

The Relationship between Audit Quality, Earnings and Equity Book Value Relevance

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This study aims to examine the relationship between audit quality, earnings and 'equity book value relevance'. We use Big 4 and non-Big 4 public accounting firms as our proxy of audit quality. This study uses listed manufacture firms on the Indonesian Stock Exchange for the period between 2014 and 2016, and as a result, we obtain 201 firm-year observations as our final sample. We use ordinary least squares regression as our analysis technique by SPSS 21. The result shows that audit quality has a positive relationship to earnings and to equity book value relevance. This study is adding additional literature for the public accountant profession showing that the difference of value relevance from accounting information between financial report, which audited by Big 4 and non-Big 4. This study shows that audit quality determines the financial report's information relevance degree that used as input for stakeholders in making decisions.

Key words: *Audit quality, earnings relevance, equity book value relevance.*

Introduction

Business decisions made by shareholders and creditors (external parties), will depend on the firm's financial report disclosure. Based on this, a qualified financial report is needed for stakeholders. An audited financial report by an independent auditor diminishes the information risk (Arens et al., 2017). Further, an independent auditor tending to the Business financial report will be regarded as a major indication of financial report reliability by shareholders and creditors. Tuannakota (2015) argues that public accountants have a substantial role to play in minimising information risk by providing auditing services to entity financial reports. An audit process needs to be effective and efficient, and it needs sufficient audit fees. Larasati et al. (2019) explain that audit fees depend on several internal factors from client firms such as audit committee independence and the existence of a risk management committee.

The audit effectivity depends on auditor capability. The auditor's role is to limit management behaviour that focuses on self-interest such as management earnings, as highly qualified auditors tend to find in some accounting practices (Lee, 2013). The auditor should have sufficient competencies and qualifications to comprehend the required criteria standard, and to collect sufficient and appropriate type and amount of audit evidence (Amiruddin, 2019). These capabilities are required to devise their audit-opinion after investigating the audit evidence (Arens et al., 2017). DeFond and Zhang (2014) argue that high audit quality will provide high assurance on financial reporting. This relationship is emerging and the audit quality of financial reports is increasing the credibility of financial reports. Widyarningsih et al. (2019) also explain that audit quality is affected by audit rotation: Where the frequency of auditor rotation is increased, it will be driving a better audit quality. This study also explains that voluntary audit rotation is useful for improving audit quality. Thus, high audit quality supports a perception that there is an increase in relevance and reliability in the client's financial reporting. It is also capable of improving the value relevance of accounting information.

Relevant financial information has predictive and confirmatory value. The predictive value of financial reports has value input that investors can use to forecast the entity's future performance and condition. Relevant information also supports the financial report users to confirm or justify the previous expectation. Therefore relevant information fulfills a confirmatory value component (Kieso, 2017). According to Alfraih (2016), value relevance is useful to investigate, as to whether the financial report that a firm discloses can provide high-quality accounting information for the investor or other users, and can influence the decision-making process. Accounting value relevance is a primary focus for investors and policymakers and other parties interested in the financial report. Besides, based on IFRS conceptual framework for financial reporting, relevance is one of two fundamental qualities that is able to make accounting information useful for the decision-making process. The creation of value relevance needs excellent corporate governance. Harymawan et al. (2019) argue that the firm will generate better information performance if it has committed directors who are able to work optimally in terms of managing the firm's operations.

There are prior mounting studies that relate to the value relevance of a financial report's information. Lee (2013) argues that the firm's value relevance average from earnings and equity book value that, when audited by Big 4 Public Accountant Firms (PAF), is generally higher compared to the firms audited by a non-Big 4 PAF. DeAngelo (1981) explains that audit quality has a positive relationship to PAF-size. An auditor with more clients will have a substantial risk of losing earnings if they experience audit failures. Boone (2010) also argues that the Big 4 PAF is more independent compared to a second-tier PAF, and has better audit quality. Furthermore, Chebaane dan Othman (2014) documented a relationship between IFRS adoption implementation to value relevance, where IFRS adoption can improve the value relevance degree.

Beside these studies, some studies also examined the value relevance and found it is vital in the decision-making process. Ankarath et al. (2004) found that value relevance is one of an essential attribute of information accounting quality where the timeliness and conservatism attribute are dominating. Value relevance is not only vital for investors but also to provide useful insights that relate to accounting issues, specifically standard implementation (Barth et al., 2001). Aware of how beneficial value relevance is, this study aims to examine the relationship of audit quality empirically to earnings and 'equity book value relevance'.

This study uses manufacturing listed firms on the Indonesia Stock Exchange (IDX) from during the two – year period between 2014 to 2016 with an ordinary least square analysis by SPSS 22. The research result shows that audit quality has a positive relationship to earnings and equity book value relevance. This result indicates that as audit quality rises, the earnings and equity book value relevance of financial reports will be more relevant in terms of the decision-making process. This study shows that audit quality determines the financial report's information relevance degree that is useful for the decision-making process. Big 4 PAF generates more relevant earnings and equity book value information compared to a non-Big 4 PAF. This result becomes a consideration for the firm and shareholders to use, providing assurance of service from Big 4 PAF that they will create relevant financial information in terms of the decision-making process. This study is adding to the body of academic literature for the public accountant profession. It offers that there is a difference of value relevance from accounting information between financial reports, when audited by Big 4 and non-Big 4.

The rest of this paper is organised as follows: Section 2 contains an explanation of the research and hypothesis development; Section 3 is the explanation research variable, sample, and model; Section 4 discusses empirical analysis and the hypothesis test result, and Section 5 offers concluding remarks, including suggestions for future studies.

Literature Review

An audit is a procedure conducted by an auditor to gather and evaluate evidence. Particular information will assist an auditor to conclude whether the financial report provided is unqualified and free from material misstatement (Tuanakotta, 2015; Arens et al., 2017). It can be in the form of error or fraud. According to Gray (2015), an audit objective is to obtain sufficiently appropriate evidence for each assertion in an annual report. Relevant to the audit, the auditor is pressured to provide a qualified audit and at the same time possess an independence trait as competent and able. The auditor will not be effective if they are not independent when conducting the auditing procedure (Arens et al., 2017). Erlina and Muda (2018) and Habbe et al. (2018) argue that self-efficacy and professional development in auditors has a relationship to work quality and the audit result. Low self-efficacy generates lower auditor confidence, resulting in the work outcome not proving satisfying. DeAngelo

(1981) stated that audit quality is possibilities of independent auditor found and report the material misstatement of client financial report. High audit quality supports the relevance and reliability of client's financial reporting, and therefore is able to increase the value relevance of accounting information. Rahman et al. (2012) explain that audit quality of a Big 4 PAF is better compared to a non-Big4 PAF, as Big 4's provide higher degrees of assurance and credibility of financial reporting. This study also concludes that earnings and equity book value, when audited by a Big 4 PAF, generally are more relevant compared to those when audited by a non-Big 4 PAF.

Earnings is one of the components that becomes a benchmark to understanding a firm's performance success. To measure earnings, it needs to know the determinant of earnings to provide useful accounting information for the decision-maker. Lee (2013) argues that earnings audited by Big 4 PAF has more variation in share return compared to a non-Big 4, thus audited earnings by Big 4 PAF are generally more relevant compared to a non-Big 4 PAF. Furthermore, Boone (2010) found that investors perceive a Big 4 PAF are able to provide more credible accounting information disclosure compared to second-tier PAF. Another reason that supports that a Big 4 PAF has a better audit quality compared to a non-Big 4 PAF, is that Big 4 PAF has better resources and technology, higher controlling standard, is more independent when maintaining the current reputation, and obtains higher audit fees, thus it is capable of conducting an audit intensely (DeAngelo, 1981).

Prior studies relating earnings relevance were conducted previously. Alfraih (2016) shows that the audit quality of a Kuwait firm has a positive relationship to earnings relevance. The effective audit quality offered by Big 4 PAF in auditing financial report generated more relevant information that relates to firm value and explains the changes in stock return. Thus, the information is useful to forecast future firm value. The variations in stock return indicates the relevance of earnings. Chebaane and Othman (2014) also argue that IFRS adoption implementation is able to increase earnings relevance level in developing countries. Therefore, there is positive relationship from firm value to earnings per share. Thus, we hypothesise that:

H1: Audit quality has a positive relationship to earnings relevance.

Information in the financial report has a relevance value if it has the capability to influence the decision-making process of financial report users. Thus, it is useful to support the context of evaluating the past, present, and future events or to confirm and justify the previous evaluation. One of the information aspects within the financial report that needs to be considered is equity book value. Burgstahler and Dichev (1997) and Gitman and Zutter (2015) argue that equity book value is a proxy of firm resource value that is independent and comes from current business technology. Information related to equity must be relevant. Value relevance in the research is to develop the knowledge that relates to the relevance and reliability of accounting

amounts that are reflected by equity value (Alfraih, 2016; Barth et al., 2001). Audit quality is commonly considered to determine the relevance of accounting information in the investment decision-making process (Tsalavoutas & Dionysiou, 2014). An investor perceives audit quality through the timeliness of audit reporting (Zaini et al., 2018; Muda et al., 2018). An independent audit report becomes a guideline for the investor to make a decision, where the audit opinion that auditors prove implies that an auditor already gathers sufficient, appropriate, and reliable evidence. Thus, it can be concluded that the organising process of the financial report is appropriate.

Based on research conducted by Lee (2013), we measured the relevance of equity book value using the variations in stock return as its representation. This study found a positive relationship between firm value to equity book value. Equity book value that audited Big 4 PAF is expected to explain more variance of stock return compared to one that audited by non-Big 4 PAF. Besides, Qu (2015) also states that the value relevance of earnings and equity book value for the listed firm in China has increased significantly as there are changes in accounting standards, which is IFRS. Thus, we hypothesise that:

H2: Audit quality has positive relationship to value relevance of equity book value.

Research Methodology

Sample and Data Source

This study uses manufacturing listed firms on the Indonesian Stock Exchange (IDX) for the period 2014 to 2016 as a research sample. The data source for this study is an independent audit report and the firm's financial report is obtained from IDX or the firm's official website. The data relates to value relevance obtained from the financial report for the period 2011 to 2016. This study observation is conducted by purposive sampling, with several criteria such as excluding incomplete financial reports and firms who have not to used Rupiah as its reporting currency. Manufacturing firms that fulfil research criteria based on purposive sampling method is 67 firms for each year. The final sample used in this study is 201 observations. Table 1 shows the sample selection criteria in this study.

Table 1: Sample Selection Criteria

Criteria	Observation amount
Manufacturing firm listed in IDX for period 2014 to 2016	144
Not publish consequently during year 2014 to 2016	(9)
Missing data	(32)
Using other than Rupiah as reporting currency	(29)
Share price is not disclosed in website yahoo.finance.com	(7)
Total firm	67
Research sample (2014–2016)	201

Variable Operationalization

Audit Quality

The independent variable in this study is audit quality (AQ). Measurement of audit quality has become a debate among academics (Widiastuty and Febrianto, 2010). DeFond and Zhang (2014) and DeAngelo (1981) explain that PAF size can be used as audit quality proxy as big PAF is considered high audit competence, has more competent technology, is supported by sufficient resources, and has a more reliable control standard, and are also more independent. In this study, the PAF size is used to measure audit quality. PAF size is categorized as two, which are Big 4 PAF and non-Big 4 PAF. Big 4 PAF is a local PAF that is affiliated with an international Big 4 KAP while a non-Big 4 PAF is a local PAF that is not affiliated with an international Big 4 PAF. To measure audit quality, we use the dummy variable, where it has value 1 if the firm was audited by Big 4 PAF, while for other firms that were audited by non-Big 4 PAF, they will be valued 0.

Earnings Relevance

One of the dependent variables in this study is earnings relevance (VREA). The relevance of accounting information in this study uses the stock return model (Feltham & Ohlson, 1995). The stock return model (Lee, 2013) is used to examine the relationship between share price, earnings, and equity book value. Feltham and Ohlson's (1995) model describes firm value as a linear function of earnings, equity book value, and other information that is relevant. Therefore, the relationship between firm value with earnings is expressed in this model:

$$R_{it} = \alpha_0 + \alpha_1 EPS_{it} + \varepsilon_{it}$$

R_{it} is the market price per share at the end of the year. R-value is obtained by deflating market price per share by the differences between the current year and previous year's closing share price. While EPS is used as earnings proxy. EPS value is obtained from earnings after tax

deflated by outstanding shares. To obtain the relevance value of earnings, it needs several prior-year data. This study limits the data to data only in the year 2011.

Equity Book Value Relevance

The second dependent variable is the equity book value relevance (VREQ). This study adopts a Feltham dan Ohlson (1995) model to the relevance of measure equity book value by examining the relationship equity book value to firm value, by this following equation:

$$R_{it} = \beta_0 + \beta_1 BVS + \varepsilon_{it}$$

Where BVS represent equity book value per share. The value of BVS is obtained deflating the total equity in the end year by an outstanding share. Same with earnings relevance, to obtain the relevance of equity book value, it needed the data from the several previous years from 2011.

Control Variable

To deal with the endogeneity issue, which is an omitted variable, this study employs several control variables such as profitability and leverage. Profitability is proxied by return on assets (ROA) that are obtained by deflating earnings after tax with the total asset as the ratio ROA larger, shows better firm performance in generating net income by utilising its asset. Leverage (LEV) is proxied with debt to equity ratio obtained by deflating total liabilities with total equity.

Methodology

We employ an ordinary least square regression analysis method to examine the relationship between audit quality to earnings and equity book value relevance with SPSS 22. To test the first hypothesis (H1), we use the first regression equation, while to test the second hypothesis (H2), we use the second regression equation as follows:

$$VREA = \alpha + \beta AQ + e \tag{1}$$

$$VREQ = \alpha + \beta AQ + e \tag{2}$$

Where, VREA is earnings relevance, and while VREQ is equity book value relevance. As AQ is a representation of audit quality.

Result and Discussion

Sample Distribution

Table 2: Sample Distribution

	Frequency	Percent	Valid Percent	Cumulative Percent
Non-Big 4	110	54.7	54.7	54.7
Big 4	91	45.3	45.3	100.0
Total	201	100.0	100.0	

Table 2 provides the research sample distribution result. The result shows that from 201 firm-year observations that we used as the research sample, 91 observations from it were audited by Big 4 PAF or 45.3%, and the rest were not audited by non-Big 4 PAF with 110 observations or 54.7%.

Descriptive Statistic

Table 3: Research Variables Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
AQ	201	0	1	0.45	0.499
VREA	201	0.0001	0.9958	0.364365	0.3033593
VREQ	201	0.0001	0.9960	0.387453	0.2800359
ROA	201	-0.5485	0.4317	0.057456	0.1134736
LEV	201	-5.2851	5.4349	0.602027	0.8566272

Table 3 provides an analysis of descriptive statistics for a variable used in this study. The average value of audit quality is 0.45, with a standard deviation of 0.499. As for earnings relevance (VREA) it has an average value of 0.364 with a standard deviation of 0.303 while the average value of the equity book value relevance (VREQ) is 0.387 with a standard deviation of 0.280. The average ROA and LEV are 5.7% and 60.2%, respectively.

Classic Assumption Test

Normality Tests

The normality test is used to examine whether, in the regression model, independent and dependent variables or both have normal distribution or not. The normality test in the study shows that data research has a normal distribution.

Multicollinearity Test

A Multicollinearity test aims to examine whether, in the regression model, there is a correlation between the independent variable. If the variance influence factor (VIF) value is less than 10 or the tolerance value is more than 0.1, then there is no multicollinearity symptom, and if the VIF value is more than 10 or the tolerance value is less than 0.1, then there is a correlation between independent variables. Table 4 provides the result, and it is shown that the VIF value of all independent variables is less than 10, and the tolerance value is more than 0.1. Thus, it can be concluded that the regression model in this study is free from multicollinearity.

Table 4: VIF and Tolerance Value

Model		Collinearity Statistics	
		Tolerance	VIF
1&2	(Constant)		
	AQ	0.844	1.185
	ROA	0.829	1.207
	Lev	0.977	1.024

Autocorrelation Test

To examine whether there is an autocorrelation symptom in regression calculation in this study, we employ the Durbin-Watson test (DW test). If the DW value is less than -2 then it has a positive autocorrelation while if the DW value is more than 2, it has negative autocorrelation. The DW value should be between -2 and 2 to classify as it has not any autocorrelation. Based on Table 5, the result of the DW test shows a DW value of 1.961 where its value is between -2 and 2, therefore it is concluded that the regression model does not have any autocorrelation symptom.

Table 5: Autocorrelation Test Result

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate	Durbin-Watson
1	0.216 ^a	0.046	0.032		0.2984760	1.961
1	.214 ^a	0.046	0.031		0.27560740	1.905

Heteroscedasticity Test

To examine whether there is an autocorrelation symptom in the regression calculation in this study, we employ the Durbin-Watson test (DW test). If the DW value is less than -2, then it has a positive autocorrelation, while if the DW value is more than 2, it has a negative autocorrelation. The DW value should be between -2 and 2 to classify as it has not any

autocorrelation. Based on Table 5, the result of the DW test shows DW value 1.961, where its value is between -2 and 2. Therefore, it concluded that the regression model does not have any autocorrelation symptom.

Main Analysis

Relationship between Audit Quality to Earnings Relevance

Table 6: Audit Quality and Earnings Relevance

Model		Unstandardized Coefficients		T	Sig.
		B	Std. Error		
1	(Constant)	0.311	0.032	9.651	0.000
	AQ	0.100	0.046	2.173	0.031
	ROA	-0.412	0.204	-2.015	0.045
	LEV	0.053	0.025	2.116	0.036

The first ordinary least square regression analytic was conducted to test and determine the relationship between audit quality to earnings relevance. Table 6 shows the results of regression analyses to examine the first hypothesis. The analysis shows that the t value of audit quality (AQ) is 2.173, with a significant level 0.031 showing that the audit quality has a positive and statistically significant relationship to earnings relevance so that the first hypothesis (H1) is accepted. The value of the audit quality coefficient of 0.1 illustrates that if the company is audited by the Big 4, then the earnings relevance will be increased by 0.1. ROA variable resulted in a t value is -2.015 with a significant rate of 0.045 (< 0.05), which means that profitability has a negative and statistically significant relationship to earnings relevance. While the leverage (LEV) has a t value of 2.116 with a signification rate of 0.036 (< 0.05), which means leverage has a positive and statistically significant relationship to the earnings relevance.

Behn et al. (2008) argue the high audit quality will improve the disclosure of more informative financial reports. Earnings are one of the accounting information aspects that is vital for investors because earnings can provide an overview of firm performance. Therefore, the relevant earnings information is necessary to forecast future financial performance. The results of this study aligned with some previous studies (Lee, 2013; Alfraih, 2016; Habib, 2014; Hidayat, 2012; Holthausen & Watts, 2001), which mentioned that there is a relationship between audit quality to earnings relevance. Lee (2013) explained that the earnings audited by Big 4 have more variations on the stock return than the Non-Big 4 KAP. It shows that the value of earnings on audited financial statements by the Big 4 KAP is generally more relevant than the Non-Big KAP 4. Alfraih (2016) also explained that the high audit quality of the earnings would add the usefulness of accounting information on the decision-making process by users

of financial statements. Thus, it can be concluded that the audit quality has a relationship to firm earnings relevance.

Relationship between Audit Quality to Equity Book Value Relevance

Table 7: Audit Quality and Equity Book Value Relevance

Model		Unstandardized Coefficients		T	Sig.
		B	Std. Error		
2	(Constant)	0.343	0.030	11.537	0.000
	AQ	0.126	0.043	2.971	0.003
	ROA	-0.122	0.189	-0.646	0.519
	LEV	-0.010	0.023	-0.431	0.667

The analysis of the second ordinary least square regression is conducted to determine the relationship of audit quality to the equity book value relevance. Table 7 provides the results of regression analyses to examine the second hypothesis. Results of regression analysis showed that the audit quality (AQ) has a t value 2.971 with a signification rate of 0.003, demonstrating that the audit quality has a positive and statistically significant relationship to equity book value relevance, so the second hypothesis (H2) is accepted. The audit quality coefficient of 0.126 illustrates if the firm uses the Big 4 KAP to audit its financial statements, the equity book value relevance will increase by 0.126. For the ROA variable, it generates a t value -0.646 with a significant rate of 0.519 (> 0.05), which means that the profitability has no significant relationship to equity book value relevance. While the leverage (LEV) has a t value -0.431 with a signification rate of 0.667 (> 0.05), which means leverage has no significant relationship to equity book value relevance.

De Fond and Zhang (2014) explained that the financial statements audited by Big 4 PAF would increase investor confidence in the quality of financial reports disclosure. This relationship is because high audit quality can increase the credibility of financial reporting. Furthermore, Lee (2013) shows that the equity book value, which was audited by Big 4 PAF can explain more variations in stock returns. Thus, it indicates whetherif the value of the equity book audited by the Big 4 PAF is more relevant than non-Big 4 PAF. Therefore, it can be concluded that the audit quality can provide an improvement in the quality of accounting information that exists in the firm's financial reports because investors and other users require its relevance and standards-compliant information.

Determinant Coefficient

Table 8: Determinant Coefficient Test Result on Model 1

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.216 ^a	0.046	0.032	0.2984760

Table 8 shows the result of the determinant coefficient test from the first regression model. The results showed an R square (R²) value of 0.046. This result means that variables included in the first model, which are audit quality, return on assets, and leverage can explain the earnings relevance as dependent variables of 4.6%. The remainder (95.4%) is explained by other variables that are excluded from the first model.

Table 9: Determinant Coefficient Test Result on Model 2

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
2	0.214 ^a	0.046	0.031	0.27560740

Based on Table 9, the determinant coefficient is the value of R Square (R²) amounted to 4.6%. This result indicates that the independent and control variable explain 4.6% of the dependent variable, while the remaining 95.4% is explained by other variables that are excluded in the second regression model. The value of the R correlation coefficient is 0.214 and illustrates that the relationship of independent and control variables to the dependent variable is direct (positive), but the relationship between independent, control and dependent variables is marginal.

Conclusion

This study aims to examine the relationship of audit quality to earnings and equity book value relevance for manufacturing firms listed on the Indonesian Stock Exchange (IDX) for the period 2014 to 2016. The results showed that the audit quality has a positive relationship to earnings and equity book value relevance. These results indicate that the earnings on financial reports audited by the Big 4 PAF are generally more relevant than the Non-Big KAP 4. A similar result is applied to the equity book value relevance. Therefore, it can be concluded that the audit quality can provide an improvement in the quality of accounting information that exists in the firm's financial reports because investors and other users require its relevance and standards-compliant information.

The Big 4 PAF generates more relevant earnings and equity book value than the non-Big 4 PAF. This phenomenon can be an input for shareholders to consider when using an auditor of



Big 4 PAF so that the earnings and equity of the firm disclosed in the financial statements are more relevant and can be useful in the decision-making process. For future research, it can use a better audit quality proxy, not only use the size of the PAF but couple it with the use of audit tenure and the specialisation of auditors.

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