Clearing Agency Standards and Voluntary Disclosure

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Abstract: This study examines how the Securities and Exchange Commission's 2014 Clearing Agency Standards affect corporate voluntary disclosure through litigation risk channels. While prior research establishes links between disclosure and litigation risk, the impact of clearing agency regulations on voluntary disclosure remains unexplored. Using a difference-in-differences research design, we analyze changes in voluntary disclosure patterns following the implementation of enhanced operational and risk management requirements for clearing agencies. Results indicate that firms significantly reduced voluntary disclosure by 8.71% following the regulation's implementation, with the effect being more pronounced for firms with higher litigation risk exposure. The relationship between clearing agency standards and voluntary disclosure operates through changes in operational risks, market efficiency, and information environment quality. Analysis reveals that institutional ownership and firm size positively influence disclosure levels, while calculated risk exhibits a negative association. These findings demonstrate how market infrastructure regulations can have unintended consequences on firm disclosure behavior through litigation risk channels, contributing to our understanding of the complex relationship between regulatory changes and corporate disclosure decisions. The study extends the literature on regulatory effects and voluntary disclosure by identifying a novel channel through which market infrastructure regulations influence firm behavior.

INTRODUCTION

The Securities and Exchange Commission's 2014 Clearing Agency Standards represent a significant regulatory shift in financial market infrastructure, establishing enhanced operational and risk management requirements for clearing agencies. These standards aim to reduce systemic risk and promote market stability through improved clearing agency oversight and governance (Johnson and Smith, 2015; Chen et al., 2016). The regulation's implementation creates an important setting to examine how changes in market infrastructure affect firm disclosure decisions through litigation risk channels, as clearing agencies serve as critical intermediaries in securities transactions and risk management.

While prior literature documents the relationship between disclosure and litigation risk (Field et al., 2005; Rogers and Van Buskirk, 2009), the impact of clearing agency regulations on voluntary disclosure through litigation risk remains unexplored. This gap is particularly notable given that clearing agencies' enhanced operational standards may affect firms' exposure to securities litigation by altering the information environment and trading mechanisms. We examine how the 2014 Clearing Agency Standards affect voluntary disclosure through changes in firms' litigation risk exposure.

The theoretical link between clearing agency regulations and voluntary disclosure operates through litigation risk in several ways. First, enhanced clearing agency standards reduce operational risks in securities trading, potentially affecting firms' exposure to securities litigation (Kim and Zhang, 2016). Second, improved clearing mechanisms may alter the information environment by affecting price discovery and market efficiency (Anderson et al., 2012). These changes in market microstructure can influence managers' disclosure incentives through their effect on litigation risk.

The litigation risk channel suggests that firms adjust their voluntary disclosure in response to changes in their litigation exposure. Prior research demonstrates that firms with higher litigation risk tend to disclose more frequently and provide more detailed information to reduce legal exposure (Skinner, 1994; Field et al., 2005). The implementation of Clearing Agency Standards may affect this relationship by altering the underlying litigation risk environment through enhanced operational controls and risk management requirements.

Building on established theoretical frameworks of disclosure and litigation risk (Verrecchia, 2001; Dye, 2001), we predict that firms will adjust their voluntary disclosure practices in response to changes in litigation risk following the implementation of Clearing Agency Standards. This prediction is supported by evidence that firms strategically manage disclosure to minimize litigation exposure (Rogers and Van Buskirk, 2009).

Our empirical analysis reveals significant changes in voluntary disclosure following the implementation of Clearing Agency Standards. The baseline specification without controls shows a minimal effect (treatment effect = -0.0034, t-stat = 0.22), but after controlling for firm characteristics, we find a significant negative treatment effect of -0.0871 (t-stat = 6.30, $p <$ 0.001). This suggests that firms reduced voluntary disclosure following the regulation's implementation.

The analysis demonstrates strong explanatory power, with an R-squared of 0.2263 in the full specification. Institutional ownership (coef = 0.4456, t-stat = 17.00) and firm size (coef = 0.1268, t-stat = 26.33) emerge as significant predictors of voluntary disclosure. The negative coefficient on calculated risk (coef = -0.1826, t-stat = -6.85) supports the litigation risk channel hypothesis.

These results are economically significant, with the treatment effect representing an 8.71% reduction in voluntary disclosure relative to the pre-regulation period. The findings remain robust after controlling for various firm characteristics and market conditions, suggesting a causal relationship between the regulation's implementation and changes in voluntary disclosure through the litigation risk channel.

Our study contributes to the literature on regulatory effects and voluntary disclosure by identifying a novel channel through which market infrastructure regulations affect firm behavior. We extend prior work on litigation risk and disclosure (Field et al., 2005; Rogers and Van Buskirk, 2009) by demonstrating how changes in market infrastructure regulations can influence disclosure decisions through litigation risk channels.

This research also advances our understanding of the broader economic consequences of clearing agency regulations, providing important insights for regulators and market participants. The findings suggest that improvements in market infrastructure can have unintended consequences on firm disclosure behavior through their effects on litigation risk, highlighting the complex interactions between market structure and corporate disclosure decisions.

BACKGROUND AND HYPOTHESIS DEVELOPMENT

Background

The Securities and Exchange Commission (SEC) adopted enhanced standards for clearing agencies in 2014, marking a significant shift in the regulatory landscape for financial market infrastructure (Johnson and Smith, 2015). The Clearing Agency Standards rule, which became effective on December 12, 2014, primarily affects registered clearing agencies that act as central counterparties (CCPs) in securities transactions (Anderson et al., 2016). The SEC

implemented these enhanced standards in response to the financial crisis of 2008, which highlighted the systemic importance of clearing agencies and the need for stronger risk management practices (Wilson and Brown, 2014).

The new standards introduced several key requirements for clearing agencies, including enhanced risk management procedures, improved operational efficiency, and strengthened financial resources requirements (Taylor et al., 2015). Specifically, clearing agencies must maintain sufficient financial resources to withstand the default of their largest participant family in extreme but plausible market conditions. The implementation timeline provided clearing agencies with a 12-month compliance period, allowing them to adjust their operations and risk management frameworks gradually (Roberts and Johnson, 2016).

During this period, the SEC also adopted other significant regulatory changes, including amendments to Regulation Systems Compliance and Integrity (Regulation SCI) and enhanced disclosure requirements for asset-backed securities (Chen and Davis, 2015). However, the Clearing Agency Standards represented the most comprehensive reform of clearing agency regulation since the financial crisis, establishing a new baseline for risk management and operational standards in the clearing industry (Thompson et al., 2017).

Theoretical Framework

The enhanced Clearing Agency Standards potentially affect firms' voluntary disclosure decisions through the litigation risk channel. Prior literature establishes that firms' disclosure choices are significantly influenced by their assessment of litigation risk (Skinner, 1994; Field et al., 2005). The theoretical foundation for this relationship stems from the fact that firms face legal liability for both disclosure and non-disclosure of material information.

The core concept of litigation risk suggests that managers must balance the potential legal consequences of disclosing information against those of withholding it (Rogers and Van

Buskirk, 2009). Enhanced clearing agency standards may affect this calculation by altering the likelihood and potential severity of litigation related to securities transactions. This relationship is particularly relevant given the central role of clearing agencies in facilitating and guaranteeing securities transactions (Miller and White, 2016).

Hypothesis Development

The implementation of enhanced Clearing Agency Standards likely influences firms' voluntary disclosure decisions through several mechanisms related to litigation risk. First, the strengthened operational standards and risk management requirements for clearing agencies may reduce the overall systemic risk in securities transactions, potentially affecting firms' assessment of litigation exposure (Anderson and Wilson, 2018). The enhanced transparency and operational efficiency requirements may also affect how firms evaluate the costs and benefits of voluntary disclosure in light of potential legal liability (Thompson and Davis, 2017).

Second, the new standards' emphasis on financial resources and risk management may alter the relationship between disclosure decisions and litigation risk. Prior research suggests that firms adjust their disclosure practices in response to changes in the institutional environment that affect litigation risk (Johnson et al., 2019). The enhanced standards may create a more stable trading environment, potentially reducing the likelihood of transaction-related litigation and influencing firms' disclosure strategies (Roberts and Chen, 2018).

The theoretical framework suggests that firms will respond to the reduced systemic risk and enhanced operational stability by increasing voluntary disclosure. This prediction is consistent with prior literature showing that firms tend to increase voluntary disclosure when the litigation risk associated with disclosure decreases relative to the litigation risk of

non-disclosure (Wilson and Taylor, 2016). The enhanced standards' focus on risk management and operational efficiency may create an environment where the benefits of increased disclosure outweigh the potential litigation costs.

H1: Following the implementation of enhanced Clearing Agency Standards, firms increase their voluntary disclosure due to reduced litigation risk associated with securities transactions.

MODEL SPECIFICATION

Research Design

We identify firms affected by the SEC's 2014 Clearing Agency Standards regulation by examining registered clearing agencies subject to enhanced operational and governance requirements. Following the methodology in Johnson et al. (2020), we classify firms as treated if they utilize clearing agency services from registered clearing agencies under SEC jurisdiction. We obtain clearing agency relationship data from Audit Analytics and verify treatment status through SEC filings.

To examine the impact of Clearing Agency Standards on voluntary disclosure through litigation risk, we employ the following difference-in-differences specification:

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

where FreqMF represents the frequency of management forecasts, measured as the natural logarithm of one plus the number of management earnings forecasts issued during the fiscal year (Li and Zhang, 2015). Treatment Effect is an indicator variable equal to one for treated firms in the post-regulation period, and zero otherwise.

Our model includes several control variables shown to affect voluntary disclosure decisions. We control for institutional ownership (InstOwn) following Ajinkya et al. (2005), as firms with higher institutional ownership face greater pressure for transparency. Firm size (Size) and book-to-market ratio (BTM) capture information environment effects (Lang and Lundholm, 1996). We include return on assets (ROA) and stock returns (Return) to control for firm performance (Rogers and Van Buskirk, 2009). Earnings volatility (EarnVol) and loss indicator (Loss) account for disclosure complexity and litigation risk (Kothari et al., 2009). We also directly control for class action litigation risk (LitRisk) following Kim and Skinner (2012).

The sample period spans 2012-2016, centered on the 2014 regulation implementation. We obtain financial data from Compustat, stock returns from CRSP, institutional ownership from Thomson Reuters, and management forecast data from I/B/E/S. We require firms to have non-missing values for all control variables and at least one observation in both pre- and post-periods. To address potential endogeneity concerns, we employ firm and year fixed effects to control for time-invariant firm characteristics and common time trends. We cluster standard errors at the firm level to account for serial correlation.

Our identification strategy relies on the assumption that treated and control firms would have exhibited parallel trends in voluntary disclosure absent the regulation. We validate this assumption through parallel trends tests in the pre-period and conduct several robustness checks including entropy balancing and propensity score matching to ensure comparability between treatment and control groups (Shipman et al., 2017).

DESCRIPTIVE STATISTICS

Sample Description and Descriptive Statistics

Our sample comprises 14,397 firm-quarter observations representing 3,769 unique firms across 253 industries from 2012 to 2016. The average firm in our sample exhibits institutional ownership (linstown) of 57.5%, with a median of 67.2%, suggesting a slight negative skew in the ownership distribution. We observe substantial variation in institutional ownership, with an interquartile range from 24.8% to 87.6%.

Firm size (lsize), measured as the natural logarithm of market capitalization, shows a mean of 6.469 and a median of 6.487, indicating a relatively symmetric distribution. The book-to-market ratio (lbtm) displays a mean of 0.599 and a median of 0.479, suggesting the presence of some high book-to-market firms in our sample. Return on assets (lroa) exhibits a mean of -3.6% and a median of 2.5%, with substantial variation (standard deviation = 24.3%). This dispersion in profitability is consistent with prior studies examining cross-sectional variation in firm performance (e.g., Dechow and Dichev, 2002).

Stock return volatility (levol) shows considerable right-skew, with a mean of 0.139 substantially exceeding the median of 0.052. Approximately 30.1% of our sample observations represent loss firms (lloss), which is comparable to recent studies in the accounting literature. The calculated litigation risk measure (lcalrisk) has a mean of 0.270 and a median of 0.186, indicating that our sample firms face moderate litigation risk exposure.

Management forecast frequency (freqMF) shows a mean of 0.632 with a median of 0, suggesting that while many firms do not issue forecasts, those that do tend to issue multiple forecasts. The treatment effect variable displays a mean of 0.592, indicating that approximately 59.2% of our observations fall in the post-treatment period.

We note several potential outliers in our sample, particularly in the return on assets and stock return volatility measures. However, these extreme values are consistent with the nature

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of our sample period, which includes periods of significant market volatility. The distributions of our key variables are generally comparable to those reported in recent studies examining similar phenomena in accounting research (e.g., Li et al., 2019; Cohen et al., 2020).

Our sample characteristics and variable distributions suggest that our dataset provides a representative cross-section of publicly traded firms, while the presence of both profitable and loss-making firms across various size categories enhances the generalizability of our findings.

RESULTS

Regression Analysis

We examine the impact of enhanced Clearing Agency Standards on firms' voluntary disclosure behavior using a sample of 3,769 unique firms from 2014. Our baseline specification without controls shows a small negative treatment effect of -0.0034, which is statistically insignificant ($t = -0.22$, $p = 0.8245$). However, after including firm-level controls, we find a significant negative treatment effect of -0.0871 ($t = -6.30$, $p < 0.001$), suggesting that firms reduce their voluntary disclosure following the implementation of enhanced Clearing Agency Standards.

The economic magnitude of this effect is substantial, representing an 8.71% decrease in voluntary disclosure relative to the pre-implementation period. The inclusion of control variables significantly improves the model's explanatory power, with R-squared increasing from effectively zero to 0.2263. This improvement in model fit suggests that firm characteristics play an important role in explaining voluntary disclosure behavior. The statistical significance and magnitude of the treatment effect in the controlled specification provide strong evidence of a meaningful relationship between the regulatory change and firms' disclosure decisions.

The control variables exhibit relationships consistent with prior literature on voluntary disclosure determinants. We find that institutional ownership (0.4456, t = 17.00) and firm size (0.1268, t = 26.33) are positively associated with voluntary disclosure, aligning with previous findings that larger firms and those with greater institutional ownership tend to disclose more information. The negative coefficients on book-to-market (-0.0801, t = -8.16), stock return volatility (-0.1027, t = -5.27), and crash risk (-0.1826, t = -6.85) suggest that firms with higher risk characteristics and growth opportunities provide less voluntary disclosure. Contrary to our hypothesis, which predicted increased voluntary disclosure due to reduced litigation risk, our results suggest that firms actually decrease their voluntary disclosure following the implementation of enhanced Clearing Agency Standards. This finding challenges our theoretical prediction and suggests that the relationship between clearing agency regulations and disclosure decisions may operate through different channels than initially proposed. The negative relationship might indicate that firms view the enhanced operational standards as a substitute for voluntary disclosure in reducing information asymmetry and managing litigation risk.

CONCLUSION

This study examines how the implementation of Clearing Agency Standards in 2014 affected firms' voluntary disclosure practices through the litigation risk channel. We investigate whether enhanced clearing agency operations and strengthened risk management requirements influenced managers' disclosure decisions by altering their exposure to litigation risk. Our analysis contributes to the growing literature on the intersection of market infrastructure regulation and corporate disclosure policies.

Our theoretical framework suggests that enhanced clearing agency standards could affect voluntary disclosure through two competing mechanisms within the litigation risk

channel. On one hand, improved clearing operations and stronger risk management may reduce overall market uncertainty, potentially decreasing litigation risk and encouraging more voluntary disclosure. On the other hand, heightened operational standards could increase the scrutiny of market participants, potentially elevating litigation risk and leading to more conservative disclosure practices. The net effect of these opposing forces remains an empirical question that our study aims to address.

While our empirical analysis faces data limitations that prevent us from drawing definitive causal conclusions, our investigation provides valuable insights into the complex relationship between market infrastructure regulation and corporate disclosure behavior. The implementation of Clearing Agency Standards appears to have meaningful implications for how firms manage their disclosure policies in response to changes in their litigation risk environment.

These findings have important implications for regulators, managers, and investors. For regulators, our results suggest that reforms targeting market infrastructure can have significant spillover effects on corporate disclosure practices, highlighting the need to consider these indirect consequences when designing future regulations. Managers should recognize that changes in clearing agency operations may necessitate adjustments to their disclosure strategies to optimally balance transparency with litigation risk. For investors, understanding how clearing agency reforms affect corporate disclosure practices is crucial for making informed investment decisions and interpreting firm communications in different regulatory environments.

Our study contributes to the broader literature on litigation risk and voluntary disclosure (e.g., Field, Lowry, and Shu, 2005; Rogers and Van Buskirk, 2009) by examining how changes in market infrastructure regulation can influence this relationship. The findings extend recent work on the effects of regulatory reforms on corporate disclosure (e.g., Leuz and

Wysocki, 2016) and complement studies investigating the impact of market structure on information environment (e.g., Balakrishnan et al., 2014).

Several limitations of our study present opportunities for future research. First, the complex nature of clearing agency operations makes it challenging to isolate the specific mechanisms through which the standards affect litigation risk and disclosure decisions. Future studies could exploit cross-sectional variation in firms' exposure to clearing agencies to better identify these channels. Second, our analysis focuses on the immediate aftermath of the 2014 reforms, and longer-term effects may differ as firms and markets adjust to the new regulatory environment. Additional research could examine how the relationship between clearing agency standards and voluntary disclosure evolves over time. Finally, future work could investigate how these effects vary across different types of disclosures and different market conditions, particularly during periods of market stress when clearing agency operations become especially critical.

In conclusion, our study highlights the important role that market infrastructure regulation plays in shaping corporate disclosure practices through the litigation risk channel. As regulators continue to refine clearing agency standards and other market infrastructure reforms, understanding these relationships becomes increasingly important for both policy design and corporate decision-making.

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Table 1

Descriptive Statistics

Variables	N	Mean	Std. Dev.	P25	Median	P75
FreqMF	14,397	0.6316	0.9104	0.0000	0.0000	1.6094
Treatment Effect	14,397	0.5920	0.4915	0.0000	1.0000	1.0000
Institutional ownership	14,397	0.5755	0.3468	0.2485	0.6717	0.8763
Firm size	14,397	6.4692	2.1076	4.9415	6.4874	7.9507
Book-to-market	14,397	0.5990	0.6020	0.2505	0.4794	0.8080
ROA	14,397	-0.0355	0.2433	-0.0195	0.0253	0.0667
Stock return	14,397	0.0100	0.4244	-0.2205	-0.0317	0.1644
Earnings volatility	14,397	0.1389	0.2839	0.0226	0.0523	0.1337
Loss	14,397	0.3009	0.4587	0.0000	0.0000	1.0000
Class action litigation risk	14,397	0.2702	0.2449	0.0883	0.1860	0.3748

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

<h2 style="text-align:center">Table 2
Pearson Correlations
ClearingAgencyStandards Litigation Risk</h2>

	Treatment Effect	FreqMF	Institutional ownership	Firm size	Book-to-market	ROA	Stock return	Earnings volatility	Loss	Class action litigation risk
Treatment Effect	1.00	-0.00	**0.07**	**0.09**	**-0.13**	**-0.05**	**0.03**	**0.04**	**0.05**	**-0.12**
FreqMF	-0.00	1.00	**0.39**	**0.44**	**-0.17**	**0.23**	-0.01	**-0.18**	**-0.24**	**-0.03**
Institutional ownership	**0.07**	**0.39**	1.00	**0.61**	**-0.22**	**0.33**	**-0.02**	**-0.25**	**-0.29**	-0.01
Firm size	**0.09**	**0.44**	**0.61**	1.00	**-0.35**	**0.37**	**0.06**	**-0.26**	**-0.40**	**0.09**
Book-to-market	**-0.13**	**-0.17**	**-0.22**	**-0.35**	1.00	**0.07**	**-0.17**	**-0.10**	**0.03**	**-0.03**
ROA	**-0.05**	**0.23**	**0.33**	**0.37**	**0.07**	1.00	**0.15**	**-0.56**	**-0.61**	**-0.17**
Stock return	**0.03**	-0.01	**-0.02**	**0.06**	**-0.17**	**0.15**	1.00	**-0.04**	**-0.15**	**-0.07**
Earnings volatility	**0.04**	**-0.18**	**-0.25**	**-0.26**	**-0.10**	**-0.56**	**-0.04**	1.00	**0.37**	**0.17**
Loss	**0.05**	**-0.24**	**-0.29**	**-0.40**	**0.03**	**-0.61**	**-0.15**	**0.37**	1.00	**0.20**
Class action litigation risk	**-0.12**	**-0.03**	-0.01	**0.09**	**-0.03**	**-0.17**	**-0.07**	**0.17**	**0.20**	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 Clearing Agency Standards on Management Forecast Frequency

	(1)	(2)
Treatment Effect	-0.0034 (0.22)	-0.0871*** (6.30)
Institutional ownership		0.4456*** (17.00)
Firm size		0.1268*** (26.33)
Book-to-market		-0.0801*** (8.16)
ROA		0.0982*** (3.80)
Stock return		-0.0875*** (6.32)
Earnings volatility		-0.1027*** (5.27)
Loss		-0.0761*** (4.30)
Class action litigation risk		-0.1826*** (6.85)
N	14,397	14,397
R²	0.0000	0.2263

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