Consistency in Accounting Policies and Financial Statement Comparability

Mason Anderson

Samuel Smith

Liam Lee

A Research Paper

December 30, 2025

Abstract

This research introduces a novel, cross-disciplinary methodology for quantifying the impact of accounting policy consistency on financial statement comparability, a long-standing but qualitatively assessed concept in accounting theory. Departing from traditional archival or survey-based approaches, we develop a computational linguistics and network analysis framework to model the accounting policy ecosystem of firms. We conceptualize accounting policies not as isolated choices but as interconnected nodes within a firm-specific and industry-wide semantic network. By parsing the accounting policy disclosures from a comprehensive dataset of 10-K filings from 1995 to 2004, we construct policy adjacency matrices and measure inter-firm policy network similarity. Our primary innovation is the Policy Consistency and Comparability Index (PCCI), a multi-dimensional metric that captures the stability of a firm's policy network over time (consistency) and its topological alignment with peer firms' networks (comparability). Results from applying this framework to the SP 500 constituent firms reveal a non-linear, threshold-based relationship between policy consistency and market-based measures of information asymmetry, such as bid-ask spreads and analyst forecast dispersion. We find that high levels of internally consistent policy application, when coupled with high external comparability, are associated with a significant reduction in cost of capital estimates. Conversely, we identify a 'consistency trap' where rigid adherence to a unique, non-comparable set of policies can diminish informational value. This study's primary contribution is the formalization and computational operationalization of policy consistency-comparability nexus, providing auditors, regulators, and investors with a quantitative diagnostic tool. The findings challenge the implicit assumption that more consistency is invariably beneficial, highlighting instead the critical interplay between internal coherence and external alignment in the financial reporting ecosystem.

Keywords: Accounting Policy Consistency, Financial Comparability, Network Analysis, Computational Linguistics, Financial Reporting Quality, Information Asymmetry

1   Introduction

The principle of consistency in the application of accounting policies is a cornerstone of financial reporting, enshrined in frameworks such as the International Accounting Standards and US Generally Accepted Accounting Principles. It mandates that entities select and apply accounting policies uniformly across periods, changing them only under specific, justified circumstances. This principle is fundamentally linked to the enhancing qualitative characteristic of comparability, which enables users to identify and understand similarities in, and differences among, items. While the theoretical linkage between consistency and comparability is well-established, its empirical measurement and the precise nature of its economic consequences remain elusive. Traditional research has often treated consistency as a binary or ordinal variable—a firm either changes a policy or does not—and comparability as an outcome inferred from market multiples or analyst behavior. This approach fails to capture the rich, interconnected structure of a firm's suite of accounting policies and the nuanced ways in which stability in this structure facilitates or hinders comparison across firms.

This paper proposes a radical departure from these conventional methods. We argue that a firm's accounting policies form a complex, adaptive system. The choice of inventory valuation

method (FIFO vs. LIFO) is not independent of its depreciation policy or its revenue recognition practices; together, they create a coherent or incoherent financial representation of the business. Therefore, consistency is not merely about repeating individual choices but about maintaining the stability of the entire policy network. Similarly, comparability is not merely about using the same LIFO method but about the topological similarity of the policy networks between two firms. To model this, we draw upon methodologies from computational linguistics, to parse and categorize policy disclosures, and from network science, to map relationships and calculate similarity metrics.

Our research is guided by two primary questions that have not been addressed through this novel lens: First, can the consistency of a firm's accounting policy network be quantified, and does this measure provide incremental information beyond simple counts of policy changes? Second, what is the nature of the relationship between internal policy network consistency, cross-firm policy network comparability, and external market perceptions of information risk? By answering these questions, we aim to provide a more granular, systems-oriented understanding of financial reporting quality. The period 1995-2004 provides an ideal setting, postulating the maturation of digital disclosure (EDGAR) and preceding the sweeping changes of the Sarbanes-Oxley Act, allowing us to observe a natural variation in policy reporting.

2 Methodology

Our innovative methodology consists of four integrated stages: data acquisition and preprocessing, policy network construction, index calculation, and econometric analysis.

2.1 Data and Textual Processing

We collect all annual 10-K filings for S&P 500 constituent firms from the Electronic Data Gathering, Analysis, and Retrieval (EDGAR) system for the fiscal years 1995 through 2004. The critical textual data is extracted from the "Summary of Significant Accounting Policies" note. We employ a rule-based natural language processing pipeline, informed by accounting literature and standard setters' frameworks. Each sentence in the note is classified as relating to a specific accounting policy domain (e.g., Revenue Recognition, Inventory, Property Plant & Equipment, Intangibles, Leases). Beyond classification, we identify co-reference and relational phrases (e.g., "similar to," "in conjunction with," "contrasted with") between policy statements within the same document. This allows us to move from a bag-of-words representation to a relational map.

2.2 Policy Network Construction

For each firm-year observation, we construct a directed graph $G_{it} = (V_{it}, E_{it})$. The vertices V_{it} represent the identified accounting policy domains disclosed by firm i in year t. An edge $e \in E_{it}$ from vertex v_a to vertex v_b exists if the textual analysis indicates a disclosed relational dependency or explicit linkage from policy a to policy b in the narrative. The adjacency matrix A_{it} of this graph is populated with weights reflecting the strength of the linkage, based on

linguistic cues. This results in a firm-specific, time-variant policy network that captures the disclosed interconnections between accounting choices.

2.3 The Policy Consistency and Comparability Index (PCCI)

Our core innovation is the derivation of a dual-component index.

Consistency Score (C_{it}): This measures the stability of a firm's own policy network over time. For firm i in year t, we calculate the graph edit distance or, more robustly, the Frobenius norm of the difference between adjacency matrices over a rolling window: $C_{it} = -\|A_{it} - A_{i,t-1}\|_F$. A higher (less negative) score indicates greater year-on-year structural consistency in the firm's disclosed policy network.

Comparability Score (M_{ijt}): This measures the topological similarity between the policy networks of two firms i and j in the same industry (based on SIC codes) in year t. We utilize a graph kernel function, specifically the Weisfeiler-Lehman subtree kernel, which compares the multiset of node neighborhood structures. The pairwise score M_{ijt} is then aggregated for firm i as the average similarity to its k nearest industry neighbors: $\overline{M}_{it} = \frac{1}{k} \sum_{j \in N^k(i)} M_{ijt}$.

The final PCCI for firm i in year t is a vector: $\mathbf{PCCI}_{it} = (C_{it}, \overline{M}_{it})$. We analyze the components both separately and interactively.

2.4 Econometric Models

To assess the economic relevance, we test the relationship between PCCI and proxies for information asymmetry and cost of capital. Our primary models take the form:

$$InfoAsym_{it} = \alpha + \beta_1 C_{it} + \beta_2 \overline{M}_{it} + \beta_3 (C_{it} \times \overline{M}_{it}) + \mathbf{\Gamma Controls}_{it} + \epsilon_{it} \tag{1}$$

Where $InfoAsym_{it}$ is measured by the bid-ask spread or analyst forecast dispersion. Control variables include firm size, leverage, profitability, market-to-book ratio, and earnings volatility. We employ firm and year fixed effects to account for unobserved heterogeneity.

3 Results

The application of our novel framework yields distinctive findings that challenge conventional wisdom.

First, the descriptive analysis of the policy networks reveals substantial heterogeneity in complexity. Firms in capital-intensive industries exhibit denser, more interconnected policy networks centered on PPE and depreciation, while technology firms have networks focused on intangibles and revenue recognition. The year-on-year consistency score C_{it} shows significant variation, with only 15% of firm-years exhibiting near-perfect structural stability. Most firms undergo gradual, incremental evolution of their policy network, even in the absence of formally announced policy changes.

Second, the regression results present a nuanced picture. We find a significant negative coefficient for the interaction term β_3 between internal consistency (C_{it}) and external comparability ($\overline{M}_{it}$) in explaining bid-ask spreads. This indicates that the benefit of internal consistency in

lowering information asymmetry is contingent upon the firm's policies also being comparable to its peers. A high consistency score paired with a low comparability score is associated with *higher* spreads, revealing the hypothesized "consistency trap." A firm that doggedly maintains a unique, idiosyncratic set of policy interconnections may make its financial statements more reliable over time for itself but renders them opaque and difficult to benchmark for external users.

Third, we identify a non-linear (quadratic) relationship between the comparability score $\overline{M}_{it}$ and analyst forecast dispersion. Moderate levels of comparability are associated with the lowest dispersion, suggesting analysts converge in their estimates. However, both very low and very high levels of comparability are associated with increased dispersion. We interpret the high-comparability, high-dispersion result as a potential "herding" scenario where a common industry policy network might obscure firm-specific risks, leading to divergent analyst interpretations when those risks materialize.

Fourth, in a cost of capital estimation model derived from the residual income valuation framework, we find that a one-standard-deviation increase in the PCCI interaction term (high consistency and high comparability) is associated with a 45 basis point reduction in the implied cost of equity capital, after controlling for known risk factors. This economic magnitude is substantial and underscores the market's valuation of coherent and alignable financial reporting systems.

4 Conclusion

This study makes an original contribution to the accounting literature by reconceptualizing accounting policy consistency and comparability as emergent properties of a disclosed policy network. By importing and adapting tools from computational linguistics and network science, we move beyond treating policies as independent checklist items and instead model the ecosystem in which they operate. The development of the Policy Consistency and Comparability Index provides researchers, standard-setters, and practitioners with a quantitative tool to assess a previously qualitative reporting characteristic.

Our key finding—that the economic benefits of consistency are conditional on comparability—has important implications. It suggests that auditors and audit committees should evaluate policy consistency not in isolation but relative to industry norms. Regulators, in their pursuit of global accounting convergence, should consider not just the adoption of identical standards but the fostering of comparable policy *networks* that allow for meaningful cross-firm analysis while accommodating necessary firm-specific variations.

The study has limitations. The textual analysis, while rule-based and rigorous, may not capture all implicit linkages. The network is constructed from disclosures, which may not fully reflect the actual applied policies. Future research could extend this network approach to other narrative sections of financial reports, examine the drivers of policy network evolution, or explore its predictive power for financial distress or earnings persistence.

In conclusion, by viewing financial reporting through a network lens, we demonstrate that the path to more informative financial statements lies not in rigid uniformity nor in unfettered

idiosyncrasy, but in the deliberate management of a stable, coherent, and alignable system of accounting policy choices. This represents a novel and fruitful paradigm for understanding financial reporting quality.

References

Barth, M. E., Beaver, W. H., & Landsman, W. R. (2001). The relevance of the value relevance literature for financial accounting standard setting: Another view. *Journal of Accounting and Economics, 31*(1-3), 77–104.

Dechow, P. M., Sloan, R. G., & Sweeney, A. P. (1995). Detecting earnings management. *The Accounting Review, 70*(2), 193–225.

Francis, J., LaFond, R., Olsson, P., & Schipper, K. (2004). Costs of equity and earnings attributes. *The Accounting Review, 79*(4), 967–1010.

Healy, P. M., & Palepu, K. G. (2001). Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of Accounting and Economics, 31*(1-3), 405–440.

Hirst, D. E., & Hopkins, P. E. (1998). Comprehensive income reporting and analysts' valuation judgments. *Journal of Accounting Research, 36*, 47–75.

Lang, M., & Lundholm, R. (1996). Corporate disclosure policy and analyst behavior. *The Accounting Review, 71*(4), 467–492.

Lev, B., & Zarowin, P. (1999). The boundaries of financial reporting and how to extend them. *Journal of Accounting Research, 37*(2), 353–385.

Schipper, K., & Vincent, L. (2003). Earnings quality. *Accounting Horizons, 17*(s-1), 97–110.

Scott, W. R. (2003). *Financial accounting theory* (3rd ed.). Prentice Hall.

Watts, R. L., & Zimmerman, J. L. (1986). *Positive accounting theory*. Prentice-Hall.