Credit Rating Agency Reform Rules and Voluntary Disclosure

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Abstract: The 2008 financial crisis exposed critical weaknesses in the credit rating system, prompting the Securities and Exchange Commission to implement the Credit Rating Agency Reform Rules in 2009, which established comprehensive oversight mechanisms and accountability requirements for rating agencies. While existing literature extensively examines the direct effects of rating agency regulation on credit markets, a significant gap remains in understanding how these reforms influence corporate voluntary disclosure behavior through enhanced governance channels. This study addresses whether increased credit rating agency accountability translates into changes in corporate voluntary disclosure practices and examines the mechanism through which improved corporate governance mediates this relationship. Building on agency theory and signaling theory, we hypothesize that the reform rules reduced voluntary disclosure by strengthening external monitoring mechanisms, creating a substitution effect where credible external monitoring diminishes the incremental value of management's voluntary disclosures. Using empirical analysis, we found statistically significant evidence that the Credit Rating Agency Reform Rules reduced voluntary disclosure through the corporate governance channel, with the most robust specification demonstrating a treatment effect of -0.0830 (t-statistic = 8.40, $p < 0.001$). This study contributes novel evidence on the unintended consequences of financial regulation on corporate disclosure behavior, extending existing literature by demonstrating that credit rating reforms have spillover effects on voluntary disclosure through governance channels rather than merely affecting rating quality, and

highlighting the importance of considering system-wide effects when implementing targeted regulatory reforms.

INTRODUCTION

The 2008 financial crisis exposed critical weaknesses in the credit rating system, with rating agencies facing intense scrutiny for their role in the collapse of mortgage-backed securities markets (Griffin and Tang, 2012; Becker and Milbourn, 2011). In response, the Securities and Exchange Commission implemented the Credit Rating Agency Reform Rules in 2009, establishing comprehensive registration requirements and oversight mechanisms to increase accountability in the credit rating process. These reforms fundamentally altered the regulatory landscape for credit rating agencies, imposing new disclosure requirements, conflict-of-interest provisions, and performance standards that significantly enhanced regulatory oversight of these systemically important institutions (White, 2010).

The Credit Rating Agency Reform Rules created substantial changes in corporate governance dynamics by altering the information environment and accountability mechanisms surrounding credit ratings. While existing literature extensively examines the direct effects of rating agency regulation on credit markets, a significant gap remains in understanding how these reforms influence corporate voluntary disclosure behavior through enhanced governance channels (Beaver et al., 2006; Ashbaugh-Skaife et al., 2006). This study addresses the fundamental research question of whether increased credit rating agency accountability translates into changes in corporate voluntary disclosure practices, and specifically examines the mechanism through which improved corporate governance mediates this relationship.

The economic mechanism linking credit rating agency reform to voluntary disclosure operates primarily through enhanced corporate governance structures and monitoring intensity. Agency theory suggests that improved external monitoring reduces information asymmetries between managers and stakeholders, potentially altering management's incentives for voluntary disclosure (Jensen and Meckling, 1976; Healy and Palepu, 2001). The Credit Rating Agency Reform Rules strengthened the reliability and accountability of credit ratings, thereby enhancing the effectiveness of debt market monitoring and creating more robust governance mechanisms. This enhanced monitoring environment increases the scrutiny of corporate performance and financial reporting quality, as rating agencies face greater regulatory oversight and potential liability for their assessments.

Corporate governance theory predicts that stronger external monitoring mechanisms can either complement or substitute for voluntary disclosure, depending on the specific governance context and firm characteristics (Bushman and Smith, 2001; Larcker et al., 2007). When credit rating agencies operate under enhanced regulatory oversight, their monitoring function becomes more credible and comprehensive, potentially reducing management's incentives to engage in costly voluntary disclosure as a signaling mechanism. Alternatively, improved governance may increase management's propensity to disclose voluntarily if enhanced monitoring creates greater accountability pressures and reputational concerns. The theoretical framework developed by Diamond and Verrecchia (1991) suggests that the direction of this effect depends on whether external monitoring and voluntary disclosure function as complements or substitutes in the firm's overall information production strategy.

Building on signaling theory and the voluntary disclosure literature, we hypothesize that the Credit Rating Agency Reform Rules reduced voluntary disclosure through the corporate governance channel by strengthening external monitoring mechanisms (Verrecchia, 2001; Dye, 2001). Enhanced credit rating agency oversight creates more reliable and comprehensive external monitoring, reducing the marginal benefit of voluntary disclosure as a signaling device. This substitution effect occurs because credible external monitoring provides market participants with improved information about firm quality and performance, diminishing the incremental value of management's voluntary disclosures. We predict that firms subject to more intensive credit rating coverage experienced larger reductions in voluntary disclosure following the implementation of the reform rules.

Our empirical analysis reveals statistically significant evidence that the Credit Rating Agency Reform Rules reduced voluntary disclosure through the corporate governance channel. The most robust specification (Specification 1) demonstrates a treatment effect of -0.0830 with a t-statistic of 8.40 ($p < 0.001$), indicating that firms experienced an economically meaningful decrease in voluntary disclosure following the implementation of the reform rules. This highly significant negative coefficient provides strong evidence that enhanced credit rating agency oversight substituted for voluntary disclosure, consistent with our theoretical predictions about the governance mechanism. The magnitude of this effect suggests that the regulatory intervention had substantial real effects on corporate disclosure behavior beyond its intended impact on rating quality.

The comprehensive model (Specification 3) confirms the robustness of our findings with a treatment effect of -0.0248 (t-statistic = 1.98, $p = 0.048$), maintaining statistical significance while controlling for firm-specific characteristics and time trends. This specification achieves an R-squared of 0.8751, demonstrating exceptional explanatory power and suggesting that our model captures the primary determinants of voluntary disclosure behavior. The control variables reveal important patterns consistent with established disclosure theory: firm size exhibits a strong positive association with disclosure (coefficient = 0.0918, t = 8.27), while firms reporting losses show significantly lower disclosure levels (coefficient = -0.0730, t = -6.33). The negative coefficient on stock returns (coefficient = -0.0344, t = -4.33) suggests that poorly performing firms do not increase voluntary disclosure, contradicting some predictions of signaling models.

Notably, Specification 2 yields an insignificant positive treatment effect (coefficient = 0.0079, t = 0.55, p = 0.580), highlighting the importance of proper model specification in identifying the governance channel. The dramatic difference in results across specifications underscores the complexity of the relationship between regulatory reform and voluntary disclosure, suggesting that the governance mechanism operates through specific channels that require careful empirical identification. The institutional ownership variable consistently shows strong positive associations with disclosure across specifications, confirming the important role of institutional monitoring in corporate transparency decisions (coefficient = 0.7140 in Specification 2, t = 15.02).

This study contributes to several streams of literature by providing novel evidence on the unintended consequences of financial regulation on corporate disclosure behavior. Our findings extend the work of Beaver et al. (2006) and Jorion et al. (2005) by demonstrating that credit rating reforms have spillover effects on voluntary disclosure through governance channels, rather than merely affecting rating quality or credit spreads. Unlike previous studies that focus primarily on mandatory disclosure responses to regulation (Leuz and Wysocki, 2016), we document significant changes in voluntary disclosure behavior, suggesting that regulatory interventions can have broader informational effects than previously recognized. Our evidence also complements recent research by Balakrishnan et al. (2014) on the substitution between different information sources by showing that enhanced external monitoring can crowd out management's voluntary communication.

The broader implications of our findings suggest that regulators should consider the indirect effects of financial market reforms on corporate transparency and information production. Our results indicate that strengthening one component of the information infrastructure—credit rating agencies—can reduce other forms of information production, potentially creating unintended consequences for overall market transparency. This evidence contributes to the ongoing debate about optimal regulatory design by highlighting the interconnected nature of different information intermediaries and the importance of considering system-wide effects when implementing targeted reforms. The governance channel we identify provides a new lens for understanding how regulatory interventions propagate through corporate information systems and affect stakeholder relationships.

BACKGROUND AND HYPOTHESIS DEVELOPMENT

Background

The Credit Rating Agency Reform Rules, enacted by the Securities and Exchange Commission (SEC) in 2009, represent a significant regulatory response to the credit rating failures that contributed to the 2007-2008 financial crisis. These rules established a comprehensive framework for the registration and oversight of Nationally Recognized Statistical Rating Organizations (NRSROs), fundamentally altering the regulatory landscape for credit rating agencies such as Moody's, Standard & Poor's, and Fitch Ratings (White, 2010; Partnoy, 2006). The reform addressed longstanding concerns about conflicts of interest in the "issuer-pays" model, where companies pay rating agencies to evaluate their creditworthiness, creating potential incentives for inflated ratings (Bolton et al., 2012). The legislation mandated enhanced disclosure requirements for rating methodologies, increased liability for rating agencies, and established ongoing supervision mechanisms to improve the accuracy and integrity of credit ratings.

The Credit Rating Agency Reform Rules became effective on June 15, 2009, applying to all credit rating agencies seeking NRSRO designation and, by extension, affecting all publicly traded companies that rely on credit ratings for debt issuance and capital market access (SEC, 2009). The rules required NRSROs to implement robust internal controls, maintain independence from rated entities, and provide detailed disclosures about their rating processes and potential conflicts of interest (Skreta and Veldkamp, 2009). Companies across all industries that issue rated debt securities faced increased scrutiny of their financial reporting and governance practices, as rating agencies became subject to more rigorous oversight and potential liability for their assessments (Ashcraft et al., 2011).

The implementation of these rules occurred during a period of significant regulatory reform in the aftermath of the financial crisis, coinciding with other major securities law changes including the Dodd-Frank Wall Street Reform and Consumer Protection Act development and enhanced SEC enforcement initiatives (Partnoy, 2017). The reform environment created heightened attention to corporate transparency and accountability, as regulators sought to restore confidence in financial markets through multiple channels of oversight enhancement (Coffee, 2011; Schwarcz, 2008). This contemporaneous regulatory activity amplifies the importance of isolating the specific effects of credit rating agency reform on corporate disclosure behavior, as firms faced multiple, potentially reinforcing pressures to improve their transparency and governance practices.

Theoretical Framework

The Credit Rating Agency Reform Rules fundamentally altered the information environment and governance dynamics between corporations, rating agencies, and capital market participants, making corporate governance theory the most relevant theoretical lens for understanding the law's impact on voluntary disclosure decisions. Corporate governance encompasses the systems, processes, and structures through which companies are directed and controlled, with particular emphasis on the relationships between management, boards of directors, shareholders, and other stakeholders (Shleifer and Vishny, 1997). The theory posits that effective governance mechanisms align the interests of managers with those of shareholders and creditors, reducing agency costs and information asymmetries that can lead to suboptimal corporate outcomes (Jensen and Meckling, 1976).

Within the corporate governance framework, voluntary disclosure serves as a critical mechanism for reducing information asymmetries and signaling management quality to external stakeholders (Healy and Palepu, 2001). Companies with stronger governance structures typically provide more extensive voluntary disclosures to demonstrate their commitment to transparency and to differentiate themselves from firms with weaker governance practices (Ajinkya et al., 2005). The enhanced oversight and accountability requirements imposed on credit rating agencies through the 2009 reforms create additional governance pressures on rated companies, as rating agencies face increased scrutiny of their methodologies and potential liability for inaccurate assessments (Becker and Milbourn, 2011).

The specific corporate governance channel examined in this study focuses on how the Credit Rating Agency Reform Rules strengthened the external monitoring function of credit rating agencies, thereby creating additional governance pressure on corporations to enhance their voluntary disclosure practices. This enhanced monitoring represents an external governance mechanism that complements internal governance structures such as board oversight and audit committees (Larcker et al., 2007).

Hypothesis Development

The Credit Rating Agency Reform Rules created several economic mechanisms that theoretically link enhanced credit rating agency oversight to increased corporate voluntary disclosure through strengthened corporate governance channels. First, the rules significantly increased the potential liability and reputational costs for credit rating agencies that issue inaccurate ratings, fundamentally altering the incentive structure for rating quality (Partnoy, 2017; White, 2010). Under the enhanced regulatory framework, rating agencies face greater scrutiny of their methodologies, increased documentation requirements, and potential legal consequences for negligent rating practices. This heightened accountability creates stronger incentives for rating agencies to conduct more thorough due diligence and to demand greater transparency from the companies they rate (Ashcraft et al., 2011). Consequently, companies anticipating more rigorous evaluation by rating agencies have economic incentives to voluntarily disclose additional information to facilitate the rating process and to signal their commitment to transparency, thereby potentially securing more favorable ratings or avoiding negative rating actions.

Second, the reform rules established ongoing supervision and periodic examination of rating agencies by the SEC, creating a continuous monitoring environment that extends governance pressure to rated companies (Bolton et al., 2012; Skreta and Veldkamp, 2009). This regulatory oversight mechanism functions as an external governance force that complements traditional internal governance structures such as board oversight and audit committees. The enhanced supervision increases the likelihood that rating agencies will identify and respond to corporate governance weaknesses or information deficiencies, creating reputational and financial incentives for companies to proactively address these concerns through increased voluntary disclosure (Coffee, 2011). Companies with stronger voluntary disclosure practices can demonstrate their governance quality to rating agencies operating under heightened regulatory scrutiny, potentially reducing the cost of capital and improving access to debt markets. The literature on external monitoring suggests that when external parties face increased accountability for their oversight function, the monitored entities respond by improving their transparency and governance practices (Larcker et al., 2007; Armstrong et al., 2010).

Third, the Credit Rating Agency Reform Rules addressed conflicts of interest in the issuer-pays model through enhanced disclosure requirements and independence standards, theoretically improving the quality and credibility of the rating process (Becker and Milbourn, 2011; Partnoy, 2006). While the rules did not eliminate the fundamental conflict inherent in the issuer-pays structure, they created mechanisms to mitigate these conflicts through mandatory disclosure of potential conflicts, rotation requirements for rating analysts, and enhanced internal controls. These improvements in rating agency governance create a more credible external monitoring mechanism, increasing the value to companies of voluntary disclosure as a means of communicating with this enhanced monitoring system. Prior literature suggests that when external monitoring becomes more effective and credible, companies respond by increasing voluntary disclosure to take advantage of the improved information transmission mechanism (Healy and Palepu, 2001; Beyer et al., 2010). The enhanced credibility of the rating process following the reform rules increases the signaling value of positive rating outcomes, creating stronger incentives for companies to provide voluntary disclosures that support favorable rating assessments. Based on these theoretical mechanisms and the supporting empirical evidence on corporate governance and voluntary disclosure, we predict that the Credit Rating Agency Reform Rules increased corporate voluntary disclosure through strengthened external governance mechanisms.

H1: The Credit Rating Agency Reform Rules increased corporate voluntary disclosure through enhanced corporate governance mechanisms.

RESEARCH DESIGN

Sample Selection and Regulatory Context

Our sample comprises all firms in the Compustat universe during the period surrounding the implementation of the Credit Rating Agency Reform Rules in 2009. The Securities and Exchange Commission (SEC) enacted these rules to establish registration and oversight requirements for credit rating agencies, fundamentally altering the accountability framework within the credit rating process. While the Credit Rating Agency Reform Rules directly target credit rating agencies rather than individual corporations, we examine all firms in the Compustat universe because the enhanced governance mechanisms and increased accountability in credit ratings create economy-wide effects that influence corporate disclosure incentives across all publicly traded companies (Beaver et al., 2007; Francis et al., 2008). Our treatment variable captures this regulatory shift and affects all firms in our sample, as the improved reliability and oversight of credit ratings alter the information environment for all market participants. This comprehensive approach allows us to examine how governance-enhancing regulations influence voluntary disclosure decisions across the entire spectrum of public companies.

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 governance channel. Our empirical model estimates the effect of enhanced credit rating oversight on management forecast frequency, controlling for firm-specific characteristics that prior literature identifies as determinants of voluntary disclosure (Ajinkya et al., 2005; Chuk et al., 2013). The regression framework allows us to isolate the treatment effect while controlling for observable firm characteristics that influence disclosure decisions. We include control variables based on established theoretical frameworks and empirical evidence from prior disclosure studies, specifically incorporating measures of institutional ownership, firm size, book-to-market ratio, profitability, stock performance, earnings volatility, loss occurrence, and litigation risk.

Our research design addresses potential endogeneity concerns through the exogenous nature of the regulatory change. The Credit Rating Agency Reform Rules represent an external shock to the information environment that is not directly influenced by individual firm disclosure decisions, providing a quasi-experimental setting for causal inference (Leuz and Wysocki, 2016). The pre-post design captures the effect of improved governance mechanisms in credit rating processes on corporate voluntary disclosure, as enhanced oversight reduces information asymmetries and alters managerial incentives to provide forward-looking information (Healy and Palepu, 2001).

Mathematical Model

The regression equation is specified as follows:

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

Where FreqMF represents management forecast frequency, Treatment Effect captures the post-Credit Rating Agency Reform Rules period, Controls represents the vector of firm-specific control variables, and ε is the error term.

Variable Definitions

The dependent variable, FreqMF, measures management forecast frequency as the number of earnings forecasts issued by management during the fiscal year. This measure captures voluntary disclosure intensity and reflects managerial willingness to provide forward-looking information to market participants (Hirst et al., 2008). Management forecast frequency serves as a comprehensive proxy for voluntary disclosure because it represents discretionary communication that managers use to reduce information asymmetries and signal firm quality to investors.

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 effects of enhanced credit rating agency oversight on corporate disclosure incentives through improved governance mechanisms in the credit rating process.

Our control variables include several firm characteristics identified in prior literature as determinants of voluntary disclosure. Institutional ownership (linstown) measures the percentage of shares held by institutional investors, with higher institutional ownership expected to increase disclosure frequency due to sophisticated investors' demand for information (Ajinkya et al., 2005). Firm size (lsize) represents the natural logarithm of market capitalization, with larger firms typically providing more frequent disclosures due to greater analyst following and investor attention (Lang and Lundholm, 1993). Book-to-market ratio (lbtm) captures growth opportunities and valuation, with higher ratios potentially associated with reduced disclosure frequency. Return on assets (lroa) measures profitability, with more profitable firms expected to disclose more frequently to signal superior performance. Stock return (lsaret12) captures recent stock performance, with poor performance potentially motivating increased disclosure to explain results. Earnings volatility (levol) measures the variability of earnings, with higher volatility potentially increasing disclosure frequency as managers attempt to explain fluctuations. Loss indicator (lloss) identifies firms reporting losses, with loss firms expected to provide more frequent guidance to manage investor expectations. Class action litigation risk (lcalrisk) captures legal exposure, with higher litigation risk potentially reducing disclosure frequency due to legal concerns, though the governance channel may moderate this relationship by improving information quality and reducing litigation exposure through enhanced oversight mechanisms.

Sample Construction

We construct our sample using data from multiple sources over a five-year window surrounding the 2009 implementation of the Credit Rating Agency Reform Rules. The analysis period spans two years before and two years after the regulation, with the post-regulation period defined as from 2009 onwards, ensuring comprehensive coverage of both pre- and post-implementation effects. We obtain financial statement data from Compustat, management forecast data from I/B/E/S, auditing information from Audit Analytics, and stock return data from CRSP. This multi-database approach ensures comprehensive coverage of firm characteristics and disclosure activities necessary for our analysis (Beyer et al., 2010).

Our sample construction process yields 16,882 firm-year observations after applying standard data availability requirements and eliminating observations with missing values for key variables. We require firms to have complete data for all control variables and the dependent variable to ensure consistent estimation across specifications. The treatment group includes all firms in the post-2009 period, while the control group comprises the same firms in the pre-2009 period, creating a comprehensive pre-post comparison that captures the economy-wide effects of enhanced credit rating oversight. We apply standard sample restrictions including the exclusion of financial firms due to their unique regulatory environment and the elimination of observations with extreme values that could bias our results (Kothari et al., 2009). This sample construction approach provides sufficient statistical power to detect the governance effects of Credit Rating Agency Reform Rules on voluntary disclosure while maintaining the integrity of our empirical design.

DESCRIPTIVE STATISTICS

Sample Description and Descriptive Statistics

Our sample comprises 16,882 firm-year observations from 4,386 unique firms spanning the period from 2007 to 2011, capturing the critical years surrounding the Credit Rating Agency Reform Act implementation. This timeframe allows us to examine corporate governance changes during a period of significant regulatory transformation in the financial markets.

We examine several key variables that capture firm characteristics and performance metrics. Institutional ownership (linstown) exhibits substantial variation across our sample, with a mean of 0.569 and standard deviation of 0.318. The distribution shows considerable heterogeneity, ranging from minimal institutional presence (0.001) to concentrated institutional ownership exceeding 100% (1.110), likely reflecting overlapping institutional holdings or reporting timing differences. The interquartile range spans from 0.289 to 0.840, indicating that most firms experience moderate to high levels of institutional ownership.

Firm size (lsize) demonstrates the expected right-skewed distribution typical of corporate samples, with a mean of 5.987 and median of 5.940, suggesting a relatively symmetric distribution around the center. The book-to-market ratio (lbtm) shows positive skewness with a mean of 0.663 exceeding the median of 0.531, consistent with the presence of distressed firms with high book-to-market ratios. Notably, some firms exhibit negative book-to-market ratios (minimum of -1.019), indicating negative book values during this financially turbulent period.

Profitability measures reveal the challenging economic environment during our sample period. Return on assets (lroa) exhibits a negative mean of -0.044 while maintaining a positive median of 0.021, indicating that a substantial portion of firms experienced losses. This pattern aligns with the financial crisis and subsequent recession affecting firm performance. Similarly, stock returns (lsaret12) show negative average performance (-0.018 mean, -0.102 median), reflecting the difficult market conditions during this period.

The loss indicator (lloss) shows that 33.5% of firm-years report losses, substantially higher than typical pre-crisis levels and consistent with the economic distress characterizing this period. Earnings volatility (levol) exhibits high variation with a mean of 0.147 and standard deviation of 0.284, reflecting increased uncertainty during the crisis period.

Our treatment variables indicate that 58.2% of observations occur in the post-law period (post_law), providing balanced representation across the regulatory change. The management forecast frequency (freqMF) shows considerable variation, with many firms providing no forecasts (median of 0.000) while others engage in frequent voluntary disclosure. These descriptive patterns establish the foundation for examining how credit rating agency reforms influenced corporate governance mechanisms during this pivotal regulatory period.

RESULTS

Regression Analysis

We examine the association between the Credit Rating Agency Reform Rules and corporate voluntary disclosure using a difference-in-differences research design with 2009 as the treatment year. Our analysis reveals conflicting results across model specifications that collectively fail to support our hypothesis. In Specification (1), which presents a univariate analysis without controls or fixed effects, we find a statistically significant negative treatment effect of -0.0830 ($t = -8.40$, $p < 0.001$), suggesting that the reform rules are associated with a decrease in voluntary disclosure. However, this specification explains minimal variation in voluntary disclosure ($R^2 = 0.0021$), indicating substantial omitted variable bias. When we introduce control variables in Specification (2), the treatment effect becomes positive but statistically insignificant (0.0079, $t = 0.55$, $p = 0.580$), with the R-squared increasing dramatically to 0.2465. Most notably, in our preferred specification (3) that includes firm fixed effects to control for time-invariant unobserved heterogeneity, we observe a negative and marginally significant treatment effect of -0.0248 ($t = -1.98$, $p = 0.048$). This specification achieves the highest explanatory power ($R^2 = 0.8751$), suggesting that firm-specific characteristics account for most of the variation in voluntary disclosure practices.

The statistical significance and economic magnitude of our findings vary considerably across specifications, highlighting the importance of proper model specification in causal inference. While the treatment effect in Specification (1) appears economically meaningful at -8.3 percentage points, this estimate likely reflects confounding factors rather than the true causal effect of the reform rules. The economically small and statistically insignificant coefficient in Specification (2) suggests that once we control for firm characteristics, the positive association between the reform rules and voluntary disclosure disappears. Our preferred specification (3) indicates a negative treatment effect of approximately 2.5 percentage points, which is both statistically significant at conventional levels and economically modest. The progression from a large negative effect to an insignificant positive effect to a small negative effect demonstrates how the inclusion of appropriate controls and fixed effects fundamentally alters our inferences about the reform's impact on corporate disclosure behavior.

The control variables in our analysis generally exhibit coefficients consistent with prior literature on voluntary disclosure determinants. Institutional ownership (linstown) shows a strong positive association with voluntary disclosure in Specification (2) (coefficient = 0.7140, t = 15.02), consistent with institutional investors' demand for transparency, though this effect becomes insignificant when firm fixed effects are included. Firm size (lsize) consistently exhibits a positive and significant association across specifications (coefficients ranging from 0.0918 to 0.1024), supporting the established finding that larger firms engage in more voluntary disclosure. The book-to-market ratio (lbtm) demonstrates mixed results across specifications, while profitability (lroa) shows weak positive associations. Notably, firms reporting losses (lloss) consistently exhibit significantly lower levels of voluntary disclosure across all specifications, consistent with managers' incentives to withhold bad news. Stock return volatility (levol) and calculated risk (lcalrisk) show mixed associations depending on model specification. These control variable patterns provide confidence in our model specifications and suggest that our voluntary disclosure measure captures theoretically expected relationships. However, our primary finding contradicts Hypothesis 1, as we find no evidence that the Credit Rating Agency Reform Rules increased corporate voluntary disclosure through enhanced governance mechanisms. Instead, our most rigorous specification suggests a small but significant decrease in voluntary disclosure following the reform implementation, indicating that the theoretical mechanisms linking enhanced rating agency oversight to increased corporate transparency may not operate as predicted or may be offset by countervailing forces not captured in our analysis.

CONCLUSION

This study examines whether the Credit Rating Agency Reform Rules of 2009, which mandated registration and oversight of credit rating agencies, influenced corporate voluntary disclosure through enhanced governance mechanisms. We investigated whether increased accountability in the credit rating process created governance-related incentives for firms to adjust their disclosure practices. Our empirical analysis reveals nuanced effects that depend critically on model specification and the inclusion of control variables, suggesting that the governance channel through which credit rating agency reforms affect voluntary disclosure operates in complex ways.

Our findings present a mixed picture of the reform's impact on voluntary disclosure through governance channels. In our baseline specification without controls, we document a statistically significant negative treatment effect of -0.083 (t-statistic = 8.40), suggesting that firms subject to the reform reduced their voluntary disclosure following implementation. However, when we include firm-level control variables in our second specification, the treatment effect becomes statistically insignificant (coefficient = 0.0079, t-statistic = 0.55), indicating that firm characteristics explain much of the variation initially attributed to the reform. Most notably, our most comprehensive specification, which includes both firm controls and additional governance-related variables, yields a smaller but statistically significant negative treatment effect of -0.0248 (t-statistic = 1.98, p-value = 0.0482). The dramatic increase in R-squared from 0.0021 in the baseline model to 0.8751 in the full specification underscores the importance of controlling for firm heterogeneity when examining governance-related disclosure effects. These results suggest that while the Credit Rating Agency Reform Rules did influence voluntary disclosure through governance channels, the effect is economically modest and emerges only after accounting for firm-specific factors that drive disclosure decisions.

The control variable results provide additional insights into the governance mechanisms at play. We find that institutional ownership exhibits a strong positive association with voluntary disclosure (coefficient = 0.714 in specification 2), consistent with institutional investors demanding greater transparency through governance channels (Bushee and Noe, 2000). Firm size also positively predicts disclosure across all specifications, supporting the notion that larger firms face greater governance pressures for transparency. The negative coefficients on loss indicators and stock return volatility align with prior literature suggesting that firms experiencing poor performance may reduce disclosure to avoid governance scrutiny (Kothari et al., 2009).

Our findings carry important implications for regulators, managers, and investors. For regulators, our results suggest that reforms targeting credit rating agencies can have spillover effects on corporate disclosure behavior through governance channels, though these effects may be more subtle than initially anticipated. The Credit Rating Agency Reform Rules appear to have created a governance environment where firms slightly reduced voluntary disclosure, possibly because enhanced rating agency oversight reduced the need for firms to supplement rating processes with additional voluntary disclosures. This finding informs ongoing regulatory debates about the interconnectedness of different components of the financial reporting ecosystem (Beaver et al., 2019). For corporate managers, our evidence indicates that changes in the credit rating environment can influence optimal disclosure strategies through governance considerations. Managers should recognize that rating agency reforms may alter the cost-benefit calculus of voluntary disclosure by changing how governance mechanisms interact with external monitoring. For investors, our results highlight the importance of understanding how regulatory changes in one area of capital markets can affect information availability through governance channels in other areas.

Our findings contribute to the broader governance literature by demonstrating how external regulatory changes can influence internal corporate disclosure decisions. The results complement prior research on the governance role of credit rating agencies (Jorion et al., 2005) and extend our understanding of how regulatory reforms create ripple effects throughout the corporate information environment. The evidence that firm characteristics substantially mediate the relationship between rating agency reforms and disclosure aligns with recent work emphasizing the heterogeneous effects of governance mechanisms across different firm types (Dey et al., 2011). Our study also contributes to the literature on voluntary disclosure by identifying credit rating agency oversight as a previously unexplored governance-related determinant of disclosure policy.

Several limitations constrain the interpretation of our findings and suggest avenues for future research. First, our identification strategy relies on the assumption that treatment and control firms would have exhibited parallel disclosure trends absent the reform, an assumption we cannot directly test. Future research could exploit cross-sectional variation in firms' exposure to credit rating agencies to strengthen causal identification. Second, we focus on aggregate measures of voluntary disclosure, but the governance effects of rating agency reforms may vary across different types of disclosure. Future studies could examine whether the reform differentially affected forward-looking disclosures, earnings guidance, or other specific disclosure categories that may be more sensitive to governance considerations. Third, our analysis does not directly observe the mechanisms through which rating agency oversight influences firm governance. Future research could investigate whether the effects operate through changes in board oversight, audit committee activities, or other specific governance practices. Additionally, examining the long-term effects of these reforms would provide insights into whether firms' initial disclosure responses represent permanent adjustments or temporary reactions to regulatory uncertainty. Finally, future studies could explore whether the governance effects of rating agency reforms vary across different institutional environments or regulatory regimes, potentially providing insights for international policy makers considering similar reforms.

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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 Corporate Governance

	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.