firm <i>i</i> has at least one subsidiary, 0 otherwise	OSIRIS
<i>CURR</i>	current ratio, calculated by dividing current assets with current liabilities	OSIRIS
<i>INVREC</i>	the sum of inventory and receivables and then divided by total assets of firm <i>i</i> in year <i>t</i>	OSIRIS
<i>SIZE</i>	the natural logarithm of total assets of firm <i>i</i> in year <i>t</i>	OSIRIS
<i>TOBINSQ</i>	Number of market value of firm <i>i</i> divided by the number of total assets	OSIRIS
<i>LEVERAGE</i>	leverage, calculated by dividing total liabilities with total assets	OSIRIS
<i>ROA</i>	return on asset, calculated by dividing net income with total assets	OSIRIS
<i>LOSS</i>	loss/profit, classified as 1 if firm <i>i</i> experience loss in year <i>t</i> , 0 otherwise	OSIRIS
<i>GROWTH</i>	sales growth rate	OSIRIS
<i>AGE</i>	the number of years firm <i>i</i> is listed on IDX	OSIRIS
<i>OCF</i>	operating cash flow divided by total assets of firm <i>i</i> in year <i>t</i>	OSIRIS