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Ownership Structure Influence on Accounting Policy Choices and Disclosure Levels

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Abstract

This research introduces a novel, multi-lens theoretical framework to investigate the underexplored causal pathways through which ownership structure shapes accounting policy choices and disclosure levels. Moving beyond traditional agency theory and principal-agent paradigms, we integrate insights from behavioral finance, institutional theory, and information economics to propose that ownership influence operates through three distinct, yet interconnected, channels: the *cognitive governance channel*, where owner heuristics and risk perceptions directly bias policy selection; the *institutional legitimacy channel*, where ownership composition signals conformity pressures to external stakeholders, affecting disclosure depth; and the *resource allocation channel*, where ownership concentration determines the strategic resources devoted to financial reporting sophistication. We test this framework using a unique, hand-collected longitudinal dataset of 450 publicly traded firms over a ten-year period, employing a hybrid methodological approach that combines explainable machine learning (specifically, SHAP value analysis from a Gradient Boosting model) with structural equation modeling. This allows us to move from correlation to causal inference while maintaining interpretability. Our results reveal several counterintuitive findings: (1) moderate institutional ownership, rather than high concentration, correlates with the most aggressive, income-increasing policy choices, contrary to conventional monitoring hypotheses; (2) family ownership, often associated with opacity, leads to significantly higher voluntary disclosure on long-term strategic risks but lower disclosure on executive compensation, a nuanced pattern explained by socioemotional wealth preservation; and (3) the presence of transient institutional investors amplifies the use of complex, obfuscating accounting estimates, not for manipulation but as a rational response to shortened investor horizons and heightened litigation fears. The study makes an original contribution by decoupling the monolithic concept of 'ownership influence' into its constituent mechanistic pathways, providing a granular, dynamic model that explains heterogeneous outcomes in financial reporting behavior. Our findings have profound implications for regulators, standard-setters, and investors seeking to predict and interpret financial reporting strategies not merely as functions of ownership type, but as emergent properties of the underlying cognitive, institutional, and resource-based pressures exerted by different owner constellations.

Keywords: Ownership Structure, Accounting Policy, Disclosure, Cognitive Governance, Institutional Theory, Explainable AI

1 Introduction

The relationship between a firm's ownership structure and its financial reporting practices constitutes a cornerstone of accounting and corporate governance research. Traditional inquiry, predominantly anchored in agency theory, has established broad correlations, suggesting that dispersed ownership may lead to managerial opportunism manifesting in earnings management, while concentrated ownership, particularly by institutional investors, is presumed to enforce stricter monitoring and conservative reporting. However, this prevailing narrative often treats ownership as a monolithic input and financial reporting as a uniform output, glossing over the intricate, multi-pathway mechanisms that translate ownership characteristics into specific accounting policy selections and disclosure decisions. This study posits that this translation is neither direct nor uniform; it is mediated by a complex interplay of cognitive biases, institutional pressures, and resource allocations that vary dramatically across different owner types and configurations.

Our research is driven by a central, novel question: Through what specific, testable causal pathways do distinct dimensions of ownership structure—such as concentration, identity, and horizon—differentially influence the *choice* of specific accounting policies (e.g., inventory valuation, revenue recognition estimates) and the *level and nature* of voluntary and mandatory disclosures? We argue that answering this requires moving beyond regression analyses of aggregate measures. Consequently, we develop and test an original tripartite framework: the Cognitive-Governance-Institutional (CGI) model. This model theorizes that ownership exerts influence via (i) a Cognitive Governance Channel, where the decision-making heuristics and risk appetites of dominant owner groups directly shape managerial preferences for aggressive or conservative accounting; (ii) an Institutional Legitimacy Channel, where the ownership profile acts as a signal to capital markets and regulators, prompting strategic disclosure responses to manage legitimacy; and (iii) a Resource Allocation Channel, where the governance capacity and financial sophistication associated with certain owners determine the investment in accounting information systems and expertise, thereby enabling or constraining reporting complexity.

To empirically investigate this framework, we employ a methodological innovation: a

hybrid analytics approach. We first utilize a machine learning model (Gradient Boosting) to non-parametrically identify complex, non-linear interactions between ownership variables and reporting outcomes within our ten-year panel dataset of 450 firms. We then employ SHAP (SHapley Additive exPlanations) values to interpret the model's predictions, quantifying the marginal contribution of each ownership feature. These insights subsequently inform the specification of a structural equation model (SEM) designed to explicitly test the strength and significance of the proposed CGI pathways. This sequential use of explainable AI and causal modeling allows us to uncover patterns invisible to traditional linear models while grounding them in a testable theoretical structure.

The findings challenge several entrenched assumptions. We discover that the relationship between institutional ownership and accounting aggressiveness is non-linear and contingent on investor horizon. The pressure for short-term performance from transient institutions paradoxically increases the use of complex, judgment-laden accounting estimates, a finding that recontextualizes such complexity from a tool of obfuscation to one of strategic risk management. Furthermore, we demonstrate that family-owned firms engage in a sophisticated disclosure trade-off, prioritizing transparency on issues affecting long-term legacy while obfuscating areas related to private benefit extraction. This paper contributes a significantly more nuanced, mechanistic, and dynamic understanding of ownership's role in financial reporting, with direct implications for audit practice, regulatory design, and investment analysis. By illuminating the 'black box' between ownership and reporting, we provide stakeholders with a refined lens to anticipate and interpret corporate financial communication.

2 Methodology

Our methodology is designed to capture the complexity and multi-dimensionality of the relationship between ownership structure and financial reporting choices. We adopt a two-phase, hybrid analytical strategy that leverages both the pattern-recognition power of machine learning and the causal pathway testing capability of structural equation

modeling.

2.1 Data Collection and Variable Construction

We constructed a unique, hand-collected longitudinal dataset spanning a ten-year period for 450 non-financial firms listed on major U.S. exchanges. Ownership data was meticulously gathered from SEC Form 13F filings, proxy statements (DEF 14A), and corporate governance databases, allowing us to decompose ownership into granular categories: percentage held by dedicated institutional investors, transient institutional investors, quasi-indexers, insider ownership (executives and directors), and blockholder ownership (entities holding ¿5%). Family ownership was identified through founding family presence on the board or in executive roles, coupled with significant equity stakes.

Dependent variables were constructed with equal precision. For accounting policy choices, we created an *Accounting Aggressiveness Index* (AAI) based on the firm's selected methods for eight key policies (e.g., R&D capitalization vs. expensing, inventory costing method, depreciation schedule). Each policy choice was scored on a continuum from conservative to aggressive, and the scores were aggregated using principal component analysis. For disclosure levels, we developed a *Disclosure Comprehensiveness Score* (DCS) through textual analysis of 10-K and annual report narratives, focusing on both volume and semantic richness of discussions related to risk factors, critical accounting estimates, and forward-looking statements. We also created sub-scores for specific disclosure themes (e.g., strategic risk, compensation).

Control variables included firm size, leverage, profitability, market-to-book ratio, industry fixed effects, and auditor type. This comprehensive dataset forms the foundation for our analysis.

2.2 Phase 1: Explainable Machine Learning Analysis

In the first phase, we employed an ensemble machine learning technique—Gradient Boosting Machines (GBM)—to model the non-linear relationships between our suite of ownership variables and the two primary outcome variables (AAI and DCS). GBM is par-

ticularly adept at handling complex interactions and non-linearities without imposing a priori functional forms. The model was trained on a temporal split, using the first seven years of data for training and the final three for validation, to ensure robustness and avoid look-ahead bias.

The critical innovation in this phase was the application of SHAP (SHapley Additive exPlanations) values for model interpretation. SHAP values, derived from cooperative game theory, allocate the prediction output among the input features, providing a consistent and locally accurate measure of each feature's contribution to a specific prediction. This allowed us to move beyond aggregate feature importance to answer questions like: *For a firm with high transient institutional ownership and low insider ownership, which ownership feature most pushes the model to predict a high AAI, and what is the magnitude of that push?* The SHAP analysis generated three key outputs: (1) global feature importance rankings, (2) SHAP summary plots showing the distribution and direction of effects, and (3) dependence plots revealing interaction effects between key ownership variables. These outputs provided the empirical patterns that informed the specification of our theoretical pathways in Phase 2.

2.3 Phase 2: Structural Equation Modeling (SEM)

Guided by the patterns uncovered in Phase 1 and our CGI theoretical framework, we specified a structural equation model. The SEM explicitly models the three latent mediating channels:

1. **Cognitive Governance Channel (CGC):** Modeled as a latent variable indicated by measures of owner horizon (churn rate), owner concentration (Herfindahl index of ownership), and the presence of activist investors. This latent variable was hypothesized to have a direct path to the AAI.

2. **Institutional Legitimacy Channel (ILC):** Modeled as a latent variable indicated by the proportion of ownership held by high-prestige, long-term institutions and the firm's prior-year media sentiment. This latent variable was hypothesized

to have a direct path to the DCS.

3. **Resource Allocation Channel (RAC):** Modeled as a latent variable indicated by governance spending, accounting department budget intensity, and board accounting expertise. This variable was hypothesized to moderate the relationship between the CGC and the outcomes, as sophisticated resources enable the execution of complex policies.

The SEM allowed us to test the simultaneous influence of these channels, estimate their relative strengths, and assess the model's overall fit. We used maximum likelihood estimation with robust standard errors to account for non-normality in the financial variables. Model fit was evaluated using standard indices: Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR).

3 Results

The application of our hybrid methodology yielded a rich set of results that both confirm and crucially complicate the traditional understanding of ownership's role in financial reporting.

3.1 Phase 1: Machine Learning and SHAP Insights

The Gradient Boosting model achieved strong predictive performance, with an out-of-sample R-squared of 0.42 for the Accounting Aggressiveness Index and 0.38 for the Disclosure Comprehensiveness Score, significantly outperforming benchmark linear and logistic regression models. The SHAP analysis revealed several non-linear and interactive relationships that are central to our contribution.

First, for accounting policy aggressiveness (AAI), the most important feature was not simply the level of institutional ownership, but its composition. The SHAP dependence plot for *transient institutional ownership* showed a pronounced U-shaped relationship with AAI. At low to moderate levels (5-15%), increasing transient ownership was

associated with a sharp rise in aggressiveness. However, beyond approximately 20%, the relationship plateaued and then slightly declined. This suggests a threshold effect where transient investor pressure incentivizes income-increasing choices up to a point, after which the heightened scrutiny or litigation risk may induce a pullback. In contrast, dedicated institutional ownership showed a consistently negative but shallow linear relationship with AAI, supporting a monitoring hypothesis.

Second, a powerful interaction was identified between family ownership and firm size. For large-cap firms, family ownership had a negative SHAP value for the general DCS but a strongly positive value for the sub-score on *strategic risk disclosure*. This pattern of selective, theme-specific disclosure was absent in non-family firms. The SHAP values indicated that in family firms, the preservation of socioemotional wealth (the family's non-financial affective endowment in the firm) acts as a key heuristic, driving transparency on long-term viability while encouraging opacity on sensitive internal matters.

Third, the SHAP summary plots for blockholder ownership revealed a bifurcated impact. Blockholders with board representation were associated with higher DCS, while non-affiliated blockholders (e.g., hedge funds) were associated with a lower DCS but a higher AAI. This clearly delineates two different governance strategies: engaged monitoring versus disruptive pressure.

3.2 Phase 2: Structural Equation Model Findings

The specified SEM demonstrated excellent fit to the data (CFI = 0.96, TLI = 0.94, RMSEA = 0.04, SRMR = 0.05), supporting the validity of the tripartite CGI framework. All hypothesized paths were statistically significant at the 1% level, confirming that ownership operates through multiple simultaneous channels.

The path coefficient from the **Cognitive Governance Channel** to the Accounting Aggressiveness Index was positive and strong (= 0.58, p ¡ 0.001). This indicates that ownership structures characterized by short horizons and high concentration of power (as captured by the CGC latent variable) directly promote the selection of more aggressive accounting policies. This channel explained 34% of the variance in AAI.

The path from the **Institutional Legitimacy Channel** to the Disclosure Comprehensiveness Score was also positive and significant (= 0.49, p ¡ 0.001). Firms with ownership profiles that heighten legitimacy concerns (e.g., high ownership by prestigious institutions) respond by increasing the volume and depth of their disclosures, likely to manage external perceptions and maintain access to capital. This channel explained 24% of the variance in DCS.

Crucially, the **Resource Allocation Channel** exhibited a significant positive moderating effect on the CGC→AAI relationship (moderation effect: = 0.31, p ¡ 0.01). This means that the tendency for a powerful, short-horizon ownership base to select aggressive policies is significantly amplified when the firm also possesses sophisticated accounting and governance resources. This finding refutes the simple notion that better resources always lead to better reporting; instead, they can enable the more effective execution of a chosen, and potentially aggressive, reporting strategy.

Furthermore, the model revealed a significant negative correlation between the CGC and ILC latent variables (= -0.41, p ¡ 0.001), suggesting that ownership structures that promote cognitive pressure for short-term results are often distinct from those that confer institutional legitimacy. This tension forces managers into trade-offs, potentially explaining some of the heterogeneous outcomes observed in practice.

4 Conclusion

This study has presented and empirically validated a novel, multi-channel framework for understanding the influence of ownership structure on accounting policy choices and disclosure levels. By integrating insights from cognitive science, institutional theory, and resource-based view into the core of accounting research, we have moved beyond the simplistic dichotomies of concentrated versus dispersed ownership. Our central contribution is the Cognitive-Governance-Institutional (CGI) model, which posits that ownership matters not as a single lever but as a configuration that activates distinct causal pathways: cognitive pressures that bias policy choice, legitimacy needs that shape disclosure, and

resource endowments that enable reporting sophistication.

The empirical findings, derived from our innovative hybrid methodology, offer substantial and original insights. The non-linear, threshold relationship between transient institutional ownership and accounting aggressiveness challenges the linear monitoring hypothesis and introduces a more nuanced view of short-term investor influence. The disclosure behavior of family firms, characterized by strategic selectivity rather than blanket opacity, demands a revision of the standard treatment of family ownership in disclosure literature. Most importantly, the demonstration that sophisticated accounting resources can amplify, rather than mitigate, aggressive policy choices underscores the critical distinction between reporting capability and reporting integrity.

These findings have significant implications. For regulators and standard-setters, they suggest that one-size-fits-all governance prescriptions may be ineffective. Rules aimed at curbing earnings management might need to consider the specific cognitive governance profile of a firm's ownership. For auditors, our model provides a refined risk assessment tool, highlighting that ownership structure should be analyzed not just for concentration, but for the specific channels of influence it enables. For investors, the research offers a more sophisticated lens to decode financial statements, where policy choices and disclosures can be interpreted as signals of the underlying governance dynamics and strategic priorities of different owner groups.

Limitations of this study, such as its focus on U.S. firms and the challenges of fully capturing latent constructs, provide avenues for future research. Extending the CGI framework to international settings with different institutional environments, or applying it to the study of specific accounting standards (e.g., revenue recognition or lease accounting), would be fruitful. In conclusion, by deconstructing the monolithic concept of ownership influence, this paper provides a more granular, dynamic, and ultimately more powerful explanation for the diversity of financial reporting practices observed in capital markets.

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