

Auditor Industry Specialization as a Moderator of the Relationship Between Fair Value Measurement of Non-Current Assets and Audit Quality: Evidence from Indonesian Listed Companies

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Abstract: This study investigates the effect of fair value measurement of non-current assets on audit quality and examines whether auditor industry specialization moderates this relationship. Using a quantitative research design, the study analyzes panel data from 152 companies listed on the Indonesia Stock Exchange over the 2022–2024 period, resulting in 456 firm-year observations. The hypotheses are tested using panel data regression analysis. The results provide evidence that fair value measurement of non-current assets negatively affects audit quality at a statistically significant level. Increased reliance on fair value measurement introduces greater estimation uncertainty and audit complexity, which may impair auditors' ability to maintain high audit quality. Auditor industry specialization does not significantly moderate this relationship, indicating that industry-specific expertise alone is insufficient to mitigate the challenges associated with auditing complex fair value estimates.

Keywords: Fair value measurement; Non-current assets; Audit quality; Auditor industry specialization; Indonesia Stock Exchange.

INTRODUCTION

The adoption of fair value measurement has substantially changed the financial reporting environment by enhancing the decision usefulness of accounting information while simultaneously creating higher levels of estimation uncertainty and audit challenges. According to IFRS 13 (para. 9), "fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date". Although fair value provides more-timely and decision-useful information than historical cost, its application often relies on management assumptions, valuation models, and unobservable inputs, particularly for non-current assets such as property, investment property, and biological assets. Consequently, the broader adoption of fair value measurement increases the risk of material misstatement and poses significant challenges for auditors in assessing the reasonableness of management estimates.

The complexity associated with fair value estimates has made accounting estimates one of the most critical areas in financial statement audits. ISA 540 (Revised) requires auditors to evaluate the appropriateness of management's assumptions, valuation techniques, and estimation uncertainty when auditing accounting estimates. Similarly, ISA 620 allows auditors to engage valuation experts when specialized knowledge is required. Nevertheless, the ultimate responsibility for evaluating the reliability of valuation evidence remains with the auditor. Prior studies suggest that insufficient auditor expertise in assessing complex fair value estimates may impair audit effectiveness and increase audit

risk (Griffith et al., 2015). Therefore, the growing adoption of fair value measurement has intensified concerns regarding its implications for audit quality.

These challenges are especially relevant in emerging market economies, where fair value accounting has not yet reached full maturity and its implementation continues to evolve. In Indonesia, the convergence of financial reporting standards with the International Financial Reporting Standards (IFRS), including the adoption of PSAK 68 on fair value measurement, has increased the use of fair value in financial reporting. While this convergence enhances the relevance and comparability of financial information, it also increases audit complexity because fair value measurement relies heavily on valuation models, unobservable inputs, and management assumptions. Consequently, auditors must exercise greater professional judgment in evaluating accounting estimates. Recent regulatory findings, together with several high-profile corporate cases involving *PT Waskita Karya (Persero) Tbk* and *PT Wijaya Karya (Persero) Tbk*, have revealed weaknesses in auditing accounting estimates and valuation-related judgments, resulting in sanctions against audit firms. These cases underscore the importance of auditor competence in maintaining audit quality in increasingly complex reporting environments.

The effect of fair value measurement on audit quality has therefore attracted considerable attention in the auditing literature. Fair value estimates require auditors to evaluate complex valuation techniques, market evidence, and management assumptions, thereby increasing audit risk and the need for more rigorous audit procedures (Christensen et al., 2013; Sangchan et al., 2020). However, auditors differ in their ability to address these challenges. Auditor industry specialization has been recognized as an important source of audit quality because industry specialists possess superior knowledge of industry-specific business practices, accounting issues, and valuation methods, enabling them to identify risks more effectively and assess complex accounting estimates with greater accuracy (Ferguson et al., 2003). Accordingly, prior studies suggest that auditor industry specialization enhances audit quality, particularly in engagements involving high reporting complexity (Cameran et al., 2020).

Despite the growing literature on fair value accounting and audit quality, empirical evidence remains inconclusive, particularly in emerging markets. Previous studies in Indonesia have primarily focused on specific industries, such as the financial or manufacturing sectors, limiting the generalizability of their findings. Moreover, limited attention has been given to examining whether auditor industry specialization moderates the impact of fair value measurement applied to non-current asset and audit quality across all listed companies. Given the heterogeneity of fair value exposure and industry characteristics among publicly listed firms, a comprehensive analysis covering all sectors may provide broader insights into how auditor expertise influences audit outcomes.

Accordingly, this study aims to determine whether fair value non-current assets influence on audit quality and examines whether auditor industry specialization moderates this relationship among firms listed on the Indonesia Stock Exchange. By extending the analysis to all listed firms rather than focusing on a single industry, this study contributes to the auditing literature in three ways. First, it provides empirical evidence on the link between fair value measurement of non-current assets and audit quality in an emerging market setting. Second, it examines whether auditor industry specialization mitigates the challenges arising from fair value measurement, thereby enhancing audit quality. Third, the findings offer practical implications for auditors, regulators, and corporate governance mechanisms in strengthening audit effectiveness in increasingly complex financial reporting environments.

RESEARCH METHOD

This study employs a quantitative research design to examine the effect of fair value non-current assets on audit quality and the moderating role of auditor industry specialization. The study uses secondary data obtained from annual reports and audited financial statements of companies listed on the Indonesia Stock Exchange (IDX). The observation period covers three fiscal years, from 2022 to 2024, enabling the analysis of both cross-sectional and time-series variations through panel data regression.

The population of this study consists of 976 companies listed on the Indonesia Stock Exchange from 2022 to 2024. The final sample was obtained through the application of purposive sampling based on the availability of the data required to measure the variables examined in this study. Banking companies were excluded because they operate under a distinct regulatory framework and exhibit different financial reporting characteristics, including a unique asset-liability structure, higher leverage, and extensive use of financial instruments measured at fair value, which may reduce comparability with firms from other industries (Barth et al., 1995; Burgstahler et al., 2006; Beatty & Liao, 2014). In addition, companies that did not consistently publish complete annual reports throughout the study period and those that did not apply fair value measurement to non-current assets were excluded. After applying these criteria, the final sample consisted of 152 companies, resulting in 456 firm-year observation.

The dependent variable is audit quality (AQ). Consistent with the objective of evaluating the reliability of financial reporting, audit quality is measured using accounting conservatism as a proxy. This proxy reflects the extent to which financial reporting recognizes economic losses in a timely manner and has been widely employed in auditing and financial reporting studies to capture the effectiveness of external auditing in constraining opportunistic financial reporting. The independent variable is fair value non-current assets (FVNA), representing the extent to which companies apply fair value measurement to non-current assets. Following Hapsari and Apandi (2018), FVNA is measured using the natural logarithm of the fair value of non-current assets reported in the financial statements. The use of fair value reflects the increasing adoption of IFRS-based accounting standards and captures the complexity associated with valuation estimates that require greater auditor judgment and professional skepticism.

The moderating variable is auditor industry specialization (SPECIALIST). Auditor industry specialization reflects the auditor's expertise in a particular industry developed through extensive audit experience, specialized training, and accumulated industry knowledge. Following Alharasis et al. (2023) auditor industry specialization is proxied by the proportion of a client's total assets relative to the aggregate total assets of all clients audited by the same auditor within the industry. Higher values indicate a greater level of auditor specialization in the respective industry. To control for firm-specific characteristics that may influence audit quality, this study includes firm size (SIZE) as a control variable. Firm size is measured as the natural logarithm of total assets. Larger firms generally have more complex business operations, greater public scrutiny, and higher reporting quality requirements, making firm size an important control variable in audit quality research.

The proposed hypotheses are tested using panel data regression analysis. The optimal panel data estimation model is selected through a series of specification tests, through the Chow, Hausman, and Lagrange Multiplier tests, which are used to determine the most appropriate specification among the common effect, fixed effect, and random effect models. After the optimal model is identified, regression analysis is performed to estimate

both the direct effect of fair value non-current assets on audit quality and the moderating effect of auditor industry specialization.

The direct relationship between fair value non-current assets and audit quality is estimated using the following regression model 1:

$$AQ_{it} = \alpha + \beta_1 FVNA_{it} + \beta_2 SIZE_{it} + \varepsilon_{it}$$

To examine the moderating role of auditor industry specialization, the interaction term between FVNA and SPECIALIST is incorporated into the model 2 as follows:

$$AQ_{it} = \alpha + \beta_1 FVNA_{it} + \beta_2 SPECIALIST_{it} + \beta_3 (FVNA \times SPECIALIST)_{it} + \beta_4 SIZE_{it} + \varepsilon_{it}$$

where *AQ* denotes audit quality, *FVNA* represents fair value non-current assets, *SPECIALIST* refers to auditor industry specialization, *SIZE* denotes firm size, α is the intercept, β represents the estimated coefficients, and ε is the error term. Statistical significance is evaluated at the 5% level, and analyses are conducted using EViews 12.

RESULT AND DISCUSSION

Panel Linear Regression Analysis

Table 1. Results of Panel Data Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.074763	0.109628	0.681969	0.4956
FVNA	-0.022333	0.008435	-2.647754	0.0084
SPECIALIST	-0.041668	0.135774	-0.306895	0.7591
SIZE	0.018537	0.009244	2.005386	0.0455
Root MSE	0.145657	R-squared		0.019510
Mean dependent var	-0.018438	Adjusted R-squared		0.013002
S.D. dependent var	0.147261	S.E. of regression		0.146300
Akaike info criterion	-0.997579	Sum squared resid		9.674495
Schwarz criterion	-0.961417	Log likelihood		231.4480
Hannan-Quinn criter.	-0.983334	F-statistic		2.997979
Durbin-Watson stat	2.068530	Prob(F-statistic)		0.030436

Source: EViews 12 Output, processed data (2026).

$$AQ = 0,074763 - 0,022333FVNA - 0,041668SPECIALIST + 0,018537SIZE + e$$

Model 1 examines the direct effect of fair value measurement of non-current assets on audit quality. The results presented in Table 1 indicate that the regression model is statistically significant, with an F-statistic of 2.998 ($p < 0.05$). This suggests that the independent variables collectively contribute to explaining the variation in audit quality. Although the model's explanatory power remains relatively modest, the adjusted R^2 of 0.013 indicates that approximately 1.3% of the variation in audit quality is explained by fair value non-current assets and firm size. This relatively low explanatory power is common in audit quality research because audit quality is influenced by numerous firm-specific, auditor-specific, and institutional factors that are not fully captured in a single regression model.

The regression results show that fair value non-current assets (FVNA) show a statistically significant negative effect on audit quality ($\beta = -0.022333$, $p = 0.0084$). The negative coefficient suggests that firms with greater exposure to fair value measurement tend to exhibit lower audit quality. This finding implies that the increased complexity and estimation uncertainty associated with fair value measurement make it more challenging

for auditors to obtain sufficient and appropriate audit evidence, thereby reducing audit quality. Therefore, Hypothesis 1 (H1), which predicts that fair value non-current assets significantly affect audit quality, is supported.

Regarding the control variable, firm size exhibits a positive and statistically significant coefficient ($\beta = 0.018537$, $p = 0.0455$). This finding indicates that larger firms generally receive higher-quality audits than smaller firms. One possible explanation is that larger firms are subject to greater regulatory oversight and public scrutiny, encouraging auditors to perform more rigorous audit procedures and maintain higher audit standards.

Moderated Regression Analysis

Table 2. Results of Moderated Regression Analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.006735	0.040977	0.164367	0.8695
FVNA	-0.021269	0.003435	-6.191382	0.0000
SPECIALIST	0.310156	0.641881	0.483198	0.6292
FVNA*SPECIALIST	-0.011123	0.021297	-0.522301	0.6017
SIZE	0.019806	0.003666	5.402030	0.0000
Weighted Statistics				
Root MSE	0.144408	R-squared		0.090140
Mean dependent var	-0.067883	Adjusted R-squared		0.082070
S.D. dependent var	0.160995	S.E. of regression		0.145206
Sum squared resid	9.509278	F-statistic		11.17015
Durbin-Watson stat	1.917817	Prob(F-statistic)		0.000000
Unweighted Statistics				
R-squared	0.017801	Mean dependent var		-0.018438
Sum squared resid	9.691353	Durbin-Watson stat		2.060658

Source: EViews 12 Output, processed data (2026).

$$AQ = 0,006735 - 0,021269FVNA + 0,310156SPECIALIST - 0,011123(FVNA \times SPECIALIST) + 0,019806SIZE + e$$

Model 2 extends the baseline model by incorporating auditor industry specialization and the interaction between FVNA and auditor industry specialization to examine the proposed moderating effect. As presented in Table 2, the adjusted R^2 increases from 0.013 to 0.082, indicating that the explanatory variables account for approximately 8.2% of the variation in audit quality. The F-statistic of 11.170 ($p < 0.01$) confirms that the regression model is statistically significant, indicating that the independent variables jointly explain variations in audit quality.

The coefficient of fair value non-current assets (FVNA) remains negative and statistically significant ($\beta = -0.021269$, $p < 0.001$). The consistency of the coefficient across both models indicates that the negative relationship between FVNA and audit quality persists after the inclusion of auditor industry specialization. This finding provides additional evidence that firms with greater reliance on fair value measurement tend to exhibit lower audit quality. The coefficient of auditor industry specialization is positive but statistically insignificant ($\beta = 0.310156$, $p = 0.6292$), indicating that auditor industry specialization does not have a significant direct effect on audit quality in the research sample.

The interaction term between FVNA and auditor industry specialization is negative and statistically insignificant ($\beta = -0.011123$, $p = 0.6017$). This result indicates that auditor industry specialization does not have a statistically significant moderating effect on the relationship between fair value non-current assets and audit quality. Therefore, Hypothesis

2 (H2) is not supported, suggesting that the effect of FVNA on audit quality does not differ significantly between firms audited by industry specialists and those audited by non-specialist auditors. The control variable, firm size, continues to exhibit a positive and statistically significant coefficient ($\beta = 0.019806$, $p < 0.001$). This consistent result indicates that larger firms are more likely to receive higher-quality audits, supporting the robustness of the regression estimates across both model specifications.

The Effect of Fair Value Non-Current Assets on Audit Quality

The findings indicate that fair value non-current assets (FVNA) have a significant negative effect on audit quality, supporting the first hypothesis. This result suggests that a greater reliance on fair value non-current assets is associated with lower audit quality among Indonesian listed companies. As the share of assets reported at fair value increases, auditors face greater uncertainty in verifying management estimates, thereby increasing audit complexity and the likelihood of undetected material misstatements.

This finding can be explained through the perspective of agency theory. Fair value measurement provides managers with greater discretion because asset valuations frequently rely on subjective assumptions, valuation models, and unobservable inputs. Such discretion exacerbates information asymmetry between managers and shareholders and increases the difficulty for external auditors to independently verify the reported values. Consequently, auditors are required to exercise more extensive professional judgment and skepticism when evaluating fair value estimates. When these estimates become increasingly complex, maintaining a consistently high level of audit quality becomes more challenging.

The result is also consistent with the conceptual characteristics of fair value accounting. Unlike historical cost accounting, fair value aims to reflect current economic conditions and therefore enhances the relevance of financial reporting. However, this increased relevance is accompanied by greater estimation uncertainty and managerial subjectivity, particularly when active market prices are unavailable. As a result, auditors must assess valuation techniques, underlying assumptions, and the reliability of management's estimates, all of which substantially increase audit risk and the complexity of audit procedures.

The empirical evidence is consistent with prior studies. Sangchan et al. (2020) argue that higher exposure to fair value measurement increases audit risk and requires more extensive audit procedures because many fair value estimates depend on unobservable inputs. Similarly, Andriani et al. (2020) and Rochmatilah et al. (2021) report that greater accounting complexity increases the risk of material misstatements and places additional demands on auditors' professional judgment. The present findings extend this evidence by demonstrating that the negative association between fair value measurement and audit quality also exists across a broad sample of Indonesian listed companies from various industries. This suggests that the complexity inherent in fair value measurement remains a significant challenge for auditors despite the continued convergence of Indonesian accounting standards with IFRS.

The Moderating Role of Auditor Industry Specialization

Contrary to the second hypothesis, auditor industry specialization does not significantly strengthen or weaken the relationship between fair value non-current assets and audit quality. Although industry specialist auditors are generally expected to possess superior knowledge of industry-specific business practices and accounting risks, such

expertise does not appear sufficient to mitigate the adverse effect of fair value measurement complexity on audit quality.

One possible explanation is that auditing fair value estimates requires competencies beyond industry-specific knowledge. Fair value measurements, particularly for non-current assets, often involve sophisticated valuation models, discounted cash flow analyses, and assumptions regarding future economic conditions. Accordingly, auditors must possess specialized valuation expertise in addition to industry experience. Consequently, industry specialization alone may be insufficient to overcome the challenges associated with highly subjective fair value estimates.

This finding differs from prior studies that document a positive relationship between auditor industry specialization and audit quality (e.g., Cameran et al., 2020; Setiadi & Harymawan, 2020). However, these studies primarily examine the direct influence of auditor specialization on audit quality, whereas the present study investigates its moderating role in the relationship between fair value measurement and audit quality. The absence of a significant moderating effect suggests that although industry specialists may generally perform higher-quality audits, their expertise does not necessarily offset the increased audit complexity created by extensive fair value measurement.

The persistence of the negative coefficient for fair value non-current assets across both regression models further reinforces this conclusion. Even after incorporating the interaction term, fair value measurement continues to exert a significant negative influence on audit quality, indicating that the complexity associated with fair value estimation is more influential than auditor industry specialization in explaining audit quality. These findings imply that improving audit quality in environments characterized by extensive fair value measurement may require additional auditor competencies, particularly in valuation techniques and accounting estimates, rather than relying solely on industry specialization.

CONCLUSION

This study examines the effect of fair value non-current assets on audit quality and the moderating role of auditor industry specialization among Indonesian listed companies. The results show that fair value non-current assets have a significant negative effect on audit quality, indicating that greater reliance on fair value measurement increases audit complexity and estimation uncertainty. However, auditor industry specialization does not significantly moderate this relationship, suggesting that industry expertise alone is insufficient to address the challenges associated with auditing complex fair value estimates. This study is limited by its relatively low explanatory power, the use of a single moderating variable, and its focus on Indonesian listed companies over the 2022–2024 period. Future research should incorporate additional determinants of audit quality, examine alternative moderating variables, and extend the research setting to provide a more comprehensive understanding of audit quality in fair value reporting environments.

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