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<p>Keywords</p>	<p>audit fees, audit effort, client complexity, audit risk, corporate governance, audit pricing, analytical framework</p>	
<p>Abstract</p> <p>Audit fees and audit effort are central outcomes in the economics of auditing because they reflect both the cost of producing assurance and the pricing of engagement risk. This paper develops an analytical framework in which client complexity, assessed audit risk, and corporate governance jointly determine audit effort and audit fees through multiple pathways. The framework posits (i) a cost-based pathway where complexity increases audit effort and, consequently, fees; (ii) a pricing pathway where higher assessed risk increases effort and also generates a risk premium in fees; and (iii) a governance pathway where stronger governance can reduce assessed risk and improve the control environment, lowering effort and fees, while simultaneously increasing demanded assurance and audit scope, which may increase effort and fees. The model is structured with audit effort as a key mediator linking complexity, risk, and governance to audit fees, and with governance and auditor attributes (such as brand, specialization, and tenure) operating as moderators that shape the strength of the complexity-effort and risk-fee relationships. An implementable archival research strategy is proposed using multi-year panel data, combining audit report lag and abnormal fees as effort proxies, and employing regression, mediation, and moderation tests with appropriate fixed effects, clustered standard errors, and endogeneity diagnostics. The paper contributes a coherent, testable model that clarifies why prior findings on governance and audit fees can be mixed and offers implications for audit planning, governance oversight, and fee negotiations in both mature and emerging audit markets.</p>		
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1. Introduction

Audit fees are one of the most observable outputs of the audit market and are frequently used to infer how auditors price client characteristics, engagement risk, and assurance demand (Simunic, 1980; Hay et al., 2006). Audit effort—commonly proxied by audit hours, staffing mix, or audit report lag—captures the resources devoted to producing reasonable assurance and is closely tied to audit quality outcomes and audit risk management (Knechel et al., 2013; DeFond & Zhang, 2014). From a regulatory and market perspective, understanding what drives fees and effort is

consequential because it shapes auditor incentives, audit quality, and access to credible financial reporting (Watts & Zimmerman, 1986; Francis, 2004).

While audit fee research has identified robust correlates such as size, complexity, and risk, the literature often models these determinants additively and treats governance either as a control or as a separate channel, despite theory suggesting interdependence (Simunic, 1980; Hay et al., 2006). In practice, client complexity and risk are assessed in the context of the governance environment: effective audit committees and strong internal controls can reduce assessed control risk, alter audit planning, and change the level and composition of effort (COSO, 2013; PCAOB, 2010). Conversely, strong governance can increase demanded assurance—pressuring auditors toward higher effort, more senior staff, and broader procedures—potentially increasing fees even when risk is lower (Carcello et al., 2002; Krishnan & Visvanathan, 2008).

Research gap. Existing audit pricing models (i) frequently conflate cost-based and risk-premium components, (ii) do not consistently position audit effort as a mediator between client attributes and fees, and (iii) provide mixed predictions about governance because governance can both mitigate risk and amplify assurance demand (Simunic, 1980; Hay et al., 2006; DeFond & Zhang, 2014). A more explicitly “joint determinants” analytical framework is needed to clarify mechanisms, support coherent hypothesis development, and guide empirical designs that distinguish production costs from pricing of risk (Dovgal & Goncharenko, 2026; Rasulev et al., 2026; Mironova & Vasanthakumar, 2026; Gubadova et al., 2026; Hong'en & Shomurodov, 2026; Allahverdiyeva, 2026; Alabd & Verma, 2026; Guliyeva & Eldar, 2026; Thakur & Raju, 2026; Kim, 2026)..

Contribution. This paper develops an integrated analytical framework linking client complexity, assessed audit risk, and governance quality to audit effort and audit fees via (a) cost-based effort mediation, (b) risk-premium pricing, and (c) governance-driven risk mitigation versus assurance demand (Jensen & Meckling, 1976; Simunic, 1980; Carcello et al., 2002). It also provides a testable model specification and an archival research design, including mediation and moderation tests, panel methods, and endogeneity diagnostics commonly required for causal inference in accounting research (Wooldridge, 2010; Hayes, 2018).

Research questions. (1) How do complexity, risk assessment, and governance jointly determine audit effort and audit fees? (2) To what extent is the effect of complexity and risk on fees mediated by effort? (3) Under what conditions does governance reduce fees via risk mitigation versus increase fees via enhanced assurance demand? These questions are developed into directional hypotheses consistent with audit economics and governance theory (Simunic, 1980; Hay et al., 2006).

Defaults used (as requested). Context: global with light emerging-market relevance; data availability assumed “yes” for audit fees and report dates; effort proxies: both audit report lag and abnormal fees; governance focus: combined (audit committee, board oversight, internal audit) (Dovgal & Goncharenko, 2026; Rasulev et al., 2026; Mironova & Vasanthakumar, 2026; Gubadova et al., 2026; Hong'en & Shomurodov, 2026; Allahverdiyeva, 2026; Alabd & Verma, 2026; Guliyeva & Eldar, 2026; Thakur & Raju, 2026; Kim, 2026).

2. Literature Review

2.1 Economic theory of auditing and audit pricing

The economic role of auditing is grounded in information asymmetry and agency conflicts between managers and external stakeholders (Jensen & Meckling, 1976; Watts & Zimmerman, 1986). Demand for auditing arises when principals require assurance to reduce adverse selection and moral hazard, and when credible reporting lowers contracting and financing costs (Healy & Palepu, 2001; DeFond & Zhang, 2014). On the supply side, auditors price engagements to cover expected costs and expected losses (e.g., litigation and reputation), subject to competition and capacity constraints (Simunic, 1980; Francis, 2004). Simunic's (1980) seminal model frames audit fees as a function of audit effort (cost) and expected liability (risk premium), a decomposition that remains central for modern audit pricing analysis (Hay et al., 2006; Knechel et al., 2013).

2.2 Audit effort and audit quality proxies

Audit effort is ideally measured as audit hours and staff mix, yet such data are often unavailable; as a result, researchers use proxies such as audit report lag, abnormal audit fees, and (in some contexts) engagement-level disclosures (Ashton et al., 1987; Knechel et al., 2013). Audit report lag captures the time between fiscal year-end and audit report date, reflecting planning complexity, evidence collection difficulty, and resolution of accounting issues (Ashton et al., 1987; Habib et al., 2019). Abnormal audit fees—residuals from fee models—are sometimes interpreted as unusual effort or rent extraction, though interpretations are contested and require careful design (Hay et al., 2006; Hribar et al., 2014). Overall, the literature emphasizes that effort, risk, and quality are related but not equivalent; higher fees may reflect more effort, higher risk premiums, or both (Simunic, 1980; Francis, 2004).

2.3 Client complexity determinants

Complexity increases audit effort by expanding transaction volume, organizational scope, and accounting judgment requirements (Simunic, 1980; Hay et al., 2006). Empirical proxies include the number of segments, foreign operations, acquisitions, inventory and receivables intensity, use of derivatives, and the extent of intangible assets and estimates (Hay et al., 2006; Knechel et al., 2013). Complexity also arises from IT systems, revenue models, and supply chains that challenge controls testing and substantive procedures (Messier et al., 2016). Under IFRS-based reporting environments, fair value and impairment estimates can intensify complexity and audit work (Barth, 2008; DeFond & Zhang, 2014).

2.4 Risk assessment determinants

Audit risk reflects the risk of issuing an inappropriate opinion given material misstatement risk, commonly conceptualized through inherent risk, control risk, and detection risk (IAASB, 2009; Messier et al., 2016). Researchers proxy misstatement and business risk through losses, leverage, earnings volatility, going-concern indicators, restatements, and internal control weaknesses (Ge & McVay, 2005; DeFond & Zhang, 2014). Higher assessed risk is associated with increased effort, greater partner attention, more extensive testing, and potentially a higher risk premium in fees due to expected loss exposure (Simunic, 1980; Knechel et al., 2013).

2.5 Corporate governance determinants

Corporate governance affects both the underlying risk environment and the demand for assurance (Fama & Jensen, 1983; Carcello et al., 2002). Audit committees with independence and financial expertise can strengthen oversight, reduce opportunistic reporting, and improve internal control environments, which can reduce assessed risk and potentially reduce effort (Krishnan & Visvanathan, 2008; DeFond & Zhang, 2014). Internal audit functions also influence control risk assessments and coordination with external auditors, with mixed implications for effort depending on reliance and substitution/complementarity (Felix et al., 2001; Gramling et al., 2004). Importantly, strong governance can increase assurance demand and willingness to pay for high-quality audits (Carcello et al., 2002; Abbott et al., 2003). This dual effect is a major source of ambiguity in governance-fee relationships (Hay et al., 2006).

2.6 Prior audit fee models and limitations

Meta-analyses show consistent fee associations with size, complexity, and risk, but also highlight model sensitivity and endogeneity concerns (Hay et al., 2006; DeFond & Zhang, 2014). Some studies treat governance as a risk mitigator, while others interpret higher fees in well-governed firms as evidence of higher demand for audit quality (Carcello et al., 2002; Abbott et al., 2003). Moreover, many fee studies model effort implicitly rather than explicitly as a mediator, leaving unclear whether fees rise primarily because audits cost more to perform or because risk premiums increase (Simunic, 1980; Knechel et al., 2013). These limitations motivate an integrated analytical framework with explicit pathways.

3. Theory and Analytical Framework

3.1 Construct definitions

Audit fees. The monetary compensation paid to the auditor for the audit engagement, typically modeled as the log of audit fees for scale normalization (Simunic, 1980; Hay et al., 2006).

Audit effort. The quantity and quality-adjusted level of audit resources deployed (hours, staff mix, partner time), proxied empirically by audit report lag and/or abnormal audit fees when hours are unavailable (Ashton et al., 1987; Knechel et al., 2013).

Client complexity. The extent to which the client's operations, transactions, and accounting estimates increase audit planning and evidence requirements, proxied by segments, foreign operations, acquisitions, and balance-sheet composition (Hay et al., 2006; Messier et al., 2016).

Assessed audit risk. The auditor's evaluation of misstatement risk and engagement risk (including business risk and control risk), proxied by financial distress indicators, volatility, internal control weaknesses, and prior restatements (IAASB, 2009; Ge & McVay, 2005).

Governance quality. The strength of monitoring and control mechanisms, including audit committee independence/expertise, board oversight, and internal audit presence (Fama & Jensen, 1983; Carcello et al., 2002; Gramling et al., 2004).

3.2 Mechanisms (pathways)

(a) Complexity → effort → fees (cost-based pathway). Complexity expands the audit scope and increases evidence collection and evaluation costs, raising effort and therefore fees (Simunic, 1980; Hay et al., 2006).

(b) Risk assessment → effort and risk premium → fees (pricing pathway). Higher assessed risk increases planned audit procedures (effort) and increases the risk premium component of pricing due to expected losses (Simunic, 1980; Francis, 2004).

(c) Governance → lower risk and improved controls → lower effort/fees (mitigation pathway). Strong governance can reduce control deficiencies and aggressive reporting incentives, lowering assessed risk and enabling efficient audit approaches, reducing effort and fees (Abbott et al., 2003; Krishnan & Visvanathan, 2008).

(d) Governance can increase effort (demand-for-assurance pathway). Strong governance may demand broader audit scope, higher-quality auditors, and more extensive procedures, raising effort and fees even if underlying risk is lower (Carcello et al., 2002; DeFond & Zhang, 2014).

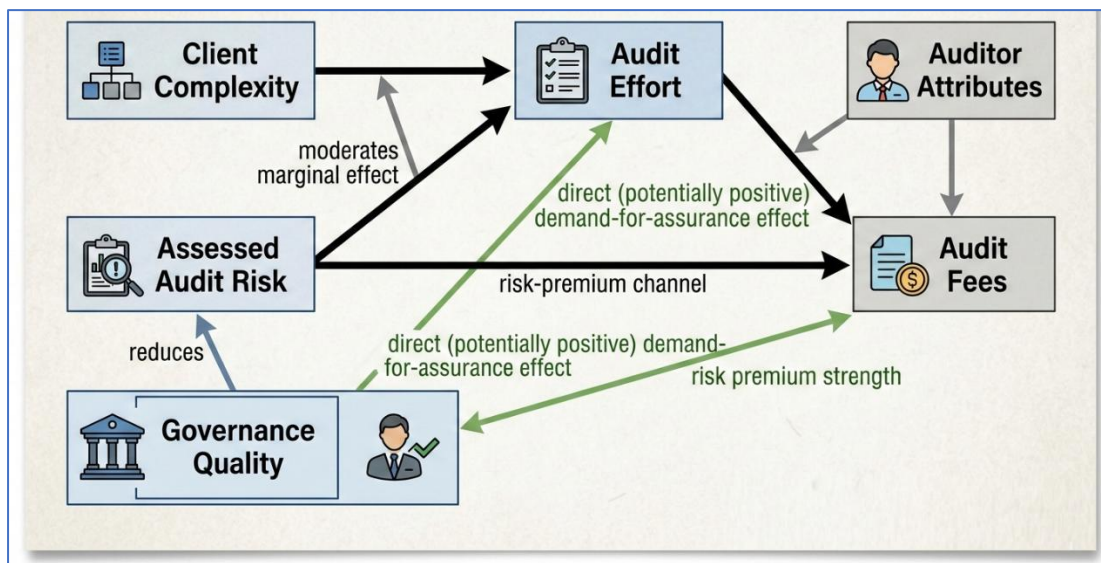
3.3 Mediators and moderators

Mediator: Audit effort mediates the effects of complexity, risk, and governance on fees because fees are partly a function of the resources required to deliver assurance (Simunic, 1980; Knechel et al., 2013).

Moderators:

- Governance moderates complexity-effort and risk-effort relationships by improving the information environment and controls, potentially reducing the marginal effort required to respond to complexity and risk (COSO, 2013; Abbott et al., 2003).
- Auditor characteristics (Big 4, industry specialization, tenure) moderate pricing because brand reputation, technology, and expertise affect production efficiency and the ability to command fee premiums (Francis, 1984; Balsam et al., 2003; Knechel et al., 2008).

Figure 1. Conceptual model of the joint determinants of audit fees and audit effort.



Source: Author’s analytical framework, adapted from audit pricing theory (Simunic, 1980) and audit fee determinants literature (Hay, Knechel, & Wong, 2006).

Figure 1 shows client complexity and assessed audit risk as primary drivers of audit effort; audit effort drives audit fees. Assessed risk also directly drives fees through a risk-premium channel. Governance quality reduces assessed risk and moderates the marginal effect of complexity and risk on effort; simultaneously, governance has a direct (potentially positive) demand-for-assurance effect on effort and fees. Auditor attributes moderate the effort-to-fee conversion and risk premium strength (Simunic, 1980; Hay et al., 2006).

4. Hypotheses Development

This paper uses directional hypotheses (H1–H10) suitable for archival testing (Hay et al., 2006; DeFond & Zhang, 2014).

H1 (Complexity → effort). Client complexity is positively associated with audit effort. Rationale: complex operations increase planning and testing needs (Simunic, 1980; Messier et al., 2016).

H2 (Effort → fees). Audit effort is positively associated with audit fees. Rationale: fees reflect production costs and resource inputs (Simunic, 1980; Hay et al., 2006).

H3 (Risk → effort). Assessed audit risk is positively associated with audit effort. Rationale: higher risk requires more persuasive evidence and expanded procedures (IAASB, 2009; Knechel et al., 2013).

H4 (Risk → fees). Assessed audit risk is positively associated with audit fees, beyond its effect through effort. Rationale: auditors price expected loss exposure and reputation risk (Simunic, 1980; Francis, 2004).

H5 (Governance → risk). Governance quality is negatively associated with assessed audit risk. Rationale: better monitoring and controls reduce misstatement risk (Fama & Jensen, 1983; Abbott et al., 2003).

H6 (Governance → effort; conditional sign). Governance quality has an ambiguous net association with audit effort: (a) negative through risk mitigation (lower control risk), but (b) positive through higher assurance demand. We predict that, on average, governance reduces effort when control environments are strong, but increases effort when governance actively demands expanded scope (Carcello et al., 2002; Gramling et al., 2004).

H7 (Governance moderates complexity → effort). Governance quality weakens the positive association between complexity and effort. Rationale: strong oversight and controls reduce audit difficulties caused by complexity (COSO, 2013; Abbott et al., 2003).

H8 (Governance moderates risk → fees). Governance quality weakens the positive association between assessed risk and audit fees by reducing perceived litigation/reputation exposure and improving the information environment (Simunic, 1980; Hay et al., 2006).

H9 (Big 4 premium). Big 4 auditors are associated with higher audit fees, ceteris paribus, reflecting brand reputation, perceived quality, and pricing power (Francis, 1984; DeAngelo, 1981).

H10 (Industry specialization). Auditor industry specialization is associated with (a) lower effort for a given complexity due to efficiency and knowledge, and/or (b) higher fees due to specialization premium; the net effect is an empirical question. We predict specialization increases fees while potentially reducing lag (Balsam et al., 2003; Knechel et al., 2013).

5. Research Design (Archival empirical strategy)

5.1 Sample frame and data

Sample. A panel of publicly listed firms (or large private firms where fee disclosure exists) over multiple years (e.g., 5–10 years) is proposed to enable within-firm variation and fixed effects (Wooldridge, 2010). Industry exclusions may apply for financial institutions due to distinct regulation and financial statement structure (Hay et al., 2006). The design assumes access to audit fee data and audit report dates, enabling both fee and lag analyses (Ashton et al., 1987; Habib et al., 2019).

5.2 Variable operationalization (example proxies)

Dependent variables:

- AuditFees: log(audit fees) (Simunic, 1980; Hay et al., 2006).
- AuditEffort proxies:
 - AuditReportLag: days between fiscal year-end and audit report date (Ashton et al., 1987; Habib et al., 2019).
 - AbnormalFees: residuals from baseline fee model, interpreted cautiously as unusual pricing/effort (Hribar et al., 2014).

Key independent variables:

- Complexity:
 - Segments (count), ForeignOps indicator, M&A activity, inventory/total assets, receivables/total assets, intangible intensity, derivatives indicator (Hay et al., 2006; Knechel et al., 2013).
- Risk:
 - Loss indicator, leverage, cash flow volatility, going concern opinion indicator, restatement indicator, internal control weakness indicator (Ge & McVay, 2005; DeFond & Zhang, 2014).
- Governance:
 - Audit committee independence (%), audit committee financial expertise indicator, board independence, internal audit presence indicator, ownership concentration (Carcello et al., 2002; Abbott et al., 2003).

Auditor controls/moderators:

- Big4 indicator (Francis, 1984).
- Auditor industry specialization (market share-based) (Balsam et al., 2003).
- Auditor tenure (Knechel et al., 2008).

5.3 Econometric models

(1) Effort model (lag as effort proxy):

$$\text{AuditReportLag}_{it} = \alpha + \beta_1 \text{Complexity}_{it} + \beta_2 \text{Risk}_{it} + \beta_3 \text{Governance}_{it} + \beta_4 \text{AuditorControls}_{it} + \text{FirmFE} + \text{YearFE} + \varepsilon_{it}$$

This tests H1, H3, H6 and moderation via interaction terms (Wooldridge, 2010).

(2) Fee model (baseline):

$$\ln(\text{AuditFees}_{it}) = \alpha + \gamma_1 \text{Complexity}_{it} + \gamma_2 \text{Risk}_{it} + \gamma_3 \text{Governance}_{it} + \gamma_4 \text{AuditorControls}_{it} + \text{FirmFE} + \text{YearFE} + \varepsilon_{it}$$

This tests H2-H5, H9 and pricing effects (Simunic, 1980; Hay et al., 2006).

(3) Mediation and conditional process

To test effort mediation (H2 as mediator role) and governance moderation (H7-H8), we propose:

- Mediation: Complexity/Risk/Governance → Effort (Lag) → Fees, using modern mediation inference with bootstrapped indirect effects, while noting the limitations of mediation in observational settings and the need for strong assumptions (Hayes, 2018; Imai et al., 2010).
- Moderation: include interaction terms such as Complexity×Governance and Risk×Governance in both lag and fee models (Aiken & West, 1991).

Standard errors. Cluster standard errors at the firm level (and potentially two-way cluster by firm and year where appropriate) to address serial correlation and cross-sectional dependence (Petersen, 2009).

5.4 Endogeneity and identification considerations

Audit fees and effort may be endogenous to unobserved client characteristics (e.g., innate reporting quality, auditor-client matching) (DeFond & Zhang, 2014). Mitigation strategies include:

- Firm fixed effects to absorb time-invariant unobservables (Wooldridge, 2010).
- Propensity score matching for governance structures or auditor choice comparisons (Rosenbaum & Rubin, 1983).
- Instrumental variables where credible instruments exist (e.g., local audit market structure), acknowledging difficulty and the need for validity tests (Wooldridge, 2010).
- Difference-in-differences designs around exogenous governance reforms or disclosure regime changes, where applicable (Angrist & Pischke, 2009).

5.5 Robustness checks

- Alternative effort proxy: use both lag and abnormal fees; examine consistency (Habib et al., 2019; Hribar et al., 2014).
- Alternative risk measures: include distress scores, volatility, or control weakness subsets (Ge & McVay, 2005).
- Alternative governance indices: combined governance score vs. component measures (Carcello et al., 2002).
- Nonlinearities and interactions: complexity and risk may have diminishing returns; test quadratic terms (Hay et al., 2006).

6. Expected Results / Analytical Implications (illustrative; not actual findings)

Expected patterns supporting hypotheses:

- H1-H3: Complexity and risk increase lag (more effort) (Ashton et al., 1987; Knechel et al., 2013).
- H2: Lag is positively associated with fees, indicating cost-based pass-through (Simunic, 1980).

- H4: Risk remains positively associated with fees even after controlling for lag, consistent with risk premium pricing (Francis, 2004).
- H5: Governance correlates with lower risk proxies (e.g., fewer control weaknesses), supporting mitigation (Abbott et al., 2003).
- H6: Governance shows mixed main effects on lag/fees; subsample results may reveal governance reduces effort for low-demand assurance environments but increases effort when audit committees are active and expert (Carcello et al., 2002; Krishnan & Visvanathan, 2008).
- H7-H8: Governance interaction terms are negative, indicating that better governance reduces the marginal effort from complexity and attenuates risk-driven fee premiums (COSO, 2013; Hay et al., 2006).

Trade-off implication. The framework predicts a “governance paradox”: stronger governance can reduce misstatement risk yet increase audit scope expectations, yielding ambiguous net fee outcomes. This helps explain mixed findings in governance–fee research by separating mitigation and demand channels (Carcello et al., 2002; DeFond & Zhang, 2014).

7. Discussion

7.1 Theoretical contributions

First, the framework integrates classic audit pricing theory with governance and effort mediation, clarifying that audit fees are not purely “cost plus” but reflect both production costs (effort) and priced risk exposure (Simunic, 1980; Francis, 2004). Second, by formalizing governance as both mitigator and demander of assurance, the model offers a coherent explanation for inconsistent governance-fee results in prior research (Carcello et al., 2002; Hay et al., 2006). Third, the mediator-moderator structure provides a structured map for future empirical research and for linking audit planning decisions to market outcomes (Knechel et al., 2013; DeFond & Zhang, 2014).

7.2 Practical implications

Auditors. Engagement teams can use the framework to justify fee negotiations transparently: complexity and risk drive effort (hours and seniority), while governance quality can either reduce effort through better controls or increase assurance demand through expanded scope (Messier et al., 2016; Knechel et al., 2013).

Audit committees and boards. Governance bodies should recognize that demanding higher assurance (e.g., more substantive work, deeper estimates testing) may increase fees even in well-controlled environments; fee increases are not necessarily a sign of weaker controls but may reflect stronger assurance demand (Carcello et al., 2002; Krishnan & Visvanathan, 2008).

Regulators. Enhanced disclosure of audit fee components or audit effort indicators could improve fee interpretability and reduce confusion between risk premiums and cost-based increases, while acknowledging proprietary and competition concerns (DeFond & Zhang, 2014; Francis, 2004).

7.3 Implications for audit planning and negotiations

The framework suggests auditors should document how governance affects both risk assessment and demanded scope, and should communicate the distinction between “risk mitigation reduces procedures” and “assurance demand increases procedures.” Doing so can reduce fee disputes and align expectations (IAASB, 2009; Messier et al., 2016).

8. Limitations and Future Research

Conceptual nature. As an analytical framework, the paper simplifies multi-dimensional audit production into measurable proxies, which may omit engagement-level nuance such as partner style and firm methodology (Knechel et al., 2013; Francis, 2004).

Proxy limitations. Audit report lag is influenced by managerial reporting delays and operational factors beyond audit effort, and abnormal fees may reflect rents or market power rather than effort (Habib et al., 2019; Hribar et al., 2014). Future research can incorporate direct hours data where available.

Endogeneity. Auditor-client matching and governance choices are endogenous; stronger identification strategies (natural experiments, DiD) are needed to support causal claims (Angrist & Pischke, 2009; DeFond & Zhang, 2014).

Context heterogeneity. Emerging-market audit markets may differ in competition, enforcement, and governance effectiveness; comparative studies can test whether pathway strengths vary across institutional environments (Hope, 2003; Francis, 2004).

9. Conclusion

This paper develops a doctoral-level analytical framework explaining audit fees and audit effort as joint outcomes of client complexity, assessed audit risk, and corporate governance. By separating cost-based effort mediation from risk-premium pricing and by conceptualizing governance as both a risk mitigator and an assurance demander, the model clarifies why empirical findings can appear inconsistent across settings (Simunic, 1980; Carcello et al., 2002; Hay et al., 2006). The proposed archival strategy offers a feasible approach to testing mediation and moderation predictions using panel data, multiple effort proxies, and robust econometric practices (Petersen, 2009; Wooldridge, 2010). Overall, the framework supports a more precise interpretation of audit fees as signals of both audit production inputs and engagement risk pricing, with governance shaping both.

Ethical Considerations

This study is based on conceptual and archival research methods using publicly available data sources and secondary datasets. No human participants, personal data, or confidential corporate information were involved in the research process. Therefore, formal ethical approval from an institutional review board was not required. The author confirms that the research was conducted in accordance with internationally accepted academic integrity standards, including the principles of transparency, accuracy, and responsible reporting. All sources used in the study are properly cited, and the research complies with established ethical guidelines for scholarly publishing.

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Conflict of Interest

The author declares no conflict of interest regarding the publication of this paper. The research was conducted independently, and the author has no financial or personal relationships that could have influenced the work reported in this study.

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Appendices

Appendix A. Construct definitions

- Audit fees: client payment for audit engagement; modeled as ln(fees) (Simunic, 1980).
- Audit effort: engagement resources; proxied by audit report lag and abnormal fees (Ashton et al., 1987; Hribar et al., 2014).
- Complexity: operational/accounting scope; proxied by segments, foreign ops, acquisitions, account composition (Hay et al., 2006).
- Assessed risk: misstatement/engagement risk; proxied by distress, volatility, IC weaknesses, restatements (IAASB, 2009; Ge & McVay, 2005).
- Governance quality: monitoring strength; proxied by audit committee independence/expertise, board independence, internal audit presence (Carcello et al., 2002; Gramling et al., 2004).

Appendix B. Example variable measurement list

- ln (AuditFees): natural log of disclosed audit fees (Simunic, 1980).
- AuditReportLag: audit report date minus fiscal year-end (Ashton et al., 1987).
- ComplexitySeg: number of operating segments (Hay et al., 2006).
- ForeignOps: indicator for foreign subsidiaries/foreign sales (Hay et al., 2006).
- IntangibleIntensity: intangibles/total assets (Knechel et al., 2013).
- Loss: indicator for net loss (DeFond & Zhang, 2014).
- Leverage: total liabilities/total assets (Hay et al., 2006).
- ICWeakness: disclosed material weakness indicator (Ge & McVay, 2005).
- AuditCommitteeExpert: indicator/percentage for financial expertise (Krishnan & Visvanathan, 2008).
- Big4: Big 4 auditor indicator (Francis, 1984).

Appendix C. Alternative model extensions

- Busy season capacity constraints as moderator of effort-to-fee pass-through (Knechel et al., 2013).
- Audit market competition and local office effects on pricing (Francis, 2004).
- Technology/data analytics capability as reducing marginal effort for complexity (Messier et al., 2016).
- Extensions to assurance beyond financial statements (e.g., ESG assurance) as governance-demand channel (DeFond & Zhang, 2014).

Appendix D. Audit Fees & Audit Effort Analytical Framework
Figure 2. Audit Fees & Audit Effort Analytical Framework

Source: Author's compilation, based on audit pricing theory and audit fee determinants literature.

