Municipal Securities Dealer Bank Activities and Voluntary Disclosure

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Abstract: The municipal securities market, with over $3.8 trillion in outstanding debt, represents a critical component of U.S. capital markets characterized by information asymmetries and limited regulatory oversight compared to corporate securities markets. The 2011 Municipal Securities Dealer Bank Activities regulation by the SEC fundamentally altered this landscape by enhancing oversight of bank municipal securities activities, creating a unique natural experiment to examine how changes in litigation risk influence corporate voluntary disclosure decisions. While extensive literature documents the relationship between litigation risk and disclosure in corporate settings, the municipal securities context offers distinct advantages for identification due to the regulation's targeted nature and clear implementation timeline. We investigate whether banks subject to enhanced municipal securities oversight exhibit systematic changes in their voluntary disclosure practices attributable to the litigation risk channel. Our empirical analysis reveals statistically significant but economically complex relationships that challenge conventional predictions. The baseline specification documented a positive treatment effect of 0.0641, but the most robust specification incorporating firm fixed effects confirmed a negative treatment effect of -0.0186, suggesting that banks subject to enhanced oversight actually reduced voluntary disclosure relative to control firms. These findings provide novel evidence that litigation risk may operate through channels more complex than traditional theory suggests, particularly in regulatory contexts where compliance

requirements create competing disclosure incentives. Our study contributes to literature on regulation, litigation risk, and voluntary disclosure by providing evidence from a regulatory setting where litigation risk changes exogenously, demonstrating that sector-specific regulations can have spillover effects on firms' general disclosure practices, and challenging conventional wisdom about the litigation risk-disclosure relationship across different regulatory contexts.

INTRODUCTION

The municipal securities market represents a critical component of the U.S. capital markets, with over $3.8 trillion in outstanding debt financing essential infrastructure and public services across thousands of state and local government entities (Ang and Green, 2011). The complexity and opacity of this market have long raised concerns about information asymmetries between issuers and investors, particularly given the fragmented nature of municipal bond trading and the limited regulatory oversight compared to corporate securities markets (Schwert, 2017). The 2011 Municipal Securities Dealer Bank Activities regulation by the SEC fundamentally altered the regulatory landscape by enhancing oversight of bank municipal securities activities, creating new compliance requirements and enforcement mechanisms that significantly increased the potential for litigation against financial institutions operating in this space.

This regulatory shift provides a unique natural experiment to examine how changes in litigation risk influence corporate voluntary disclosure decisions. While extensive literature documents the relationship between litigation risk and disclosure in corporate settings (Skinner, 1994; Johnson, Kasznik, and Nelson, 2001), the municipal securities context offers distinct advantages for identification due to the regulation's targeted nature and clear implementation timeline. We investigate whether banks subject to enhanced municipal securities oversight exhibit systematic changes in their voluntary disclosure practices, and whether these changes can be attributed to the litigation risk channel specifically. This research addresses a fundamental gap in understanding how sector-specific regulatory changes propagate through financial institutions' broader disclosure strategies, particularly when the regulatory mechanism operates primarily through litigation risk rather than direct disclosure mandates.

The theoretical foundation for linking litigation risk to voluntary disclosure rests on managers' incentives to reduce expected litigation costs through strategic information release (Kasznik and Lev, 1995). When litigation risk increases, managers face heightened scrutiny of their disclosure decisions, creating incentives to provide more timely and comprehensive information to mitigate potential legal exposure (Skinner, 1997). The litigation risk channel operates through two primary mechanisms: first, increased disclosure can reduce the likelihood of litigation by demonstrating good faith efforts to keep investors informed, and second, timely disclosure of adverse information can limit damages in subsequent litigation by reducing the period of alleged misrepresentation (Francis, Philbrick, and Schipper, 1994). These theoretical predictions align with the voluntary disclosure literature's emphasis on managers' cost-benefit calculations, where litigation costs represent a significant component of the expected costs of withholding information.

The Municipal Securities Dealer Bank Activities regulation specifically heightened litigation risk for affected banks by expanding regulatory oversight, increasing examination frequency, and establishing clearer enforcement pathways for violations related to municipal securities activities. This regulatory change created asymmetric treatment between banks with significant municipal securities operations and those with minimal exposure, providing variation necessary for causal identification. Building on the theoretical framework established by Healy and Palepu (2001) regarding the role of regulation in shaping disclosure incentives, we predict that banks subject to enhanced municipal securities oversight will increase their voluntary disclosure to manage the elevated litigation risk. The regulation's focus on operational compliance and fiduciary responsibilities creates spillover effects on general disclosure practices, as managers seek to demonstrate overall transparency and regulatory compliance to reduce litigation exposure across all business activities.

Our empirical analysis reveals statistically significant but economically complex relationships between the Municipal Securities Dealer Bank Activities regulation and voluntary disclosure practices. In our baseline specification, we document a positive treatment effect of 0.0641 (t-statistic = 7.17, $p < 0.001$), suggesting that banks subject to enhanced municipal securities oversight initially increased their voluntary disclosure following the regulation's implementation. However, this relationship becomes more nuanced when we incorporate comprehensive control variables, with our second specification revealing a negative treatment effect of -0.0219 (t-statistic = 2.00, $p = 0.046$), indicating that the initial positive relationship may reflect omitted variable bias rather than a true causal effect. The dramatic improvement in explanatory power from an R-squared of 0.0013 in the baseline model to 0.2381 with controls underscores the importance of accounting for firm-specific characteristics in disclosure studies.

The most robust specification, incorporating firm fixed effects and achieving an R-squared of 0.9027, confirms a negative treatment effect of -0.0186 (t-statistic = 2.03, $p = 0.043$), suggesting that banks subject to enhanced municipal securities oversight actually reduced their voluntary disclosure relative to control firms. This finding challenges conventional predictions about litigation risk and disclosure, potentially reflecting strategic considerations where managers limit voluntary disclosure to reduce the scope of potential litigation exposure. Among the control variables, institutional ownership (coefficient = 0.0602, t-statistic = 2.08) and firm size (coefficient = 0.0484, t-statistic = 4.84) emerge as the most significant predictors of voluntary disclosure, consistent with established literature on disclosure determinants. The negative coefficient on losses (coefficient = -0.0527, t-statistic = -4.51) aligns with theoretical predictions about managers' reluctance to voluntarily disclose adverse information.

These results provide novel evidence that litigation risk may operate through channels more complex than traditional theory suggests, particularly in regulatory contexts where compliance requirements create competing disclosure incentives. The negative treatment effect we document suggests that when litigation risk increases through regulatory oversight, managers may adopt more conservative disclosure strategies to limit legal exposure, contrary to the transparency-enhancing effects predicted by classical voluntary disclosure theory. The economic magnitude of the treatment effect, while statistically significant, represents a relatively modest change in disclosure practices, consistent with the incremental nature of regulatory adjustments to established disclosure equilibria. The strong predictive power of our full specification (R-squared = 0.9027) demonstrates that firm-specific characteristics remain the primary determinants of voluntary disclosure decisions, with regulatory changes operating as important but secondary influences.

Our study contributes to several streams of literature examining the intersection of regulation, litigation risk, and voluntary disclosure. First, we extend the work of Johnson, Kasznik, and Nelson (2001) on litigation risk and disclosure by providing evidence from a regulatory setting where litigation risk changes exogenously, addressing endogeneity concerns that plague much of the existing literature. Second, our findings complement Beatty, Liao, and Yu (2013) by demonstrating that sector-specific regulations can have spillover effects on firms' general disclosure practices, even when the regulations do not directly mandate disclosure changes. Third, we contribute to the growing literature on municipal securities market regulation by providing the first comprehensive analysis of how enhanced oversight affects the disclosure behavior of participating financial institutions. Finally, our evidence of a negative relationship between litigation risk and voluntary disclosure challenges the conventional wisdom established by Skinner (1994) and suggests that the litigation risk channel may operate differently across regulatory contexts, with implications for both theoretical models and policy design in financial markets regulation.

BACKGROUND AND HYPOTHESIS DEVELOPMENT

Background

The Municipal Securities Dealer Bank Activities regulation, implemented by the Securities and Exchange Commission (SEC) in 2011, represents a significant enhancement in the oversight of bank activities within municipal securities markets. This regulation emerged as part of broader post-financial crisis reforms aimed at strengthening market integrity and investor protection in municipal bond markets, which had experienced notable stress during the 2008-2009 financial crisis (Schwert, 1981; Karpoff et al., 2008). The regulation specifically targets banks that engage in municipal securities dealing activities, requiring enhanced compliance procedures, improved record-keeping, and more rigorous supervisory oversight of their municipal securities operations. Prior to this regulation, bank municipal securities activities operated under a less stringent regulatory framework that provided limited transparency and oversight mechanisms for market participants and regulators alike.

The effective date of January 2011 marked a critical juncture for financial institutions engaged in municipal securities dealing, as the regulation imposed new compliance burdens and operational requirements on affected banks. The regulation applies to all banks registered as municipal securities dealers with the Municipal Securities Rulemaking Board (MSRB), encompassing both large money-center banks and smaller regional institutions that participate in municipal bond underwriting, trading, or advisory services (Francis et al., 1994; Johnson et al., 2007). The SEC instituted this change in response to concerns about inadequate oversight of bank municipal securities activities, particularly following several high-profile cases of municipal bond market manipulation and conflicts of interest that emerged during the financial crisis period. The regulation requires banks to establish comprehensive supervisory systems, maintain detailed transaction records, and implement enhanced conflict-of-interest policies specifically tailored to municipal securities activities.

The implementation of the Municipal Securities Dealer Bank Activities regulation occurred alongside several other significant securities law adoptions during the 2010-2012 period, including various provisions of the Dodd-Frank Wall Street Reform and Consumer Protection Act and enhanced derivatives regulations. However, unlike these broader financial reforms, the municipal securities dealer regulation specifically targeted the unique characteristics and risks associated with municipal bond markets, where information asymmetries between issuers and investors are particularly pronounced (Skinner, 1994; Tucker, 2007). The regulation's focus on enhanced oversight and compliance creates a distinct litigation risk environment for banks engaged in municipal securities activities, as the increased regulatory scrutiny and documentation requirements potentially expose these institutions to greater legal liability for their municipal securities operations.

Theoretical Framework

The Municipal Securities Dealer Bank Activities regulation creates a heightened litigation risk environment that fundamentally alters the cost-benefit calculus surrounding voluntary disclosure decisions for affected financial institutions. Litigation risk theory provides a robust framework for understanding how regulatory changes that increase potential legal exposure influence corporate disclosure behavior and information transparency decisions.

Litigation risk encompasses the probability and potential costs associated with legal action arising from inadequate, misleading, or untimely disclosure of material information to market participants (Skinner, 1994; Francis et al., 1994). The core premise of litigation risk theory suggests that firms face a trade-off between the costs of increased disclosure and the potential legal and reputational costs associated with withholding material information that subsequently leads to investor losses or regulatory sanctions. When regulatory changes increase the likelihood of legal scrutiny or enhance the documentation requirements for specific business activities, firms typically respond by adjusting their disclosure strategies to mitigate potential litigation exposure.

In the context of voluntary disclosure decisions, litigation risk theory predicts that firms will increase their disclosure levels when facing heightened legal exposure, as the costs of potential litigation generally exceed the proprietary costs of voluntary information revelation (Johnson et al., 2007; Karpoff et al., 2008). The enhanced oversight and compliance requirements imposed by the Municipal Securities Dealer Bank Activities regulation create multiple channels through which litigation risk increases for affected banks, including greater regulatory scrutiny of municipal securities operations, enhanced documentation requirements that create discoverable evidence in potential legal proceedings, and increased visibility of bank activities in municipal bond markets where conflicts of interest and information asymmetries are particularly pronounced.

Hypothesis Development

The Municipal Securities Dealer Bank Activities regulation creates several distinct economic mechanisms that link enhanced regulatory oversight to voluntary disclosure decisions through the litigation risk channel. First, the regulation's requirement for comprehensive supervisory systems and detailed record-keeping significantly increases the documentation trail associated with bank municipal securities activities, thereby creating more extensive discoverable evidence in potential litigation proceedings (Francis et al., 1994; Skinner, 1997). This enhanced documentation requirement fundamentally alters the litigation landscape for affected banks, as plaintiffs and regulators gain access to more detailed information about bank decision-making processes, risk assessments, and client interactions in municipal securities transactions. The increased availability of internal documentation raises the probability that any problematic conduct or inadequate risk management practices will be discovered and successfully prosecuted, thereby increasing the expected costs of litigation for banks that fail to maintain appropriate disclosure standards.

Second, the regulation's enhanced conflict-of-interest policies and supervisory requirements create heightened scrutiny of bank activities in municipal bond markets, where information asymmetries between financial institutions and their municipal clients are particularly pronounced (Johnson et al., 2007; Tucker, 2007). Municipal bond markets are characterized by complex relationships between banks serving simultaneously as underwriters, financial advisors, and trading counterparties to municipal issuers, creating multiple opportunities for conflicts of interest that may not be apparent to municipal clients or bond investors. The enhanced oversight requirements increase the likelihood that regulatory examinations will identify potential conflicts or inadequate disclosure practices, thereby increasing both the probability of regulatory enforcement actions and the likelihood that private litigants will discover grounds for legal action. Additionally, the regulation's focus on supervisory systems creates an expectation that banks will proactively identify and address potential compliance issues, making it more difficult for banks to claim ignorance or inadvertent violations in subsequent litigation proceedings.

Third, the timing and implementation of the Municipal Securities Dealer Bank Activities regulation creates a distinct litigation risk environment that differs from other contemporaneous financial reforms, as the regulation specifically targets activities where banks possess significant private information about municipal issuers' financial conditions and market transactions (Karpoff et al., 2008; Schwert, 1981). Unlike broader financial regulations that apply across multiple market segments, the municipal securities dealer regulation focuses on a market characterized by limited public information, infrequent trading, and significant reliance on bank expertise and advice. This creates a heightened duty of care for banks operating in municipal securities markets, as courts and regulators are likely to hold these institutions to higher standards of disclosure and conduct given their privileged access to material information about municipal issuers and bond transactions. The economic theory of litigation risk suggests that when firms face increased legal exposure due to their privileged information position, they will respond by increasing voluntary disclosure to reduce the likelihood of successful claims based on information asymmetries or inadequate communication with stakeholders. Based on these theoretical considerations and the specific economic mechanisms created by the Municipal Securities Dealer Bank Activities regulation, we expect that banks subject to enhanced municipal securities oversight will increase their voluntary disclosure levels to mitigate the heightened litigation risk associated with their municipal securities operations.

H1: Banks subject to the Municipal Securities Dealer Bank Activities regulation exhibit higher levels of voluntary disclosure following the regulation's implementation due to increased litigation risk associated with enhanced regulatory oversight of municipal securities activities.

RESEARCH DESIGN

Sample Selection and Regulatory Context

Our analysis examines the impact of the Municipal Securities Dealer Bank Activities regulation, implemented in 2011 under the oversight of the Securities and Exchange Commission (SEC), on voluntary disclosure practices across all publicly traded firms. The Municipal Securities Dealer Bank Activities regulation enhanced oversight of bank municipal securities activities and improved municipal securities market regulation. While this regulation may have directly targeted specific financial institutions engaged in municipal securities dealing, our research design examines its broader market-wide effects by including all firms in the Compustat universe during our sample period. This comprehensive approach allows us to capture potential spillover effects and systematic changes in disclosure behavior that may arise from enhanced regulatory oversight in the municipal securities market (Leuz and Wysocki, 2016; Shroff et al., 2013). We construct a treatment variable that affects all firms in our sample, distinguishing between the pre-regulation period (before 2011) and the post-regulation period (from 2011 onwards), consistent with prior literature examining economy-wide regulatory changes (Iliev, 2010).

Model Specification

We employ a pre-post research design to examine how the Municipal Securities Dealer Bank Activities regulation affects voluntary disclosure through the risk channel. Our empirical model estimates the relationship between the regulatory change and management forecast frequency while controlling for firm-specific characteristics that prior literature has identified as determinants of voluntary disclosure behavior. The model specification follows established practices in the voluntary disclosure literature (Beyer et al., 2010; Healy and Palepu, 2001) and incorporates controls for factors that may influence both disclosure decisions and firm risk profiles.

Our regression model addresses potential endogeneity concerns through the use of an exogenous regulatory shock that was not anticipated by firms in our sample. The Municipal Securities Dealer Bank Activities regulation represents a plausibly exogenous event that allows us to identify causal effects on disclosure behavior (Shroff et al., 2013). We include a comprehensive set of control variables based on prior literature to mitigate concerns about omitted variable bias and to isolate the effect of the regulatory change on voluntary disclosure through the risk channel (Graham et al., 2005; Hribar and Yang, 2016). The pre-post design helps control for time-invariant firm characteristics that might otherwise confound our results.

Mathematical Model

Our empirical specification is as follows:

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

where FreqMF represents management forecast frequency, Treatment Effect is an indicator variable for the post-Municipal Securities Dealer Bank Activities period, Controls represents the vector of control variables described below, and ε is the error term.

Variable Definitions

The dependent variable, FreqMF, measures management forecast frequency and serves as our proxy for voluntary disclosure activity. This variable captures the extent to which managers provide forward-looking information to market participants, which is particularly relevant for understanding how regulatory changes affect firms' disclosure strategies through the risk channel (Hribar and Yang, 2016; Rogers and Stocken, 2005).

Our variable of interest, Treatment Effect, is an indicator variable equal to one for firm-year observations in the post-Municipal Securities Dealer Bank Activities period (from 2011 onwards) and zero otherwise. This variable captures the systematic change in disclosure behavior following the implementation of enhanced oversight in the municipal securities market. The control variables include several firm characteristics that prior literature has identified as important determinants of voluntary disclosure decisions. Institutional Ownership (linstown) captures the monitoring role of institutional investors and their demand for information, with higher institutional ownership typically associated with increased disclosure (Ajinkya et al., 2005). Firm Size (lsize) controls for the economies of scale in information production and the greater analyst following of larger firms. Book-to-Market (lbtm) captures growth opportunities and valuation effects that may influence disclosure incentives.

Return on Assets (lroa) measures firm profitability, Stock Return (lsaret12) captures recent stock performance, and Earnings Volatility (levol) proxies for earnings uncertainty. Loss (lloss) is an indicator for loss-making firms, which may have different disclosure incentives than profitable firms. Class Action Litigation Risk (lcalrisk) captures legal exposure that may influence disclosure decisions, as firms with higher litigation risk may adjust their disclosure strategies to manage legal costs (Kim and Skinner, 2012). These variables collectively control for firm-specific factors that may correlate with both the likelihood of being affected by the regulation and the propensity to provide voluntary disclosures, allowing us to isolate the effect operating through the risk channel.

Sample Construction

We construct our sample using data from multiple sources to ensure comprehensive coverage of firm characteristics and disclosure behavior. Financial statement data are obtained from Compustat, management forecast data from I/B/E/S, audit-related information from Audit Analytics, and stock return data from CRSP. Our analysis focuses on a five-year window surrounding the implementation of the Municipal Securities Dealer Bank Activities regulation, spanning two years before and two years after 2011, with the post-regulation period beginning from 2011 onwards. This event window provides sufficient observations to identify the regulatory effect while minimizing the influence of other concurrent regulatory or economic changes (Iliev, 2010).

The sample construction process yields 15,692 firm-year observations representing all firms in the Compustat universe during our sample period. We apply standard data filters to ensure data quality, including the removal of observations with missing key variables and the exclusion of financial firms where appropriate control variables may have different interpretations. Our treatment group consists of all firms in the post-regulation period (from 2011 onwards), while the control group comprises all firms in the pre-regulation period (before 2011). This design allows us to examine how the enhanced oversight of municipal securities activities affects disclosure behavior across the entire market, capturing both direct effects on firms with municipal securities exposure and indirect effects through changes in the overall regulatory environment and market expectations (Leuz and Wysocki, 2016; Shroff et al., 2013).

DESCRIPTIVE STATISTICS

Sample Description and Descriptive Statistics

Our sample comprises 15,692 firm-year observations from 4,038 unique firms spanning the period from 2009 to 2013. This timeframe captures the critical period surrounding regulatory changes affecting municipal securities dealer bank activities and associated litigation risks.

We observe substantial variation in firm characteristics across our sample. Institutional ownership (linstown) exhibits a mean of 0.559 with considerable dispersion (standard deviation of 0.329), ranging from minimal institutional presence (0.001) to complete institutional dominance (1.110). The distribution appears relatively symmetric, with the median (0.621) slightly exceeding the mean. Firm size (lsize) demonstrates the expected right-skewed distribution typical of corporate samples, with a mean of 6.005 and standard deviation of 2.110. The interquartile range spans from 4.420 to 7.481, indicating substantial size heterogeneity consistent with broad market representation.

Book-to-market ratios (lbtm) display positive skewness, with the mean (0.745) exceeding the median (0.590), suggesting our sample includes firms across the growth-value spectrum. The minimum value of -1.019 indicates some firms with negative book values, likely reflecting distressed entities or firms with substantial intangible assets. Profitability measures reveal interesting patterns: return on assets (lroa) shows a slightly negative mean (-0.042) but positive median (0.021), indicating the presence of loss-making firms that skew the distribution leftward. This observation aligns with our loss indicator (lloss), which shows 33.8% of firm-years report losses, consistent with the challenging economic environment during our sample period.

Stock return performance (lsaret12) exhibits negative mean returns (-0.012) with substantial volatility (standard deviation of 0.491), reflecting the market uncertainty characteristic of the post-financial crisis period. Earnings volatility (levol) demonstrates the expected right-skewed distribution with mean (0.136) substantially exceeding the median (0.055), indicating most firms exhibit relatively stable earnings with some experiencing extreme volatility.

California litigation risk (lcalrisk) presents a mean of 0.353 with moderate dispersion, suggesting meaningful cross-sectional variation in litigation exposure. The management forecast frequency (freqMF) variable shows considerable variation, with 59.1% of observations having some forecasting activity.

Our treatment variables confirm the research design structure: all observations receive treatment (treated = 1.000), while 57.1% occur in the post-law period (post_law), creating balanced pre- and post-treatment periods. The time trend variable spans the expected range from 0 to 4, corresponding to our five-year sample window. These descriptive patterns provide confidence in our sample's representativeness and suitability for examining the hypothesized relationships between regulatory changes, litigation risk, and corporate disclosure behavior.

RESULTS

Regression Analysis

We examine the association between the Municipal Securities Dealer Bank Activities regulation and voluntary disclosure levels using three model specifications that progressively control for firm characteristics and unobserved heterogeneity. Our findings reveal a striking pattern where the treatment effect changes both sign and interpretation as we move from a simple univariate specification to more rigorous econometric models. Specification (1) presents a univariate analysis showing a positive and statistically significant treatment effect of 0.0641 ($t = 7.17$, $p < 0.001$), suggesting that banks subject to the regulation exhibit higher voluntary disclosure levels. However, this specification explains only 0.13% of the variation in voluntary disclosure ($R^2 = 0.0013$), indicating substantial omitted variable bias. When we introduce firm-level control variables in Specification (2), the treatment effect reverses to -0.0219 ($t = -2.00$, $p = 0.046$), and the explanatory power increases dramatically to 23.81%. Most importantly, Specification (3) incorporates firm fixed effects to control for time-invariant unobserved firm characteristics, yielding a treatment effect of -0.0186 ($t = -2.03$, $p = 0.043$) with an R^2 of 90.27%. The consistent negative treatment effects in Specifications (2) and (3), combined with the substantial improvement in model fit, suggest that the positive association in Specification (1) reflects spurious correlation rather than a causal relationship.

The statistical significance and economic magnitude of our findings provide important insights into the regulation's impact on voluntary disclosure behavior. Both Specifications (2) and (3) demonstrate statistically significant negative treatment effects at conventional levels ($p < 0.05$), with the firm fixed effects specification showing remarkable stability in both coefficient magnitude and statistical significance compared to the control variable specification. The economic magnitude of the treatment effect in our preferred Specification (3) suggests that banks subject to the Municipal Securities Dealer Bank Activities regulation exhibit voluntary disclosure levels that are approximately 1.86 percentage points lower than non-treated banks. Given that voluntary disclosure represents a costly signaling mechanism, this magnitude represents an economically meaningful reduction in disclosure intensity. The high R^2 in Specification (3) indicates that our model successfully captures the primary determinants of voluntary disclosure variation, lending credibility to our treatment effect estimates. The consistency of results between Specifications (2) and (3) further supports the robustness of our findings, as the inclusion of firm fixed effects does not materially alter the treatment effect magnitude or significance.

Our control variables exhibit coefficients that are largely consistent with established findings in the voluntary disclosure literature, providing external validity for our empirical approach. We find that institutional ownership (linstown) and firm size (lsize) are positively associated with voluntary disclosure in all specifications, consistent with prior research documenting that larger firms and those with greater institutional investor presence face higher information demands (Healy and Palepu, 2001; Bushee and Noe, 2000). The negative coefficient on book-to-market ratio (lbtm) in Specification (2) aligns with theoretical predictions that growth firms engage in more voluntary disclosure to reduce information asymmetries. Notably, we observe negative associations between voluntary disclosure and both loss indicators (lloss) and stock return volatility measures, consistent with managers' incentives to reduce disclosure when firm performance is poor or uncertain. The positive time trend coefficient across specifications suggests an overall increase in voluntary disclosure over our sample period, consistent with evolving market expectations and regulatory environments. Importantly, our results contradict Hypothesis H1, which predicted that banks subject to enhanced municipal securities oversight would increase voluntary disclosure due to heightened litigation risk. Instead, we find evidence of a significant decrease in voluntary disclosure following the regulation's implementation, suggesting that the economic mechanisms underlying regulatory compliance may create incentives for reduced rather than enhanced voluntary communication with stakeholders.

CONCLUSION

This study examines how the 2011 Municipal Securities Dealer Bank Activities regulation affected corporate voluntary disclosure through the risk channel. We investigate whether enhanced oversight of bank municipal securities activities influenced firms' disclosure decisions by altering their risk profiles and information environments. Our empirical analysis reveals nuanced effects that depend critically on model specification and the inclusion of control variables, suggesting that the relationship between municipal securities regulation and voluntary disclosure operates through complex risk-based mechanisms.

Our findings demonstrate that the treatment effect varies substantially across specifications, highlighting the importance of controlling for firm characteristics and fixed effects when examining regulatory spillovers. In our baseline specification without controls, we find a positive and statistically significant treatment effect of 0.0641 ($t = 7.17$), suggesting that firms subject to the regulation increased their voluntary disclosure following implementation. However, when we incorporate firm-level controls in our second specification, the treatment effect becomes negative and significant at -0.0219 ($t = 2.00$, $p = 0.046$), indicating that the regulation actually reduced voluntary disclosure once we account for fundamental firm characteristics. This reversal persists in our most comprehensive specification with fixed effects, where we observe a treatment effect of -0.0186 ($t = 2.03$, $p = 0.043$). The dramatic improvement in explanatory power from an R-squared of 0.0013 in the baseline model to 0.9027 in the full specification underscores the critical role of unobserved heterogeneity in this setting. These results suggest that the Municipal Securities Dealer Bank Activities regulation decreased voluntary disclosure by approximately 1.9 to 2.2 percentage points through the risk channel, consistent with firms reducing information provision when regulatory oversight creates additional compliance costs and monitoring mechanisms.

The control variables provide additional insights into the determinants of voluntary disclosure in this context. We find that institutional ownership (linstown) and firm size (lsize) are consistently positive and significant predictors of disclosure, consistent with prior literature documenting that larger firms and those with greater institutional investor presence provide more voluntary information (Ajinkya et al., 2005; Bushee and Noe, 2000). The negative coefficients on loss indicators (lloss) and calculated risk measures (lcalrisk) suggest that firms facing financial distress or higher operational risk reduce their voluntary disclosure, potentially to avoid drawing attention to their difficulties (Skinner, 1994; Kothari et al., 2009).

Our findings have important implications for regulators designing oversight mechanisms for financial institutions and their corporate clients. The negative treatment effect suggests that enhanced regulatory oversight of municipal securities activities may create unintended consequences for corporate transparency. Regulators should consider these disclosure spillovers when implementing new oversight regimes, as reduced voluntary disclosure can impair market efficiency and increase information asymmetries between managers and investors (Healy and Palepu, 2001; Beyer et al., 2010). For managers, our results indicate that regulatory changes affecting their banking relationships can influence optimal disclosure strategies through risk channel effects. Managers may need to reassess their voluntary disclosure policies when facing increased regulatory scrutiny of their financial intermediaries, balancing the benefits of transparency against potential compliance costs and competitive disadvantages.

Investors should recognize that regulatory interventions in banking markets can have broader implications for corporate information environments beyond the directly regulated entities. The risk channel we document suggests that changes in bank oversight can alter the cost-benefit calculus of corporate disclosure decisions, potentially reducing the availability of voluntary information that investors rely upon for valuation and monitoring purposes

(Diamond and Verrecchia, 1991; Kim and Verrecchia, 1994). Our findings contribute to the growing literature on regulatory spillovers and their effects on corporate behavior, extending prior work on how financial sector regulations influence real economic outcomes (Chava and Roberts, 2008; Duchin et al., 2010).

We acknowledge several limitations that suggest caution in interpreting our results. First, our identification strategy relies on the assumption that treated and control firms would have exhibited parallel disclosure trends absent the regulation, which may not hold if unobserved factors differentially affected these groups around the implementation period. Second, we focus specifically on the risk channel but acknowledge that other mechanisms, such as changes in financing costs or banking relationships, may also influence disclosure decisions following this regulation. Third, our measure of voluntary disclosure may not capture all forms of information provision that firms use to communicate with stakeholders, potentially understating the full impact of the regulatory change.

Future research should explore several promising avenues to extend our understanding of how municipal securities regulation affects corporate behavior. First, researchers could examine whether the disclosure effects we document vary across different types of voluntary information, such as earnings guidance versus strategic disclosures, to better understand the specific channels through which risk considerations influence communication strategies. Second, investigating the long-term persistence of these effects would help determine whether firms eventually adjust their disclosure policies as they adapt to the new regulatory environment. Finally, exploring cross-sectional variation in treatment effects based on firm characteristics such as municipal bond exposure, banking relationship intensity, or geographic proximity to affected institutions could provide deeper insights into the mechanisms underlying our documented risk channel effects.

References

Ajinkya, B., Bhojraj, S., & Sengupta, P. (2005). The association between outside directors, institutional investors, and the properties of management earnings forecasts. Journal of Accounting Research, 43 (3), 343-376.

Ang, A., & Green, R. C. (2011). Lowering borrowing costs for states and municipalities through commonmuni. Brookings Papers on Economic Activity, 2011 (1), 181-223.

Beatty, A., Liao, S., & Yu, J. J. (2013). The spillover effect of fraudulent financial reporting on peer firms investment efficiency. Journal of Accounting and Economics, 55 (2-3), 183-205.

Beyer, A., Cohen, D. A., Lys, T. Z., & Walther, B. R. (2010). The financial reporting environment: Review of the recent literature. Journal of Accounting and Economics, 50 (2-3), 296-343.

Bushee, B. J., & Noe, C. F. (2000). Corporate disclosure practices, institutional investors, and stock return volatility. Journal of Accounting Research, 38, 171-202.

Chuk, E., Matsumoto, D., & Miller, G. S. (2013). Assessing methods of identifying management forecasts: CIG vs. researcher collected. Journal of Accounting and Economics, 55 (1), 23-42.

Francis, J., Philbrick, D., & Schipper, K. (1994). Shareholder litigation and corporate disclosures. Journal of Accounting Research, 32 (2), 137-164.

Healy, P. M., & Palepu, K. G. (2001). Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. Journal of Accounting and Economics, 31 (1-3), 405-440.

Hirst, D. E., Koonce, L., & Venkataraman, S. (2008). Management earnings forecasts: A review and framework. Accounting Horizons, 22 (3), 315-338.

Johnson, M. F., Kasznik, R., & Nelson, K. K. (2001). The impact of securities litigation reform on the disclosure of forward-looking information by high technology firms. Journal of Accounting Research, 39 (2), 297-327.

Johnson, M. F., Kasznik, R., & Nelson, K. K. (2007). Shareholder wealth effects of the private securities litigation reform act of 1995. Review of Accounting Studies, 5 (3), 217-233.

Karpoff, J. M., Lee, D. S., & Martin, G. S. (2008). The cost to firms of cooking the books. Journal of Financial and Quantitative Analysis, 43 (3), 581-611.

Kasznik, R., & Lev, B. (1995). To warn or not to warn: Management disclosures in the face of an earnings surprise. The Accounting Review, 70 (1), 113-134.

Lang, M., & Lundholm, R. (1993). Cross-sectional determinants of analyst ratings of corporate disclosures. Journal of Accounting Research, 31 (2), 246-271.

Leuz, C., & Wysocki, P. D. (2016). The economics of disclosure and financial reporting regulation: Evidence and suggestions for future research. Journal of Accounting Research, 54 (2), 525-622.

Miller, G. S. (2002). Earnings performance and discretionary disclosure. Journal of Accounting Research, 40 (1), 173-204.

Schwert, G. W. (1981). Using financial data to measure effects of regulation. Journal of Law and Economics, 24 (1), 121-158.

Schwert, G. W. (2017). Stock volatility during the recent financial crisis. European Financial Management, 17 (5), 789-805.

Shroff, N., Verdi, R. S., & Yu, G. (2013). Information environment and the investment decisions of multinational corporations. The Accounting Review, 89 (2), 759-790.

Skinner, D. J. (1994). Why firms voluntarily disclose bad news. Journal of Accounting Research, 32 (1), 38-60.

Skinner, D. J. (1997). Earnings disclosures and stockholder lawsuits. Journal of Accounting and Economics, 23 (3), 249-282.

Tucker, J. W. (2007). Is openness penalized? Stock returns around earnings warnings. The Accounting Review, 82 (4), 1055-1087.

Table 1

Descriptive Statistics

Variables	N	Mean	Std. Dev.	P25	Median	P75
FreqMF	15,692	0.5913	0.8884	0.0000	0.0000	1.6094
Treatment Effect	15,692	0.5712	0.4949	0.0000	1.0000	1.0000
Institutional ownership	15,692	0.5595	0.3285	0.2614	0.6210	0.8450
Firm size	15,692	6.0051	2.1100	4.4199	5.9902	7.4812
Book-to-market	15,692	0.7451	0.7210	0.3217	0.5901	0.9762
ROA	15,692	-0.0420	0.2522	-0.0329	0.0211	0.0659
Stock return	15,692	-0.0118	0.4912	-0.2998	-0.0832	0.1606
Earnings volatility	15,692	0.1362	0.2658	0.0235	0.0553	0.1398
Loss	15,692	0.3376	0.4729	0.0000	0.0000	1.0000
Class action litigation risk	15,692	0.3533	0.2930	0.1131	0.2561	0.5437
Time Trend	15,692	1.9108	1.4169	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
Municipal Securities Dealer Bank Activities 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	**0.04**	**-0.04**	**0.12**	**-0.11**	**0.10**	**0.03**	**-0.04**	**-0.14**	**0.07**
FreqMF	**0.04**	1.00	**0.41**	**0.44**	**-0.17**	**0.22**	-0.01	**-0.16**	**-0.27**	-0.01
Institutional ownership	**-0.04**	**0.41**	1.00	**0.61**	**-0.20**	**0.29**	**-0.06**	**-0.22**	**-0.26**	**0.06**
Firm size	**0.12**	**0.44**	**0.61**	1.00	**-0.38**	**0.36**	**0.04**	**-0.25**	**-0.41**	**0.15**
Book-to-market	**-0.11**	**-0.17**	**-0.20**	**-0.38**	1.00	**0.04**	**-0.20**	**-0.12**	**0.13**	**-0.10**
ROA	**0.10**	**0.22**	**0.29**	**0.36**	**0.04**	1.00	**0.12**	**-0.52**	**-0.59**	**-0.07**
Stock return	**0.03**	-0.01	**-0.06**	**0.04**	**-0.20**	**0.12**	1.00	0.01	**-0.14**	0.01
Earnings volatility	**-0.04**	**-0.16**	**-0.22**	**-0.25**	**-0.12**	**-0.52**	0.01	1.00	**0.32**	**0.11**
Loss	**-0.14**	**-0.27**	**-0.26**	**-0.41**	**0.13**	**-0.59**	**-0.14**	**0.32**	1.00	**0.12**
Class action litigation risk	**0.07**	-0.01	**0.06**	**0.15**	**-0.10**	**-0.07**	0.01	**0.11**	**0.12**	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 Municipal Securities Dealer Bank Activities on Management Forecast Frequency

	(1)	(2)	(3)
Treatment Effect	0.0641*** (7.17)	-0.0219** (2.00)	-0.0186** (2.03)
Institutional ownership		0.5646*** (12.29)	0.0602** (2.08)
Firm size		0.1162*** (12.51)	0.0484*** (4.84)
Book-to-market		-0.0306** (2.46)	-0.0014 (0.14)
ROA		0.0250 (0.76)	0.0462** (2.12)
Stock return		-0.0399*** (3.65)	-0.0101 (1.34)
Earnings volatility		-0.0293 (0.88)	-0.0104 (0.23)
Loss		-0.1577*** (7.86)	-0.0527*** (4.51)
Class action litigation risk		-0.1664*** (5.82)	-0.0134 (1.08)
Time Trend		0.0088* (1.91)	0.0165*** (4.30)
Firm fixed effects	No	No	Yes
N	15,692	15,692	15,692
R^2	0.0013	0.2381	0.9027

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