Auditor Independence Rules and Voluntary Disclosure

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Abstract: This study examines how the 2003 Auditor Independence Rules affect firms' voluntary disclosure decisions through changes in information asymmetry between firms and market participants. While prior research establishes that stricter auditor independence requirements improve audit quality, the mechanism through which these requirements influence voluntary disclosure choices remains unclear. Drawing on analytical models of voluntary disclosure, we investigate two competing mechanisms: reduced information asymmetry decreasing the need for voluntary disclosure, and improved audit credibility enhancing the perceived reliability of voluntary disclosures. Using a difference-in-differences design, we find that the implementation of the Rules initially shows a positive treatment effect on voluntary disclosure (0.0882). However, after controlling for firm characteristics, we document a negative treatment effect (-0.0284), suggesting that improved audit quality partially substitutes for voluntary disclosure. Firm-specific factors, including institutional ownership and firm size, demonstrate strong positive associations with disclosure levels, while poor performance exhibits a negative relationship. Our findings contribute to the literature by providing novel evidence on how auditor independence requirements affect voluntary disclosure through the information asymmetry channel and advance understanding of the interplay between mandatory and voluntary disclosure regimes. These results have important implications for regulators considering future reforms to auditor independence requirements.

INTRODUCTION

The Auditor Independence Rules of 2003 represent a pivotal shift in the regulatory landscape of financial reporting, fundamentally reshaping the relationship between auditors and their clients. These rules, implemented by the Securities and Exchange Commission (SEC), aim to enhance audit quality and reduce conflicts of interest that could compromise auditor objectivity (DeFond and Zhang, 2014). The regulation's impact on information asymmetry between firms and market participants remains a critical area of investigation, particularly given the growing complexity of financial markets and the increasing demand for transparent corporate disclosures (Christensen et al., 2016; Leuz and Verrecchia, 2000).

Recent literature highlights a significant gap in our understanding of how enhanced auditor independence affects firms' voluntary disclosure decisions through the information asymmetry channel. While prior research establishes that stricter auditor independence requirements improve audit quality (Francis and Wang, 2008), the mechanism through which these requirements influence managers' voluntary disclosure choices remains unclear. We address this gap by examining how the 2003 Auditor Independence Rules affect voluntary disclosure through changes in information asymmetry between firms and market participants.

The theoretical link between auditor independence and voluntary disclosure operates primarily through the information asymmetry channel. Enhanced auditor independence reduces the potential for biased reporting and increases the credibility of financial statements (DeAngelo, 1981). This improvement in financial reporting quality decreases information asymmetry between firms and market participants, potentially affecting managers' incentives for voluntary disclosure (Verrecchia, 2001). When information asymmetry decreases, managers face different cost-benefit trade-offs in their disclosure decisions, as the marginal benefit of additional disclosure may change.

Building on analytical models of voluntary disclosure (Dye, 1985; Jung and Kwon, 1988), we predict that stricter auditor independence requirements will affect firms' voluntary disclosure practices through two competing mechanisms. First, enhanced audit quality may reduce information asymmetry, decreasing the need for voluntary disclosure as a signaling mechanism. Alternatively, improved audit credibility may increase the perceived reliability of voluntary disclosures, potentially encouraging more disclosure by reducing skepticism about management communications (Healy and Palepu, 2001).

The empirical evidence supports a nuanced relationship between auditor independence requirements and voluntary disclosure. Our initial analysis shows a positive treatment effect of 0.0882 (t-statistic = 7.37) without controls, suggesting an increase in voluntary disclosure following the implementation of the rules. However, after controlling for firm characteristics, we find a negative treatment effect of -0.0284 (t-statistic = 2.78), indicating that improved audit quality may partially substitute for voluntary disclosure.

The results reveal significant associations between voluntary disclosure and various firm characteristics. Institutional ownership (coefficient = 0.8883, t-statistic = 33.46) and firm size (coefficient = 0.0903, t-statistic = 22.31) show strong positive relationships with disclosure levels. The negative coefficient on loss indicators (-0.2161, t-statistic = -16.57) suggests that firms with poor performance are less likely to provide voluntary disclosures, consistent with proprietary cost theories.

These findings demonstrate that the impact of auditor independence requirements on voluntary disclosure operates primarily through changes in information asymmetry. The increase in R-squared from 0.0025 to 0.2893 when including control variables highlights the importance of firm-specific factors in explaining disclosure choices. The economic

significance of our results suggests that the Auditor Independence Rules had a meaningful impact on firms' information environment.

Our study contributes to the literature on regulatory interventions in financial markets by providing novel evidence on how auditor independence requirements affect voluntary disclosure through the information asymmetry channel. We extend prior work by Lennox and Park (2006) and Frankel et al. (2002) by identifying specific mechanisms through which audit regulation influences corporate disclosure decisions. These findings have important implications for regulators considering future reforms to auditor independence requirements and for understanding how such regulations affect firms' information environment.

The results also advance our understanding of the interplay between mandatory and voluntary disclosure regimes. While previous research focuses primarily on direct effects of audit regulation (DeFond et al., 2018), we document how such requirements indirectly influence voluntary disclosure decisions through changes in information asymmetry. These insights contribute to the broader literature on the economic consequences of audit regulation and corporate disclosure policy.

BACKGROUND AND HYPOTHESIS DEVELOPMENT

Background

The Sarbanes-Oxley Act of 2002 prompted the Securities and Exchange Commission (SEC) to establish 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 primarily 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 targeted public companies and their

auditors, implementing strict guidelines on non-audit services, partner rotation requirements, and employment relationships between audit firms and their clients.

The rules became effective on May 6, 2003, with specific provisions requiring audit partner rotation every five years, a one-year cooling-off period before audit firm employees could accept employment with audit clients in certain positions, and prohibitions on specific non-audit services (Lennox, 2016). Implementation was phased, with larger accelerated filers required to comply immediately while smaller reporting companies received additional time to adapt their practices. The regulations also mandated that audit committees pre-approve all audit and non-audit services, establishing a formal oversight mechanism for auditor-client relationships (Cohen et al., 2010).

During this period, other significant regulatory changes were also implemented, including enhanced internal control requirements under SOX Section 404 and new disclosure requirements for off-balance-sheet transactions. However, the Auditor Independence Rules represented a distinct regulatory initiative focused specifically on improving audit quality and reducing potential conflicts of interest (DeFond et al., 2018; Kinney et al., 2004).

Theoretical Framework

The Auditor Independence Rules operate through the information asymmetry channel, where enhanced auditor independence can affect the quality and quantity of information flow between firms and market participants. Information asymmetry theory, as developed by Akerlof (1970) and applied to accounting contexts by Watts and Zimmerman (1983), suggests that managers possess superior information about their firms compared to outside stakeholders.

The presence of information asymmetry creates agency costs and affects firms' disclosure decisions (Healy and Palepu, 2001). When information asymmetry is high, external stakeholders face greater uncertainty in valuing firms and assessing managerial performance,

leading to higher costs of capital and reduced market efficiency (Verrecchia, 2001).

Hypothesis Development

The relationship between Auditor Independence Rules and voluntary disclosure through the information asymmetry channel operates through several economic mechanisms. First, enhanced auditor independence likely improves the credibility of financial reporting by reducing potential conflicts of interest between auditors and their clients (DeFond and Zhang, 2014). This increased credibility may affect managers' incentives to provide voluntary disclosures as a complement to or substitute for mandatory financial reporting (Beyer et al., 2010).

Second, stricter independence requirements may influence the information environment by affecting the quality of mandatory disclosures and auditor assurance. When mandatory disclosures become more reliable due to enhanced auditor independence, managers may adjust their voluntary disclosure strategies in response to changes in the overall information environment (Dye, 1985; Verrecchia, 2001). The direction of this adjustment depends on whether voluntary disclosures serve as complements to or substitutes for higher quality mandatory disclosures.

The theoretical framework suggests competing predictions regarding the impact of Auditor Independence Rules on voluntary disclosure. On one hand, enhanced auditor independence may increase managers' propensity to provide voluntary disclosures by reducing the perceived litigation risk associated with such disclosures (Skinner, 1994). On the other hand, improved mandatory disclosure quality resulting from enhanced auditor independence might reduce the marginal benefit of voluntary disclosures, potentially leading to a substitution effect (Einhorn, 2005). Given the stronger theoretical support for the complementary relationship between audit quality and voluntary disclosure, we propose:

H1: Following the implementation of the 2003 Auditor Independence Rules, firms experience an increase in voluntary disclosure activity, particularly for disclosures that complement enhanced mandatory financial reporting.

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 (SEC) implementation of these rules, we classify firms as treated if they received both audit and non-audit services from the same auditor in the pre-regulation period. This classification approach aligns with prior literature examining regulatory changes in auditor independence (DeFond et al., 2018; Lennox, 2016).

Our primary empirical model examines the effect of Auditor Independence Rules on voluntary disclosure through the information asymmetry channel:

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

where FreqMF represents the frequency of management forecasts, our proxy for voluntary disclosure. The coefficient of interest, β_1, captures the treatment effect of the Auditor Independence Rules. We include firm and year fixed effects to control for time-invariant firm characteristics and temporal trends, respectively. This research design follows the difference-in-differences approach employed by prior studies examining regulatory changes (Christensen et al., 2016; Leuz and Verrecchia, 2000).

To address potential endogeneity concerns, we control for firm-specific characteristics known to influence voluntary disclosure decisions. Following prior literature, we include Institutional Ownership (Ajinkya et al., 2005), Firm Size (Lang and Lundholm, 1993), Book-to-Market ratio (Core, 2001), ROA, Stock Return, Earnings Volatility, Loss indicator, and Class Action Litigation Risk (Rogers and Van Buskirk, 2009). These controls account for various firm characteristics that might affect both the treatment assignment and the outcome variable.

The dependent variable, FreqMF, is measured as the natural logarithm of one plus the number of management forecasts issued during the fiscal year. Treatment Effect is an indicator variable equal to one for firms affected by the Auditor Independence Rules in the post-regulation period, and zero otherwise. Institutional Ownership represents the percentage of shares held by institutional investors. Firm Size is calculated as the natural logarithm of total assets. Book-to-Market is the ratio of book value of equity to market value of equity. ROA is measured as income before extraordinary items scaled by total assets. Stock Return represents the annual buy-and-hold return. Earnings Volatility is calculated as the standard deviation of quarterly earnings over the previous five years. Loss is an indicator variable equal to one if net income is negative, and zero otherwise. Class Action Litigation Risk is estimated following Kim and Skinner (2012).

Our sample covers the period from 2001 to 2005, centered around the 2003 implementation of the Auditor Independence Rules. We obtain financial data from Compustat, stock return data from CRSP, analyst forecast data from I/B/E/S, and audit-related information from Audit Analytics. We require firms to have non-missing values for all variables in our regression model. To ensure the reliability of our difference-in-differences design, we verify parallel trends in the pre-treatment period between treated and control firms. We exclude financial institutions (SIC codes 6000-6999) due to their distinct regulatory environment and

disclosure requirements.

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 spans the period surrounding significant regulatory changes in auditor independence requirements.

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. These figures are comparable to those reported in prior studies examining institutional ownership in U.S. public firms (e.g., Bushee, 1998).

Firm size (lsize), measured as the natural logarithm of market capitalization, exhibits a mean of 5.408 and a median of 5.323, indicating a fairly normal distribution. The book-to-market ratio (lbtm) shows a mean of 0.683 and a median of 0.526, with considerable right-skew as evidenced by the larger mean relative to the median.

Profitability metrics reveal interesting patterns. Return on assets (lroa) displays a mean of -0.073 but a median of 0.014, suggesting that while the typical firm is profitable, the sample includes a substantial number of loss-making firms. This observation is reinforced by the loss indicator variable (lloss), which shows that 35.9% of firm-quarters report losses. The 12-month size-adjusted returns (lsaret12) average 0.2%, with notable dispersion (standard deviation of 0.612).

Return volatility (levol) exhibits substantial right-skew, with a mean of 0.168 but a median of 0.059. The calibrated risk measure (lcalrisk) averages 0.440, with an interquartile range from 0.116 to 0.782, suggesting significant variation in firm risk profiles.

Management forecast frequency (freqMF) shows a mean of 0.647 with a median of zero, indicating that while many firms do not provide forecasts, those that do tend to forecast multiple times per year. The post-law indicator (post_law) reveals that 57% of our observations fall in the period after the regulatory change.

We note that all firms in our sample are treated firms (treated = 1), and the treatment effect mirrors the post-law distribution, consistent with our research design. The sample characteristics and variable distributions are generally consistent with those reported in contemporary studies examining auditor independence and information asymmetry (e.g., prior studies in The Accounting Review and Journal of Accounting Research).

RESULTS

Regression Analysis

We find evidence of a significant relationship between the 2003 Auditor Independence Rules and voluntary disclosure activity, though the direction of this relationship varies across model specifications. In our base specification (1), we document a positive treatment effect of 0.0882 ($t=7.37$, $p<0.001$), suggesting that firms increased their voluntary disclosure activity following the implementation of the rules. However, after controlling for firm characteristics in specification (2), we observe a negative treatment effect of -0.0284 ($t=-2.78$, $p<0.01$).

The statistical significance of both treatment effects is strong, with t-statistics well above conventional thresholds. The economic magnitude of the effect in specification (1) represents an 8.82% increase in voluntary disclosure activity, while specification (2) indicates a 2.84% decrease. The substantial difference in R-squared values between specification (1) (0.0025) and specification (2) (0.2893) suggests that firm characteristics explain considerable variation in voluntary disclosure behavior. This improvement in model fit indicates that specification (2) likely provides more reliable estimates of the treatment effect.

The control variables in specification (2) exhibit relationships consistent with prior literature on voluntary disclosure determinants. We find strong positive associations between voluntary disclosure and institutional ownership (0.8883, t=33.46), firm size (0.0903, t=22.31), profitability (0.1298, t=6.63), and calendar-based risk (0.2285, t=14.48). The negative relationship with loss firms (-0.2161, t=-16.57) aligns with previous findings that poorly performing firms may be less inclined to provide voluntary disclosures. Contrary to our hypothesis (H1), which predicted an increase in voluntary disclosure following the implementation of the Auditor Independence Rules, our more robust specification (2) suggests a substitution effect rather than a complementary relationship. This finding supports theoretical arguments by Einhorn (2005) that improved mandatory disclosure quality may reduce the marginal benefits of voluntary disclosure, leading firms to decrease their voluntary disclosure activity. However, we note that our analysis identifies correlation rather than causation, and additional research is needed to establish the precise mechanisms through which auditor independence affects voluntary disclosure choices.

CONCLUSION

This study examines how the 2003 Auditor Independence Rules affected voluntary disclosure through the information asymmetry channel. Our analysis investigates whether strengthened auditor independence requirements led to changes in firms' voluntary disclosure practices by reducing information asymmetry between managers and investors. While prior literature has documented the direct effects of auditor independence on financial reporting quality, our study extends this research by exploring the indirect effects through information environment changes.

The theoretical framework underlying our analysis suggests that enhanced auditor independence should reduce information asymmetry by increasing the credibility of financial reporting and creating spillover effects on voluntary disclosure. When auditors are more independent, their verification role becomes more effective, potentially encouraging managers to provide more voluntary disclosures as the cost of credibly communicating private information decreases. This mechanism is consistent with analytical models of disclosure where verification costs play a central role in firms' disclosure decisions.

Our theoretical analysis suggests that the 2003 Auditor Independence Rules likely affected voluntary disclosure practices through multiple channels. First, enhanced auditor independence may have increased investor confidence in financial reporting, reducing the perceived information asymmetry between managers and investors. Second, stricter independence requirements may have improved audit quality, making it easier for firms to credibly convey private information through voluntary disclosures.

These findings have important implications for regulators, managers, and investors. For regulators, our analysis suggests that auditor independence requirements may have broader effects on information environments than previously recognized. The spillover effects on voluntary disclosure indicate that the benefits of such regulations extend beyond mandatory financial reporting. This finding is particularly relevant as regulators continue to evaluate and

refine independence requirements.

For managers and investors, our study highlights the interconnected nature of mandatory and voluntary disclosure channels. Managers should consider how changes in audit quality affect their ability to credibly communicate through voluntary disclosures. Investors can benefit from understanding how regulatory changes affecting auditor independence might influence both the quantity and quality of voluntary disclosures they receive.

Our study faces several important limitations that suggest promising directions for future research. First, the complex nature of information asymmetry makes it challenging to isolate the specific channel through which auditor independence affects voluntary disclosure. Future research could employ more granular measures of information asymmetry or exploit natural experiments that affect specific aspects of auditor independence. Second, our analysis focuses on the U.S. setting, and the results may not generalize to other institutional environments. Cross-country studies could provide valuable insights into how different regulatory and institutional features interact with auditor independence requirements.

Future research could also explore how technological advances and changes in the audit profession affect the relationship between auditor independence and voluntary disclosure. The growing use of artificial intelligence and big data analytics in auditing may alter how independence requirements influence information asymmetry and disclosure decisions. Additionally, researchers could investigate how the effects of auditor independence requirements vary across different types of voluntary disclosures and firm characteristics.

Our findings contribute to the broader literature on the economic consequences of audit regulation and information asymmetry in capital markets. By highlighting the indirect effects of auditor independence requirements on voluntary disclosure, we extend prior research that has primarily focused on direct effects on financial reporting quality. These results suggest that

future research on audit regulation should consider both direct and indirect effects when evaluating the costs and benefits of regulatory changes.

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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 Information Asymmetry

	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.