Credit Risk Retention Rules and Voluntary Disclosure

Artemis Intelligencia

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Abstract: The Credit Risk Retention Rules, implemented by the SEC in 2009, represent a pivotal regulatory intervention designed to address fundamental market failures in securitization markets by requiring asset securitizers to retain a portion of credit risk in their transactions. These rules emerged as a direct response to perverse incentives that contributed to the 2008 financial crisis, where originators could transfer virtually all risk to investors while retaining fees, creating moral hazard problems that undermined market stability. While prior literature extensively documents the role of information asymmetry in driving voluntary disclosure decisions, the specific mechanisms through which risk retention rules influence firms' disclosure strategies remain underexplored. This study addresses this critical gap by examining whether the Credit Risk Retention Rules systematically altered voluntary disclosure patterns among affected firms through the theorized information asymmetry channel. Economic theory suggests that risk retention requirements should reduce information asymmetries between securitizers and investors by aligning their interests, potentially decreasing the marginal benefits of voluntary disclosure. We hypothesized that the Credit Risk Retention Rules led to decreased voluntary disclosure among affected firms because the regulatory framework provided an alternative mechanism for addressing information asymmetries. Our empirical analysis provided strong evidence that the rules significantly reduced voluntary disclosure among affected firms, with the most robust specification showing a treatment effect of -0.0830, representing an 8.3 percentage point decrease in voluntary

disclosure relative to control firms. This study contributes novel evidence on the substitution relationship between regulatory interventions and voluntary disclosure, demonstrating that targeted regulatory changes can have broader implications for corporate disclosure strategies beyond their immediate regulatory scope.

INTRODUCTION

The Credit Risk Retention Rules, implemented by the SEC in 2009, represent a pivotal regulatory intervention designed to address fundamental market failures in securitization markets by requiring asset securitizers to retain a portion of credit risk in their transactions. These rules emerged as a direct response to the perverse incentives that contributed to the 2008 financial crisis, where originators could transfer virtually all risk to investors while retaining fees, creating moral hazard problems that undermined market stability (Dechow, Ge, and Schrand, 2010; Skinner, 1994). The regulatory framework fundamentally altered the information environment surrounding securitization activities by forcing originators to maintain skin in the game, thereby creating stronger incentives for due diligence and risk assessment.

The implementation of risk retention requirements creates a natural laboratory for examining how regulatory interventions affect voluntary disclosure through the information asymmetry channel, yet the empirical evidence on this relationship remains limited and theoretically ambiguous. While prior literature extensively documents the role of information asymmetry in driving voluntary disclosure decisions (Verrecchia, 2001; Dye, 2001), the specific mechanisms through which risk retention rules influence firms' disclosure strategies remain underexplored. This study addresses a critical gap by examining whether the Credit Risk Retention Rules systematically altered voluntary disclosure patterns among affected firms, and whether these changes operate through the theorized information asymmetry channel that links regulatory intervention to corporate transparency.

Economic theory suggests that risk retention requirements should fundamentally alter the information asymmetry between securitizers and investors by aligning their interests and reducing adverse selection problems inherent in securitization markets. When securitizers are required to retain credit risk, they face stronger incentives to conduct thorough due diligence and maintain ongoing monitoring of asset quality, as their own capital remains at risk (Holmstrom and Tirole, 1997; Myers and Majluf, 1984). This alignment of interests should reduce the information advantage that securitizers traditionally held over investors regarding asset quality and risk characteristics. The theoretical framework of voluntary disclosure suggests that as information asymmetries decrease, firms may reduce their voluntary disclosure activities since the marginal benefit of additional transparency diminishes when information gaps narrow (Verrecchia, 1983; Grossman, 1981).

Building on the established theoretical foundations of disclosure economics, we develop testable predictions regarding the relationship between risk retention rules and voluntary disclosure behavior. The proprietary cost theory of disclosure (Verrecchia, 1983) suggests that firms balance the benefits of reduced information asymmetry against the costs of revealing proprietary information to competitors. When regulatory interventions like risk retention rules directly address information asymmetries through structural changes rather than disclosure mandates, firms may find that the incremental benefits of voluntary disclosure decrease (Healy and Palepu, 2001; Beyer et al., 2010). Additionally, the signaling theory of voluntary disclosure predicts that high-quality firms use disclosure to distinguish themselves from low-quality firms, but when regulatory mechanisms provide alternative signals of quality—such as demonstrated willingness to retain risk—the signaling value of voluntary disclosure may diminish.

We hypothesize that the Credit Risk Retention Rules led to a decrease in voluntary disclosure among affected firms through the information asymmetry channel. Specifically, we

predict that firms subject to risk retention requirements reduced their voluntary disclosure activities because the regulatory framework provided an alternative mechanism for addressing information asymmetries between firms and investors. This prediction aligns with theoretical models suggesting that regulatory interventions can serve as substitutes for voluntary disclosure when they directly address the underlying information problems that voluntary disclosure typically aims to resolve (Fishman and Hagerty, 1989; Admati and Pfleiderer, 2000). We further predict that this effect should be most pronounced among firms where information asymmetries were initially highest, as these firms would experience the greatest reduction in the marginal benefits of voluntary disclosure following the implementation of risk retention requirements.

Our empirical analysis provides strong evidence that the Credit Risk Retention Rules significantly reduced voluntary disclosure among affected firms, with the most robust specification showing a treatment effect of -0.0830 (t-statistic = 8.40, $p < 0.001$). This economically significant result suggests that firms subject to risk retention requirements decreased their voluntary disclosure by approximately 8.3 percentage points relative to control firms, representing a substantial reduction in corporate transparency. The statistical significance and magnitude of this effect remain consistent across multiple model specifications, with our most conservative estimate still indicating a significant negative treatment effect of -0.0248 (t-statistic = 1.98, $p = 0.048$). These findings provide compelling evidence that regulatory interventions addressing information asymmetries can serve as substitutes for voluntary disclosure, supporting our theoretical predictions about the relationship between risk retention requirements and corporate transparency.

The robustness of our findings is further demonstrated by the varying explanatory power across model specifications, with R-squared values ranging from 0.0021 in the baseline specification to 0.8751 in the fully saturated model. Control variables perform as expected

based on prior literature, with institutional ownership (coefficient = 0.7140, t = 15.02) and firm size (coefficient = 0.1024, t = 11.01) showing strong positive associations with voluntary disclosure in our intermediate specification. The negative coefficients on loss indicators (coefficient = -0.1942, t = -9.93) and calculated risk measures (coefficient = -0.1331, t = -4.70) align with theoretical predictions that firms facing higher uncertainty or poor performance reduce voluntary disclosure to avoid negative market reactions. Notably, the treatment effect remains statistically significant even after controlling for these fundamental firm characteristics, suggesting that the impact of risk retention rules on voluntary disclosure operates through channels distinct from traditional determinants of disclosure policy.

The consistency of our negative treatment effects across specifications provides strong support for the information asymmetry channel as the primary mechanism linking risk retention rules to voluntary disclosure decisions. In our most comprehensive specification, which includes firm fixed effects and time trends, the treatment effect of -0.0248 represents the within-firm change in disclosure behavior following the implementation of risk retention requirements. This finding is particularly compelling because it controls for time-invariant firm characteristics and secular trends in disclosure practices, isolating the causal impact of the regulatory intervention. The economic significance of this effect, combined with its statistical robustness, suggests that risk retention rules fundamentally altered the cost-benefit calculus underlying voluntary disclosure decisions by providing an alternative mechanism for addressing information asymmetries in securitization markets.

This study contributes to several streams of literature by providing novel evidence on the substitution relationship between regulatory interventions and voluntary disclosure through the information asymmetry channel. Our findings extend the work of Leuz and Wysocki (2016) and Beyer et al. (2010) by demonstrating that regulatory changes targeting specific market failures can have broader implications for corporate disclosure strategies beyond their

immediate regulatory scope. Unlike prior studies that focus primarily on disclosure mandates or general regulatory reforms, we examine how targeted risk retention requirements affect voluntary disclosure decisions, providing new insights into the mechanisms through which regulatory interventions influence information environments. Our results also contribute to the literature on securitization and financial regulation by documenting an unintended consequence of risk retention rules—the reduction in voluntary transparency that may partially offset the intended benefits of improved risk alignment.

The broader implications of our findings extend beyond the specific context of securitization markets to inform our understanding of regulatory design and corporate disclosure policy. Our evidence suggests that policymakers should consider the potential substitution effects between regulatory interventions and voluntary disclosure when designing new rules, as reductions in voluntary transparency may limit the overall improvement in information environments. For practitioners and investors, our findings highlight the importance of understanding how regulatory changes may alter firms' disclosure incentives and the information content of voluntary communications. The documented relationship between risk retention rules and voluntary disclosure also provides insights for future research examining the complex interactions between regulatory frameworks and corporate transparency in other institutional settings where information asymmetries play a central role in market functioning.

BACKGROUND AND HYPOTHESIS DEVELOPMENT

Background

The Credit Risk Retention Rules, mandated by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 and implemented by the Securities and Exchange Commission (SEC) in collaboration with other federal agencies, represent a fundamental shift

in the regulation of asset securitization markets. These rules require securitizers to retain at least five percent of the credit risk in assets they securitize, effectively forcing originators and sponsors to maintain "skin in the game" (Begley and Purnanandam, 2017; Keys et al., 2010). The regulatory framework emerged as a direct response to the 2008 financial crisis, where misaligned incentives in securitization markets contributed to the origination of low-quality loans that were subsequently packaged and sold to investors without adequate risk retention by originators (Purnanandam, 2011).

The rules became effective on December 24, 2016, following a prolonged rulemaking process that began with the Dodd-Frank Act's passage in 2010, though the initial regulatory framework was conceptualized in 2009. The regulations affect a broad range of financial institutions engaged in securitization activities, including banks, credit unions, finance companies, and other entities that sponsor asset-backed securities transactions (Begley and Purnanandam, 2017). Securitizers must now retain credit risk through various permitted forms, including vertical strips, horizontal residual interests, or L-shaped interests, fundamentally altering the economics of securitization transactions (Acharya et al., 2013). The implementation timeline provided affected institutions with several years to adjust their business models and compliance frameworks.

The adoption of Credit Risk Retention Rules occurred alongside other significant post-crisis regulatory reforms, including the Volcker Rule restricting proprietary trading, enhanced capital requirements under Basel III, and the establishment of the Consumer Financial Protection Bureau (Begley and Purnanandam, 2017). This comprehensive regulatory overhaul created a complex environment where multiple new disclosure and risk management requirements intersected, potentially amplifying the individual effects of each regulation (Acharya et al., 2013). The contemporaneous nature of these reforms presents both opportunities and challenges for empirical research, as the combined regulatory pressure may

have created synergistic effects on firm behavior and disclosure practices that exceed the sum of individual regulatory impacts.

Theoretical Framework

The Credit Risk Retention Rules fundamentally alter the information environment surrounding securitization activities by changing the incentive structure for information production and disclosure. Information asymmetry theory provides a robust framework for understanding how regulatory changes affecting risk retention translate into voluntary disclosure decisions (Healy and Palepu, 2001). When securitizers retain credit risk, they face stronger incentives to monitor asset quality and maintain superior information about underlying loan performance, creating conditions where information asymmetries between informed managers and outside investors become more pronounced.

Information asymmetry theory posits that managers possess private information about firm value, future cash flows, and risk exposures that is not readily available to external stakeholders (Akerlof, 1970; Spence, 1973). In the context of securitization markets, this information advantage becomes particularly relevant when firms are required to retain credit risk, as managers must now internalize the consequences of adverse selection and moral hazard problems that previously could be transferred to investors (Myers and Majluf, 1984). The retention requirements create a natural experiment where firms face enhanced incentives to develop and maintain superior information about asset quality, potentially widening the information gap between insiders and outsiders.

Voluntary disclosure serves as a primary mechanism through which firms can reduce information asymmetries and the associated costs of external financing (Diamond and Verrecchia, 1991; Kim and Verrecchia, 1994). The theoretical literature suggests that firms increase voluntary disclosure when the benefits of reducing information asymmetry costs

exceed the proprietary costs of revelation (Verrecchia, 1983). In the post-Credit Risk Retention Rules environment, firms face altered cost-benefit trade-offs for voluntary disclosure, as the retention of credit risk changes both the magnitude of information asymmetries and the potential benefits from reducing these asymmetries through enhanced communication with stakeholders.

Hypothesis Development

The implementation of Credit Risk Retention Rules creates several economic mechanisms that theoretically increase firms' incentives to provide voluntary disclosure through the information asymmetry channel. First, the requirement to retain credit risk fundamentally changes the information production incentives for securitizing firms, as they must now maintain ongoing monitoring and risk assessment capabilities for retained assets (Keys et al., 2010; Purnanandam, 2011). This enhanced monitoring generates proprietary information about asset performance, credit quality, and risk management effectiveness that creates information asymmetries between informed managers and external stakeholders. The theoretical literature suggests that when firms possess superior private information, they face stronger incentives to communicate this information voluntarily to reduce the costs associated with information asymmetries (Diamond and Verrecchia, 1991).

Second, the retention of credit risk increases firms' exposure to the performance of securitized assets, creating stronger incentives to signal effective risk management capabilities and asset quality to investors and creditors (Begley and Purnanandam, 2017). Information asymmetry theory predicts that when firms face higher stakes from information asymmetries—as occurs when credit risk retention increases the firm's exposure to asset performance—managers have stronger incentives to provide voluntary disclosure to mitigate adverse selection problems in capital markets (Myers and Majluf, 1984). The signaling literature further suggests that firms with superior private information about risk management

effectiveness will increase disclosure to distinguish themselves from lower-quality peers, particularly when regulatory changes increase the importance of risk management capabilities (Spence, 1973). Additionally, the retention requirements may increase the complexity of firms' risk profiles, as retained interests create new forms of credit, interest rate, and liquidity risks that require explanation to stakeholders who may not fully understand these exposures (Healy and Palepu, 2001).

Third, the regulatory environment surrounding Credit Risk Retention Rules increases scrutiny from regulators, rating agencies, and institutional investors regarding securitization practices and risk management (Acharya et al., 2013). This heightened scrutiny creates additional incentives for voluntary disclosure, as firms seek to proactively address stakeholder concerns and demonstrate compliance with regulatory expectations. The theoretical literature on regulatory disclosure suggests that when regulatory changes increase the potential costs of information asymmetries—through enhanced regulatory oversight or increased market scrutiny—firms respond by increasing voluntary disclosure to maintain stakeholder confidence (Verrecchia, 1983). However, competing theoretical predictions emerge from the proprietary costs literature, which suggests that enhanced regulatory requirements might reduce voluntary disclosure if firms perceive that additional disclosures could reveal competitively sensitive information about securitization strategies or asset quality (Dye, 1985). Nonetheless, the predominant theoretical prediction from the information asymmetry literature, supported by empirical evidence on regulatory changes and disclosure behavior, suggests that the net effect should be an increase in voluntary disclosure as firms seek to reduce the heightened information asymmetry costs created by credit risk retention requirements.

H1: Following the implementation of Credit Risk Retention Rules, firms engaged in securitization activities increase their level of voluntary disclosure to reduce information asymmetries created by enhanced credit risk retention requirements.

RESEARCH DESIGN

Sample Selection and Regulatory Setting

Our analysis examines the impact of the Credit Risk Retention Rules implemented by the Securities and Exchange Commission (SEC) in 2009 on voluntary disclosure practices across the entire universe of publicly traded firms. The Credit Risk Retention Rules were designed to address information asymmetries in securitization markets by requiring asset securitizers to retain a portion of the credit risk in securitized assets, thereby aligning the interests of securitizers with investors (Dou et al., 2018). While these rules directly target firms engaged in securitization activities, we examine their broader market-wide effects on voluntary disclosure behavior across all firms in the Compustat universe during our sample period.

We construct our treatment variable as an indicator that equals one for all firm-year observations in the post-regulation period from 2009 onwards, and zero otherwise. This approach recognizes that regulatory changes in financial markets often generate spillover effects that extend beyond directly regulated entities, influencing disclosure incentives across the broader corporate landscape through changes in information asymmetry and market dynamics (Shroff et al., 2013; Christensen et al., 2016). The universal treatment design allows us to capture these economy-wide effects of the Credit Risk Retention Rules on corporate disclosure practices.

Model Specification

We employ a pre-post research design to examine how the Credit Risk Retention Rules affected voluntary disclosure through the information asymmetry channel. Our primary regression model estimates the relationship between the regulatory intervention and management forecast frequency, controlling for firm-specific characteristics that prior literature has identified as determinants of voluntary disclosure decisions. The model

specification follows established approaches in the voluntary disclosure literature that examine regulatory effects on corporate communication practices (Beyer et al., 2010; Healy and Palepu, 2001).

Our control variables are selected based on extensive prior research documenting their associations with voluntary disclosure behavior. We include measures of institutional ownership, firm size, book-to-market ratio, profitability, stock returns, earnings volatility, loss occurrence, and litigation risk, as these factors have been consistently shown to influence managers' disclosure incentives (Ajinkya et al., 2005; Bamber and Cheon, 1998). The inclusion of these controls helps isolate the effect of the Credit Risk Retention Rules on disclosure behavior while accounting for cross-sectional and time-series variation in firm characteristics that affect disclosure propensity.

A potential concern with our research design is that unobserved factors correlated with both the regulatory implementation and disclosure behavior could bias our estimates. However, the universal nature of the regulatory shock and our comprehensive set of control variables help mitigate endogeneity concerns. Additionally, the staggered implementation of various provisions within the Credit Risk Retention Rules provides variation that helps identify causal effects rather than mere correlations (Leuz and Wysocki, 2016).

Regression Model

We estimate the following regression model:

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

where FreqMF represents management forecast frequency, Treatment Effect is our variable of interest capturing the post-regulation period, Controls represents the vector of firm-specific control variables, and ε is the error term.

Variable Definitions

Our dependent variable, FreqMF, measures the frequency of management earnings forecasts issued by firm management during each fiscal year. This variable captures managers' voluntary disclosure behavior and serves as a proxy for the extent to which firms provide forward-looking information to reduce information asymmetry between management and external stakeholders (Hirst et al., 2008). Higher values indicate more frequent voluntary disclosure activity, consistent with greater managerial transparency.

The Treatment Effect variable is an indicator variable that equals one for firm-year observations in the post-Credit Risk Retention Rules period from 2009 onwards, and zero for observations in the pre-regulation period. This variable captures the systematic change in the information environment following the implementation of risk retention requirements, which we hypothesize affects voluntary disclosure incentives through the information asymmetry channel (Dechow et al., 2010).

Our control variables include several firm characteristics that prior research has linked to voluntary disclosure decisions. Institutional ownership (linstown) captures the proportion of shares held by institutional investors, which prior studies suggest increases disclosure due to sophisticated investors' demand for information (Ajinkya et al., 2005). Firm size (lsize) is measured as the natural logarithm of market capitalization, with larger firms typically providing more voluntary disclosure due to greater analyst following and investor attention (Lang and Lundholm, 1993). Book-to-market ratio (lbtm) controls for growth opportunities, as growth firms face greater information asymmetry and may have stronger incentives to provide voluntary guidance. Return on assets (lroa) measures firm profitability, with more profitable firms generally more likely to provide optimistic forward-looking information. Stock return (lsaret12) captures recent stock performance, as managers may adjust disclosure behavior based on market reactions. Earnings volatility (levol) reflects the uncertainty in firm

performance, potentially affecting the precision and frequency of management forecasts. Loss (lloss) is an indicator for firms reporting negative earnings, as loss firms face different disclosure incentives due to litigation concerns and investor skepticism. Finally, class action litigation risk (lcalrisk) captures the legal environment facing the firm, as litigation risk can both encourage disclosure for transparency and discourage it due to legal exposure concerns (Rogers and Van Buskirk, 2009).

Sample Construction

We construct our sample using data from multiple sources to ensure comprehensive coverage of firm characteristics and disclosure behavior. Our primary sample includes all firms in the Compustat universe during a five-year window spanning two years before and two years after the 2009 implementation of the Credit Risk Retention Rules, with the post-regulation period defined as from 2009 onwards. We obtain financial statement data from Compustat, management forecast data from I/B/E/S, audit-related information from Audit Analytics, and stock return data from CRSP to construct our comprehensive dataset (Balakrishnan et al., 2014).

Our sample construction process begins with all firm-year observations available in Compustat during our sample period, resulting in an initial sample that we refine through several filters to ensure data quality and completeness. We require firms to have sufficient data to construct our key variables, including management forecast frequency and all control variables used in our regression specifications. After applying these data requirements and removing observations with missing values for critical variables, our final sample consists of 16,882 firm-year observations that provide the statistical power necessary to detect the hypothesized effects of the Credit Risk Retention Rules on voluntary disclosure behavior.

The research design treats all firms as potentially affected by the regulatory change, recognizing that information asymmetry effects can operate through multiple channels including changes in investor expectations, analyst behavior, and overall market transparency (Shroff et al., 2013). This approach differs from studies that focus solely on directly regulated entities, instead capturing the broader equilibrium effects of regulatory interventions on corporate disclosure practices across the entire market. We include various sample restrictions to ensure the reliability of our inferences, including requirements for minimum data availability and the exclusion of observations with extreme values that could unduly influence our results.

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, providing a comprehensive dataset that captures the financial crisis period and its aftermath. This timeframe allows us to examine the effects of credit risk retention rules around their implementation.

We observe substantial variation in institutional ownership across our sample firms. The mean institutional ownership (linstown) is 56.9%, with a median of 61.8%, indicating that institutional investors hold significant stakes in most sample firms. The interquartile range spans from 28.9% to 84.0%, demonstrating considerable cross-sectional variation in institutional interest. Firm size (lsize) exhibits the expected right-skewed distribution, with a mean of 5.987 and median of 5.940, suggesting our sample includes firms across the size spectrum.

The book-to-market ratio (lbtm) shows a mean of 0.663 and median of 0.531, with substantial dispersion (standard deviation of 0.648). This distribution indicates our sample

encompasses both growth and value firms. Profitability measures reveal challenging operating conditions during our sample period, consistent with the financial crisis era. Return on assets (lroa) averages -4.4% with a median of 2.1%, while the mean stock return (lsaret12) is -1.8% with a median of -10.2%. These statistics reflect the difficult economic environment during our sample period.

Earnings volatility (levol) displays considerable variation, with a mean of 14.7% and median of 5.7%, indicating significant heterogeneity in earnings stability across firms. The loss indicator (lloss) shows that 33.5% of firm-year observations report losses, substantially higher than typical non-crisis periods, further confirming the challenging operating environment. Our credit risk measure (lcalrisk) has a mean of 31.7% and median of 20.8%, with the distribution skewed toward lower-risk firms.

The management forecast frequency variable (freqMF) shows considerable variation, with a mean of 0.601 and standard deviation of 0.895, indicating heterogeneous disclosure practices across firms. The post-law indicator reveals that 58.2% of observations occur in the post-implementation period, providing balanced representation across the regulatory change.

Notably, all firms in our sample are classified as treated (treated = 1.000), indicating we focus on firms subject to the credit risk retention rules. The treatment effect variable mirrors the post-law distribution, confirming our research design captures the regulatory intervention's timing. These descriptive statistics suggest our sample provides appropriate variation to examine the hypothesized relationships between credit risk retention rules, information asymmetry, and firm disclosure behavior.

RESULTS

Regression Analysis

We examine the association between the implementation of Credit Risk Retention Rules and firms' voluntary disclosure levels using a difference-in-differences research design. Our analysis reveals that the treatment effect varies substantially across model specifications, indicating the critical importance of controlling for firm heterogeneity and time-invariant characteristics. Specification (1) presents a univariate analysis without controls, showing a negative treatment effect of -0.0830 (t-statistic = -8.40, $p < 0.001$). However, this specification suffers from omitted variable bias, as evidenced by the extremely low R-squared of 0.0021. Specification (2) incorporates firm-level control variables, which dramatically improves model fit (R-squared = 0.2465) and reverses the sign of the treatment effect to 0.0079, though this coefficient becomes statistically insignificant (t-statistic = 0.55, $p = 0.580$). Most importantly, Specification (3) includes firm fixed effects, our preferred specification given the panel nature of our data, and yields a treatment effect of -0.0248 (t-statistic = -1.98, $p = 0.048$) with substantially improved explanatory power (R-squared = 0.8751). The progression across specifications demonstrates that uncontrolled firm heterogeneity significantly biases the estimated treatment effect, underscoring the necessity of firm fixed effects to control for time-invariant firm characteristics that may correlate with both securitization activities and disclosure propensity.

The statistical significance and economic magnitude of our findings warrant careful interpretation. In our preferred specification with firm fixed effects, we find a statistically significant negative association between Credit Risk Retention Rules implementation and voluntary disclosure at the 5% level ($p = 0.048$). The economic magnitude suggests that firms subject to the retention rules decrease their voluntary disclosure by approximately 2.48 percentage points relative to control firms. While this effect appears modest in absolute terms, it represents a meaningful change in disclosure behavior when considered relative to typical voluntary disclosure levels in our sample. The high R-squared of 0.8751 in the firm fixed effects specification indicates that our model explains a substantial portion of the variation in

voluntary disclosure, lending credibility to our identification strategy. However, we acknowledge that the marginal statistical significance ($p = 0.048$) suggests the need for cautious interpretation, as the result approaches conventional significance thresholds.

Our control variables exhibit coefficients largely consistent with prior literature on voluntary disclosure determinants. Institutional ownership (linstown) shows a positive association with disclosure in specifications without firm fixed effects, 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 highly significant association with voluntary disclosure across all specifications (t-statistics ranging from 8.27 to 11.01), confirming established findings that larger firms provide more voluntary disclosure due to lower proprietary costs and greater analyst following. The negative coefficient on losses (lloss) across all specifications aligns with managers' incentives to reduce disclosure during poor performance periods. Stock return performance (lsaret12) shows a consistently negative association, suggesting that firms with better recent performance may reduce disclosure, potentially due to reduced information asymmetry. Notably, several control variables lose significance in the firm fixed effects specification, indicating that much of their explanatory power stems from cross-sectional rather than time-series variation. These results do not support our hypothesis H1, which predicted that Credit Risk Retention Rules would increase voluntary disclosure through reduced information asymmetries. Instead, we find evidence of a negative association, suggesting that the regulatory requirements may have created incentives for firms to reduce rather than increase voluntary disclosure, possibly due to proprietary cost concerns or regulatory uncertainty that outweighed the theoretical benefits of enhanced transparency in mitigating information asymmetries.

CONCLUSION

This study examines how the Credit Risk Retention Rules of 2009 affected voluntary disclosure through the information asymmetry channel. We investigated whether mandating asset securitizers to retain a portion of credit risk altered firms' incentives to voluntarily disclose information, thereby reducing information asymmetries between managers and external stakeholders. Our empirical analysis reveals nuanced effects that depend critically on model specification and the inclusion of control variables. In the baseline specification without controls, we find a statistically significant negative treatment effect of -0.083 (t-statistic = 8.40, $p < 0.001$), suggesting that the risk retention requirements initially reduced voluntary disclosure. However, when we incorporate firm-specific control variables, the treatment effect becomes statistically insignificant (coefficient = 0.0079, t-statistic = 0.55, p = 0.580), indicating that firm characteristics explain much of the observed variation in disclosure behavior. Most notably, our most comprehensive specification, which includes firm fixed effects and achieves an R-squared of 0.875, reveals a modest but statistically significant negative treatment effect of -0.025 (t-statistic = 1.98, p = 0.048).

The economic magnitude of our findings suggests that while the Credit Risk Retention Rules did influence voluntary disclosure through the asymmetry channel, the effect was relatively small in practical terms. The 2.5 percentage point decrease in voluntary disclosure in our preferred specification indicates that the rules created subtle shifts in disclosure incentives rather than dramatic changes in corporate transparency. This finding aligns with theoretical predictions that risk retention requirements would reduce information asymmetries by aligning the interests of securitizers with those of investors, potentially diminishing managers' incentives to provide additional voluntary disclosures. The statistical significance of several control variables, particularly institutional ownership (coefficient = 0.057), firm size (coefficient = 0.092), and prior losses (coefficient = -0.073), underscores the importance of firm-specific characteristics in determining disclosure strategies. These results contribute to the growing literature on how regulatory interventions affect corporate disclosure decisions

and extend prior work on information asymmetry in securitization markets (Dechow et al., 2010; Balakrishnan et al., 2014).

Our findings carry important implications for regulators designing financial market interventions. The evidence suggests that risk retention requirements achieve their intended goal of reducing information asymmetries, albeit through a substitution effect where mandatory risk retention partially replaces voluntary disclosure as a mechanism for signaling firm quality. Regulators should recognize that well-intentioned rules may have unintended consequences for corporate transparency, potentially reducing the overall information environment despite improving risk alignment. For managers, our results indicate that regulatory changes affecting risk-sharing arrangements influence optimal disclosure strategies. Firms subject to risk retention requirements may rationally reduce voluntary disclosure if the mandatory retention of credit risk already credibly signals their confidence in asset quality to market participants. Investors should understand that reduced voluntary disclosure following the implementation of risk retention rules does not necessarily indicate deteriorating transparency, but rather reflects a new equilibrium where regulatory requirements partially substitute for discretionary information provision. This finding extends the literature on the complementary and substitutive relationships between mandatory and voluntary disclosure (Beyer et al., 2010; Shroff et al., 2013).

Several limitations constrain the interpretation of our findings and suggest avenues for future research. First, our analysis focuses on the immediate effects of the Credit Risk Retention Rules and may not capture longer-term adaptations in disclosure behavior as firms and markets adjust to the new regulatory environment. Future studies could examine whether the observed effects persist or evolve over extended time periods. Second, we examine voluntary disclosure in aggregate rather than investigating specific types of disclosures that might be most affected by changes in information asymmetry. Research disaggregating

disclosure by content type or channel could provide more granular insights into how risk retention requirements alter corporate communication strategies. Third, our identification strategy relies on the assumption that treated and control firms would have followed parallel disclosure trends absent the regulatory intervention, which, while plausible, cannot be definitively verified.

Future research could extend our findings by examining cross-sectional variation in the treatment effects based on firm characteristics such as the extent of securitization activity, institutional ownership structure, or pre-existing disclosure quality. Additionally, investigating whether similar substitution effects occur in other regulatory contexts where mandatory requirements might reduce information asymmetries could enhance our understanding of the broader relationship between regulation and corporate transparency. Finally, research examining the welfare implications of the observed disclosure reduction would help determine whether the net effect of risk retention rules on market efficiency is positive despite the decrease in voluntary disclosure. Such studies could inform the design of future regulations affecting securitization markets and contribute to the ongoing debate about optimal regulatory approaches to managing systemic risk while preserving market transparency.

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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 Risk Retention Rules Information Asymmetry

	Treatment Effect	FreqMF	Institutional ownership	Firm size	Book-to-market	ROA	Stock return	Earnings volatility	Loss	Class action litigation risk
Treatment Effect	1.00	**-0.05**	-0.01	**-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 Risk Retention 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.