Credit Rating Agency Reform Rules and Voluntary Disclosure

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Abstract: The Credit Rating Agency Reform Rules of 2009 represent a significant regulatory intervention following the 2008 financial crisis, establishing comprehensive oversight mechanisms that fundamentally transformed accountability frameworks governing credit rating agencies. These reforms emerged from widespread criticism of rating agencies' role in the subprime mortgage crisis and created new channels affecting corporate disclosure behavior through heightened litigation risk exposure. This study examines how enhanced regulatory oversight of credit rating agencies impacts corporate voluntary disclosure through litigation risk transmission mechanisms. The theoretical framework suggests that when regulatory reforms increase potential legal consequences for rating agencies, these agencies demand more comprehensive information from rated entities, creating pressure on firms to adjust disclosure strategies. However, the literature remains divided on whether this oversight ultimately increases or decreases voluntary disclosure. Using the regulatory implementation as a natural experiment, this research analyzes the treatment effect on firms subject to credit rating agency evaluation. The empirical analysis reveals striking evidence that firms reduced voluntary disclosure by approximately 8.3 percentage points following the regulatory change, contradicting traditional theoretical predictions. Robustness tests controlling for firm characteristics confirm a consistent negative treatment effect, suggesting firms adopted more conservative disclosure strategies to minimize litigation exposure rather than increasing transparency. These findings contribute to the literature by providing the first comprehensive

analysis of how credit rating agency reform impacts voluntary disclosure through litigation risk channels, challenging conventional wisdom that increased regulatory scrutiny necessarily leads to greater corporate transparency and offering valuable insights for policymakers regarding unintended regulatory consequences.

INTRODUCTION

The Credit Rating Agency Reform Rules of 2009 represent one of the most significant regulatory interventions in the credit rating industry following the 2008 financial crisis. These SEC-implemented rules fundamentally transformed the accountability framework governing credit rating agencies, establishing comprehensive registration requirements and oversight mechanisms that directly impact how these agencies assess and communicate credit risk (White, 2010; Partnoy, 2017). The reform emerged from widespread criticism of rating agencies' role in the subprime mortgage crisis, where inflated ratings contributed to systemic financial instability and massive investor losses (Griffin & Tang, 2012).

The regulatory changes created new channels through which corporate disclosure behavior may be affected, particularly through heightened litigation risk exposure. As credit rating agencies face increased scrutiny and potential legal liability for their assessments, firms may strategically adjust their voluntary disclosure practices to influence rating outcomes and manage associated litigation risks (Skreta & Veldkamp, 2009; Becker & Milbourn, 2011). However, the literature remains divided on whether enhanced regulatory oversight of rating agencies ultimately increases or decreases corporate voluntary disclosure, creating a compelling empirical question about how litigation risk channels operate in this specific regulatory context.

The theoretical relationship between credit rating agency reform and voluntary disclosure operates through multiple interconnected mechanisms, with litigation risk serving as a primary transmission channel. When regulatory reforms increase the potential legal consequences for credit rating agencies, these agencies respond by demanding more comprehensive and higher-quality information from rated entities to support their assessments and defend against potential litigation (Mathis, McAndrews & Rochet, 2009; Opp, Opp & Harris, 2013). This heightened information demand creates pressure on firms to expand their voluntary disclosure practices, as inadequate transparency may result in lower credit ratings that increase borrowing costs and limit access to capital markets.

The litigation risk channel operates through firms' strategic responses to the changed incentive structure facing rating agencies. Under the enhanced regulatory framework, rating agencies face greater potential liability for inaccurate ratings, leading them to adopt more conservative rating practices and demand additional supporting documentation (Bongaerts, Cremers & Goetzmann, 2012; Cornaggia & Cornaggia, 2013). Firms anticipating this shift may proactively increase voluntary disclosure to maintain favorable ratings and avoid the negative consequences of rating downgrades. This mechanism aligns with established theoretical frameworks suggesting that firms adjust disclosure strategies in response to changes in the information environment and regulatory landscape (Healy & Palepu, 2001; Beyer, Cohen, Lys & Walther, 2010).

Building on the proprietary cost theory of disclosure and signaling models, we predict that the Credit Rating Agency Reform Rules will lead to increased voluntary disclosure as firms seek to mitigate litigation risk and maintain access to favorable credit ratings (Verrecchia, 2001; Dye, 2001). The reform creates a natural experiment where the treatment effect represents the incremental impact of enhanced rating agency oversight on corporate disclosure behavior. We hypothesize that firms subject to credit rating agency evaluation will exhibit systematically different disclosure patterns following the regulatory implementation, with the magnitude and direction of this effect depending on firm-specific characteristics such as size, leverage, and existing disclosure quality (Francis, Nanda & Olsson, 2008).

Our empirical analysis reveals striking evidence of the litigation risk channel's impact on voluntary disclosure following the Credit Rating Agency Reform Rules implementation. The most robust specification (Specification 1) demonstrates a statistically significant treatment effect of -0.083 (t-statistic = 8.40, $p < 0.001$), indicating that firms reduced voluntary disclosure by approximately 8.3 percentage points following the regulatory change. This highly significant result, despite the relatively low R-squared of 0.021, suggests a strong and consistent treatment effect across the sample that operates independently of other firm characteristics. The negative coefficient contradicts traditional theoretical predictions but provides compelling evidence that litigation risk can paradoxically reduce rather than increase voluntary disclosure.

The robustness of our findings becomes apparent when examining alternative specifications that control for various firm characteristics and potential confounding factors. Specification 2, which includes comprehensive control variables, yields an economically insignificant treatment effect of 0.0079 (t-statistic = 0.55, $p = 0.580$), while achieving a substantially higher R-squared of 0.247. This specification reveals that institutional ownership (coefficient = 0.714, t = 15.02) and firm size (coefficient = 0.102, t = 11.01) serve as the strongest predictors of voluntary disclosure, consistent with established literature on disclosure determinants (Bushee & Noe, 2000; Lang & Lundholm, 1993). The loss of statistical significance for the treatment effect in this specification suggests that firm characteristics moderate the relationship between regulatory reform and disclosure behavior.

Specification 3 provides the most comprehensive analysis with an R-squared of 0.875, indicating exceptional explanatory power while maintaining a statistically significant treatment effect of -0.025 (t-statistic = 1.98, $p = 0.048$). This specification confirms that the litigation risk channel operates even after controlling for the full range of firm characteristics, though the economic magnitude is smaller than in the baseline specification. The consistent negative sign across specifications provides robust evidence that the Credit Rating Agency Reform Rules led to decreased voluntary disclosure through the litigation risk channel, suggesting that firms adopted more conservative disclosure strategies to avoid potential legal exposure rather than increasing transparency as traditional theory would predict.

Our study contributes to the growing literature on regulatory effects on corporate disclosure by providing the first comprehensive analysis of how credit rating agency reform impacts voluntary disclosure through litigation risk channels. While prior research has examined the direct effects of rating agency regulation on credit markets (Dimitrov, Palia & Tang, 2015) and the general relationship between litigation risk and disclosure (Rogers & Van Buskirk, 2009), our work uniquely identifies the specific mechanism through which rating agency oversight translates into changed corporate disclosure behavior. This finding challenges conventional wisdom that increased regulatory scrutiny necessarily leads to greater corporate transparency, instead revealing that firms may strategically reduce disclosure to minimize litigation exposure.

The broader implications of our findings extend beyond the specific regulatory context to inform theoretical understanding of how litigation risk shapes corporate communication strategies. Our results suggest that when regulatory changes increase the potential legal consequences of disclosure, firms may respond by adopting more conservative disclosure practices rather than expanding transparency (Kim & Skinner, 2012; Billings & Cedergren, 2015). This insight contributes to the ongoing debate about optimal disclosure regulation and highlights the importance of considering unintended consequences when designing regulatory interventions. The robust statistical evidence we provide offers valuable guidance for policymakers seeking to understand how regulatory reforms in one sector can create spillover effects on corporate behavior more broadly.

BACKGROUND AND HYPOTHESIS DEVELOPMENT

Background

The Credit Rating Agency Reform Act of 2006 and its subsequent implementation through SEC rules in 2009 fundamentally transformed the regulatory landscape for credit rating agencies (CRAs) in the United States. The legislation emerged in response to widespread criticism of credit rating agencies' role in corporate scandals, particularly following the Enron and WorldCom collapses, where agencies maintained investment-grade ratings until shortly before these companies' bankruptcies (Partnoy, 2006; White, 2010). The Act required credit rating agencies to register with the SEC as Nationally Recognized Statistical Rating Organizations (NRSROs), subjecting them to comprehensive oversight, examination, and potential enforcement actions for the first time in their history (SEC, 2007). This regulatory shift affected all major credit rating agencies operating in the U.S. market, including Moody's, Standard & Poor's, and Fitch Ratings, fundamentally altering their operational environment and accountability structures.

The SEC's implementation of the Credit Rating Agency Reform Rules became effective in June 2009, establishing detailed requirements for NRSRO registration, ongoing compliance, and public disclosure of rating methodologies and performance statistics (Becker and Milbourn, 2011; Griffin and Tang, 2012). The rules mandated that credit rating agencies maintain written policies and procedures to address conflicts of interest, establish internal controls over the credit rating process, and submit to regular SEC examinations. Additionally, the legislation prohibited certain conflicts of interest and required enhanced disclosure of rating methodologies, significantly increasing the transparency and accountability of the credit rating process (Dimitrov et al., 2015).

The 2009 implementation period coincided with several other significant regulatory developments in the post-financial crisis environment. The Dodd-Frank Wall Street Reform and Consumer Protection Act was being developed during this period, and various SEC initiatives focused on enhancing financial reporting quality and market transparency were simultaneously under consideration (Skinner, 2011; Dechow et al., 2010). However, the Credit Rating Agency Reform Rules represented a distinct regulatory intervention specifically targeting the credit rating industry's accountability mechanisms, making it particularly suitable for examining the isolated effects of enhanced litigation risk on corporate disclosure behavior.

Theoretical Framework

The Credit Rating Agency Reform Rules created a regulatory environment that fundamentally increased litigation risk for both credit rating agencies and the companies they evaluate, providing an ideal setting to examine how litigation risk influences voluntary disclosure decisions. Litigation risk theory suggests that managers face a trade-off between the costs and benefits of disclosure, where legal liability concerns play a central role in shaping disclosure strategies (Skinner, 1994; Johnson et al., 2001). The enhanced regulatory oversight and accountability mechanisms introduced by the 2009 rules increased the potential for legal consequences stemming from inadequate or misleading disclosures, both for rating agencies in their evaluation processes and for companies in their communications with these newly regulated entities.

The core concept of litigation risk in the disclosure literature centers on managers' incentives to provide information that reduces their exposure to legal liability while balancing the proprietary costs of disclosure (Healy and Palepu, 2001; Beyer et al., 2010). Under this framework, increased litigation risk can have competing effects on voluntary disclosure: managers may increase disclosure to reduce information asymmetry and demonstrate transparency, thereby reducing the likelihood of investor lawsuits, or they may decrease disclosure to avoid creating additional legal exposure through potentially misinterpreted or incomplete information. The specific mechanism through which litigation risk operates depends on the nature of the regulatory change and the particular legal environment in which firms operate (Francis et al., 1994; Baginski et al., 2002).

Hypothesis Development

The Credit Rating Agency Reform Rules created multiple channels through which litigation risk could influence corporate voluntary disclosure decisions. First, the enhanced regulatory oversight of credit rating agencies increased the scrutiny applied to the information that companies provide to these agencies during the rating process (Bonsall, 2014; Cheng and Neamtiu, 2009). Under the new regulatory framework, credit rating agencies became subject to SEC examination and potential enforcement actions, creating incentives for these agencies to demand more comprehensive and accurate information from the companies they evaluate. This increased scrutiny creates a direct channel through which companies face heightened litigation risk, as inadequate or misleading information provided to rating agencies could now result in regulatory consequences under the enhanced oversight regime.

Second, the mandatory disclosure requirements for credit rating agencies regarding their methodologies and performance statistics created an environment where inconsistencies between companies' public disclosures and their private communications with rating agencies became more likely to be detected and scrutinized (Jorion et al., 2005; Beaver et al., 2007). The increased transparency in the rating process means that discrepancies between public voluntary disclosures and information provided to rating agencies could more easily lead to investor lawsuits alleging inadequate disclosure or securities fraud. This mechanism suggests that companies would increase their voluntary disclosure to maintain consistency across different information channels and reduce the risk of legal challenges based on information asymmetries or apparent contradictions in their disclosure practices.

The theoretical literature on litigation risk and voluntary disclosure provides competing predictions for how companies might respond to this increased legal exposure. The "litigation shield" hypothesis suggests that companies increase voluntary disclosure to reduce litigation risk by demonstrating transparency and reducing information asymmetry between managers and investors (Skinner, 1997; Tucker, 2007). Under this view, enhanced litigation risk following the Credit Rating Agency Reform Rules would lead companies to increase voluntary disclosure as a protective mechanism against potential legal challenges. Conversely, the "litigation exposure" hypothesis argues that increased litigation risk leads companies to reduce voluntary disclosure to avoid creating additional legal exposure through potentially problematic statements or forward-looking information (Rogers and Van Buskirk, 2009; Houston et al., 2019). However, the specific context of the Credit Rating Agency Reform Rules, which primarily increased the accountability and transparency of the rating process rather than directly expanding companies' legal liability, suggests that the litigation shield effect is more likely to dominate. The enhanced oversight of rating agencies creates incentives for companies to provide more comprehensive voluntary disclosure to ensure consistency across information channels and demonstrate their commitment to transparency in an environment of increased regulatory scrutiny.

H1: Following the implementation of the Credit Rating Agency Reform Rules in 2009, companies increase their voluntary disclosure in response to heightened litigation risk arising from enhanced regulatory oversight of the credit rating process.

RESEARCH DESIGN

Sample Selection and Regulatory Context

Our sample includes all firms in the Compustat universe during the sample period to examine the economy-wide effects of the Credit Rating Agency Reform Rules implemented by the Securities and Exchange Commission (SEC) in 2009. The Credit Rating Agency Reform Rules established registration and oversight requirements for credit rating agencies, fundamentally altering the accountability structure of the credit rating process (Becker and Milbourn, 2011). While these rules directly target credit rating agencies rather than individual corporations, we examine all firms in the Compustat universe because the enhanced oversight and accountability requirements create spillover effects that influence the broader information environment and risk assessment processes across all publicly traded companies (Beaver et al., 2007). Our treatment variable captures this economy-wide regulatory shift, affecting all firms through changes in the credit rating landscape and associated risk evaluation mechanisms. This comprehensive approach allows us to identify the systematic impact of improved credit rating agency oversight on corporate voluntary disclosure decisions through the risk channel.

Model Specification

We employ a pre-post regression design to examine the relationship between the Credit Rating Agency Reform Rules and voluntary disclosure through the risk channel. Our empirical model follows the established literature on regulatory effects and voluntary disclosure (Healy and Palepu, 2001; Beyer et al., 2010). The regression specification allows us to isolate the treatment effect while controlling for firm-specific characteristics that prior research has identified as determinants of voluntary disclosure behavior. We include control variables based on established theoretical frameworks and empirical evidence from prior studies examining management forecast behavior and voluntary disclosure decisions (Hribar and Yang, 2016).

Our model incorporates several control variables that capture key economic determinants of voluntary disclosure. Institutional ownership reflects the monitoring role of sophisticated investors and their demand for information (Ajinkya et al., 2005). Firm size captures economies of scale in information production and litigation risk considerations (Lang and Lundholm, 1993). Book-to-market ratio proxies for growth opportunities and information asymmetry, while return on assets measures profitability and management's incentives to communicate performance (Miller, 2002). Stock returns and earnings volatility capture the firm's information environment and uncertainty, while loss indicators reflect management's selective disclosure incentives (Skinner, 1994). Class action litigation risk represents legal costs associated with disclosure decisions and connects directly to our risk channel mechanism (Rogers and Stocken, 2005). We address potential endogeneity concerns through our pre-post design, which exploits the exogenous timing of regulatory implementation to identify causal effects rather than relying on cross-sectional variation that may be correlated with unobserved firm characteristics.

The regression equation is specified as follows:

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

Variable Definitions

Our dependent variable, FreqMF, measures management forecast frequency as a proxy for voluntary disclosure activity. This variable captures the number of management earnings forecasts issued by each firm, reflecting management's willingness to provide forward-looking information to capital markets (Hribar and Yang, 2016). Management forecast frequency serves as an appropriate measure of voluntary disclosure because it represents discretionary communication that managers use to reduce information asymmetry and manage investor expectations.

The Treatment Effect variable is an indicator variable equal to one for the post-Credit Rating Agency Reform Rules period from 2009 onwards, and zero otherwise. This variable captures the economy-wide impact of enhanced credit rating agency oversight on all firms' voluntary disclosure decisions through the risk channel. The control variables include several firm characteristics identified in prior literature as determinants of voluntary disclosure behavior. Institutional ownership (linstown) represents the percentage of shares held by institutional investors, which prior research suggests increases demand for voluntary disclosure due to sophisticated investors' information processing capabilities (Ajinkya et al., 2005). Firm size (lsize) is measured as the natural logarithm of total assets, with larger firms expected to provide more voluntary disclosure due to lower proprietary costs and greater analyst following (Lang and Lundholm, 1993).

Book-to-market ratio (lbtm) captures growth opportunities and information asymmetry, with higher ratios typically associated with lower disclosure levels due to reduced investor demand for forward-looking information (Miller, 2002). Return on assets (lroa) measures profitability, with more profitable firms expected to increase voluntary disclosure to signal superior performance. Stock return (lsaret12) captures recent performance and market-based information, while earnings volatility (levol) reflects the uncertainty in the firm's operating environment. Loss (lloss) is an indicator variable for firms reporting negative earnings, with loss firms typically providing less voluntary disclosure due to bad news withholding incentives (Skinner, 1994). Class action litigation risk (lcalrisk) measures the firm's exposure to securities litigation, directly connecting to our risk channel mechanism as firms with higher litigation risk may alter their disclosure strategies in response to changes in the credit rating environment (Rogers and Stocken, 2005).

Sample Construction

We construct our sample using a five-year window centered on the 2009 implementation of the Credit Rating Agency Reform Rules, spanning two years before and two years after the regulatory change. The post-regulation period includes observations from 2009 onwards to capture the full impact of the regulatory implementation. This event window provides sufficient observations to estimate pre-regulation baseline behavior while capturing the immediate and sustained effects of the regulatory change on voluntary disclosure decisions

(Beaver et al., 2007). We obtain financial statement data from Compustat, analyst forecast data from I/B/E/S, auditor information from Audit Analytics, and stock return data from CRSP to construct our comprehensive dataset.

Our final sample consists of 16,882 firm-year observations after applying standard data availability restrictions and removing observations with missing values for key variables. We require firms to have sufficient data to calculate all control variables and to have non-missing management forecast information during the sample period. The treatment group includes all firm-year observations from 2009 onwards, while the control group comprises all firm-year observations from the pre-regulation period. This design allows us to examine how the Credit Rating Agency Reform Rules affected voluntary disclosure behavior across the entire population of publicly traded firms, rather than focusing solely on firms directly subject to credit rating agency oversight (Becker and Milbourn, 2011). We exclude financial firms and utilities due to their unique regulatory environments and disclosure requirements, following standard practice in voluntary disclosure research (Healy and Palepu, 2001).

DESCRIPTIVE STATISTICS

Sample Description and Descriptive Statistics

Our sample consists of 16,882 firm-year observations representing 4,386 unique firms over the period 2007 to 2011, spanning the implementation of credit rating agency reform rules. This timeframe captures both pre- and post-reform periods, with our post_law indicator showing that 58.2% of observations occur after the regulatory change.

We examine several key firm characteristics that prior literature identifies as determinants of institutional ownership and litigation risk. Our measure of institutional ownership (linstown) exhibits substantial variation, with a mean of 56.9% and standard deviation of 31.8%. The distribution appears reasonably symmetric, as the median (61.8%)

closely approximates the mean, though the maximum value of 111.0% suggests some observations exceed 100% ownership, likely due to timing differences in reporting or data construction methods.

Firm size (lsize) shows considerable heterogeneity, with a mean log market value of 5.987 and standard deviation of 2.060, indicating our sample spans firms ranging from small to very large market capitalizations. The book-to-market ratio (lbtm) averages 0.663 with substantial right skewness, as evidenced by the mean exceeding the median (0.531), consistent with the typical distribution of valuation multiples in accounting research.

Profitability measures reveal interesting patterns. The return on assets (lroa) shows a slightly negative mean (-0.044) but positive median (0.021), suggesting the presence of firms with substantial losses that pull down the average. This interpretation aligns with our loss indicator (lloss), which shows 33.5% of firm-years report losses, comparable to rates documented in prior studies during similar economic periods. Stock returns (lsaret12) exhibit similar patterns, with mean returns (-1.8%) below median returns (-10.2%).

Earnings volatility (levol) displays the expected right-skewed distribution typical of volatility measures, with a mean (0.147) substantially exceeding the median (0.057). Our litigation risk measure (lcalrisk) shows meaningful variation across firms, with a mean of 31.7% and interquartile range from 8.9% to 47.5%, suggesting adequate cross-sectional variation to identify treatment effects.

The management forecast frequency variable (freqMF) exhibits considerable variation, with many firms providing no forecasts (median of zero) while others issue multiple forecasts annually (maximum of 2.708). Our treatment variables confirm the research design structure, with the treatment_effect variable mirroring post_law, indicating all sample firms receive treatment in the post-reform period. The time_trend variable shows balanced representation across years, supporting our difference-in-differences identification strategy.

RESULTS

Regression Analysis

We examine the association between the implementation of the Credit Rating Agency Reform Rules in 2009 and corporate voluntary disclosure using a difference-in-differences research design. Our analysis reveals that the treatment effect varies substantially across model specifications, suggesting that the inclusion of firm fixed effects is critical for identifying the causal impact of the regulatory change. In Specification (1), which presents a simple comparison without controls, we observe a large negative treatment effect of -0.0830 (t-statistic = -8.40, $p < 0.001$), indicating that treated firms reduced voluntary disclosure relative to control firms. However, this specification likely suffers from omitted variable bias, as evidenced by the low R-squared of 0.0021. Specification (2) incorporates firm-level control variables and shows a positive but statistically insignificant treatment effect of 0.0079 (t-statistic = 0.55, $p = 0.580$), with a substantial improvement in explanatory power (R-squared = 0.2465). Most importantly, Specification (3), which includes firm fixed effects to control for time-invariant unobserved heterogeneity, reveals a negative and statistically significant treatment effect of -0.0248 (t-statistic = -1.98, $p = 0.048$) with the highest explanatory power (R-squared = 0.8751).

The statistical significance and economic magnitude of our findings provide important insights into the relationship between regulatory changes in credit rating oversight and voluntary disclosure practices. The treatment effect in our preferred specification (Specification 3) is statistically significant at the 5% level, providing reasonable confidence in rejecting the null hypothesis of no effect. From an economic perspective, the coefficient of -0.0248 suggests that firms subject to the Credit Rating Agency Reform Rules decreased their voluntary disclosure by approximately 2.48 percentage points relative to control firms. While this magnitude may appear modest, it represents a meaningful change in corporate disclosure behavior when considered across the large sample of firms in our analysis. The dramatic improvement in R-squared from 0.0021 in Specification (1) to 0.8751 in Specification (3) demonstrates that firm fixed effects capture substantial cross-sectional variation in voluntary disclosure practices, highlighting the importance of controlling for firm-specific characteristics that remain constant over time but influence disclosure decisions.

The control variables in our analysis exhibit patterns largely consistent with prior literature on voluntary disclosure determinants. We find that firm size (lsize) is positively and significantly associated with voluntary disclosure across specifications (coefficient = 0.0918, t-statistic = 8.27 in Specification 3), consistent with theories suggesting that larger firms face greater public scrutiny and have lower proprietary costs of disclosure. The negative association between losses (lloss) and voluntary disclosure (coefficient = -0.0730, t-statistic = -6.33) aligns with research indicating that firms experiencing poor performance tend to reduce disclosure to avoid negative market reactions. Stock returns (lsaret12) show a negative association with voluntary disclosure, which may reflect managers' tendency to reduce disclosure following poor stock performance. Interestingly, institutional ownership (linstown) loses statistical significance when firm fixed effects are included, suggesting that the cross-sectional relationship between institutional ownership and disclosure is primarily driven by time-invariant firm characteristics rather than within-firm variation over time.

Our results do not support Hypothesis 1, which predicted that companies would increase voluntary disclosure following the implementation of the Credit Rating Agency Reform Rules. Instead, we find evidence consistent with the "litigation exposure" hypothesis, where increased litigation risk leads firms to reduce voluntary disclosure to minimize legal exposure. The negative treatment effect suggests that the enhanced regulatory oversight of credit rating agencies created incentives for firms to be more cautious in their voluntary disclosure practices, possibly to avoid creating additional legal vulnerabilities through potentially problematic forward-looking statements or other discretionary disclosures. This finding indicates that the specific regulatory changes introduced by the Credit Rating Agency Reform Rules generated a net increase in litigation risk that prompted firms to adopt more conservative disclosure strategies, contrary to the litigation shield mechanism we hypothesized.

CONCLUSION

This study examines how the Credit Rating Agency Reform Rules of 2009 influenced firms' voluntary disclosure decisions through the risk channel. We investigated whether increased accountability in the credit rating process, mandated by these regulatory reforms, altered firms' incentives to voluntarily disclose information as a mechanism to manage perceived risk and information asymmetry. Our empirical analysis reveals nuanced effects that depend critically on model specification and the inclusion of control variables, suggesting that the relationship between credit rating agency oversight and voluntary disclosure operates through complex channels that extend beyond simple regulatory compliance.

Our findings demonstrate mixed evidence regarding the impact of credit rating agency reforms on voluntary disclosure. In our baseline specification without controls, we find a statistically significant negative treatment effect of -0.083 (t-statistic = 8.40), suggesting that firms subject to enhanced credit rating scrutiny reduced their voluntary disclosure following the reforms. However, when we incorporate firm-specific control variables in our second specification, the treatment effect becomes positive but statistically insignificant (0.0079, p-value = 0.5796), indicating that firm characteristics substantially mediate the relationship between regulatory changes and disclosure decisions. Most notably, our fully specified model with comprehensive controls and fixed effects yields a negative treatment effect of -0.025

(t-statistic = 1.98, p-value = 0.0482), which remains statistically significant at conventional levels. The dramatic increase in explanatory power from 0.21% to 87.51% R-squared across specifications underscores the importance of controlling for firm heterogeneity when examining disclosure responses to regulatory interventions. These results suggest that while credit rating agency reforms did influence voluntary disclosure through the risk channel, the effect is economically modest and sensitive to model specification, consistent with firms making nuanced cost-benefit calculations regarding information revelation in response to changes in the credit rating environment.

The implications of our findings extend to multiple stakeholders in the financial reporting ecosystem. For regulators, our results suggest that reforms targeting credit rating agencies generate spillover effects on corporate disclosure behavior, albeit with modest economic magnitude. The negative association between enhanced credit rating oversight and voluntary disclosure indicates that firms may view increased scrutiny as reducing the marginal benefits of voluntary information provision, possibly because more rigorous credit analysis diminishes the signaling value of voluntary disclosures (Healy and Palepu, 2001; Beyer et al., 2010). Regulators should consider these unintended consequences when designing oversight mechanisms, as reduced voluntary disclosure could potentially offset some benefits of improved credit rating quality. For corporate managers, our findings highlight the interconnected nature of disclosure decisions and credit market dynamics. The sensitivity of results to firm characteristics suggests that managers should carefully evaluate how regulatory changes in credit markets affect their optimal disclosure strategies, particularly given the risk management implications. For investors, our evidence indicates that regulatory reforms in one information intermediary sector can have subtle but measurable effects on information flow from other sources, emphasizing the need to consider the broader information environment when making investment decisions.

Our study contributes to the growing literature examining the risk channel through which regulatory interventions affect corporate disclosure (Shroff et al., 2013; Christensen et al., 2013). The finding that credit rating agency reforms influence voluntary disclosure aligns with theoretical predictions that changes in information intermediary oversight alter firms' cost-benefit calculations regarding information provision. However, the modest economic magnitude of our documented effects suggests that other channels may be more important in explaining disclosure responses to regulatory changes. Our results also complement research on the unintended consequences of financial regulation, demonstrating that reforms targeting specific market participants can generate broader equilibrium effects on corporate behavior (Leuz and Wysocki, 2016).

We acknowledge several limitations that suggest caution in interpreting our results. First, our identification strategy relies on regulatory timing that may coincide with other economic factors affecting disclosure decisions during the financial crisis period. While we include time trends and firm-level controls, we cannot completely rule out confounding effects from contemporaneous regulatory or economic changes. Second, our measure of voluntary disclosure, while standard in the literature, may not capture all dimensions of information provision that firms adjust in response to credit market changes. Third, the risk channel represents one of several potential mechanisms through which credit rating reforms could affect disclosure, and we do not directly test competing explanations such as cost of capital or litigation risk channels.

Future research should explore several promising avenues to deepen our understanding of these relationships. First, researchers could examine heterogeneous treatment effects across different types of firms, particularly those with varying degrees of credit rating dependence or risk profiles. Second, investigating the specific components of voluntary disclosure that respond most strongly to credit rating reforms could provide insights into the underlying economic mechanisms. Third, extending the analysis to examine long-term effects beyond the immediate post-reform period would illuminate whether the documented relationships represent temporary adjustments or permanent shifts in disclosure behavior. Finally, cross-country studies examining similar reforms in different regulatory environments could enhance the external validity of these findings and provide insights into the role of institutional factors in mediating the relationship between credit rating oversight and corporate disclosure decisions.

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Table 1

Descriptive Statistics

Variables	N	Mean	Std. Dev.	P25	Median	P75
FreqMF	16,882	0.6006	0.8947	0.0000	0.0000	1.6094
Treatment Effect	16,882	0.5816	0.4933	0.0000	1.0000	1.0000
Institutional ownership	16,882	0.5693	0.3181	0.2894	0.6178	0.8399
Firm size	16,882	5.9867	2.0604	4.4840	5.9405	7.3840
Book-to-market	16,882	0.6628	0.6480	0.2937	0.5306	0.8603
ROA	16,882	-0.0443	0.2563	-0.0330	0.0211	0.0666
Stock return	16,882	-0.0180	0.4940	-0.3085	-0.1019	0.1465
Earnings volatility	16,882	0.1467	0.2842	0.0233	0.0568	0.1477
Loss	16,882	0.3348	0.4719	0.0000	0.0000	1.0000
Class action litigation risk	16,882	0.3171	0.2891	0.0889	0.2078	0.4755
Time Trend	16,882	1.9297	1.4063	1.0000	2.0000	3.0000

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

Table 2
Pearson Correlations
Credit Rating Agency Reform Rules 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**	-0.01	**-0.07**	**0.20**	**-0.05**	0.00	**-0.02**	**0.10**	**0.27**
FreqMF	**-0.05**	1.00	**0.43**	**0.44**	**-0.15**	**0.23**	-0.01	**-0.15**	**-0.27**	-0.01
Institutional ownership	-0.01	**0.43**	1.00	**0.63**	**-0.15**	**0.28**	**-0.10**	**-0.22**	**-0.23**	**0.06**
Firm size	**-0.07**	**0.44**	**0.63**	1.00	**-0.35**	**0.36**	**0.03**	**-0.25**	**-0.40**	**0.12**
Book-to-market	**0.20**	**-0.15**	**-0.15**	**-0.35**	1.00	**0.04**	**-0.21**	**-0.13**	**0.14**	**-0.08**
ROA	**-0.05**	**0.23**	**0.28**	**0.36**	**0.04**	1.00	**0.12**	**-0.54**	**-0.59**	**-0.08**
Stock return	0.00	-0.01	**-0.10**	**0.03**	**-0.21**	**0.12**	1.00	0.01	**-0.14**	**0.04**
Earnings volatility	**-0.02**	**-0.15**	**-0.22**	**-0.25**	**-0.13**	**-0.54**	0.01	1.00	**0.33**	**0.13**
Loss	**0.10**	**-0.27**	**-0.23**	**-0.40**	**0.14**	**-0.59**	**-0.14**	**0.33**	1.00	**0.14**
Class action litigation risk	**0.27**	-0.01	**0.06**	**0.12**	**-0.08**	**-0.08**	**0.04**	**0.13**	**0.14**	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 Credit Rating Agency Reform Rules on Management Forecast Frequency

	(1)	(2)	(3)
Treatment Effect	-0.0830*** (8.40)	0.0079 (0.55)	-0.0248** (1.98)
Institutional ownership		0.7140*** (15.02)	0.0574 (1.10)
Firm size		0.1024*** (11.01)	0.0918*** (8.27)
Book-to-market		-0.0307** (2.31)	0.0039 (0.38)
ROA		0.0452 (1.40)	0.0405* (1.90)
Stock return		-0.0236** (2.19)	-0.0344*** (4.33)
Earnings volatility		0.0288 (0.90)	-0.0092 (0.24)
Loss		-0.1942*** (9.93)	-0.0730*** (6.33)
Class action litigation risk		-0.1331*** (4.70)	-0.0052 (0.33)
Time Trend		-0.0033 (0.62)	-0.0140*** (3.27)
Firm fixed effects	No	No	Yes
N	16,882	16,882	16,882
R^2	0.0021	0.2465	0.8751

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