Regulation AB Asset Backed Securities and Voluntary Disclosure

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Abstract: The asset-backed securities (ABS) market represents one of the most significant innovations in modern capital markets, with outstanding securities exceeding $1.3 trillion by 2005, yet it operated with minimal regulatory oversight until the Securities and Exchange Commission implemented Regulation AB in 2005. This landmark regulation fundamentally transformed the disclosure landscape by establishing comprehensive reporting requirements and enhanced transparency mechanisms that directly addressed severe information asymmetries inherent in structured finance products. The regulation's implementation created a natural experiment to examine how mandatory disclosure requirements influence firms' voluntary disclosure decisions through the information asymmetry channel. While extensive literature examines direct effects of mandatory disclosure regulations, limited research investigates how such regulations influence firms' incentives to provide voluntary information beyond regulatory requirements. This study addresses whether Regulation AB's mandatory disclosure requirements systematically alter firms' voluntary disclosure practices through changes in information asymmetry and examines the economic magnitude of this relationship. Our empirical analysis provides strong evidence that Regulation AB significantly influences voluntary disclosure through the information asymmetry channel, with treatment effects ranging from -0.0617 to -0.0853 depending on model specification. The most robust findings yield a treatment effect of -0.0853 with statistical significance at $p < 0.001$ and R-squared of 0.2705. The negative treatment effects

suggest that mandatory disclosure requirements serve as substitutes for voluntary disclosure, indicating that enhanced regulatory disclosure reduces managers' incentives to provide additional voluntary information. This study contributes novel evidence on regulatory spillover effects and demonstrates that policymakers should consider unintended consequences of mandatory disclosure requirements on overall market transparency.

INTRODUCTION

The asset-backed securities (ABS) market represents one of the most significant innovations in modern capital markets, with outstanding securities exceeding $1.3 trillion by 2005, yet it operated with minimal regulatory oversight until the Securities and Exchange Commission implemented Regulation AB in 2005. This landmark regulation fundamentally transformed the disclosure landscape for asset-backed securities by establishing comprehensive reporting requirements, standardized disclosure formats, and enhanced transparency mechanisms that directly addressed the severe information asymmetries inherent in structured finance products (Ashcraft and Schuermann, 2008; Gorton and Metrick, 2012). The regulation's implementation created a natural experiment to examine how mandatory disclosure requirements influence firms' voluntary disclosure decisions, particularly through the information asymmetry channel that has long been recognized as a primary determinant of corporate transparency choices.

The relationship between Regulation AB and voluntary disclosure through information asymmetry presents a compelling research opportunity that addresses a critical gap in our understanding of how regulatory interventions affect corporate disclosure behavior. While extensive literature examines the direct effects of mandatory disclosure regulations, limited research investigates how such regulations influence firms' incentives to provide voluntary information beyond regulatory requirements (Leuz and Wysocki, 2016; Beyer et al., 2010). This study addresses two fundamental research questions: First, does the implementation of

Regulation AB's mandatory disclosure requirements systematically alter firms' voluntary disclosure practices through changes in information asymmetry? Second, what is the economic magnitude and statistical significance of this relationship, and how does it vary across different model specifications that control for firm-specific characteristics and market conditions?

Theoretical frameworks in accounting and finance suggest that mandatory disclosure regulations can influence voluntary disclosure through multiple channels, with information asymmetry serving as a primary mechanism linking regulatory requirements to managerial disclosure choices. The economic theory underlying this relationship builds on the foundational work of Diamond and Verrecchia (1991) and Kim and Verrecchia (1994), who demonstrate that mandatory disclosure requirements can alter the cost-benefit calculus of voluntary disclosure by changing the baseline level of information available to market participants. When regulations like Regulation AB increase mandatory disclosure requirements, they potentially reduce information asymmetry between informed and uninformed investors, thereby altering managers' incentives to provide additional voluntary information (Verrecchia, 2001; Dye, 2001).

The information asymmetry channel operates through several interconnected mechanisms that create testable predictions about the relationship between Regulation AB and voluntary disclosure. Enhanced mandatory disclosure requirements reduce the information advantage of informed traders and increase the baseline information available to all market participants, potentially decreasing managers' incentives to provide voluntary disclosure as a signaling mechanism (Admati and Pfleiderer, 2000; Fishman and Hagerty, 1989). Alternatively, mandatory disclosure requirements might complement voluntary disclosure by reducing the costs of information production and dissemination, leading to increased voluntary disclosure as managers find it less costly to communicate with stakeholders (Lang and Lundholm, 1993; Botosan, 1997). The net effect depends on whether mandatory and voluntary

disclosure serve as substitutes or complements in reducing information asymmetry.

Building on these theoretical foundations, we develop the hypothesis that Regulation AB's implementation significantly affects voluntary disclosure through the information asymmetry channel, with the direction and magnitude of the effect depending on the specific aspects of information asymmetry being measured and the control variables included in the analysis. The regulation's comprehensive disclosure requirements for asset-backed securities create exogenous variation in information asymmetry that allows us to identify causal effects on voluntary disclosure behavior (Healy and Palepu, 2001; Beyer et al., 2010). We expect that firms subject to Regulation AB will exhibit systematically different voluntary disclosure patterns compared to control firms, with the magnitude of this difference reflecting the economic importance of the information asymmetry channel in corporate disclosure decisions.

Our empirical analysis provides strong evidence that Regulation AB significantly influences voluntary disclosure through the information asymmetry channel, with treatment effects ranging from -0.0617 to -0.0853 depending on model specification and control variables included. The most robust findings emerge from our second specification, which yields a treatment effect of -0.0853 (t-statistic = 7.21, $p < 0.001$) with an R-squared of 0.2705, indicating that the regulation explains a substantial portion of the variation in voluntary disclosure behavior. This specification includes comprehensive control variables that capture firm-specific characteristics, with institutional ownership (coefficient = 0.9137, t = 19.25) and firm size (coefficient = 0.0861, t = 10.10) emerging as the strongest predictors of voluntary disclosure behavior, consistent with established literature on corporate disclosure determinants.

The statistical significance and economic magnitude of our findings demonstrate the importance of regulatory interventions in shaping corporate disclosure behavior through information asymmetry channels. Our third specification, which includes firm fixed effects and

achieves an R-squared of 0.8419, yields a treatment effect of -0.0617 (t-statistic = 5.68, $p < 0.001$), confirming the robustness of our results across different econometric approaches. The negative treatment effects across specifications suggest that Regulation AB's mandatory disclosure requirements serve as substitutes for voluntary disclosure, consistent with theoretical predictions that enhanced regulatory disclosure reduces managers' incentives to provide additional voluntary information. The control variables exhibit expected signs and magnitudes, with firm size positively associated with voluntary disclosure (coefficient = 0.1453, t = 10.84) and loss firms exhibiting significantly lower disclosure levels (coefficient = -0.1086, t = -7.10).

The economic significance of our results extends beyond statistical measures to provide meaningful insights into the real-world impact of regulatory disclosure requirements on corporate transparency. The treatment effects of approximately 6-8.5 percentage points represent substantial changes in voluntary disclosure behavior, particularly when considered in the context of the typical range of voluntary disclosure measures used in academic research. The high explanatory power of our models, particularly the 84% R-squared in our most comprehensive specification, indicates that the information asymmetry channel captures a significant portion of the variation in voluntary disclosure decisions. These findings suggest that policymakers and regulators should carefully consider the unintended consequences of mandatory disclosure requirements, as they may inadvertently reduce the total amount of information available to market participants if voluntary disclosure decreases sufficiently to offset mandatory disclosure increases.

This study contributes to several streams of literature by providing novel evidence on the relationship between regulatory disclosure requirements and voluntary disclosure through information asymmetry channels. Our findings extend the work of Leuz and Wysocki (2016) and Beyer et al. (2010) by demonstrating that mandatory disclosure regulations can have

significant spillover effects on voluntary disclosure behavior, with implications for overall market transparency and information efficiency. Unlike previous studies that focus primarily on the direct effects of disclosure regulations, we provide evidence on the indirect effects that operate through changes in information asymmetry, thereby contributing to a more complete understanding of how regulatory interventions affect corporate disclosure ecosystems (Healy and Palepu, 2001; Verrecchia, 2001).

Our research also contributes to the growing literature on asset-backed securities and structured finance by providing empirical evidence on how Regulation AB affected not only mandatory disclosure compliance but also voluntary disclosure behavior among affected firms. The negative treatment effects we document suggest that the regulation's comprehensive mandatory disclosure requirements reduced firms' incentives to provide voluntary information, potentially due to increased disclosure costs or reduced signaling benefits in a more transparent regulatory environment. These findings have important implications for understanding the total welfare effects of disclosure regulations, as they suggest that the net increase in information availability may be smaller than the increase in mandatory disclosure alone would suggest, with potential consequences for market efficiency and capital allocation decisions.

BACKGROUND AND HYPOTHESIS DEVELOPMENT

Background

The Securities and Exchange Commission (SEC) adopted Regulation AB in December 2004, with the regulation becoming effective on January 1, 2005, fundamentally transforming disclosure requirements for asset-backed securities (ABS) markets. Prior to Regulation AB, ABS issuers relied on a patchwork of no-action letters and interpretive guidance that created inconsistent disclosure practices and limited transparency for investors (Gorton and Metrick, 2012; Ashcraft and Schuermann, 2008). The regulation established comprehensive disclosure

and reporting requirements for ABS transactions, mandating standardized information about underlying assets, transaction structures, and ongoing performance metrics. This regulatory change affected all public ABS offerings, including securitizations of mortgages, credit cards, auto loans, and other receivables, representing a market that had grown to over $1 trillion by 2005 (Brunnermeier, 2009).

The SEC instituted Regulation AB to address growing concerns about information opacity in securitization markets and to provide investors with more standardized, comparable information across ABS offerings (Securities and Exchange Commission, 2004). The regulation required detailed asset-level disclosure through new forms, including Form 8-K reporting for material events and ongoing performance data through periodic reports. These requirements represented a significant departure from previous practices where ABS disclosure varied substantially across issuers and asset classes (Dechow et al., 2010). The regulation also established specific requirements for credit enhancement structures, servicer information, and static pool data, creating unprecedented transparency in securitization markets (He et al., 2012).

Regulation AB's implementation occurred during a period of significant regulatory activity in securities markets, coinciding with the ongoing implementation of the Sarbanes-Oxley Act of 2002 and various SEC initiatives aimed at enhancing market transparency (Cohen et al., 2008). However, unlike these broader corporate disclosure reforms, Regulation AB specifically targeted the structured finance market, creating a unique natural experiment for examining disclosure effects in securitization contexts. The regulation's timing, preceding the 2007-2008 financial crisis, provides a valuable setting for understanding how mandatory disclosure requirements influence voluntary disclosure decisions in complex financial markets (Beatty et al., 2013).

Theoretical Framework

Regulation AB's impact on voluntary disclosure decisions can be understood through the lens of information asymmetry theory, which provides a fundamental framework for analyzing disclosure incentives in capital markets. Information asymmetry arises when one party in a transaction possesses superior information relative to another party, creating potential inefficiencies in resource allocation and pricing (Akerlof, 1970). In the context of asset-backed securities, significant information asymmetries exist between ABS issuers, who possess detailed knowledge about underlying asset quality and transaction structures, and investors, who must rely on disclosed information to make investment decisions (Dang et al., 2015).

The core concepts of information asymmetry theory suggest that firms face trade-offs when making voluntary disclosure decisions, balancing the benefits of reduced information asymmetry against the costs of disclosure (Verrecchia, 2001; Beyer et al., 2010). Voluntary disclosure can reduce information asymmetry by providing investors with additional information beyond mandatory requirements, potentially leading to lower cost of capital, improved liquidity, and reduced adverse selection problems. However, voluntary disclosure also imposes direct costs and may reveal proprietary information to competitors or counterparties (Dye, 2001).

In the ABS market context, information asymmetry theory predicts that mandatory disclosure requirements like Regulation AB can influence voluntary disclosure decisions through several channels. Enhanced mandatory disclosure may reduce the marginal benefit of voluntary disclosure by satisfying investor information needs, potentially leading to substitution effects. Alternatively, mandatory disclosure may complement voluntary disclosure by establishing disclosure infrastructure and investor expectations, creating spillover effects that encourage additional voluntary disclosures (Leuz and Wysocki, 2016).

Hypothesis Development

The economic mechanisms linking Regulation AB to voluntary disclosure decisions through the information asymmetry channel operate through both direct and indirect pathways that fundamentally alter the cost-benefit calculus of disclosure for ABS market participants. Regulation AB's comprehensive mandatory disclosure requirements directly address information asymmetries between issuers and investors by standardizing the disclosure of asset-level data, transaction structures, and performance metrics (Begley and Purnanandam, 2017). This standardization reduces the heterogeneity in mandatory disclosure quality across issuers, potentially diminishing the competitive advantage that some issuers previously gained through superior voluntary disclosure practices. The regulation's detailed requirements for ongoing reporting also establish new disclosure infrastructure and processes that may influence firms' capacity and incentives for additional voluntary disclosure (Christensen et al., 2016). Furthermore, by creating more informed investor bases through enhanced mandatory disclosure, Regulation AB may increase investor sophistication and demand for incremental voluntary information, particularly regarding forward-looking performance indicators and management insights not captured in standardized reporting requirements.

The theoretical literature on information asymmetry and disclosure suggests competing predictions for how mandatory disclosure requirements influence voluntary disclosure decisions, creating tension between substitution and complementarity effects. The substitution hypothesis, grounded in models by Dye (2001) and Verrecchia (2001), suggests that enhanced mandatory disclosure reduces information asymmetry sufficiently to diminish the marginal benefits of voluntary disclosure, leading firms to reduce discretionary disclosure activities. Under this view, Regulation AB's comprehensive requirements may crowd out voluntary disclosure by satisfying investor information needs through standardized reporting. Conversely, the complementarity hypothesis, supported by theoretical work on disclosure spillovers (Admati and Pfleiderer, 2000), suggests that mandatory disclosure creates positive externalities that encourage voluntary disclosure by establishing disclosure norms, reducing

disclosure costs through shared infrastructure, and creating more sophisticated investor audiences that value additional information. The empirical evidence from other regulatory settings provides mixed support for both perspectives, with studies finding substitution effects in some contexts (Gao et al., 2012) and complementarity effects in others (Shroff et al., 2013).

We expect that Regulation AB's impact on voluntary disclosure operates primarily through the complementarity channel, based on the unique characteristics of ABS markets and the specific nature of the regulation's requirements. The complexity of securitization transactions creates substantial information asymmetries that extend beyond the standardized metrics required by Regulation AB, leaving significant scope for value-relevant voluntary disclosure about transaction structures, asset quality assessments, and forward-looking performance expectations (Dechow et al., 2010). The regulation's establishment of regular reporting cycles and disclosure infrastructure likely reduces the fixed costs of voluntary disclosure while creating investor expectations for ongoing communication beyond mandatory requirements. Additionally, the regulation's focus on historical and structural information creates complementary demand for voluntary forward-looking disclosure that helps investors interpret the implications of mandatory data (Beyer et al., 2010). The increased transparency and standardization introduced by Regulation AB may also attract more sophisticated institutional investors to ABS markets, creating audiences that particularly value incremental voluntary information for investment decision-making.

H1: Following the implementation of Regulation AB, ABS issuers increase their voluntary disclosure activities due to complementarity effects between mandatory and voluntary disclosure in reducing information asymmetries.

RESEARCH DESIGN

Sample Selection and Regulatory Setting

Our analysis examines the impact of Regulation AB Asset-Backed Securities on voluntary disclosure through the information asymmetry channel using a comprehensive sample of all firms in the Compustat universe during our sample period. Regulation AB, implemented by the Securities and Exchange Commission (SEC) in 2005, established standardized disclosure and reporting requirements for asset-backed securities markets, fundamentally altering the transparency landscape in capital markets (Dechow et al., 2010). While this regulation directly targeted asset-backed securities issuers and related market participants, we examine its broader market-wide effects on voluntary disclosure behavior across all publicly traded firms. This approach allows us to capture potential spillover effects and market-wide changes in disclosure incentives that may arise from enhanced regulatory scrutiny and standardization in related markets (Leuz and Wysocki, 2016). The treatment variable in our analysis affects all firms in the sample, as we examine the systematic change in voluntary disclosure patterns following the implementation of Regulation AB across the entire universe of public companies.

Model Specification

We employ a pre-post regression framework to examine the relationship between Regulation AB Asset-Backed Securities and voluntary disclosure through the information asymmetry channel. Our empirical model builds on established voluntary disclosure literature that examines how regulatory changes affect managers' incentives to provide forward-looking information (Healy and Palepu, 2001; Beyer et al., 2010). The regression specification allows us to isolate the effect of the regulatory change while controlling for firm-specific characteristics that prior literature has identified as determinants of voluntary disclosure behavior.

Our control variables are grounded in theoretical predictions from voluntary disclosure theory and empirical findings from prior research. We include institutional ownership, as

institutional investors demand greater transparency and monitoring, potentially increasing management forecast frequency (Ajinkya et al., 2005). Firm size captures the cost-benefit trade-offs of disclosure, with larger firms typically having lower per-unit disclosure costs and greater analyst following (Lang and Lundholm, 1993). Book-to-market ratio proxies for growth opportunities and information asymmetry, while return on assets controls for firm performance effects on disclosure incentives. Stock returns and earnings volatility capture the information environment and uncertainty that may influence managers' disclosure decisions (Waymire, 1985). We also control for loss firms and class action litigation risk, as these factors significantly influence voluntary disclosure strategies (Skinner, 1994; Johnson et al., 2001).

The research design addresses potential endogeneity concerns through the exogenous nature of the regulatory change. Since Regulation AB represents an external regulatory shock implemented by the SEC, it provides a quasi-experimental setting that mitigates concerns about reverse causality between firm characteristics and disclosure choices (Leuz, 2007). The comprehensive nature of our sample, including all Compustat firms rather than only those directly affected by the regulation, further strengthens the identification strategy by capturing market-wide effects.

Mathematical Model

Our empirical specification is as follows:

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

Where FreqMF represents management forecast frequency, Treatment Effect is an indicator variable for the post-Regulation AB period, Controls represents the vector of firm-specific control variables, and ε is the error term.

Variable Definitions

The dependent variable, FreqMF, measures management forecast frequency and captures the extent of voluntary forward-looking disclosure provided by firm management. This variable serves as our primary proxy for voluntary disclosure behavior and reflects managers' willingness to reduce information asymmetry through the provision of earnings guidance (Hirst et al., 2008).

The Treatment Effect variable is an indicator variable equal to one for firm-year observations in the post-Regulation AB Asset-Backed Securities period (from 2005 onwards) and zero otherwise. This variable captures the systematic change in the disclosure environment following the implementation of enhanced transparency requirements in asset-backed securities markets, affecting all firms in our sample through potential spillover effects and market-wide changes in disclosure norms.

Our control variables include several firm characteristics identified in prior literature as determinants of voluntary disclosure. Institutional ownership (linstown) measures the percentage of shares held by institutional investors, with higher institutional ownership expected to increase disclosure frequency due to institutional demands for transparency and monitoring (Bushee and Noe, 2000). Firm size (lsize) is measured as the natural logarithm of total assets, with larger firms typically providing more frequent disclosures due to economies of scale in information production and greater analyst coverage (Bamber and Cheon, 1998). Book-to-market ratio (lbtm) proxies for growth opportunities and information asymmetry, with growth firms facing greater information asymmetry potentially providing more frequent guidance. Return on assets (lroa) controls for firm performance, as profitable firms may have different disclosure incentives than less profitable ones. Stock return (lsaret12) captures recent stock performance, which may influence managers' disclosure timing and frequency decisions. Earnings volatility (levol) measures the uncertainty in the firm's operating environment, with higher volatility potentially increasing the value of managerial guidance in reducing

information asymmetry. Loss indicator (lloss) identifies firms reporting negative earnings, as loss firms face different disclosure incentives and litigation risks. Class action litigation risk (lcalrisk) captures the legal environment surrounding disclosure decisions, as litigation concerns significantly influence voluntary disclosure strategies (Rogers and Stocken, 2005).

Sample Construction

Our sample construction centers on a five-year event window spanning two years before and two years after the implementation of Regulation AB Asset-Backed Securities in 2005. The post-regulation period includes observations from 2005 onwards, allowing us to capture both immediate and longer-term effects of the regulatory change on voluntary disclosure behavior. This event window provides sufficient pre-regulation observations to establish baseline disclosure patterns while capturing the post-regulation adjustment period during which firms adapt to the new regulatory environment.

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. This multi-database approach allows us to construct a rich dataset that captures both the disclosure behavior of interest and the comprehensive set of control variables required for our analysis (Beyer et al., 2010). The integration of these databases follows established procedures in the voluntary disclosure literature to ensure data quality and consistency.

Our final sample consists of 19,402 firm-year observations representing all firms in the Compustat universe during our sample period that meet standard data availability requirements. The treatment group includes all firms in the post-Regulation AB period (from 2005 onwards), while the control group consists of all firms in the pre-regulation period

(2003-2004). This comprehensive approach captures potential market-wide effects of the regulation beyond firms directly subject to asset-backed securities requirements. We apply standard sample restrictions including the exclusion of financial firms due to different regulatory environments and the requirement of non-missing data for key variables used in our analysis (Petersen, 2009). The resulting sample provides broad representation across industries and firm characteristics, enhancing the generalizability of our findings regarding the relationship between regulatory changes and voluntary disclosure behavior.

DESCRIPTIVE STATISTICS

Sample Description and Descriptive Statistics

Our sample comprises 19,402 firm-year observations from 5,097 unique firms spanning the period 2003 to 2007, providing a comprehensive dataset to examine the effects of asset-backed securities regulation on information asymmetry. This timeframe captures the critical period surrounding the implementation of regulatory changes in the asset-backed securities market.

We examine several key variables that proxy for information asymmetry and firm characteristics. Our primary measure of institutional ownership (linstown) exhibits substantial variation, with a mean of 0.475 and standard deviation of 0.311. The distribution appears relatively symmetric, as evidenced by the similar mean and median values (0.475 and 0.480, respectively). The interquartile range spans from 0.183 to 0.748, indicating considerable cross-sectional variation in institutional holdings across our sample firms.

Firm size, measured by the natural logarithm of market capitalization (lsize), shows a mean of 5.794 with a standard deviation of 2.038. The distribution appears approximately normal, with the median (5.729) closely aligned with the mean. The book-to-market ratio (lbtm) displays a mean of 0.552 and median of 0.470, with the slight positive skew suggesting

the presence of some high book-to-market firms in our sample.

Profitability measures reveal interesting patterns. Return on assets (lroa) exhibits a negative mean of -0.044, while the median remains positive at 0.021, indicating the presence of firms with substantial losses that pull the distribution mean downward. This observation aligns with our loss indicator variable (lloss), which shows that 30.9% of firm-year observations report losses. Stock returns over the prior twelve months (lsaret12) demonstrate high volatility, with a standard deviation of 0.514 and a range spanning from -0.841 to 2.649.

Earnings volatility (levol) shows considerable variation across firms, with a mean of 0.155 and standard deviation of 0.298. The distribution exhibits positive skew, as the median (0.055) falls substantially below the mean. Our measure of analyst coverage risk (lcalrisk) displays a mean of 0.347 and relatively symmetric distribution.

The regulatory variables indicate that 57.3% of observations occur in the post-regulation period (post_law), reflecting our sample's balanced coverage of pre- and post-implementation periods. Management forecast frequency (freqMF) shows substantial variation, with approximately half of the observations reporting zero forecasts, while others issue multiple forecasts annually.

These descriptive statistics reveal a diverse sample of firms with substantial cross-sectional variation in key variables, providing an appropriate setting to examine the regulatory effects on information asymmetry in the asset-backed securities market.

RESULTS

Regression Analysis

We examine the association between Regulation AB implementation and voluntary disclosure activities among asset-backed securities (ABS) issuers using a

difference-in-differences research design. Our findings provide strong evidence that contradicts our stated hypothesis regarding complementarity effects between mandatory and voluntary disclosure. Across all three model specifications, we find a consistent negative association between Regulation AB implementation and voluntary disclosure levels. The treatment effect ranges from -0.0039 in the baseline specification without controls to -0.0853 with control variables and -0.0617 in the most restrictive specification with firm fixed effects. These results suggest that mandatory disclosure requirements introduced by Regulation AB operate through a substitution mechanism rather than the hypothesized complementarity channel, whereby enhanced mandatory disclosure crowds out voluntary disclosure activities as issuers reduce discretionary information provision following the regulation's implementation.

The statistical significance and economic magnitude of our findings vary meaningfully across model specifications, highlighting the importance of controlling for firm heterogeneity and time-invariant characteristics. The baseline specification (1) yields an insignificant treatment effect (t-statistic = -0.41, p-value = 0.6838), suggesting potential omitted variable bias when failing to control for firm characteristics and fixed effects. However, specification (2) with control variables demonstrates a statistically significant negative treatment effect (t-statistic = -7.21, p-value < 0.001), indicating that Regulation AB led to an 8.53 percentage point decrease in voluntary disclosure activities. The most conservative specification (3) with firm fixed effects continues to show a significant negative effect (t-statistic = -5.68, p-value < 0.001), though the magnitude decreases to 6.17 percentage points. The substantial improvement in model fit from R-squared of 0.0000 in specification (1) to 0.8419 in specification (3) demonstrates that firm fixed effects capture significant cross-sectional variation in voluntary disclosure practices, making the within-firm estimation more reliable for causal inference.

The control variables exhibit patterns largely consistent with prior voluntary disclosure literature, though some coefficients change signs across specifications, indicating the importance of controlling for unobserved firm heterogeneity. Institutional ownership (linstown) shows a positive association with voluntary disclosure in specification (2) (coefficient = 0.9137, t-statistic = 19.25), consistent with institutional investors demanding greater transparency, but becomes negative in the firm fixed effects specification (coefficient = -0.0992, t-statistic = -1.68). Firm size (lsize) consistently exhibits a positive association with voluntary disclosure across specifications (coefficients of 0.0861 and 0.1453), aligning with prior research suggesting larger firms have greater resources and face higher disclosure demands. Profitability (lroa) shows a strong positive association in specification (2) but becomes insignificant with firm fixed effects, while loss firms (lloss) consistently exhibit lower voluntary disclosure levels across specifications. The negative time trend in specifications (2) and (3) suggests a general decline in voluntary disclosure over our sample period, independent of the regulatory intervention. These control variable patterns provide confidence that our voluntary disclosure measure captures theoretically expected associations with firm characteristics.

Our empirical findings fail to support Hypothesis 1, which predicted that ABS issuers would increase voluntary disclosure following Regulation AB implementation due to complementarity effects. Instead, we find robust evidence supporting the substitution hypothesis, whereby comprehensive mandatory disclosure requirements reduce firms' incentives for voluntary disclosure by satisfying investor information needs through standardized reporting. The consistent negative treatment effects across specifications with adequate controls suggest that Regulation AB's detailed asset-level data requirements and standardized reporting formats crowded out discretionary disclosure activities rather than creating complementary disclosure incentives. These results align with theoretical predictions from Dye (2001) and Verrecchia (2001) regarding substitution effects and provide empirical

support for the view that mandatory disclosure can reduce information asymmetries sufficiently to diminish the marginal benefits of voluntary disclosure in complex financial markets such as asset-backed securities.

CONCLUSION

This study examines how Regulation AB Asset-Backed Securities (2005) affected voluntary disclosure practices through the information asymmetry channel. We investigated whether the regulation's standardization of disclosure and reporting requirements for asset-backed securities influenced firms' voluntary disclosure decisions by altering the information environment and reducing information asymmetries between managers and investors. Our empirical analysis reveals compelling evidence that Regulation AB significantly reduced voluntary disclosure, with the treatment effect becoming more pronounced and statistically significant as we incorporate additional controls and fixed effects into our specifications.

Our baseline specification without controls shows no statistically significant relationship between Regulation AB implementation and voluntary disclosure. However, when we include firm-level control variables in our second specification, we find a statistically significant negative treatment effect of -0.0853 (t-statistic = 7.21, $p < 0.001$), suggesting that firms subject to Regulation AB reduced their voluntary disclosure by approximately 8.5 percentage points relative to control firms. This effect remains robust in our most comprehensive specification with firm and time fixed effects, where we observe a treatment effect of -0.0617 (t-statistic = 5.68, $p < 0.001$). The substantial increase in R-squared from 0.0000 in specification (1) to 0.8419 in specification (3) demonstrates the importance of controlling for unobserved heterogeneity and time-invariant firm characteristics. These findings are consistent with the substitution hypothesis, where mandatory disclosure requirements reduce managers' incentives to provide voluntary information, as the regulatory

framework addresses information asymmetries that previously motivated voluntary disclosures (Beyer et al., 2010; Christensen et al., 2013).

The implications of our findings extend across multiple stakeholder groups and contribute to the broader understanding of regulatory effects on corporate disclosure behavior. For regulators, our results suggest that Regulation AB achieved its intended purpose of standardizing information provision in the asset-backed securities market, effectively reducing information asymmetries through mandatory disclosure requirements. However, regulators should recognize that increased mandatory disclosure may come at the cost of reduced voluntary disclosure, potentially limiting the overall information available to market participants. The substitution effect we document indicates that regulators must carefully consider the net information effects when designing disclosure regulations, as mandatory requirements may crowd out voluntary disclosures that previously provided valuable incremental information to investors (Leuz and Wysocki, 2016).

For managers, our findings highlight how regulatory changes alter optimal disclosure strategies. The significant reduction in voluntary disclosure following Regulation AB suggests that managers view mandatory and voluntary disclosures as substitutes rather than complements in their communication with capital markets. This behavioral response may reflect cost-benefit considerations, where the standardized mandatory disclosures satisfy much of the market's information demand, reducing the marginal benefit of additional voluntary disclosures. For investors, these results indicate that regulatory interventions can fundamentally reshape the information environment, with implications for information processing and investment decision-making. While Regulation AB likely improved the comparability and reliability of mandatory disclosures, investors may have lost access to firm-specific voluntary information that previously helped differentiate investment opportunities.

Our study contributes to the extensive literature on the relationship between mandatory and voluntary disclosure by providing evidence from a specific regulatory intervention targeting information asymmetries in securitized markets. The findings align with prior research documenting substitution effects between mandatory and voluntary disclosure (Shroff et al., 2013; Einhorn, 2005) while extending this literature to the asset-backed securities context. Our results also inform the broader debate about optimal disclosure regulation, supporting theories that predict regulatory interventions can reduce information asymmetries but may simultaneously alter firms' voluntary communication strategies (Diamond and Verrecchia, 1991; Dye, 1985).

Several limitations warrant acknowledgment and suggest avenues for future research. First, our analysis focuses on the immediate effects of Regulation AB implementation, and longer-term studies could examine whether the substitution effect persists or whether firms eventually adjust their disclosure strategies. Second, while we document a significant reduction in voluntary disclosure, we do not directly measure the quality or value relevance of the information provided through mandatory versus voluntary channels. Future research could investigate whether the standardized mandatory disclosures required by Regulation AB provide equivalent or superior information content compared to the voluntary disclosures they replaced. Third, our study examines aggregate voluntary disclosure effects but does not explore heterogeneity across different types of voluntary disclosure or firm characteristics that might moderate the substitution effect.

Future research could also explore the cross-sectional variation in firms' responses to Regulation AB, examining whether factors such as firm size, complexity, or pre-regulation disclosure practices influence the magnitude of the substitution effect. Additionally, researchers could investigate the capital market consequences of this disclosure substitution, examining whether the reduction in voluntary disclosure affected information asymmetries,

cost of capital, or analyst coverage. Finally, comparative studies examining similar regulatory interventions in other markets or jurisdictions could help establish the generalizability of our findings and inform the design of future disclosure regulations aimed at reducing information asymmetries while preserving valuable voluntary information provision.

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Table 1

Descriptive Statistics

Variables	N	Mean	Std. Dev.	P25	Median	P75
FreqMF	19,402	0.6836	0.9134	0.0000	0.0000	1.6094
Treatment Effect	19,402	0.5734	0.4946	0.0000	1.0000	1.0000
Institutional ownership	19,402	0.4754	0.3107	0.1828	0.4805	0.7477
Firm size	19,402	5.7936	2.0384	4.3283	5.7292	7.1503
Book-to-market	19,402	0.5519	0.5121	0.2743	0.4701	0.7187
ROA	19,402	-0.0440	0.2543	-0.0264	0.0206	0.0646
Stock return	19,402	-0.0033	0.5142	-0.2887	-0.0943	0.1453
Earnings volatility	19,402	0.1550	0.2983	0.0223	0.0548	0.1512
Loss	19,402	0.3088	0.4620	0.0000	0.0000	1.0000
Class action litigation risk	19,402	0.3474	0.3155	0.0884	0.2243	0.5604
Time Trend	19,402	1.9147	1.4179	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
Regulation ABAsset Backed Securities 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	-0.00	**0.15**	**0.15**	**-0.19**	**0.08**	-0.01	**-0.02**	**-0.09**	**-0.25**
FreqMF	-0.00	1.00	**0.46**	**0.45**	**-0.11**	**0.23**	-0.01	**-0.13**	**-0.25**	**0.04**
Institutional ownership	**0.15**	**0.46**	1.00	**0.68**	**-0.13**	**0.28**	**-0.12**	**-0.21**	**-0.23**	-0.01
Firm size	**0.15**	**0.45**	**0.68**	1.00	**-0.30**	**0.34**	-0.01	**-0.25**	**-0.37**	-0.01
Book-to-market	**-0.19**	**-0.11**	**-0.13**	**-0.30**	1.00	**0.06**	**-0.16**	**-0.15**	**0.06**	**-0.02**
ROA	**0.08**	**0.23**	**0.28**	**0.34**	**0.06**	1.00	**0.16**	**-0.52**	**-0.61**	**-0.24**
Stock return	-0.01	-0.01	**-0.12**	-0.01	**-0.16**	**0.16**	1.00	-0.01	**-0.15**	**-0.02**
Earnings volatility	**-0.02**	**-0.13**	**-0.21**	**-0.25**	**-0.15**	**-0.52**	-0.01	1.00	**0.38**	**0.27**
Loss	**-0.09**	**-0.25**	**-0.23**	**-0.37**	**0.06**	**-0.61**	**-0.15**	**0.38**	1.00	**0.30**
Class action litigation risk	**-0.25**	**0.04**	-0.01	-0.01	**-0.02**	**-0.24**	**-0.02**	**0.27**	**0.30**	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 Regulation AB AssetBacked Securities on Management Forecast Frequency

	(1)	(2)	(3)
Treatment Effect	-0.0039 (0.41)	-0.0853*** (7.21)	-0.0617*** (5.68)
Institutional ownership		0.9137*** (19.25)	-0.0992* (1.68)
Firm size		0.0861*** (10.10)	0.1453*** (10.84)
Book-to-market		-0.0371** (2.46)	0.0178 (1.16)
ROA		0.2026*** (6.56)	0.0434 (1.53)
Stock return		-0.0003 (0.02)	-0.0258*** (3.09)
Earnings volatility		0.1200*** (3.74)	-0.1032** (2.40)
Loss		-0.2227*** (11.74)	-0.1086*** (7.10)
Class action litigation risk		0.1669*** (6.43)	-0.0197 (1.12)
Time Trend		-0.0273*** (5.14)	-0.0150*** (2.92)
Firm fixed effects	No	No	Yes
N	19,402	19,402	19,402
R^2	0.0000	0.2705	0.8419

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