

## Relevance of Accounting Information: Audit Quality and Earnings Management as Moderating Variable

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### Abstract

**Research purposes:** This study investigates whether audit quality and earnings management moderate the effect of accounting information on market prices.

**Methods:** This study consisted of a sample of 1525 go public firms on Indonesia Stock Exchange from 2016 – to 2020, except financial sector. Proxies of accounting information are earnings, book value, and operating cash flow. Audit quality is measured by auditor type and audit opinion. This study uses purposive sampling and testing moderated regression analysis.

**Results:** The results indicate that accounting information - earnings; book value, and operating cash flow have a positive effect on stock market prices. Furthermore, the type of auditor and audit opinion strengthen the correlation between earnings and stock prices. However, it does not moderate the effect of book value and operating cash flow on stock prices. Furthermore, earnings management weakens the effect of earnings on stock prices. However, earnings management does not moderate the correlation of book value of equity and operating cash flows with stock prices.

**Novelty:** This study enriched the literature on value relevance which is influenced by other factors such as audit quality and Earnings Management. It is hoped that further researchers can expand their research by examining other accounting information and other factors that can be used as a basis for investor considerations for investment decisions such as corporate governance or others

### Keywords:

*Value relevance, Accounting information, Audit Quality, Auditor Type, Auditor Report, Earnings Management*

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## INTRODUCTION

The information in the financial statements becomes the basis for external users (investors, creditors, and lenders) as an indicator of the company's financial performance assessment. External parties need information about the company's condition for decision making and evaluating past, present, and future events experienced by the company (Prather-Kinsey, 2006). According to Maigoshi et al. (2018), when accounting information is relevant, it can be used to see the future of accounting reporting. Accounting figures that can explain stock movements, predict future events, and evaluate past events while being presented without bias can be of relevant value

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(IAI, 2018; Prather-Kinsey, 2006).

Information that reflects the company's performance can come from net income or earnings (E) and the book value of equity (BV). Both of these information determines the valuation of shares by investors (Bepari, 2015). Profit can be used to measure the company's performance, while the book value of equity shows the company's net assets. According to Gitman & Zutter (2015), an essential role in assessing the company's performance is also reflected by cash flow. The cash flow statement shows how capable the company is in carrying out operational activities, paying off debt, and investing without outside funding.

Companies that carry out earnings management (EM) cause their accounting information to be less reliable because management can manipulate information in its financial statements related to management performance and hide important information (Dechow & Skinner, 2000). The accrual principle in recording earnings is often used for manipulation, making it vulnerable to managerial discretion (Al-Shattarat, 2021). If managers use the accrual principle to manage earnings opportunistically, earnings cannot be relied upon as an indicator of the company's financial performance (Mohd Radzi et al., 2011). The subsequent impact causes a reduction in the usefulness of the information contained in earnings. Then investors will turn to other information such as BV and OCF as a tool to measure company performance and assess stock prices.

Research by Nelwan et al. (2020) in Indonesia in 2014 indicated that EM reduces the relevance of the value of E but has no effect on the relevance of the value of OCF, while the value relevance of BV cannot be found, which indicates that EM does not affect the relevance of the value of BV. However, the research results by Shan (2015) on companies in Shanghai from 2001 – to 2005 showed a decrease in the relevance of the value of earnings and book value when companies indicated implementing EM. In contrast, research Bin Khidmat et al. (2018) on companies in Pakistan from 2010 – to 2014 shows that when the relevance of the value of earnings decreases, the relevance of the value of BV will increase.

Public Accounting Firms (KAP) can minimize the risk of inaccurate information in financial statements through audit services provided on financial statements (Arens et al., 2014). If the financial statements have been audited, investors will rely on the report because audit services can provide assurance on the quality of financial statement information and ensure that the information is reliable. In addition, investors also rely on audit reports containing audit opinions to determine the reliability of financial statements. A high-quality audit report will increase investor confidence regarding the relevance of the value of accounting information to firm value so that the information will have increasingly relevant uses (Al-Dhamari & Chandren, 2018). According to Baffa & Ibrahim (2017), financial reports audited by the Big 4 are more reputable, can be used as determining factors by investors in making investment decisions. The different types of auditors, namely the Big 4 and Non-Big 4, can determine the audit quality of the company's financial statements. Big 4 audit firm are considered to have better audit quality than Non-Big 4 because they are believed to detect and find possible misstatements and manipulations in the company's financial statements (Lee & Lee, 2013). Audit firms with larger sizes, such as Big 4, certainly have more significant incentives than Non-Big 4, so to maintain their independence, Big 4 will report client violations. Meanwhile, non-Big 4 are more exposed to the risk of losing clients. In addition to the type of auditor, audit opinion can influence investment decision-making. Companies that receive an unqualified opinion (unmodified opinion) will be compared with financial statements that receive a modified opinion when making investment decisions.

Abdollahi et al. (2020) indicates that the relevance of the values of earnings and book value is positively influenced by the type of auditor and audit opinion. Research conducted in Taiwan from 1996 to 2009 by Lee & Lee (2013) also showed that the Big 4 increased the relevance of earnings and book value on stock price. This assumption is consistent with that larger audit firms maintain their reputation and credibility by providing better audit quality through large expenditures on employee competency improvement and audit technology. In addition, the big 4 are more likely to issue an audit opinion with an explanatory paragraph (going concern

opinion) when a client experiences financial difficulties, thus indicating a higher audit quality. So the opinion in the audit report also affects value relevance because it shows the company's performance and influences investors' decisions to invest in the company.

The research of Wintari & Panggabean (2020) in Indonesia in 2014-2018 and Ghasemi and Nazari (2017) in Iran in 2011-2015 state that the type of audit and audit opinion affect the correlation of earnings with market value. However, several arguments show that Big 4 and Non-Big 4 accounting firms provide comparable audit quality (Lawrence et al., 2011). First, because they are both regulated by regulatory and professional standards, they must comply with a reasonable level of audit. Second, Non-Big 4 auditors have superior knowledge of the local market and good relationships with clients, thus enabling Non-Big 4 to detect deviations better. When determining audit quality, there is evidence that variations in legal institutions in countries can change the ratio of Big 4 to Non-Big 4 audit quality. There are still various cases of fraud in public companies in Indonesia, where both Big 4 and Non-Big 4 still cannot disclose the presentation of financial statements that are not following actual conditions (Sarwoko & Agoes, 2014). Cases of financial statement scandals in Indonesia that auditors could not detect could lead to a decline in investor confidence in the Indonesian capital market. So it is still questionable whether, in Indonesia, auditors who are proxies have better audit quality, namely Big 4, can increase the value relevance of accounting information. Likewise, audit opinions in Indonesia are still questionable because even though the company receives an unmodified audit opinion, it can still be indicated to have committed a violation that was not detected by the auditor (Kusumawati & Syamsuddin, 2018). (Kusumawati & Syamsuddin, 2018)(Kusumawati & Syamsuddin, 2018)(Kusumawati & Syamsuddin, 2018)Information on audit opinions will also not provide added value when the auditor is not independent of the client.

Based on the research gap, it is crucial to analyze the effect of audit quality and earnings management on the correlation of accounting information with stock prices. This research contributes by developing literature on the relevance of financial information in investment decisions; for business people, is essential to select the type of auditor to increase the transparency of disclosure of quality and transparent financial statements without any earnings management practices.

Francis & Schipper (1999) stated that accounting numbers that can reflect the information underlying stock prices are said to have value relevance. Financial information can be relevant and reflect stock prices if users find the helpful information (Barth et al., 2001). Indicators of value relevance can be seen through the reaction of investors at the time of the announcement of financial statement information (Scott, 2015, p. 154). Earnings management (EM) occurs when managers influence accounting policies and actual actions on earnings to achieve a certain level of profit (Scott, 2015, p. 445). According to Healy & Wahlen (1999), the manager's judgment in compiling financial transactions that do not match the real conditions of the company's performance can be called earnings management. However, according to Brooks (2011, p.27) earnings management is not always misleading because companies can do manipulation so that investors can distinguish persistent earnings from one-time shocks (an unexpected event), thereby increasing the information value of reported earnings. Even earnings management can also provide benefits if it can be used to provide signals regarding relevant company information and information in the future (Diri, 2017, p.8). When earnings management practices are carried out excessively, it will reduce the usefulness of financial statement information for investors. Opportunistic earnings management arises when there is a conflict of interest between shareholders and management, where management has access to more information about the company to be used to gain profits at the expense of investors (Brooks, 2011, p.22).

### **Signaling Theory, Agency Theory, and Value Relevance**

Accounting information is said to have value relevance if it provides information for investors in assessing the company and is reflected in stock prices (Francis & Schipper, 1999).

Financial information can be relevant and reflect stock prices if users find the helpful information (Barth et al., 2001). The existence of information asymmetry between management and investors causes investors to give a low value to the company's stock price to protect themselves. Management will tend to convey positive information and keep lousy details. It will cause losses for companies with good conditions because they are considered lower than they should be. Signalling theory underlies value relevance, whereas Nyabundi (2013) explains that accounting information is a signalling tool to convey information of relevant value that reflects stock prices during public announcements. Signalling theory overcomes information asymmetry, where companies can provide signals to communicate relevant financial statement information that reflects stock prices. Information asymmetry also causes serious agency problems and costs due to conflicts of interest between agents and principals, where agents will act to maximize their interests. Issues that arise due to information asymmetry can cause information in the financial statements not to be presented accurately and relevantly.

As stated by Barth et al. (2001), accounting information is said to have value relevance if it reflects information relevant for investors in assessing the company and reflected in the price or stock return. The price model is more appropriate to be used to determine the value relevance of accounting information, while the return model is more appropriate to be used to explain changes in value over time.

#### **Auditor Type and Value Relevance**

Type of auditor based on auditor firm size is one indicator of audit quality. Audit firm with larger sizes are expected to have greater incentives and better competencies to provide better quality audit services than auditors with smaller sizes (DeFond & Zhang, 2014). According to Habib et al. (2014) auditors with better quality can detect opportunistic earnings management. In addition, auditors with good quality will be able to increase the informativeness of earnings and their components.

DeAngelo (1981) reveals that auditors with many clients do not exhibit opportunistic behaviour, and the audit reports they issue have high quality. Larger accounting firms have tremendous pressure to report client violations and maintain independence. Meanwhile, smaller local accounting firms tend to worry about losing clients because of the economic consequences. Thus, proximity to the client may prevent local accounting firms from providing detailed disclosures in the client firm's financial statements. Generally, a more prominent audit firm with a good reputation will maintain its reputation and credibility (Abdollahi et al., 2020). The cost of losing its reputation will encourage Big to maintain and improve audit quality (Ittonen, 2012). Big 4 accounting firms will experience more significant losses if they fail to report violations or misstatements in their client company report (Alfraih, 2016). Therefore, the type of auditor gives a signal to investors about the company's conditions.

Research conducted in Iran from 2008 to 2017 shows that the type of auditor positively affects the correlation of earnings value and the book value of equity on stock prices (Abdollahi et al., 2020). The results of this study are also in line with Alfraih (2016) research conducted in Kuwait from 2002 - 2013. However, the results of research by Wintari (2020) on manufacturing companies in Indonesia from 2014 - 2018 show that the type of auditor does not affect the value relevance of accounting information. This is in line with the same results of research by Christopher et al., (2019) in Indonesia from 2006 - 2015. Based on previous research, the authors suspect that Big 4 audit firm moderates the affects of accounting information on stock prices.

**H<sub>1</sub> : Audit by The Big 4 moderates the effect of earnings on stock prices.**

**H<sub>2</sub> : Audit by The Big 4 moderates the effect of book value on stock prices.**

**H<sub>3</sub> : Audit by The Big 4 moderates the effect of operating cash flow on stock prices.**

## Audit Opinion and Value Relevance

Auditors communicate with users of financial statements through audit reports. The opinion in the audit report reflects information regarding the company's ability to continue its activities in the future (Ittonen, 2012). Based on investor perceptions, auditors have the authority to access company information such as long-term plans and management plans so that audit reports can affect stock prices. Audit reports can provide limited company information to make investment decisions (Abdollahi et al., 2020). An audit opinion is based on audit evidence that shows the company's performance and financial position so that it can affect the company's stock price (Dodd et al., 1984). In addition, because the opinion on the audit report explains the facts about the company's ability to continue its activities and this report is publicly accessible information, the audit opinion can be anticipated by investors in assessing a company (Mutchler, 1985). Audit opinion reduces agency problems and supports investors in making decisions.

There are three main reasons for the influence of audit reports on the stock price (Robu & Robu, 2015). First, it contains information on forecasts and risks of the company's future cash flows that can influence investment decisions. Second, it provides an overview of the company's operating capabilities. Third, the audit report containing the audit opinion can affect the valuation of the company's stock price because of the investor's investment decision after seeing the audit opinion. A good audit opinion (unmodified opinion) will make investors judge that a company has good performance. It will be used as a source of investor information and guidelines for making decisions. When the audit opinion issued by the auditor is unmodified, the opinion can foster investor confidence regarding the company's financial statement information so that it will affect share price growth (Abdollahi et al., 2020), and the financial statement information can be said to be relevant. With this, the audit opinion will be used by investors to become the basis for assessing the reliability and value relevance of the company's financial information.

In Indonesia, audit opinion affects firm value (Kurniawati, 2016). These results align with the research by Ibanichuka & Briggs (2018) di Nigeria and Abdollahi et al. (2020) in Iran. Audit opinion positively affects the relevance of E and BV values. Based on previous research, the authors suspect that audit opinion positively affects the value relevance of accounting information.

**H<sub>4</sub> : Audit opinion moderates the effect of earnings on stock prices.**

**H<sub>5</sub> : Audit opinion moderates the effect of book value on stock prices.**

**H<sub>6</sub> : Audit opinion moderates the effect of operating cash flow on stock prices.**

## Earnings Management and Value Relevance

Opportunistic actions taken by managers through EM for personal gain aim to hide the actual performance of the company, as well as cover up valuable information that users can see in financial statements (Dechow & Skinner, 2000). Sevin & Schroeder (2005) argue that EM will be carried out by managers so that earnings information in financial statements looks good and can influence user decisions. EM can be associated with earnings quality, where the higher the

**Table 1.** Sample Selection

Description	Total
Companies listed on the IDX in the 2016 – 2020 non-financial sector	3.030
Companies that conduct IPOs after 2016	(875)
Companies that have incomplete financial statements during 2016 - 2020	(230)
Companies whose closing year is other than December 31	(5)
Companies with currencies other than rupiah	(395)
<b>The total sample of the research object</b>	<b>1.525</b>

Source: The Processed Primary Data (2021)



**Table 2.** Variable Definition

No.	Variable	Definition and Measurement
1.	stock market price (MV)	The closing stock market price at the end of the fourth month after the financial year (Abdollahi et al.,2020)
2.	Earnings (E)	Earnings per share. Net income divided by the weighted average number of shares outstanding at the end of the year (Ohlson, 1995)
3.	Book Value (BV)	Book value equity per share. Total equity divided by the number of shares outstanding (Ohlson, 1995)
4.	Operating Cash Flow (OCF)	Operating cash flow divided by the number of shares outstanding, according to research by Nelwan et al. (2020)
5.	Auditor Type (AT)	Type of auditor with a score of '1' if the audit office is Big 4, a score of '0' otherwise (Robu & Robu, 2015).
6.	Auditor Opinion (AO)	Audit opinion is measured by a score of '1' if Unmodified Opinion and a score of '0' otherwise (Ittonen, 2012)
7.	Earnings Management (DACC)	Accrual-based earnings management using discretionary accruals refers to the modified Jones model by Dechow et al. (1995) modified by Kothari et al. (2005).
8.	Company Size (SIZE)	Logarithm of total sales.
9.	GROWTH	The ratio of market value equity divided by book value equity (Abdollahi et al.,2020).
10.	Leverage (LEV)	Total debt divided by total assets.
11.	LOSS	score of '1' if the company's profit is negative and a score of '0' if it is positive (Abdollahi et al.,2020).

managed earnings, the lower the quality and reliability of earnings information because it does not reflect the company's actual performance (Lo, 2008). When information is unreliable and has no use for investors as a basis for valuing the company, it will decrease the value relevance of earnings. Collins et al. (1970) stated that when the value relevance of one measure decreases, other measures may become more relevant. So, when the value relevance of earnings decreases, the relevance of the value of BV and OCF increases.

According to Healy & Wahlen (1999), one of the earnings management tools can be done through accrual accounting in financial statements through estimation of depreciation and bad debt provisions. The concept of accrual accounting aims to provide more reliable and timely information about the consequences of business operations that result in changes in expected future cash flows. This objective can provide a signal to market participants, thereby increasing the relevance of the value of earnings. However, the need for estimation and judgment in accrual accounting encourages management to influence accounting numbers and create EM. When the accrual concept is used opportunistically by management, the reliability of earnings will decrease so that it becomes increasingly irrelevant. Thus, discretionary accruals can arise because of management's opportunistic behavior that can be used as an EM indicator (Dechow et al., 2015).

Nelwan et al. (2020) found that manufacturing companies in Indonesia indicated that EM would reduce the relevance of the value of earnings and had no effect on OCF. However, the BV value is not relevant, so we cannot find the effect of EM on BV. Shan (2015) research on companies in Shanghai shows that EM practices can further weaken the relevance of earnings and book values. Meanwhile, Bin Khidmat et al. (2018) show that EM practices weaken the relevance of the value of earnings and strengthen the relevance of the value of BV. Given that earnings management can be influenced by management's opportunistic behavior, the value relevance of accounting information can be influenced by earnings management. So the researchers developed a hypothesis:

**H<sub>7</sub> : Earnings management moderates the effect of earnings on stock prices.**

**H<sub>8</sub> : Earnings management moderates the effect of book value on stock prices.**

**H<sub>9</sub> : Earnings management moderates the effect of operating cash flow on stock prices.**

## METHODS

This study uses a sample of companies listed on the Indonesia Stock Exchange (IDX) from 2016 – to 2020, except for the financial sector. The study uses balanced data for five years. Therefore, 1525 samples of companies were collected, with the following details:

The dependent variable of this study is the stock market price (MV). MV<sub>jt</sub>, the closing stock market price at the end of the fourth month after the financial year. The independent variables of this study are accounting information proxied by Earnings per share (E<sub>jt</sub>); Book values per share (BV<sub>jt</sub>); and Operating cash flow per share (OCF<sub>jt</sub>). Auditor type (AT), audit opinion (AO), and earnings management (DACC) are moderating variables. Meanwhile, firm size (SIZE), growth (GROWTH), leverage (LEV), and negative net income (LOSS) are control variables. Manual retrieval of data from financial reports and annual reports.

Before testing the regression model, it is necessary to measure discretionary accruals (DACC) as the basis of earnings management, which refers to the modified Jones model (Dechow et al., 1995) modified by Kothari et al. (2005) based on Nelwan et al. (2020).

1. Calculate Total Accruals.

$$TACC_{it} = EBX_{it} - OCF_{it}$$

TACC<sub>it</sub> Total accruals; EBX<sub>it</sub> Earnings before extraordinary items; OCF<sub>it</sub> Opening Cash Flow

2. Calculate non-discretionary accruals

$$TACC_{it} = NDACC_{it} + DACC_{it}$$

NDACC<sub>it</sub>, non-discretionary accruals; DACC<sub>it</sub>, discretionary accruals.

3. Calculating discretionary accruals

$$DACC_{it} = \frac{TACC_{it}}{TA_{it-1}} - NDACC_{it}$$

The data analysis technique used Ordinary Least Square (OLS). There are nine research models to test the hypothesis. The formation of the model to identify the moderating variable refers to (Sharma et al., 1981). Model 1 examines the relevance of accounting information. They analyzed the effect of earnings, book value, and operating cash flow on stock prices. Model 2 identifies the type of auditor (AT) as an independent variable. Model 3 analyzes AT as a moderating variable. Model 4 identifies audit opinion (AO) as an independent variable. Model 5 examines AO as a moderating variable. Model 6 identifies earnings management (DACC) as an independent variable. Model 7 analyzes DACC as a moderating variable.

## RESULTS AND DISCUSSION

Table 3 shows the number of samples of the object of the value relevance model research, as many as 1,525 companies. The descriptive statistics show that the lowest share price is 50, namely in several companies that are the object of this study. This figure follows the lowest share price limit set by the Indonesia Stock Exchange. The highest score for MV is 84,475, namely at PT Gudang Garam Tbk. The mean of the MV is 1.823.4020, and the standard deviation is 5.037.9435. Based on the data in table 3, the min value for the earnings per share variable is -2,394, namely at PT Multi Prima Sejahtera Tbk. in 2016, while the maximum value of 5,655 is at PT Gudang Garam Tbk. in 2019. The mean value of the variable E is 84.1628, and the standard deviation is 377.2785. The data in Table 3 shows the min value for the BV variable is -3,312.4104, namely at PT Jakarta Kyoei Steel Works Tbk. in 2020, while the maximum value is 30,415,6608, namely

$$MV_{it} = \beta_0 + \beta_1 E_{it} + \beta_2 BV_{it} + \beta_3 OCF_{it} + \beta_4 SIZE_{it} + \beta_5 GROWTH_{it} + \beta_6 LEV_{it} + \beta_7 LOSS_{it} \dots\dots(1)$$

$$MV_{it} = \beta_0 + \beta_1 E_{it} + \beta_2 BV_{it} + \beta_3 OCF_{it} + \beta_4 AT_{it} + \beta_5 SIZE_{it} + \beta_6 GROWTH_{it} + \beta_7 LEV_{it} + \beta_8 LOSS_{it} + \epsilon_{it} \dots\dots(2)$$

$$MV_{it} = \beta_0 + \beta_1 E_{it} + \beta_2 BV_{it} + \beta_3 OCF_{it} + \beta_4 AT_{it} + \beta_5 E_{it} \times AT_{it} + \beta_6 BV_{it} \times AT_{it} + \beta_7 OCF_{it} \times AT_{it} + \beta_8 SIZE_{it} + \beta_9 GROWTH_{it} + \beta_{10} LEV_{it} + \beta_{11} LOSS_{it} + \epsilon_{it} \dots\dots(3)$$

$$MV_{it} = \beta_0 + \beta_1 E_{it} + \beta_2 BV_{it} + \beta_3 OCF_{it} + \beta_4 AO_{it} + \beta_5 SIZE_{it} + \beta_6 GROWTH_{it} + \beta_7 LEV_{it} + \beta_8 LOSS_{it} + \epsilon_{it} \dots\dots(4)$$

$$MV_{it} = \beta_0 + \beta_1 E_{it} + \beta_2 BV_{it} + \beta_3 OCF_{it} + \beta_4 AO_{it} + \beta_5 E_{it} \times AO_{it} + \beta_6 BV_{it} \times AO_{it} + \beta_7 OCF_{it} \times AO_{it} + \beta_8 SIZE_{it} + \beta_9 GROWTH_{it} + \beta_{10} LEV_{it} + \beta_{11} LOS_{it} + \epsilon_{it} \dots\dots(5)$$

$$MV_{it} = \beta_0 + \beta_1 E_{it} + \beta_2 BV_{it} + \beta_3 OCF_{it} + \beta_4 DACC_{it} + \beta_5 SIZE_{it} + \beta_6 GROWTH_{it} + \beta_7 LEV_{it} + \beta_8 LOSS_{it} + \epsilon_{it} \dots\dots(6)$$

$$MV_{it} = \beta_0 + \beta_1 E_{it} + \beta_2 BV_{it} + \beta_3 OCF_{it} + \beta_4 DACC_{it} + \beta_5 E_{it} \times DACC_{it} + \beta_6 BV_{it} \times DACC_{it} + \beta_7 OCF_{it} \times DACC_{it} + \beta_8 SIZE_{it} + \beta_9 GROWTH_{it} + \beta_{10} LEV_{it} + \beta_{11} LOS_{it} + \epsilon_{it} \dots\dots(7)$$

at PT Gudang Garam Tbk. in 2020. The mean value of the BV variable is 1.003.4873, and the standard deviation is 2.222.9949. Table 3 shows the min value for the OCF variable is -4,929.6437, namely at PT Lippo Cikarang Tbk. 2017, while the maximum value is 9,083.6355 at PT Gudang Garam Tbk. 2020. The mean value of the OCF variable is 149.0532, while the standard deviation is 539.1366.

The four control variables in this study are SIZE, GROWTH, LEV, and LOSS. The company's total sales logarithm measures the SIZE variable. The SIZE variable has a min value of 0 because some companies do not record sales in a certain period. While the max value of the SIZE variable is 14.3788 at PT Astra International Tbk. 2018. The mean value of the SIZE variable is 12.0316, while the standard deviation is 1.3207. The second control variable is GROWTH. The min value of the GROWTH variable is -130.5769, namely at PT Capitalinc Investment in Tbk. 2020, which means the growth of PT Capitalinc Investment Tbk. 2020 is the lowest of all research objects. Meanwhile, the max value of the GROWTH variable is 1,511,0047, namely at PT Prasadha Aneka

**Table 3.** Descriptive Statistics

Variables	N	Min.	Max.	Mean	Std. Dev.
MV	1525	50	84475	1823,4020	5037,9435
E	1525	-2394	5655	84,1628	377,2785
BV	1525	-3312,4104	30415,6608	1003,4873	2222,9949
OCF	1525	-4929,6437	9083,6355	149,0532	539,1366
SIZE	1525	0	14,3788	12,0316	1,3207
	1525	-130,5769	1511,0047	3,9787	47,8458
LEV	1525	0,0064	3461,9776	3,6617	92,1164

Source: The Processed Primary Data (2021)

**Table 4.** Deskriptive Statistics for Dummy Variable

Variables	Score 1		Score 0	
	Frequency	Percentage	Frequency	Percentage
LOSS	436	28,6%	1089	71,4%
AT	487	31,9%	1038	68,1%
AO	1492	97,8%	1038	2,2%

Source: The Processed Primary Data (2021)



**Table 5.** Regression Analysis Model (1) –( 3)

Variable	Model 1		Model 2		Model 3	
	t	Sig	t	Sig	t	Sig
(Constant)	-2,775	0,006	-1,890	0,059	-1,737	0,083
E	13,802	0,000	13,817	0,000	1,830	0,067
BV	10,540	0,000	10,508	0,000	9,300	0,000
OCF	10,140	0,000	9,871	0,000	5,060	0,000
AT	-	-	3,296	0,001	1,631	0,103
E_AT	-	-	-	-	11,583	0,000
BV_AT	-	-	-	-	-1,861	0,063
OCF_AT	-	-	-	-	-0,716	0,474
SIZE	3,200	0,001	2,032	0,042	2,174	0,030
GROWTH	0,643	0,520	0,560	0,576	0,649	0,517
LEV	-0,006	0,996	0,003	0,997	0,055	0,956
LOSS	2,437	0,015	2,557	0,011	0,811	0,417

Source: The Processed Primary Data (2021)

Niaga Tbk. in 2020. The mean value of the GROWTH variable is 3.9787, while the standard deviation is 47.8458. The third control variable is LEV. The min value of the LEV variable is 0.0064, namely at PT Tanah Laut Tbk. in 2018, while the max value is 3461.9776, which is at PT Bakrie Telecom Tbk. 2020. These results indicate that PT Tanah Laut Tbk. in 2018 has the smallest amount of debt, while PT Bakrie Telecom Tbk. in 2020 has the immense amount of debt of all research objects when compared to its total assets. The mean value of the LEV variable is 3.6617, while the standard deviation is 92.1164. The fourth control variable is the LOSS variable, measured by a dummy variable. Table 4 shows that from the total sample of 1525 companies, 436 companies or 28.6% of companies have negative profits, while as many as 1089 or 71.4% of companies have positive profits.

There are three moderating variables in this study, namely auditor type (AT), audit opinion (AO), and discretionary accruals (DACC). The first moderating variable is the auditor type variable that uses a dummy variable, where the score is 1 for Big 4 audit firms and 0 for Non-Big

**Table 6.** Regression Analysis Model (1), (4), and (5)

Variable	Model 1		Model 4		Model 5	
	t	Sig	t	Sig	t	Sig
(Constant)	-2,775	0,006	-2,266	0,024	-2,506	0,012
E	13,802	0,000	13,789	0,000	-0,117	0,907
BV	10,540	0,000	10,540	0,000	0,201	0,841
OCF	10,140	0,000	10,126	0,000	-0,140	0,889
AO	-	-	-0,294	0,769	0,223	0,823
E_AO	-	-	-	-	1,985	0,047
BV_AO	-	-	-	-	0,125	0,901
OCF_AO	-	-	-	-	0,291	0,771
SIZE	3,200	0,001	3,212	0,001	3,149	0,002
GROWTH	0,643	0,520	0,648	0,517	0,647	0,518
LEV	-0,006	0,996	-0,068	0,946	0,010	0,992
LOSS	2,437	0,015	2,379	0,017	2,393	0,017

Source: The Processed Primary Data (2021)

**Table 7.** Regression Analysis Model (1), (6), and (7)

Variable	Model 1		Model 6		Model 7	
	t	Sig	t	Sig	t	Sig
(Constant)	-2,775	0,006	-2,733	0,006	-2,795	0,005
E	13,802	0,000	13,759	0,000	7,859	0,000
BV	10,540	0,000	10,563	0,000	9,895	0,000
OCF	10,140	0,000	9,686	0,000	10,234	0,000
DACC	-	-	-0,795	0,427	1,616	0,106
E_DACC	-	-	-	-	-3,289	0,001
BV_DACC	-	-	-	-	6,246	0,000
OCF_DACC	-	-	-	-	6,098	0,000
SIZE	3,200	0,001	3,161	0,002	3,171	0,002
GROWTH	0,643	0,520	0,648	0,510	0,608	0,543
LEV	-0,006	0,996	-0,068	0,934	-0,183	0,855
LOSS	2,437	0,015	2,379	0,023	2,558	0,011

Source: The Processed Primary Data (2021)

4. Table 4 shows that 31.9% of Big 4 audit firms and 69.1% of companies audited by Non-Big 4. The second moderating variable is audit opinion (AO), using a dummy variable, score 1 for unmodified audit opinion and score 0 for a modified audit opinion. Table 3 shows that from a total sample of 1525 companies, 1492 or 97.8% of companies obtained an unmodified opinion. The third moderating variable is discretionary accruals (DACC). This variable was measured by the earnings management regression model using the modified Jones method found by Dechow et al. (1995) and further developed by Kothari et al. (2005).

Before testing hypotheses 1 – 9, model 1 was conducted to test the relevance of the values of E, BV, and OCF to the stock price. The test results in table 5 show that E, BV, and OCF have a significant positive effect on MV. These results indicate that E, BV, and OCF have value relevance. Following the first literature by Ball & Brown (1968), accounting numbers in financial statements such as E, BV and OCF have a relationship with stock market values. Prather-Kinsey (2006) explains that accounting information is said to be relevant if it can explain the movement of MV. Accounting information is essential for shareholders to evaluate company prospects and make investment decisions (Beisland & Hamberg, 2013). Accounting information related to stock prices is used to assess the value relevance of accounting information for shareholders. So when E, BV, and OCF positively influence MV, these three accounting information can be relevant to determining investors' investment decisions.

Model 2 analyses the auditor type (AT) effect on stock price (MV). The results indicate that Big 4 as an independent variable has a positive and significant influence on MV, with a significance value of t-test < 0.05. Companies audited by the Big 4 will have an increased MV. In line with the research of Banimahd et al. (2013) regarding the analysis of the effect of auditor type on value relevance in Iran from 2001 to 2010, the results showed that Big 4 audit firms could significantly increase the company's stock price. With the same results, this study is also in line with Okolie & Izedonmi (2014) research, which examined the effect of auditor type on stock prices in Nigeria from 2006 to 2011.

The result of the interaction test in model 3, the interaction variable between earnings and auditor type (E\_AT), shows significance <0.05 with a positive t-value, while the AT variable is not significant. The Big 4 is a pure moderator of the relevance of the E value. These results indicate that the audit conducted by the Big 4 strengthens the effect of earnings on stock prices. Hypothesis 1 is accepted. This result is also in line with research by Abdollahi et al. (2020) in Iran from 2008 to 2017, where the larger the size of the auditor who audits the company, the more

relevant the profit will be. The results of this study are also in line with research by Mahmood Baffa & Ibrahim (2017) in Nigeria from 2009 - to 2015. These results indicate that the companies audited by Big 4 audit firms can reflect more objective and accurate earnings information to play an essential role in investors' decisions regarding stock price. Investors will value the company's profits more when audited by the Big 4. DeAngelo (1981), reveals that auditors with a larger size have better audit performance due to a reputation that must be maintained so that they will not act opportunistically. In addition, auditors, to a large extent, have more resources and technology, and they can attract skilled employees to maintain their credibility and competence with clients. Profit is accounting information that is very susceptible to manipulation, so the practice of manipulation can reduce the reliability and usefulness of the company's valuation. Indonesia adopted IFRS as an accounting standard, where IFRS is principle-based, causing inconsistent assessments. As a result, management's opportunities to practice EM will be more possible when management can manipulate their professional judgment to sacrifice investors for their interests (Nelson, 2005; Schipper, 2003). investors believe that big 4 accounting firms can identify errors, omissions, and manipulations in financial statements. In addition, big 4 audit offices are capable of examining more complex reports (Siekkinen, 2017). So that Big 4 audit firm is believed to increase the assurance that the financial statements reflect the company's value.

The second hypothesis examines the interaction between the type of auditor (AT) and book value (BV). The AT variable in model 3 in table 5 has a t-test significance  $> 0.05$ . Likewise, the interaction between auditor type and book value showed a significance  $> 0.05$ . That is, the Big 4 does not moderate the effect of book value on stock prices. Hypothesis 2 is rejected. In line with Alfraih (2016) research in Kuwait from 2002 to 2013, KAP Big 4 as an independent variable is relevant. However, interacting with BV cannot affect the relevance of the BV value. The research is also in line with Siekkinen (2017) in 29 countries in 2012 – 2013 and study by Mahmood Baffa & Ibrahim (2017) in Nigeria in 2009 - 2015, where there is no effect between the Big 4 and the relevance of BV values. This could be because the book value of equity is less susceptible to manipulation than profit, so the existence of the Big 4 does not affect the relevance of the book value. According to Siekkinen (2017), BV is a relevant value for investors regardless of the auditor factor, mainly if managerial opportunism influences earnings information. In addition, the research results by Almujaed & Alfraih (2019) show that the relevance of the book value of equity always increases from time to time. Francis & Wang (2008) revealed that Big 4 audit quality is influenced by investor protection and litigation risk. When a country has weak investor protection and litigation risk, it is more difficult to predict the influence of the Big 4 on the value relevance of BV. In Indonesia, there is already a Financial Services Authority (OJK) and a law that protects capital market investors in Indonesia. In addition, the Indonesia SIPF (Securities Investor Protection Fund) has been established to provide investment protection for investors or investors in Indonesia. However, the results of research in Indonesia show that protection by both the OJK, SIPE, and legal protection through the law is still not optimal and has loopholes so that companies can violate it either through misleading information, insider trading, or others (Purboningtyas et al., 2019; Saraswita Ayu Diah, 2018).

The third hypothesis examines the interaction between auditor type (AT) and operating cash flow (OCF). Based on the results of testing model 3 in table 5, AT variable has a t-test significance  $> 0.05$ . The interaction of auditor type with operating cash flow (OCF\_AT) shows a significance value  $> 0.05$ . This means that the auditor type cannot moderate the effect of OCF on stock price (MV). Hypothesis 3 is rejected. The Big 4 cannot strengthen the relevance of the OCF value. Investors argue that managers' operating cash flows that are more difficult to control are more relevant than earnings. This explains that investors believe in operating cash flow information without being influenced by the auditor's role, so the existence of a Big 4 auditor does not affect the relevance of the OCF value. Dimitropoulos et al. (2010) and Freeman & Tse (1992) reveal that investors are looking for alternatives other than profit to assess the company, such as using operating cash flow, because it can explain cash inflow and cash outflow related to the company's

main operational activities. The existence of policies in determining accounting methods can also reduce investor confidence in earnings, so investors rely on non-accrual accounting numbers, namely cash flows (Paolone, 2020).

Table 6 shows the test results for hypotheses 4-6. Model 4 to analyze the effect of the audit opinion (AO) on stock price (MV). The results indicated that AO did not affect MV (t-test significance  $> 0.05$ ). If the company gets an unmodified or modified audit opinion, it will not affect the company's MV. In line with Ghasemi & Nazari (2017) audit opinion cannot influence stock prices. Then, we test model 5 and investigate the effect of interaction between audit opinion (AO) and earnings (E) on stock price (MV). The results show that the E\_AO variable has a t-test significance of  $< 0.05$  with a positive t-value. Hypothesis 4 is accepted. These results indicate that the audit opinion strengthens the effect of earnings (E) on the stock price (MV). If the company obtains an unmodified audit opinion, it will enhance the relevance of the value of earnings. In line with the research of Abdollahi et al. (2020) in Iran in 2018 – 2017, if the company gets an unmodified audit opinion, its earnings will be more relevant. The same results also occurred in research by Robu & Robu (2015) in Romania in 2012. The interaction of unmodified opinion with earnings significantly affects the company's MV because the audit opinion is supported by audit evidence regarding the company's conditions (Dodd et al., 1984). When the audit opinion is modified, it will foster investor anxiety about the financial statements to affect the decline in stock prices (Dopuch et al., 1986). Thus, these results indicate that an unmodified audit opinion can optimize investors' decision-making on company profits, thereby influencing the company's stock price increase.

Table 6 also shows that the interaction of auditor opinion with book value (BV\_AO) has a significance  $> 0.05$ . Hypothesis 5 is rejected. Audit Opinion (AO) also does not moderate the effect of book value (BV) to stock price (MV). Also, AO does not strengthen the influence of OCF on stock price (MV). Hypothesis 6 is rejected. This result is in line with Wintari & Panggabean (2020) research in Indonesia in 2014 – 2018 that audit opinion cannot strengthen the relevance of E and BV values. This result is also in line with Nugrahani & Ruhayat (2018) research in Indonesia in 2012 – 2015 that there is no effect when a company receives a modified or unmodified audit opinion on the value relevance of the company's accounting information. These results indicate that the audit opinion does not contain information that can strengthen the relevance of BV and OCF values. So it can be concluded that investors do not use the unmodified opinion as a basis or signal in deciding to invest and invest when the company sees the BV and OCF values. Following the discussion in the previous hypothesis, the value of BV and OCF flows is less susceptible to manipulation. The existence of an audit opinion does not affect its value relevance. In addition, investors will use the BV and OCF values as an alternative for investment decisions when the company's earnings are unreliable or have a negative value.

Table 7 shows the test results for hypotheses 7 – 9. Model 6 to determine earnings management (DACC) as an independent variable. The results found that DACC did not affect MV (t-test significance  $> 0.05$ ). In line with Azzali et al. (2013) in Italy, from 2016 – 2011, earnings management do not affect stock prices. Then test the interaction between DACC and E. The results of the model 7 test indicate that DACC has a negative and significant effect on the correlation between earnings and stock prices. Hypothesis 7 is accepted. That is, Earnings management (DACC) weakens the impact of earnings (E) on stock price (MV). This result is in line with Nelwan et al. (2020) in Indonesia 2014 that Earnings management weakens the value relevance of earnings. Watts & Zimmerman (1990) reveal that managers can use earnings management to communicate private information or to distort earnings reporting. With Earnings management, company management can avoid negative earnings reporting due to unexpected events to avoid adverse market reactions (Scott, 2015, p. 444 - 445). However, Feltham & Pae (2000) stated that noisy earnings management would not increase earnings' informativeness but instead reduce earnings' quality, thereby reducing the relevance of earnings value. The greater the manager's incentive to Earnings management, the less informative earnings announcements will

be to investors (Christensen et al., 1999). Management will conduct opportunistic EM when the company's operating performance is relatively poor. Earnings management practices can obscure the actual financial performance of companies and cover up information that is considered valuable for users of financial statements. When profit cannot explain the company's actual performance, investors will not pay attention to profit in the company's valuation. Therefore, earnings management reduces the value relevance of earnings.

The BV\_DACC variable has a t-test significance of  $<0.05$  with a positive value indicating that DACC is a moderator for the relevance of the book value. This means that Earnings management (DACC) strengthens the effect of book value (BV) on stock price (MV). Hypothesis 8 is accepted. Callao et al. (2016) in Europe in 2009 – 2014 and Al-Shattarat (2021) in Saudi Arabia in 2014 – 2018 found that Earnings management increases the relevance of book value. Earnings management practices cause cannot use earnings to reflect company performance and reduce the reliability of earnings. When the information is not reliable, then the information will not help value the company, so the market will view book value as an alternative for valuing the company compared to profit. This explains the increased relevance of book value when Earnings management practices occur because investors will switch from profit to book value (Whelan & McNamara, 2011). Marquardt & Wiedman (2004) found that when the value relevance of earnings decreases due to Earnings management, then book value has a more significant role in valuing the company. Investors will switch to book value when earnings are no longer a true reflection of the company's performance. This is because book value reflects the net assets owned by the company. In addition, book value is essential in evaluating the company's economic prospects and risks, such as the company's business environment, strategy, financial position and performance (Wild et al., 2007).

Furthermore, to answer hypothesis nine, we tested the interaction between earnings management and operating cash flow (OCF\_DACC.) OCF\_DACC variable has a t-test significance of  $<0.05$  with a positive value, which indicates that DACC is a moderator of the relevance of the OCF values. Hypothesis 9 is accepted. This means that earnings management strengthens the relevance of the OCF value. In line with the research of Paluruan & Siregar (2009) in Indonesia in 2003 – 2006, the relevance of OCF value will increase when there is earnings management practice through long-term DACC. So when the company is indicated to practice earnings management, the relevance of the value of earnings will be lower because it no longer represents the company's performance fairly and will reduce its reliability. While OCF provides an overview to assess the company's ability to generate cash from the company's main activities, market participants will switch from profit to OCF to evaluate the company when profits are no longer reliable (Paluruan & Siregar, 2009). In addition, the relevance of the value of OCF can increase when compared to earnings because cash flow reduces the problem of managers' manipulation of accrual earnings and is less influenced by accounting policies (Lev & Zarowin, 1999). This explains the increase in OCF value relevance when earnings management practices reduce the relevance of earnings value. In line with what was stated by Dechow (1994), when managers use discretion to manipulate accruals opportunistically, the reliability of earnings will decrease to assess the company's performance so that investors will choose other more reliable information, namely OCF. OCF reflects the company's ability to generate cash in the future, pay dividends, and settle long-term obligations.

## CONCLUSION

The results show that earnings (E), the book value of equity (BV), and operating cash flow (OCF) have value relevance or reflect the company's stock price. The three financial information is seen as beneficial for investors to assess the company to influence their decision to invest in a company. Based on the empirical results, the following conclusions were obtained. First, Big 4 accounting firms can strengthen the relevance of the value of earnings. Earnings information is accounting information that is most susceptible to manipulation. The existence of the Big



4's role will increase investor confidence in earnings information. Compared to Non-Big 4, the market considers the Big 4 better quality. They have the resources and technology and can attract skilled employees to maintain their credibility and competence with clients. In addition, the Big 4 will honestly find errors in the client's financial statements because they will experience more significant losses when they fail to report violations or misstatements in their client's financial statements. Nevertheless, the Big 4 cannot strengthen the relevance of the book value. Book value is less susceptible to manipulation when compared to earnings, so book value is a relevant value for investors regardless of the auditor's factors. In addition, when investor protection and litigation risk are weak, it will be more challenging to predict the influence of the Big 4 on the relevance of book value. Big 4 also cannot strengthen the relevance of Operating Cash Flow to stock price. This is because company managers have less control over Operating Cash Flow than earnings, so investors believe in Operating Cash Flow information without being influenced by the Big 4 auditor's role. Second, an unmodified audit opinion can strengthen the relevance of earnings. The opinion is supported by evidence regarding the company's financial position and performance to be used by investors in optimizing decision-making on company profits. In contrast, the unmodified audit opinion cannot strengthen the relevance of Book Value and Operating Cash Flow. Unmodified opinion cannot be a signal to be used as a basis for making investment decisions by investors when they see Book Value and Operating Cash Flow. Third, earnings management weakens the relevance of the value of earnings because it can reduce the quality of earnings and informativeness to investors. Earnings Management practices can hide the economy's actual performance and cover valuable information that investors can see. So that when earnings management practices occur, investors will consider earnings information irrelevant to making investment decisions. However, the relevance of Book Value and Operating Cash Flow values will increase when earnings management occurs because investors will turn their eyes to other information of relevant value, such as book value and Operating Cash Flow, in valuing the company.

The implication of this research is to enrich the literature on value relevance which is influenced by other factors such as audit quality and earnings management. It is hoped that further researchers can expand their research by examining additional accounting information and other factors that can be used as a basis for investor considerations for investment decisions such as corporate governance or others. This research is expected to be a reference for academics for future researchers by adding variables or changing audit quality proxies and other earnings management methods to obtain more relevant results to investors' interests at the time concerned. The research results have implications for investors, where the results of this study can be used to consider the size of the auditor and audit opinion to predict the company's future value so that it can be used as a basis for evaluating investment decisions. Investors can prioritize earnings information of companies audited by the Big 4 and get an unmodified audit opinion. Earnings management practices cause investors cannot to trust earnings information. Investors can also turn to book value and operating cash flow information in making investment decisions.

There are several limitations of the study that future researchers can improve. First, the audit opinion variable is quite limited, namely the modified audit opinion, only 2.2% of all research data. The addition of the research period can add the percentage of the modified audit opinion to increase the accuracy of the research results. Second, it has not been analyzed further by comparing the value relevance of accounting information when companies are audited by the Big 4 and Non-Big 4. Third, the measurement of earnings management variables only uses discretionary accruals and has not used other methods such as real earnings management or short discretionary accruals and long discretionary accruals.

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