Auditor Independence Rules and Voluntary Disclosure

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Abstract: This study examines how the 2003 Auditor Independence Rules influenced firms' voluntary disclosure practices through changes in proprietary costs. While prior research explores the relationship between auditor independence and financial reporting quality, the interaction between enhanced auditor independence and firms' proprietary cost considerations in voluntary disclosure decisions remains understudied. Building on information economics frameworks, we investigate whether enhanced auditor independence affects firms' willingness to disclose proprietary information. Using a difference-in-differences design, we analyze changes in voluntary disclosure following the implementation of the 2003 rules. Our initial analysis reveals a positive treatment effect on voluntary disclosure (0.0882, t-statistic = 7.37). However, after controlling for firm characteristics, we find a negative treatment effect (-0.0284, t-statistic = 2.78), suggesting that enhanced auditor independence may actually reduce some forms of voluntary disclosure. Institutional ownership and firm size demonstrate strong positive associations with disclosure levels. The study contributes to the literature by identifying a novel channel through which auditor independence affects corporate disclosure decisions and demonstrates how regulatory changes in auditor-client relationships can have unintended consequences for firms' disclosure strategies. These findings have important implications for regulators and practitioners, suggesting that efforts to enhance auditor independence may have complex effects on corporate transparency.

INTRODUCTION

The Auditor Independence Rules of 2003 represent a watershed moment in financial reporting regulation, fundamentally reshaping the relationship between auditors and their clients. These rules, implemented by the Securities and Exchange Commission (SEC), aimed to enhance audit quality and reduce conflicts of interest by restricting non-audit services and establishing stricter independence requirements (DeFond and Zhang, 2014). The regulation's impact on voluntary disclosure decisions through the proprietary costs channel remains particularly relevant, as firms balance transparency demands against competitive concerns (Verrecchia, 2001; Beyer et al., 2010).

While prior literature extensively examines how auditor independence affects financial reporting quality (Francis, 2004), the interaction between enhanced auditor independence and firms' proprietary cost considerations in voluntary disclosure decisions remains understudied. Specifically, we investigate how the 2003 Auditor Independence Rules influenced firms' voluntary disclosure practices through changes in proprietary costs, addressing the fundamental question: Does enhanced auditor independence affect firms' willingness to disclose proprietary information?

The theoretical link between auditor independence and voluntary disclosure through proprietary costs builds on information economics frameworks. Enhanced auditor independence increases the credibility of financial statements (DeFond et al., 2018), potentially reducing the proprietary costs of voluntary disclosure by limiting competitors' ability to exploit disclosed information. This mechanism suggests that stronger auditor independence may encourage more detailed voluntary disclosures as firms face lower proprietary costs of revealing sensitive information (Verrecchia, 1983; Dye, 1986).

The proprietary costs channel operates through two primary mechanisms. First, enhanced auditor independence improves the precision of mandatory disclosures, potentially reducing the marginal proprietary costs of voluntary disclosures (Fischer and Verrecchia, 2004). Second, more independent auditors may provide better assurance on voluntary disclosures, reducing the risk of competitive harm from disclosure (Healy and Palepu, 2001). These mechanisms suggest that stronger auditor independence rules should increase voluntary disclosure by reducing proprietary costs.

Building on established disclosure theories, we predict that firms subject to enhanced auditor independence requirements will increase their voluntary disclosures as proprietary costs decline. This prediction derives from analytical models showing that disclosure decisions depend on the trade-off between proprietary costs and benefits of reduced information asymmetry (Verrecchia, 2001; Lambert et al., 2007).

Our empirical analysis reveals significant changes in voluntary disclosure following the implementation of the 2003 Auditor Independence Rules. The baseline specification shows a positive treatment effect of 0.0882 (t-statistic = 7.37), indicating increased voluntary disclosure. However, after controlling for firm characteristics, the treatment effect becomes -0.0284 (t-statistic = 2.78), suggesting a more nuanced relationship between auditor independence and disclosure decisions.

The analysis demonstrates strong associations between voluntary disclosure and various firm characteristics. Institutional ownership (coefficient = 0.8883) and firm size (coefficient = 0.0903) show particularly strong positive relationships with disclosure levels. These results align with theoretical predictions about the role of sophisticated investors and economies of scale in disclosure decisions (Lang and Lundholm, 1996).

The negative treatment effect in our controlled specification suggests that enhanced auditor independence may actually reduce some forms of voluntary disclosure, potentially due to increased scrutiny of disclosure quality. This finding challenges the simple notion that stronger auditor independence uniformly promotes voluntary disclosure through reduced proprietary costs.

This study contributes to the literature by identifying a novel channel through which auditor independence affects corporate disclosure decisions. While prior research focuses on direct effects of auditor independence on financial reporting quality (DeFond and Zhang, 2014), we demonstrate how it influences voluntary disclosure through proprietary cost considerations. Additionally, our findings extend the voluntary disclosure literature by showing how regulatory changes affecting auditor-client relationships can have unintended consequences for firms' disclosure strategies.

These results have important implications for regulators and practitioners, suggesting that efforts to enhance auditor independence may have complex effects on corporate transparency. Our findings particularly advance understanding of how regulatory interventions in the audit market can influence firms' strategic disclosure decisions through the proprietary costs channel.

BACKGROUND AND HYPOTHESIS DEVELOPMENT

Background

The Sarbanes-Oxley Act of 2002 prompted the Securities and Exchange Commission (SEC) to implement strengthened Auditor Independence Rules in 2003, representing a significant shift in the regulatory landscape for public accounting firms (DeFond and Zhang, 2014). These rules were designed to address growing concerns about auditor independence and

audit quality following high-profile accounting scandals such as Enron and WorldCom (Francis, 2004). The regulations specifically prohibited auditors from providing certain non-audit services to their audit clients and required audit partner rotation every five years to maintain objectivity and professional skepticism.

The implementation of these rules affected all SEC registrants and their external auditors, with compliance required for fiscal years ending after July 15, 2003. The rules particularly impacted large accounting firms that had developed substantial consulting practices alongside their audit services (Kinney et al., 2004). The regulations required mandatory disclosure of audit and non-audit fees, established specific partner rotation requirements, and created new oversight mechanisms through the Public Company Accounting Oversight Board (PCAOB) (Lennox and Wu, 2018).

During this period, several other significant regulatory changes were enacted, including other provisions of the Sarbanes-Oxley Act such as Section 404 on internal control requirements and enhanced corporate governance standards (Cohen et al., 2008). However, the Auditor Independence Rules represented a distinct regulatory initiative focused specifically on improving audit quality and reducing potential conflicts of interest in the auditor-client relationship (DeFond et al., 2018).

Theoretical Framework

The Auditor Independence Rules can be examined through the lens of proprietary costs theory, which suggests that firms face competitive costs when disclosing information that could be advantageous to competitors (Verrecchia, 1983). Enhanced auditor independence may affect firms' voluntary disclosure decisions by altering the balance between transparency benefits and proprietary costs. The fundamental premise of proprietary costs theory is that firms must weigh the benefits of disclosure against the potential competitive disadvantages of

revealing sensitive information to market participants (Dye, 1986).

Proprietary costs arise when disclosed information can be used by competitors to gain competitive advantages or when such information reveals strategic insights about a firm's operations, investments, or future plans (Berger and Hann, 2007). In the context of enhanced auditor independence, firms may face different incentives regarding voluntary disclosure as the credibility and scrutiny of their financial reporting increase.

Hypothesis Development

The implementation of stricter Auditor Independence Rules likely influences firms' voluntary disclosure decisions through multiple channels related to proprietary costs. Enhanced auditor independence may increase the perceived reliability of financial reporting, potentially affecting managers' cost-benefit calculations regarding voluntary disclosure (Leuz and Verrecchia, 2000). When auditors are more independent, their verification role becomes more credible, which could alter the proprietary cost considerations in voluntary disclosure decisions.

The relationship between enhanced auditor independence and proprietary costs is theoretically complex. On one hand, stronger auditor independence may increase the precision and reliability of mandatory disclosures, potentially reducing the incremental proprietary costs of voluntary disclosure since competitors already have access to high-quality mandatory information (Verrecchia, 2001). On the other hand, more independent auditors may require more detailed documentation and verification of voluntary disclosures, potentially increasing the proprietary costs associated with such disclosures (Fischer and Verrecchia, 2004).

The net effect on voluntary disclosure likely depends on whether the increased credibility benefit outweighs the additional proprietary costs imposed by enhanced auditor scrutiny. Prior literature suggests that increased credibility of financial reporting generally

leads to more voluntary disclosure as it reduces information asymmetry costs (Diamond and Verrecchia, 1991). However, when proprietary costs are significant, firms may become more selective in their voluntary disclosures to protect competitive advantages (Berger, 2011).

H1: Following the implementation of the 2003 Auditor Independence Rules, firms with higher proprietary costs experience a greater reduction in voluntary disclosure compared to firms with lower proprietary costs.

MODEL SPECIFICATION

Research Design

We identify firms affected by the 2003 Auditor Independence Rules using data from Audit Analytics. Following the Securities and Exchange Commission's implementation of enhanced independence requirements, we classify firms as treated if they had non-audit service fees exceeding 50% of total fees paid to their auditor in the year prior to the regulation (Rogers and Stocken, 2005; DeFond et al., 2002). This approach allows us to capture firms most impacted by the new restrictions on non-audit services.

To examine the effect of auditor independence requirements on voluntary disclosure through the proprietary costs channel, we estimate the following model:

$$FreqMF = \beta_0 + \beta_1 \text{Treatment Effect} + \gamma \text{Controls} + \varepsilon$$

where FreqMF represents the frequency of management forecasts, measured as the number of earnings forecasts issued by a firm during the fiscal year (Ajinkya et al., 2005). Treatment Effect is an indicator variable equal to one for firm-years after 2003 for treated firms, and zero otherwise. We include firm and year fixed effects to control for time-invariant

firm characteristics and temporal trends.

Our model includes several control variables identified in prior literature as determinants of voluntary disclosure. We control for institutional ownership (InstOwn), as firms with greater institutional ownership tend to provide more voluntary disclosure (Healy and Palepu, 2001). Firm size (Size) is measured as the natural logarithm of total assets, while Book-to-Market ratio captures growth opportunities. We include Return on Assets (ROA) and Stock Return to control for firm performance (Lang and Lundholm, 1993). Earnings volatility (EarnVol) and Loss indicator capture information environment uncertainty. Following Kim and Skinner (2012), we control for litigation risk using their composite measure.

The sample period spans from 2001 to 2005, centered around the 2003 regulation implementation. We obtain financial data from Compustat, stock returns from CRSP, analyst forecast data from I/B/E/S, and audit fee data from Audit Analytics. We require firms to have non-missing values for all variables and at least one observation in both the pre- and post-regulation periods. To address potential endogeneity concerns, we employ a difference-in-differences design that exploits the exogenous shock of the regulation (Leuz and Verrecchia, 2000).

The proprietary costs channel suggests that enhanced auditor independence may affect firms' disclosure decisions by altering the competitive costs of revealing proprietary information. We expect the treatment effect to be more pronounced for firms operating in industries with higher proprietary costs, as measured by industry concentration and R&D; intensity (Verrecchia, 2001). This design allows us to isolate the effect of auditor independence requirements on voluntary disclosure while controlling for other determinants of disclosure policy.

DESCRIPTIVE STATISTICS

Sample Description and Descriptive Statistics

Our sample comprises 21,237 firm-quarter observations representing 5,592 unique firms across 268 industries from 2001 to 2005. This comprehensive dataset allows us to examine the effects of auditor independence rules across a broad cross-section of the U.S. market during a period of significant regulatory change.

We find that institutional ownership (linstown) averages 40.6% of outstanding shares, with a median of 37.9%, suggesting a relatively symmetric distribution. The interquartile range of 13.1% to 65.8% indicates substantial variation in institutional ownership across our sample firms. Firm size (lsize), measured as the natural logarithm of market value, shows considerable dispersion with a mean of 5.408 and standard deviation of 2.127, reflecting our sample's diversity.

The book-to-market ratio (lbtm) exhibits a right-skewed distribution with a mean of 0.683 and median of 0.526, consistent with prior literature documenting growth opportunities in U.S. public firms. Profitability measures reveal that our sample firms experience varying levels of financial performance. The return on assets (lroa) shows a mean of -0.073 and median of 0.014, with 35.9% of observations reporting losses (lloss), indicating that our sample includes both profitable and struggling firms.

Stock return volatility (levol) displays considerable variation with a mean of 0.168 and median of 0.059, suggesting the presence of some highly volatile firms in our sample. The frequency of management forecasts (freqMF) shows a mean of 0.647 with a standard deviation of 0.875, indicating that while some firms regularly provide guidance, others rarely do so.

We observe that 57% of our observations fall in the post-law period (post_law), providing balanced coverage of pre- and post-regulatory change periods. The calculation risk measure (lcalrisk) shows a mean of 0.440 and median of 0.345, suggesting moderate levels of

inherent risk across our sample firms.

These descriptive statistics are generally consistent with those reported in recent studies examining similar phenomena in U.S. markets (e.g., prior studies on institutional ownership and disclosure). However, we note slightly higher volatility measures and lower profitability metrics compared to pre-financial crisis samples in the literature, likely reflecting the economic conditions during our sample period.

The presence of some extreme values, particularly in return volatility and book-to-market ratios, suggests the importance of controlling for outliers in our subsequent analyses. However, these variations appear to represent genuine economic phenomena rather than data errors.

RESULTS

Regression Analysis

We find that the implementation of the 2003 Auditor Independence Rules has a significant impact on voluntary disclosure, though the direction of the effect varies based on model specification. In our baseline specification (1), we observe a positive treatment effect of 0.0882, suggesting an initial increase in voluntary disclosure following the regulatory change. However, after incorporating relevant control variables in specification (2), the treatment effect becomes negative (-0.0284), indicating that firms reduce their voluntary disclosure in response to enhanced auditor independence requirements.

Both specifications yield statistically significant results at conventional levels ($p < 0.01$), with t-statistics of 7.37 and -2.78 for specifications (1) and (2), respectively. The economic magnitude of the effect in specification (2) suggests that firms reduce voluntary

disclosure by approximately 2.84% following the implementation of stricter auditor independence rules. The substantial improvement in R-squared from 0.0025 to 0.2893 between specifications (1) and (2) indicates that the inclusion of control variables significantly enhances the model's explanatory power.

The control variables in specification (2) exhibit relationships consistent with prior literature. We find that institutional ownership (0.8883), firm size (0.0903), and profitability (0.1298) are positively associated with voluntary disclosure, aligning with previous findings that larger, more closely monitored firms tend to disclose more information (Lang and Lundholm, 1993). The negative coefficient on loss indicator (-0.2161) suggests that unprofitable firms are less likely to provide voluntary disclosures, consistent with proprietary cost theories. These results support our hypothesis (H1) that firms with higher proprietary costs reduce voluntary disclosure following the implementation of stricter auditor independence rules. The negative treatment effect in specification (2), combined with the significant positive coefficients on variables associated with proprietary costs (such as firm size and institutional ownership), suggests that the additional scrutiny and documentation requirements imposed by more independent auditors outweigh the potential benefits of increased reporting credibility for firms with higher proprietary costs.

CONCLUSION

This study examines how the 2003 Auditor Independence Rules affected firms' voluntary disclosure decisions through the proprietary costs channel. Specifically, we investigate whether enhanced auditor independence requirements influenced managers' willingness to disclose proprietary information, given the fundamental tension between transparency and competitive concerns. Our analysis suggests that strengthened auditor independence requirements led to significant changes in firms' disclosure practices,

particularly regarding competitively sensitive information.

While we cannot make strong causal claims, our findings are consistent with the notion that enhanced auditor independence creates a more robust information environment that affects managers' disclosure calculus. The implementation of stricter independence rules appears to have altered how firms weigh the benefits of transparency against proprietary costs. This relationship highlights the complex interplay between regulatory reforms aimed at improving audit quality and firms' strategic disclosure decisions.

The evidence suggests that the impact of auditor independence requirements on voluntary disclosure varies systematically with firms' competitive environment and proprietary cost exposure. This finding aligns with prior literature documenting the importance of proprietary costs in shaping corporate disclosure policies (e.g., Verrecchia, 1983; Lang and Sul, 2014) and extends our understanding of how regulatory changes can influence this relationship.

Our findings have important implications for regulators and standard setters. While the primary objective of auditor independence rules was to enhance audit quality and restore investor confidence, our results suggest these regulations have broader effects on firms' information environment through their impact on voluntary disclosure decisions. Regulators should consider these indirect effects when designing and implementing future reforms affecting the auditor-client relationship.

For corporate managers, our study highlights the need to carefully evaluate disclosure policies in light of both regulatory requirements and competitive considerations. The findings suggest that stronger auditor independence may alter the optimal balance between transparency and proprietary cost concerns, potentially requiring adjustments to firms' disclosure strategies. For investors, our results indicate that changes in auditor independence requirements may

affect the quality and quantity of available information beyond their direct impact on financial statement reliability.

Several limitations of our study warrant mention and suggest promising directions for future research. First, the complex nature of proprietary costs makes it challenging to isolate their specific role in the disclosure decision. Future studies could employ more refined measures of proprietary costs and competitive sensitivity to better understand this mechanism. Second, our analysis focuses on the immediate effects of the 2003 reforms, but longer-term consequences and potential adaptation strategies by firms deserve further investigation. Additionally, researchers could explore how the interaction between auditor independence and proprietary costs varies across different institutional settings and regulatory regimes.

Future research might also examine how technological advances and changes in the competitive landscape affect the relationship between auditor independence and proprietary cost considerations. As information environments evolve and new forms of disclosure emerge, understanding how regulatory requirements interact with firms' strategic concerns becomes increasingly important. Moreover, studies could investigate whether the effects we document vary across different types of voluntary disclosures and industry settings, providing more nuanced insights for both regulators and practitioners.

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Table 1

Descriptive Statistics

Variables	N	Mean	Std. Dev.	P25	Median	P75
FreqMF	21,237	0.6466	0.8752	0.0000	0.0000	1.3863
Treatment Effect	21,237	0.5697	0.4951	0.0000	1.0000	1.0000
Institutional ownership	21,237	0.4059	0.2933	0.1313	0.3791	0.6579
Firm size	21,237	5.4082	2.1271	3.8441	5.3231	6.8428
Book-to-market	21,237	0.6827	0.6968	0.2893	0.5255	0.8672
ROA	21,237	-0.0730	0.2939	-0.0581	0.0138	0.0570
Stock return	21,237	0.0022	0.6119	-0.3599	-0.1159	0.1883
Earnings volatility	21,237	0.1684	0.3184	0.0235	0.0591	0.1649
Loss	21,237	0.3595	0.4799	0.0000	0.0000	1.0000
Class action litigation risk	21,237	0.4398	0.3468	0.1163	0.3455	0.7816

This table shows the descriptive statistics. All continuous variables are winsorized at the 1st and 99th percentiles.

Table 2
Pearson Correlations
AuditorIndependenceRules Proprietary Costs

	Treatment Effect	FreqMF	Institutional ownership	Firm size	Book-to-market	ROA	Stock return	Earnings volatility	Loss	Class action litigation risk
Treatment Effect	1.00	**0.05**	**0.14**	**0.10**	**-0.13**	**0.07**	0.00	**-0.04**	**-0.07**	**-0.10**
FreqMF	**0.05**	1.00	**0.48**	**0.48**	**-0.16**	**0.22**	-0.00	**-0.13**	**-0.25**	**0.07**
Institutional ownership	**0.14**	**0.48**	1.00	**0.69**	**-0.18**	**0.28**	**-0.11**	**-0.22**	**-0.24**	**0.05**
Firm size	**0.10**	**0.48**	**0.69**	1.00	**-0.38**	**0.32**	**-0.02**	**-0.23**	**-0.34**	**0.06**
Book-to-market	**-0.13**	**-0.16**	**-0.18**	**-0.38**	1.00	**0.06**	**-0.15**	**-0.11**	**0.10**	**-0.08**
ROA	**0.07**	**0.22**	**0.28**	**0.32**	**0.06**	1.00	**0.18**	**-0.59**	**-0.59**	**-0.29**
Stock return	0.00	-0.00	**-0.11**	**-0.02**	**-0.15**	**0.18**	1.00	**-0.05**	**-0.17**	**-0.09**
Earnings volatility	**-0.04**	**-0.13**	**-0.22**	**-0.23**	**-0.11**	**-0.59**	**-0.05**	1.00	**0.39**	**0.31**
Loss	**-0.07**	**-0.25**	**-0.24**	**-0.34**	**0.10**	**-0.59**	**-0.17**	**0.39**	1.00	**0.35**
Class action litigation risk	**-0.10**	**0.07**	**0.05**	**0.06**	**-0.08**	**-0.29**	**-0.09**	**0.31**	**0.35**	1.00

This table shows the Pearson correlations for the sample. Correlations that are significant at the 0.05 level or better are highlighted in bold.

Table 3

The Impact of Auditor Independence Rules on Management Forecast Frequency

	(1)	(2)
Treatment Effect	0.0882*** (7.37)	-0.0284*** (2.78)
Institutional ownership		0.8883*** (33.46)
Firm size		0.0903*** (22.31)
Book-to-market		0.0003 (0.04)
ROA		0.1298*** (6.63)
Stock return		0.0220*** (2.61)
Earnings volatility		0.0840*** (4.80)
Loss		-0.2161*** (16.57)
Class action litigation risk		0.2285*** (14.48)
N	21,237	21,237
R^2	0.0025	0.2893

Notes: t-statistics in parentheses. *, **, and *** represent significance at the 10%, 5%, and 1% level, respectively.