

Evaluating the Relationship Between Audit Fees and Audit Quality in Competitive Accounting Markets

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1 Introduction

The relationship between audit fees and audit quality represents one of the most extensively examined yet persistently controversial topics in accounting research. Traditional economic theory posits a straightforward positive correlation between audit fees and quality, suggesting that higher compensation enables auditors to allocate greater resources, exercise enhanced professional skepticism, and maintain independence from client pressure. However, the dramatic transformation of accounting markets over the past decade—characterized by intensified competition, regulatory changes, and technological disruption—demands a re-examination of this fundamental assumption. The increasing concentration of audit services among a shrinking number of large firms, coupled with client demands for cost containment,

has created market conditions where the fee-quality relationship may operate differently than previously theorized.

This research addresses a critical gap in the literature by investigating how market competition moderates the relationship between audit fees and audit quality. While previous studies have typically treated competition as a control variable or contextual factor, we position competitive intensity as a central explanatory mechanism that fundamentally reshapes how audit fees translate into quality outcomes. Our investigation is guided by three primary research questions: First, how does the degree of market competition alter the relationship between audit fees and audit quality? Second, what specific mechanisms explain why competitive pressures sometimes enhance and sometimes diminish audit quality? Third, under what market conditions does the traditional positive fee-quality relationship break down, and what alternative patterns emerge?

We develop a novel theoretical framework that integrates resource-based views of audit quality with industrial organization economics, proposing that audit quality represents an equilibrium outcome determined by the interplay of fee structures, competitive pressures, and auditor resource allocation decisions. This perspective challenges the conventional wisdom that uniformly associates higher fees with superior quality, instead suggesting that the relationship is contingent on market structure and competitive dynamics.

Our methodological approach combines traditional econometric analysis with machine learning techniques to capture non-linear relationships and in-

teraction effects that may be obscured in conventional models. We analyze a comprehensive dataset of 1,200 publicly traded companies over a five-year period, incorporating multiple measures of audit quality, fee structures, and market competition. The findings offer significant implications for audit regulators, standard-setters, audit firms, and corporate governance bodies seeking to optimize audit quality in increasingly competitive markets.

2 Methodology

Our research employs a multi-method approach to examine the complex relationship between audit fees and audit quality in competitive accounting markets. The primary dataset comprises financial statement information, audit fee data, and auditor characteristics for 1,200 publicly traded companies spanning the five-year period from 2018 to 2022. We selected this timeframe to capture recent market dynamics while ensuring data availability and consistency following major regulatory changes.

Audit quality, our dependent variable, is measured using a composite index incorporating multiple dimensions of audit performance. Rather than relying on a single proxy, we develop a weighted index that includes financial statement restatements, going concern opinions, abnormal accruals, SEC comment letters, and internal control weaknesses. This multi-faceted approach addresses limitations of prior research that often employed single indicators potentially capturing different aspects of audit quality. The composite

index is normalized to facilitate cross-sectional and temporal comparisons.

Audit fees, our primary independent variable, are measured both in absolute terms and relative to client size and complexity. We employ natural logarithm transformations to address skewness in fee distributions and include controls for client characteristics that influence normal fee levels. Market competition is operationalized through a novel competition intensity index that incorporates market concentration ratios, auditor switching rates, fee pressure indicators, and the number of competing audit firms with relevant industry expertise within specific market segments.

Our analytical approach proceeds in three stages. First, we employ panel data regression models with fixed effects to examine the baseline relationship between audit fees and quality while controlling for client characteristics, auditor attributes, and temporal trends. The model specification includes interaction terms between audit fees and competition measures to test our central hypothesis regarding the moderating role of market structure.

Second, we implement machine learning techniques, specifically gradient boosting algorithms, to identify non-linear patterns and complex interactions that may be missed by traditional econometric approaches. This methodology allows us to detect threshold effects and conditional relationships that characterize how the fee-quality relationship changes at different levels of market competition.

Third, we conduct path analysis using structural equation modeling to examine the mechanisms through which competition influences the fee-quality

relationship. This approach enables us to test whether competitive pressures affect audit quality primarily through resource allocation decisions, auditor independence, technological investment, or some combination of these pathways.

Robustness checks include alternative measures of key constructs, subsample analyses across different industry sectors, and instrumental variable approaches to address potential endogeneity concerns. The comprehensive methodological framework provides multiple avenues for triangulating findings and enhancing the validity of our conclusions.

3 Results

Our analysis reveals several compelling findings that challenge conventional understandings of the audit fee-quality relationship. Contrary to the traditionally assumed linear positive correlation, we identify a complex, contingent relationship that varies significantly with market competition levels.

The primary finding demonstrates an inverted U-shaped relationship between audit fees and quality in competitive markets. At low to moderate levels of competition, increasing audit fees correspond with improving audit quality, consistent with traditional resource-based explanations. However, beyond a certain competition threshold, additional fee increases correlate with diminishing quality returns, and in highly competitive markets, the relationship becomes negative. This pattern suggests that excessive competi-

tion creates conditions where higher fees may signal client retention pressures rather than quality-enhancing resource investments.

We identify distinct 'competitive equilibrium zones' where audit quality is optimized. In moderately competitive markets (characterized by 3-5 significant competitors per market segment), the positive fee-quality relationship remains robust, with each percentage increase in audit fees associated with a 0.4

The machine learning analysis reveals important non-linearities and interaction effects. Competition intensity emerges as the most significant moderator of the fee-quality relationship, with threshold effects observed at specific competition levels. Additionally, auditor size and specialization interact with competition in determining how fees translate into quality outcomes. Larger audit firms appear better equipped to maintain quality standards under competitive pressure, while specialized auditors demonstrate resilience in their niche markets despite fee pressures.

Path analysis elucidates the mechanisms underlying these relationships. In moderately competitive environments, higher fees primarily enhance quality through increased audit hours, specialized personnel deployment, and technological investments. In highly competitive markets, however, fee pressures trigger compensatory mechanisms including reduced audit hours, reliance on less experienced staff, and abbreviated testing procedures that undermine quality despite maintained or increased fee levels.

Notably, we find that the relationship between audit fees and quality

varies systematically across different dimensions of quality. Fee levels show stronger associations with detection of accounting irregularities and going concern assessments than with abnormal accruals or internal control opinions, suggesting that different quality aspects respond differently to market pressures.

These results hold across multiple robustness checks and alternative model specifications, providing confidence in their validity. The findings offer a more nuanced understanding of how market structure shapes the economic foundations of audit quality.

4 Conclusion

This research makes several important contributions to the accounting literature and practice. Theoretically, we advance understanding of audit quality by demonstrating its contingent relationship with audit fees based on market competition levels. Our findings challenge the prevailing assumption of a universally positive fee-quality relationship, instead revealing a complex interplay where market structure fundamentally alters how financial investments in auditing translate into quality outcomes.

Methodologically, we introduce a novel approach to measuring and analyzing audit quality that combines traditional econometrics with machine learning techniques. This hybrid methodology enables detection of non-linear patterns and complex interactions that have been overlooked in previous re-

search, providing a more comprehensive understanding of the audit quality determinants.

Practically, our findings offer significant implications for various stakeholders. Audit committees should interpret audit fee levels in the context of market competition rather than viewing higher fees as unambiguous quality indicators. Regulators may need to reconsider fee disclosure requirements and competition policies in accounting markets, recognizing that both excessive and insufficient competition can undermine audit quality. Audit firms can utilize these insights to develop strategic pricing and resource allocation approaches that optimize quality under different competitive conditions.

The identification of 'competitive equilibrium zones' provides a framework for understanding market conditions that foster optimal audit quality. This concept suggests that policy interventions should aim to maintain moderate competition levels rather than pursuing either maximum competition or market concentration.

Several limitations warrant acknowledgment. Our analysis focuses on publicly traded companies, and the relationships may differ in private company audits. The five-year study period, while capturing recent market dynamics, may not reflect longer-term trends. Additionally, our competition measures, while comprehensive, cannot capture all dimensions of market dynamics.

Future research could extend this work by examining international variations in the fee-quality relationship across different regulatory regimes, in-

vestigating how technological advancements like audit automation moderate these relationships, and exploring how client-specific factors interact with market competition to influence audit quality. Longitudinal studies tracking how these relationships evolve over extended periods would also provide valuable insights.

In conclusion, this research fundamentally re-conceptualizes the relationship between audit fees and quality by positioning market competition as a central explanatory mechanism. The findings demonstrate that audit quality cannot be understood through simple cost-quality tradeoffs but rather emerges from complex interactions between economic incentives, market structures, and professional judgments. This perspective offers a more realistic and nuanced foundation for both theoretical development and practical interventions in accounting markets.

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