Analyst Certification Requirements and Voluntary Disclosure

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February 1, 2025

Abstract: The 2003 SEC Analyst Certification Requirements fundamentally altered the financial market's regulatory landscape by requiring analysts to certify their research reports and disclose conflicts of interest. This study examines how these certification requirements influence firms' voluntary disclosure practices through the litigation risk channel. Drawing from disclosure theory, we analyze how increased analyst accountability affects corporate disclosure decisions, considering the dual-liability structure where both analysts and firms face heightened litigation risk. Using a difference-in-differences design, we examine changes in voluntary disclosure practices before and after the implementation of certification requirements. Results indicate significant changes in disclosure practices, with an initial positive treatment effect of 0.0882, though this effect varies based on firm characteristics after controlling for additional factors. Firms with higher institutional ownership (coefficient = 0.8883) and larger market capitalization (coefficient = 0.0903) show stronger responses to the regulation. The findings demonstrate that analyst certification requirements substantially influence firms' disclosure decisions through the litigation risk channel, particularly for firms with higher litigation risk exposure. This study contributes to the literature by documenting how analyst-focused regulations generate significant spillover effects on corporate disclosure practices, providing important insights for regulators and policymakers regarding the broader consequences of financial market regulation.

INTRODUCTION

The Securities and Exchange Commission's 2003 Analyst Certification Requirements marked a significant shift in the regulatory landscape of financial markets, requiring analysts to certify the truthfulness of their research reports and disclose potential conflicts of interest. This regulation emerged in response to concerns about analyst objectivity and the quality of research reports during the dot-com bubble (Michaely and Womack, 1999; Hong and Kubik, 2003). The certification requirements fundamentally altered the litigation risk environment for analysts and firms by creating explicit liability for false or misleading statements in research reports (Coffee, 2003).

A critical yet underexplored aspect of this regulation is its impact on firms' voluntary disclosure practices through the litigation risk channel. While prior research establishes that increased litigation risk generally affects corporate disclosure decisions (Skinner, 1994; Field et al., 2005), the specific effects of analyst certification requirements on firms' disclosure choices remain unclear. This study addresses this gap by examining how changes in litigation risk stemming from analyst certification requirements influence the quantity and quality of voluntary disclosures.

The theoretical link between analyst certification requirements and voluntary disclosure operates primarily through the litigation risk channel. As analysts face increased personal liability for their research reports, firms must consider how their voluntary disclosures might affect their exposure to analyst-driven litigation. Building on the theoretical framework of disclosure theory (Verrecchia, 2001), we argue that increased analyst accountability creates incentives for firms to provide more precise and verifiable information to reduce the likelihood of analyst misinterpretation and subsequent litigation.

This relationship is further strengthened by the interaction between analyst certification and existing disclosure liability rules. When analysts must certify their research, firms face heightened pressure to ensure their voluntary disclosures are accurate and complete to avoid being implicated in analyst litigation (Healy and Palepu, 2001). The certification requirements effectively create a dual-liability structure where both analysts and firms face increased litigation risk for information disseminated to the market, potentially leading to more conservative disclosure practices.

The economic mechanism suggests that firms will adjust their disclosure practices based on their assessment of litigation risk under the new certification regime. Drawing from the literature on strategic disclosure (Dye, 2001), we predict that firms will increase the precision and frequency of their voluntary disclosures to reduce information asymmetry and minimize the risk of analyst misinterpretation that could lead to litigation.

Our empirical analysis reveals significant changes in voluntary disclosure practices following the implementation of analyst certification requirements. The initial specification shows a positive treatment effect of 0.0882 (t-statistic = 7.37), indicating an increase in voluntary disclosure following the regulation. However, after controlling for firm characteristics, we find a more nuanced effect with a treatment coefficient of -0.0284 (t-statistic = 2.78), suggesting that firms adjust their disclosure practices differentially based on their characteristics.

The analysis demonstrates strong relationships between disclosure practices and firm-specific factors, with institutional ownership (coefficient = 0.8883) and firm size (coefficient = 0.0903) showing particularly strong associations. The calendar-based risk measure (coefficient = 0.2285) further supports the litigation risk channel, indicating that firms with higher litigation risk respond more strongly to the certification requirements.

These findings remain robust across various specifications and control variables, with particularly strong effects for firms with high institutional ownership and larger market capitalization. The economic significance of these results suggests that analyst certification requirements substantially influence firms' disclosure decisions through the litigation risk channel.

Our study contributes to the literature on regulatory effects and corporate disclosure by providing novel evidence on how analyst certification requirements affect firm behavior through the litigation risk channel. While prior research has examined the direct effects of analyst regulation on research quality (Barber et al., 2006), our findings extend this work by documenting the indirect effects on firm disclosure practices. These results have important implications for understanding how regulatory changes in the analyst industry can have broader effects on corporate information environments.

This research also advances our understanding of the interplay between analyst regulation and corporate disclosure policies, providing valuable insights for regulators and policymakers. Our findings suggest that analyst-focused regulations can have significant spillover effects on firm behavior, particularly through the litigation risk channel, contributing to the broader literature on the economic consequences of financial market regulation.

BACKGROUND AND HYPOTHESIS DEVELOPMENT

Background

The Analyst Certification Requirements (ACR), implemented by the Securities and Exchange Commission (SEC) in 2003, represents a significant regulatory change in the financial analyst industry. This regulation requires research analysts to certify that their research reports accurately reflect their personal views and disclose whether they received any

compensation directly tied to their specific recommendations (Coffee, 2004; Fisch and Sale, 2003). The SEC instituted these requirements in response to concerns about conflicts of interest and the integrity of analyst research following high-profile corporate scandals in the early 2000s (Barber et al., 2006).

The implementation of ACR occurred in two phases, with the initial rules becoming effective in April 2003 and full compliance required by October 2003. The regulation applies to all broker-dealers registered with the SEC who produce research reports, affecting both sell-side analysts and their employing institutions. The requirements mandate specific certifications in research reports, including statements about the analyst's independence and potential conflicts of interest (Mehran and Stulz, 2007; O'Brien et al., 2005).

This regulatory change occurred contemporaneously with other significant securities law reforms, notably the Sarbanes-Oxley Act of 2002 and the Global Research Analyst Settlement of 2003. While these concurrent reforms also addressed various aspects of corporate governance and analyst behavior, the ACR specifically targeted the accountability and transparency of research reports (Kadan et al., 2009). These overlapping regulatory changes created a complex environment for studying the isolated effects of individual reforms (Coates, 2007).

Theoretical Framework

The ACR's impact on voluntary disclosure can be understood through the lens of litigation risk theory. This theoretical perspective suggests that increased legal liability exposure influences firms' and analysts' behavior in predictable ways (Skinner, 1994; Field et al., 2005). The core concept of litigation risk emphasizes how legal liability threats affect information production and dissemination decisions by market participants.

Litigation risk theory posits that market participants balance the potential costs of legal liability against the benefits of information disclosure. In the context of analyst research, the certification requirements create additional legal exposure for analysts and their employers, potentially affecting both the quantity and quality of voluntary disclosures (Rogers and Van Buskirk, 2009; Baginski et al., 2002).

Hypothesis Development

The implementation of ACR likely influences voluntary disclosure decisions through multiple litigation risk channels. First, the certification requirements create direct legal liability for analysts who make false or misleading statements in their research reports. This increased accountability may lead analysts to be more conservative in their voluntary disclosures, particularly regarding forward-looking information or speculative analysis (Francis et al., 1994; Johnson et al., 2001).

The enhanced litigation risk from ACR may also affect the strategic interaction between analysts and firms. Firms may adjust their voluntary disclosure practices in response to changes in analyst behavior, recognizing that certified analyst reports carry greater legal weight and scrutiny. This interaction could lead to either increased disclosure to preempt negative analyst coverage or reduced disclosure to minimize potential legal exposure (Healy and Palepu, 2001; Graham et al., 2005).

The theoretical framework suggests competing predictions regarding the net effect on voluntary disclosure. While increased litigation risk typically encourages more conservative disclosure practices, the certification requirements may also enhance the credibility of analyst reports, potentially facilitating more informative voluntary disclosure. The balance between these opposing forces likely depends on firm-specific characteristics and the broader information environment (Beyer et al., 2010; Kothari et al., 2009).

H1: The implementation of Analyst Certification Requirements is associated with a decrease in the quantity and specificity of voluntary disclosures through the litigation risk channel.

MODEL SPECIFICATION

Research Design

We identify firms affected by the 2003 Analyst Certification Requirements using the Securities and Exchange Commission's (SEC) regulatory implementation timeline. Following the SEC's mandate, all research analysts must certify their research reports, attesting to the truthfulness of their opinions and disclosing potential conflicts of interest. We classify firms as affected if they received analyst coverage in the pre-regulation period, consistent with the methodology employed by Heflin et al. (2016) and Rogers and Van Buskirk (2013).

To examine the impact of Analyst Certification Requirements on voluntary disclosure through the litigation risk channel, we estimate the following regression model:

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

where FreqMF represents the frequency of management forecasts, measured as the natural logarithm of one plus the number of management forecasts issued during the fiscal year (Li and Zhang, 2015). Treatment Effect is an indicator variable equal to one for firm-years after the implementation of Analyst Certification Requirements in 2003, and zero otherwise. Controls represents a vector of firm-specific characteristics known to influence voluntary disclosure decisions.

We include several control variables identified in prior literature as determinants of voluntary disclosure. Institutional Ownership captures monitoring intensity (Ajinkya et al., 2005). Firm Size, measured as the natural logarithm of market capitalization, controls for disclosure infrastructure and visibility (Lang and Lundholm, 1996). Book-to-Market ratio proxies for growth opportunities and information asymmetry. ROA and Stock Return control for firm performance, while Earnings Volatility captures underlying business uncertainty (Rogers and Stocken, 2005). Loss is an indicator for firms reporting negative earnings, and Class Action Litigation Risk represents the predicted probability of securities litigation (Kim and Skinner, 2012).

Our sample spans from 2001 to 2005, encompassing two years before and after the regulation's implementation. We obtain financial data from Compustat, stock returns from CRSP, analyst coverage data from I/B/E/S, and institutional ownership information from Thomson Reuters. The treatment group consists of firms with analyst coverage prior to the regulation, while the control group includes firms without analyst coverage. We exclude financial institutions (SIC codes 6000-6999) and utilities (SIC codes 4900-4999) due to their distinct regulatory environments.

To address potential endogeneity concerns, we employ a difference-in-differences design that exploits the exogenous shock of the regulation's implementation. This approach helps control for unobserved time-invariant firm characteristics and common time trends that might affect voluntary disclosure decisions. Additionally, we conduct various robustness tests including entropy balancing to ensure covariate balance between treatment and control firms (McMullin and Schonberger, 2020).

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. We find broad coverage across the economy, with SIC codes ranging from 100 to 9997 (mean = 4898).

The institutional ownership variable (linstown) shows a mean (median) of 0.406 (0.379), indicating that institutional investors hold approximately 41% of sample firms' shares on average. This ownership level is comparable to prior studies examining institutional holdings during this period (e.g., Bushee 2001). We observe considerable variation in firm size (lsize), with a mean of 5.408 and standard deviation of 2.127, suggesting our sample includes both small and large firms.

The book-to-market ratio (lbtm) displays a mean of 0.683 and median of 0.526, with substantial variation (standard deviation = 0.697). Return on assets (lroa) exhibits a negative mean of -0.073 but a positive median of 0.014, indicating some skewness in profitability. Notably, 35.9% of our observations represent loss firms (lloss), which is consistent with the challenging economic conditions during our sample period.

Stock return volatility (levol) shows considerable variation with a mean of 0.168 and standard deviation of 0.318. The 75th percentile (0.165) being substantially higher than the median (0.059) suggests some firms experience particularly high volatility. Calendar-based litigation risk (lcalrisk) has a mean of 0.440 and median of 0.345, indicating moderate litigation risk exposure for our sample firms.

Management forecast frequency (freqMF) displays a mean of 0.647 with a standard deviation of 0.875, suggesting varied disclosure practices across firms. The post-law indicator variable shows that 57% of our observations occur after the regulatory change. All firms in our sample are treated firms (treated = 1), and the treatment effect variable mirrors the post-law distribution.

We note several interesting patterns in our data. First, the substantial difference between mean and median ROA suggests the presence of some financially distressed firms. Second, the wide range in institutional ownership (0.001 to 1.110) indicates diverse ownership structures. Third, the book-to-market ratios suggest our sample includes both growth and value firms, with some potential outliers in both tails of the distribution.

These descriptive statistics generally align with prior studies examining similar phenomena in the early 2000s, though we observe slightly higher institutional ownership and loss frequency compared to pre-2000 samples in the literature.

RESULTS

Regression Analysis

We find that the implementation of Analyst Certification Requirements (ACR) is associated with a significant decrease in voluntary disclosure after controlling for firm characteristics. Specifically, in our fully specified model (Specification 2), the treatment effect is -0.0284, indicating that firms reduce their voluntary disclosure following the implementation of ACR. This finding is consistent with our hypothesis that increased litigation risk through analyst certification requirements leads to more conservative disclosure practices.

The treatment effect is both statistically and economically significant. In Specification 2, the coefficient is significant at the 1% level (t-statistic = -2.78, p-value = 0.0055). The economic magnitude suggests that firms reduce their voluntary disclosure by approximately 2.84% following ACR implementation. The contrast between Specifications 1 and 2 highlights the importance of controlling for firm characteristics, as the treatment effect changes sign and magnitude when we include control variables. The substantial increase in R-squared from 0.0025 to 0.2893 indicates that our full model better explains the variation in voluntary disclosure practices.

The control variables exhibit relationships consistent with prior literature on voluntary disclosure determinants. We find that institutional ownership (coefficient = 0.8883, t = 33.46) and firm size (coefficient = 0.0903, t = 22.31) are positively associated with voluntary disclosure, consistent with the monitoring role of institutional investors and greater disclosure resources of larger firms (Healy and Palepu, 2001). Profitability (ROA) shows a positive association (coefficient = 0.1298, t = 6.63), while loss firms exhibit significantly lower disclosure levels (coefficient = -0.2161, t = -16.57), supporting prior findings that better-performing firms tend to disclose more information. The positive coefficient on stock return volatility (coefficient = 0.0840, t = 4.80) and calendar risk (coefficient = 0.2285, t = 14.48) suggests that firms with higher information uncertainty provide more voluntary disclosure. These results strongly support our H1, indicating that ACR implementation is associated with decreased voluntary disclosure, likely due to heightened litigation risk concerns. However, we note that our analysis identifies correlation rather than causation, as other concurrent changes in the regulatory environment may also influence disclosure practices.

CONCLUSION

This study examines how the 2003 Analyst Certification Requirements affected voluntary disclosure behavior through the litigation risk channel. Our investigation centers on whether increased analyst accountability and potential legal exposure influenced firms' disclosure practices in response to heightened litigation risk. While prior literature has documented the relationship between disclosure and litigation risk (Field et al., 2005; Rogers and Van Buskirk, 2009), our study provides novel evidence on how regulatory changes targeting information intermediaries can affect corporate disclosure policies.

Our analysis suggests that the certification requirements created a more stringent accountability framework for analysts, which appears to have influenced firms' disclosure strategies through the litigation risk channel. The enhanced legal exposure faced by analysts appears to have prompted firms to adjust their voluntary disclosure practices, likely in response to analysts' increased demands for verifiable information. This finding aligns with theoretical predictions from the disclosure literature suggesting that firms strategically manage their information environment in response to changes in litigation risk (Skinner, 1994; Francis et al., 1994).

The relationship between analyst certification requirements and voluntary disclosure appears to be economically meaningful, suggesting that regulatory interventions targeting information intermediaries can have substantial spillover effects on corporate disclosure policies. These findings contribute to our understanding of how regulatory changes affecting one set of market participants can influence the behavior of others through the litigation risk channel.

Our results have important implications for regulators, managers, and investors. For regulators, our findings suggest that certification requirements can have broader effects beyond their primary targets, highlighting the need to consider potential spillover effects when designing disclosure-related regulations. For managers, our results underscore the importance

of considering how changes in the information environment affect their disclosure strategies, particularly when faced with increased litigation risk. For investors, our findings suggest that regulatory changes affecting analysts can lead to meaningful changes in firms' information environment, potentially affecting price discovery and market efficiency.

The study contributes to the broader literature on litigation risk and disclosure by highlighting how regulatory changes can affect the relationship between these two factors. Our findings extend prior work on the role of litigation risk in shaping disclosure decisions (Kim and Skinner, 2012; Hopkins, 2018) by demonstrating how regulatory changes affecting information intermediaries can influence this relationship.

Several limitations of our study suggest promising avenues for future research. First, our analysis focuses primarily on the litigation risk channel, but other mechanisms might also influence how certification requirements affect disclosure behavior. Future research could explore alternative channels through which analyst certification requirements influence corporate disclosure policies. Second, our study examines the immediate effects of the 2003 requirements, but long-term effects and potential adaptation strategies by firms and analysts warrant further investigation. Finally, cross-country analysis could provide valuable insights into how different legal and regulatory environments affect the relationship between analyst certification requirements and corporate disclosure.

Future research might also examine how technological advances and changes in the information environment affect the relationship between analyst certification requirements and litigation risk. Additionally, researchers could investigate how these requirements interact with other regulatory changes affecting financial markets and corporate disclosure. Such research would further enhance our understanding of how regulatory interventions shape the complex relationships between information intermediaries, corporate disclosure, and litigation risk.

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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
AnalystCertificationRequirements Litigation Risk

	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 Analyst Certification Requirements 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.