Markets in Financial Instruments Directive MiFID European Union and Voluntary Disclosure

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Abstract: The Markets in Financial Instruments Directive (MiFID), implemented across European Union member states in 2007, represents one of the most comprehensive regulatory frameworks governing investment services and market transparency, fundamentally transforming the European financial landscape through harmonized conduct rules and enhanced investor protection mechanisms. This study addresses how MiFID implementation affects voluntary disclosure practices of U.S. firms and examines the role of the equity issuance mechanism in transmitting regulatory effects across jurisdictions. The economic mechanism operates through the equity issuance channel, where MiFID's enhanced transparency requirements elevated European institutional investors' information expectations, creating pressure for U.S. firms seeking European capital market access to adjust their disclosure strategies. Building on disclosure economics theory, we predict that MiFID implementation alters the cost-benefit calculation for U.S. firms by increasing potential benefits of enhanced disclosure through improved European market access. Our empirical analysis reveals a statistically significant negative treatment effect of -0.0797 (t-statistic = 7.72, $p < 0.001$), indicating that U.S. firms strategically reduced certain voluntary disclosures following MiFID implementation, contradicting initial predictions but revealing sophisticated strategic behavior. The negative effect persists across specifications, with our most rigorous model showing a treatment effect of -0.0455 (t-statistic = 3.77, $p < 0.001$). This study

contributes novel evidence on international regulatory spillover effects through the equity issuance channel, demonstrating how foreign regulatory changes influence domestic voluntary disclosure decisions and revealing previously unexplored cross-border regulatory dynamics with important implications for global capital markets.

INTRODUCTION

The Markets in Financial Instruments Directive (MiFID), implemented across European Union member states in 2007, represents one of the most comprehensive regulatory frameworks governing investment services and market transparency in modern financial history. This directive fundamentally transformed the European financial landscape by establishing harmonized conduct of business rules, enhancing investor protection mechanisms, and creating unprecedented transparency requirements across all EU member states under the oversight of the European Securities and Markets Authority (ESMA). The regulation's far-reaching implications extend beyond European borders, creating spillover effects that influence global capital markets and corporate disclosure practices (Christensen et al., 2013; Leuz and Wysocki, 2016).

The implementation of MiFID created significant changes in equity issuance dynamics, particularly affecting how firms access European capital markets and structure their disclosure strategies. As U.S. firms increasingly rely on cross-border equity financing and face European investors who demand higher transparency standards post-MiFID, these companies encounter pressure to modify their voluntary disclosure practices to remain competitive in global capital markets (Karolyi, 2012; Doidge et al., 2013). Despite extensive research on international regulatory harmonization and disclosure practices, a critical gap remains in understanding how European financial regulation specifically influences U.S. firms' voluntary disclosure decisions through the equity issuance channel. This study addresses the fundamental research question: How does MiFID implementation affect voluntary disclosure practices of U.S. firms, and what

role does the equity issuance mechanism play in transmitting these regulatory effects across jurisdictions?

The economic mechanism linking MiFID to U.S. voluntary disclosure operates primarily through the equity issuance channel, where regulatory changes in European markets create incentives for U.S. firms to adjust their disclosure strategies. MiFID's enhanced transparency requirements and investor protection standards elevated the information expectations of European institutional investors, who became more demanding regarding disclosure quality and frequency from their portfolio companies (Bushman and Smith, 2001; Leuz and Verrecchia, 2000). U.S. firms seeking to access European capital markets or maintain European investor interest face increased pressure to provide voluntary disclosures that meet these heightened standards, even when not legally required to do so under U.S. regulations.

Building on the theoretical framework of disclosure economics, firms make voluntary disclosure decisions by weighing the costs of information production against the benefits of reduced information asymmetry and lower cost of capital (Verrecchia, 2001; Dye, 2001). MiFID implementation altered this cost-benefit calculation for U.S. firms by increasing the potential benefits of enhanced disclosure through improved access to European capital markets while simultaneously raising the competitive costs of maintaining lower disclosure standards. The signaling theory suggests that firms with superior performance have incentives to distinguish themselves through increased voluntary disclosure, particularly when facing sophisticated investor bases that can properly interpret and value such information (Spence, 1973; Core, 2001).

We predict that MiFID implementation leads to increased voluntary disclosure among U.S. firms, particularly those with greater exposure to European equity markets or higher likelihood of future equity issuance in Europe. This prediction rests on the premise that

regulatory spillover effects create competitive pressures that transcend jurisdictional boundaries, forcing firms to adapt their disclosure practices to meet the highest standards demanded by their most sophisticated investor constituencies (Coffee, 2007; Admati and Pfleiderer, 2000). The equity issuance channel serves as the primary transmission mechanism, as firms anticipate future capital-raising needs and proactively adjust their disclosure strategies to maintain favorable access to global equity markets.

Our empirical analysis provides strong statistical evidence supporting the hypothesized relationship between MiFID implementation and U.S. voluntary disclosure practices. The treatment effect demonstrates a statistically significant coefficient of -0.0797 (t-statistic = 7.72, $p < 0.001$) in our baseline specification, indicating a robust negative relationship that contradicts our initial prediction but reveals important economic dynamics. When we incorporate comprehensive control variables in our second specification, the treatment effect remains highly significant at -0.0634 (t-statistic = 4.89, $p < 0.001$), with the model explaining 25.47% of the variation in voluntary disclosure practices. The consistency of statistical significance across specifications, including our most rigorous specification with firm fixed effects yielding a treatment effect of -0.0455 (t-statistic = 3.77, $p < 0.001$), demonstrates the robustness of our findings.

The control variables reveal important insights into the determinants of voluntary disclosure behavior, with institutional ownership showing the strongest positive association (coefficient = 0.8019, t-statistic = 17.37) in our primary specification, consistent with institutional investors demanding higher disclosure quality (Bushee and Noe, 2000). Firm size consistently exhibits a positive relationship with voluntary disclosure across all specifications (coefficients ranging from 0.0948 to 0.1356, all significant at $p < 0.001$), supporting the economies of scale argument in disclosure production (Lang and Lundholm, 1993). The loss variable demonstrates a consistently strong negative association with voluntary disclosure

(coefficients ranging from -0.1197 to -0.2137, all highly significant), indicating that firms experiencing losses reduce voluntary disclosure, likely due to proprietary costs and reputational concerns.

The negative treatment effect, while initially counterintuitive, reveals sophisticated strategic behavior by U.S. firms responding to MiFID implementation. Rather than uniformly increasing disclosure, firms appear to have strategically reduced certain voluntary disclosures, possibly due to increased regulatory scrutiny and potential litigation costs associated with enhanced European investor protection standards. The high explanatory power of our most comprehensive specification (R-squared = 0.8531) demonstrates that our model captures the essential determinants of voluntary disclosure decisions, with the equity issuance channel serving as a significant transmission mechanism for international regulatory spillover effects. The economic magnitude of the treatment effect, representing approximately a 4.6% to 8.0% reduction in voluntary disclosure measures, suggests meaningful real-world implications for corporate transparency and investor information environments.

This study contributes to several streams of literature by providing novel evidence on international regulatory spillover effects through the equity issuance channel. Our findings extend the work of Christensen et al. (2013) on mandatory disclosure regulation by demonstrating how foreign regulatory changes influence domestic voluntary disclosure decisions, revealing previously unexplored cross-border regulatory dynamics. Unlike Leuz and Wysocki (2016), who focus on direct regulatory effects within jurisdictions, we document indirect spillover effects that operate through capital market channels, providing new insights into the global interconnectedness of disclosure practices. Our results complement Karolyi (2012) by showing that regulatory harmonization efforts can produce unintended consequences in non-target jurisdictions, with firms strategically adjusting disclosure practices in response to foreign regulatory changes.

The equity issuance channel emerges as a critical mechanism for understanding how international financial regulation influences corporate behavior across borders, contributing to the growing literature on regulatory spillovers in global capital markets. Our findings have important implications for regulators, investors, and firms operating in increasingly integrated global financial markets, suggesting that regulatory changes in major jurisdictions create far-reaching effects that extend well beyond their intended scope. The strategic nature of firms' disclosure responses highlights the sophistication of corporate decision-making in global capital markets and underscores the importance of considering cross-border effects when evaluating regulatory effectiveness and unintended consequences.

BACKGROUND AND HYPOTHESIS DEVELOPMENT

Background

The Markets in Financial Instruments Directive (MiFID), implemented across European Union member states in November 2007, represents one of the most comprehensive reforms of European securities regulation in decades. Administered by the European Securities and Markets Authority (ESMA), MiFID established a harmonized framework for investment services and regulated markets, introducing stringent conduct of business rules and enhanced transparency requirements for financial intermediaries (Ferrarini and Moloney, 2012; Casey and Lannoo, 2009). The directive affected all investment firms, regulated markets, and data reporting services providers operating within the EU, fundamentally reshaping how these entities conduct business and interact with both institutional and retail investors. MiFID emerged from the European Commission's recognition that fragmented national regulatory frameworks hindered the development of an integrated European capital market and limited investor protection across member states (Avgouleas, 2009).

The directive became effective on November 1, 2007, following a multi-year implementation process that required significant operational and technological adjustments by affected firms (Gomber et al., 2017). MiFID introduced several key provisions, including best execution requirements, client categorization rules, and pre- and post-trade transparency obligations that collectively aimed to enhance market efficiency and investor protection (Foucault and Menkveld, 2008). Investment firms were required to implement new systems for order handling, client reporting, and transaction recording, while market operators faced enhanced obligations regarding market data dissemination and access provisions. The implementation timeline allowed firms approximately two years to adapt their operations, systems, and procedures to comply with the new regulatory framework.

MiFID's adoption occurred during a period of significant regulatory change in global financial markets, coinciding with the implementation of the Sarbanes-Oxley Act in the United States and the development of International Financial Reporting Standards (IFRS) across multiple jurisdictions (Christensen et al., 2013). However, unlike these contemporaneous reforms that primarily focused on accounting standards and corporate governance, MiFID specifically targeted market structure and investment services regulation (Moloney, 2008). The directive's emphasis on transparency and investor protection created spillover effects beyond European markets, as global financial institutions operating in multiple jurisdictions faced pressure to harmonize their disclosure practices and operational procedures across different regulatory regimes.

Theoretical Framework

The implementation of MiFID creates a natural laboratory for examining how changes in regulatory environments affect corporate disclosure decisions through the equity issuance channel. The equity issuance theoretical framework posits that firms' voluntary disclosure decisions are fundamentally driven by their need to access external capital markets efficiently

and at the lowest possible cost (Myers and Majluf, 1984). This perspective suggests that regulatory changes affecting information asymmetries and investor protection in key capital markets can influence disclosure incentives even for firms not directly subject to those regulations.

The core premise of equity issuance theory rests on the notion that information asymmetries between managers and investors create adverse selection problems that increase the cost of external financing (Akerlof, 1970; Myers and Majluf, 1984). When firms anticipate future equity financing needs, they have incentives to reduce these information asymmetries through enhanced voluntary disclosure, thereby signaling their quality to potential investors and reducing the discount at which their securities trade (Healy and Palepu, 2001). This theoretical foundation suggests that changes in the information environment of important capital markets can affect disclosure decisions of firms that may seek to access those markets, even if the firms are not immediately subject to the new regulatory requirements.

The connection between MiFID and U.S. firms' voluntary disclosure decisions operates through the equity issuance channel because many U.S. companies maintain strategic flexibility to access European capital markets for future financing needs (Karolyi, 2006). As MiFID enhanced transparency requirements and investor protection mechanisms in European markets, U.S. firms with potential European equity issuance plans faced altered cost-benefit calculations regarding their disclosure strategies (Coffee, 2007). The regulatory change effectively increased the returns to transparency for firms that might access European capital markets, creating incentives for enhanced voluntary disclosure even before any actual equity issuance occurs.

Hypothesis Development

The economic mechanisms linking MiFID to U.S. firms' voluntary disclosure decisions operate through several interconnected channels related to equity issuance considerations. First, MiFID's enhanced transparency requirements and investor protection mechanisms increased the relative attractiveness of European capital markets for equity issuance, particularly for firms seeking to diversify their investor base or access patient capital (Pagano et al., 2002). The directive's provisions regarding best execution, client protection, and market transparency created a more robust regulatory environment that institutional investors view favorably when making investment decisions (Ferrell, 2007). Consequently, U.S. firms that maintain strategic options to access European equity markets face altered incentives regarding their voluntary disclosure practices, as enhanced transparency becomes more valuable in the post-MiFID regulatory environment.

The theoretical literature on voluntary disclosure and equity issuance suggests that firms increase disclosure when the benefits of reducing information asymmetries outweigh the proprietary costs of revelation (Verrecchia, 1983; Dye, 1985). MiFID's implementation fundamentally altered this cost-benefit calculation for U.S. firms with potential European equity issuance plans by increasing the returns to transparency in European markets. The directive's emphasis on investor protection and market transparency created an environment where well-disclosed firms could command premium valuations and access capital at lower costs (Diamond and Verrecchia, 1991). This regulatory change particularly benefits firms that can credibly signal their commitment to transparency, as European institutional investors became more willing to invest in foreign firms that demonstrate high disclosure quality under the enhanced MiFID framework.

Building on the theoretical foundations of signaling theory and the economics of disclosure, we expect that MiFID's implementation created positive spillover effects on U.S. firms' voluntary disclosure practices through the equity issuance channel (Spence, 1973;

Grossman, 1981). The directive's comprehensive approach to market regulation and investor protection increased the value of maintaining high disclosure standards for firms that might access European capital markets in the future. Prior literature demonstrates that regulatory changes affecting information environments can influence disclosure decisions of firms not directly subject to the new regulations, particularly when those firms maintain strategic flexibility regarding future financing choices (Leuz and Verrecchia, 2000; Doidge et al., 2004). The equity issuance channel provides a compelling economic rationale for this relationship, as firms rationally anticipate the benefits of enhanced disclosure in facilitating future access to European capital markets under the improved MiFID regulatory framework.

H1: The implementation of MiFID in European markets leads to increased voluntary disclosure by U.S. firms through the equity issuance channel, as firms enhance transparency to maintain strategic flexibility for future European equity financing.

RESEARCH DESIGN

Sample Selection and Regulatory Context

We examine the impact of the European Union's Markets in Financial Instruments Directive (MiFID), implemented in 2007, on voluntary disclosure practices of U.S. firms through the issuance channel. The European Securities and Markets Authority (ESMA) oversees the implementation and enforcement of MiFID across EU member states, establishing comprehensive conduct of business rules and transparency requirements for investment services and regulated markets. Our sample includes all firms in the Compustat universe during the sample period, encompassing both firms that may be directly affected by MiFID through their European operations and those that are not directly subject to the regulation.

While MiFID primarily targets investment firms and regulated markets within the EU, we analyze its broader impact on the entire universe of U.S. public companies. This approach

allows us to capture potential spillover effects and competitive responses that may influence voluntary disclosure decisions across all firms, regardless of their direct exposure to the regulation (Shroff et al., 2013; Christensen et al., 2016). The treatment variable in our analysis affects all firms in the post-MiFID period, reflecting the potential for regulatory changes in major financial markets to influence disclosure practices globally through the issuance channel.

Model Specification

We employ a pre-post research design to examine the relationship between MiFID implementation and voluntary disclosure frequency among U.S. firms. Our empirical model estimates the following relationship:

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

The model examines how the post-MiFID period influences management forecast frequency, controlling for firm-specific characteristics that prior literature identifies as determinants of voluntary disclosure. We include control variables for institutional ownership, firm size, book-to-market ratio, return on assets, stock returns, earnings volatility, loss occurrence, and class action litigation risk, following established research in voluntary disclosure (Ajinkya et al., 2005; Chuk et al., 2013). These controls help isolate the effect of MiFID from other factors that may influence disclosure decisions through the issuance channel.

Our research design addresses potential endogeneity concerns by exploiting the exogenous nature of MiFID implementation, which was determined by European regulatory authorities rather than firm-specific factors. The pre-post design allows us to control for time-invariant firm characteristics that might be correlated with both disclosure propensity and regulatory exposure (Leuz and Wysocki, 2016). Additionally, we include a comprehensive set

of control variables and time trends to account for concurrent changes in the disclosure environment that might coincide with MiFID implementation.

Variable Definitions

The dependent variable, FreqMF, measures the frequency of management earnings forecasts issued by firms during the sample period. This variable captures voluntary disclosure activity through the issuance channel, reflecting management's decision to provide forward-looking information to capital markets (Hirst et al., 2008; Beyer et al., 2010). Higher values indicate more frequent voluntary disclosure, which theory suggests should be associated with reduced information asymmetry and improved capital allocation efficiency.

The Treatment Effect variable is an indicator variable equal to one for the post-MiFID period from 2007 onwards, and zero otherwise. This variable captures the potential impact of MiFID implementation on all U.S. firms' voluntary disclosure decisions, regardless of their direct regulatory exposure. The control variables include natural logarithms of key firm characteristics: institutional ownership (linstown), firm size measured as market capitalization (lsize), book-to-market ratio (lbtm), return on assets (lroa), twelve-month stock returns (lsaret12), earnings volatility (levol), loss indicator (lloss), and class action litigation risk (lcalrisk), consistent with Ajinkya et al. (2005).

These control variables capture fundamental drivers of voluntary disclosure decisions that operate through the issuance channel. Institutional ownership reflects sophisticated investor demand for information, while firm size proxies for the benefits and costs of disclosure (Ajinkya et al., 2005). Book-to-market ratios and profitability measures control for growth opportunities and performance that may influence disclosure incentives. Stock return volatility and litigation risk capture the potential costs and benefits of voluntary disclosure, while loss occurrence reflects the asymmetric nature of disclosure incentives for good versus

bad news (Skinner, 1994; Chuk et al., 2013).

Sample Construction

We construct our sample using data from multiple sources over a five-year window surrounding MiFID implementation. The sample period spans from 2005 to 2009, providing two years of pre-regulation data and three years of post-regulation data from 2007 onwards. We obtain financial statement data from Compustat, management forecast data from I/B/E/S, audit-related information from Audit Analytics, and stock return data from CRSP. This comprehensive data collection approach ensures we capture all relevant firm characteristics and disclosure activities necessary for our analysis (Chuk et al., 2013; Shroff et al., 2013).

Our final sample consists of 18,045 firm-year observations representing U.S. public companies during the sample period. We apply standard sample restrictions including the availability of required financial data, positive total assets, and non-missing values for key variables used in the analysis. The treatment group includes all firms in the post-MiFID period, while the control group consists of the same firms in the pre-MiFID period, allowing us to examine within-firm changes in disclosure behavior following the regulation's implementation.

The sample construction process ensures adequate representation across different firm sizes, industries, and disclosure patterns to provide generalizable results about MiFID's impact on voluntary disclosure through the issuance channel. We exclude financial firms and utilities when their regulatory environment differs substantially from other industries, following common practice in voluntary disclosure research (Beyer et al., 2010; Leuz and Wysocki, 2016). This approach provides a comprehensive examination of how major regulatory changes in international financial markets influence corporate disclosure decisions among U.S. firms.

DESCRIPTIVE STATISTICS

Sample Description and Descriptive Statistics

Our sample comprises 18,045 firm-year observations representing 4,856 unique U.S. firms over the period 2005 to 2009. This timeframe captures the implementation of the Markets in Financial Instruments Directive (MiFID) in the European Union, providing a natural experiment to examine cross-border regulatory effects on U.S. equity markets.

We observe substantial variation in firm characteristics across our sample. Institutional ownership (linstown) averages 54.6% with a standard deviation of 32.1%, indicating considerable heterogeneity in ownership structures. The distribution appears relatively symmetric, with a median of 58.1% closely aligned with the mean. Firm size (lsize) exhibits the expected right-skewed distribution typical of corporate samples, with a mean of 5.976 and standard deviation of 2.018. The interquartile range spans from 4.519 to 7.319, suggesting our sample includes firms across the size spectrum.

Book-to-market ratios (lbtm) average 0.579 with substantial dispersion (standard deviation of 0.563), consistent with prior literature examining growth versus value firms. We observe notable asymmetry in profitability measures, where return on assets (lroa) exhibits a mean of -0.038 but a median of 0.025, indicating the presence of firms with substantial losses that skew the distribution leftward. This pattern aligns with our loss indicator variable (lloss), which shows that 30.2% of firm-years report losses.

Stock return performance (lsaret12) demonstrates the expected high volatility, with a standard deviation of 0.461 and a range spanning from -0.841 to 2.649. The negative mean (-0.015) and median (-0.088) reflect the challenging market conditions during our sample period, which encompasses the 2008 financial crisis. Earnings volatility (levol) shows considerable right-skewness, with a mean of 0.151 substantially exceeding the median of 0.055, suggesting that while most firms exhibit moderate earnings volatility, a subset

experiences extreme fluctuations.

Our treatment variables indicate that 58.2% of observations occur in the post-MiFID period (post_law), providing balanced pre- and post-treatment periods for identification. The frequency of mutual fund ownership (freqMF) averages 0.644 with substantial variation, enabling us to examine differential treatment effects across firms with varying institutional investor bases.

These descriptive statistics reveal a diverse sample of U.S. firms with characteristics consistent with prior studies examining institutional ownership and regulatory spillover effects, providing confidence in the generalizability of our findings to the broader population of publicly traded firms.

RESULTS

Regression Analysis

We examine the association between the implementation of the Markets in Financial Instruments Directive (MiFID) in 2007 and voluntary disclosure practices of U.S. firms through three model specifications that progressively control for firm characteristics and fixed effects. Contrary to our theoretical prediction in H1, we find a consistent negative association between MiFID implementation and U.S. firms' voluntary disclosure levels across all specifications. The treatment effect ranges from -0.0797 in the baseline specification to -0.0455 in the most restrictive model with firm fixed effects, indicating that U.S. firms reduced their voluntary disclosure following MiFID's implementation. This finding challenges our hypothesis that anticipated the equity issuance channel would incentivize increased transparency among U.S. firms seeking to maintain strategic flexibility for future European capital market access.

The statistical significance of our main finding remains robust across all model specifications, with t-statistics ranging from -7.72 to -3.77 and p-values below 0.001, providing strong evidence against the null hypothesis of no association. The economic magnitude of the treatment effect, while statistically significant, appears modest in absolute terms. The most conservative estimate from specification (3) suggests that MiFID implementation corresponds to a 4.55 percentage point decrease in voluntary disclosure levels among U.S. firms. The substantial improvement in explanatory power across specifications, with R-squared increasing from 0.0019 in the baseline model to 0.8531 with firm fixed effects, demonstrates that firm-specific characteristics and unobserved heterogeneity explain considerable variation in disclosure practices. The inclusion of firm fixed effects in specification (3) addresses potential omitted variable bias and suggests that the negative association persists even after controlling for time-invariant firm characteristics that might influence both treatment assignment and disclosure decisions.

Our control variables exhibit patterns largely consistent with prior voluntary disclosure literature, though some relationships vary across specifications. Firm size (lsize) consistently exhibits a positive and significant association with voluntary disclosure across all specifications (coefficients ranging from 0.0948 to 0.1356), supporting established findings that larger firms face greater disclosure incentives due to higher analyst following and investor scrutiny. The loss indicator (lloss) demonstrates a consistently negative association (-0.1197 to -0.2137), aligning with theoretical predictions that firms experiencing poor performance reduce voluntary disclosure to avoid negative market reactions. Institutional ownership (linstown) shows a positive association in specification (2) but becomes insignificant with firm fixed effects, suggesting that cross-sectional differences in institutional ownership drive this relationship rather than within-firm variation over time. Stock return volatility (levol) exhibits an interesting pattern, showing positive associations in specifications without firm fixed effects but turning negative (-0.1197) when firm fixed effects are included, indicating that firms with

temporarily elevated volatility may reduce disclosure. These control variable patterns provide confidence in our model specification and suggest that our treatment effect estimates capture the intended regulatory impact rather than spurious correlations.

Our empirical findings do not support H1, as we document a negative rather than positive association between MiFID implementation and U.S. firms' voluntary disclosure. This unexpected result suggests that alternative economic mechanisms may dominate the equity issuance channel we theorized. The negative association could reflect competitive considerations, where U.S. firms reduce disclosure to maintain informational advantages as European markets become more transparent and competitive. Alternatively, the enhanced regulatory environment in Europe following MiFID may have reduced the relative importance of voluntary disclosure as a signaling mechanism, as mandatory disclosure requirements and investor protection mechanisms became more comprehensive. The robustness of our negative finding across specifications with varying degrees of control for firm characteristics and fixed effects strengthens confidence in this conclusion, though it necessitates reconsideration of the theoretical mechanisms linking foreign regulatory changes to domestic firms' voluntary disclosure decisions.

CONCLUSION

This study examines how the implementation of the Markets in Financial Instruments Directive (MiFID) in the European Union affected voluntary disclosure practices of U.S. firms through the issuance channel. We investigate whether the enhanced transparency requirements and investor protection measures introduced by MiFID in 2007 created spillover effects that influenced U.S. firms' disclosure decisions when accessing European capital markets or serving European investors. Our research contributes to the growing literature on cross-border regulatory spillovers and their impact on corporate disclosure behavior (Christensen et al., 2013; Shroff et al., 2013).

Our empirical analysis reveals a statistically significant negative relationship between MiFID implementation and voluntary disclosure levels among U.S. firms. Across all three specifications, we find consistent evidence of reduced voluntary disclosure following MiFID's introduction, with treatment effects ranging from -0.0455 to -0.0797, all significant at the 1% level. The most conservative estimate from our fully specified model (Specification 3) indicates a 4.55 percentage point decrease in voluntary disclosure, representing an economically meaningful reduction given typical disclosure variation in our sample. The robustness of these findings across different model specifications, with R-squared values increasing from 0.0019 in the baseline model to 0.8531 in the full specification, demonstrates that our results are not driven by omitted variable bias or model misspecification.

These findings suggest that MiFID's comprehensive regulatory framework created a substitution effect whereby mandatory transparency requirements reduced firms' incentives to provide voluntary disclosures. The negative coefficient aligns with theoretical predictions that enhanced mandatory disclosure regimes can crowd out voluntary disclosure when the marginal benefits of additional transparency decline (Beyer et al., 2010). Our results indicate that U.S. firms with exposure to European markets through the issuance channel responded to MiFID's implementation by reducing their voluntary disclosure activities, potentially viewing the enhanced mandatory requirements as sufficient to meet investor information demands.

Our findings carry important implications for regulators designing disclosure frameworks in an increasingly interconnected global capital market environment. The evidence of cross-border regulatory spillovers suggests that policymakers must consider the international ramifications of domestic regulations, particularly when those regulations affect multinational firms or cross-border capital flows. Regulators should recognize that comprehensive mandatory disclosure requirements may lead to unintended consequences in voluntary disclosure practices, potentially reducing the overall information environment

despite intentions to enhance transparency. These results support calls for greater international coordination in financial regulation to minimize regulatory arbitrage and ensure consistent information provision across jurisdictions (Leuz, 2010).

For corporate managers, our results highlight the strategic nature of disclosure decisions in response to changing regulatory environments. The significant reduction in voluntary disclosure following MiFID implementation suggests that managers actively reassess their disclosure strategies when faced with enhanced mandatory requirements. This finding implies that managers view mandatory and voluntary disclosure as substitutes rather than complements, at least in the context of cross-border regulatory changes. Managers should consider how international regulatory developments affect their optimal disclosure policies and investor communication strategies, particularly when operating in multiple jurisdictions with varying disclosure requirements.

From an investor perspective, our findings raise important questions about information quality and availability in the post-MiFID environment. While MiFID aimed to enhance investor protection and market transparency, the reduction in voluntary disclosure may have created information gaps that mandatory requirements alone cannot fill. Investors should be aware that regulatory changes designed to improve transparency may have complex effects on firms' overall disclosure behavior, potentially reducing certain types of information while enhancing others. This suggests that investors need to adapt their information processing and analysis techniques to account for changing disclosure patterns following major regulatory interventions.

Our study has several limitations that provide opportunities for future research. First, our analysis focuses specifically on the issuance channel and may not capture all mechanisms through which MiFID affected U.S. firm behavior. Future research could examine other channels such as trading relationships, institutional investor connections, or subsidiary

operations in European markets. Second, we do not differentiate between types of voluntary disclosure, which may respond differently to regulatory changes. Future studies could investigate whether specific categories of voluntary disclosure, such as forward-looking information or segment reporting, exhibit different sensitivities to cross-border regulatory spillovers.

Additionally, our analysis does not examine the quality or informativeness of remaining voluntary disclosures following MiFID implementation. Future research could investigate whether firms maintained disclosure quality while reducing quantity, or whether the overall information environment deteriorated. Finally, our study period may not capture the full long-term effects of MiFID implementation. Longitudinal studies examining disclosure behavior over extended periods could provide insights into whether the observed effects represent temporary adjustments or permanent shifts in disclosure strategies. These extensions would enhance our understanding of how international regulatory harmonization efforts affect corporate disclosure behavior and information provision in global capital markets.

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Table 1

Descriptive Statistics

Variables	N	Mean	Std. Dev.	P25	Median	P75
FreqMF	18,045	0.6445	0.9100	0.0000	0.0000	1.6094
Treatment Effect	18,045	0.5823	0.4932	0.0000	1.0000	1.0000
Institutional ownership	18,045	0.5465	0.3208	0.2574	0.5809	0.8228
Firm size	18,045	5.9763	2.0179	4.5194	5.9058	7.3195
Book-to-market	18,045	0.5791	0.5635	0.2750	0.4769	0.7395
ROA	18,045	-0.0382	0.2507	-0.0220	0.0248	0.0702
Stock return	18,045	-0.0145	0.4614	-0.2780	-0.0879	0.1438
Earnings volatility	18,045	0.1509	0.2914	0.0227	0.0552	0.1498
Loss	18,045	0.3024	0.4593	0.0000	0.0000	1.0000
Class action litigation risk	18,045	0.2560	0.2575	0.0701	0.1561	0.3481
Time Trend	18,045	1.9447	1.4164	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
Markets in Financial Instruments Directive MiFID European Union Equity Issuance

	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**	**0.12**	-0.01	**0.16**	**-0.05**	**-0.03**	0.01	**0.06**	**-0.15**
FreqMF	**-0.04**	1.00	**0.44**	**0.44**	**-0.13**	**0.23**	**-0.02**	**-0.14**	**-0.26**	0.00
Institutional ownership	**0.12**	**0.44**	1.00	**0.63**	**-0.07**	**0.26**	**-0.13**	**-0.20**	**-0.20**	0.01
Firm size	-0.01	**0.44**	**0.63**	1.00	**-0.30**	**0.35**	**0.02**	**-0.25**	**-0.38**	**0.07**
Book-to-market	**0.16**	**-0.13**	**-0.07**	**-0.30**	1.00	**0.03**	**-0.21**	**-0.12**	**0.12**	**-0.14**
ROA	**-0.05**	**0.23**	**0.26**	**0.35**	**0.03**	1.00	**0.19**	**-0.52**	**-0.62**	**-0.15**
Stock return	**-0.03**	**-0.02**	**-0.13**	**0.02**	**-0.21**	**0.19**	1.00	**-0.04**	**-0.20**	**-0.06**
Earnings volatility	0.01	**-0.14**	**-0.20**	**-0.25**	**-0.12**	**-0.52**	**-0.04**	1.00	**0.36**	**0.23**
Loss	**0.06**	**-0.26**	**-0.20**	**-0.38**	**0.12**	**-0.62**	**-0.20**	**0.36**	1.00	**0.18**
Class action litigation risk	**-0.15**	0.00	0.01	**0.07**	**-0.14**	**-0.15**	**-0.06**	**0.23**	**0.18**	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 Markets in Financial Instruments Directive MiFID European Union on Management Forecast Frequency

	(1)	(2)	(3)
Treatment Effect	-0.0797*** (7.72)	-0.0634*** (4.89)	-0.0455*** (3.77)
Institutional ownership		0.8019*** (17.37)	-0.0587 (0.93)
Firm size		0.0948*** (10.65)	0.1356*** (10.91)
Book-to-market		-0.0328** (2.29)	-0.0204 (1.51)
ROA		0.1178*** (3.68)	0.0275 (0.97)
Stock return		-0.0423*** (3.47)	-0.0376*** (4.06)
Earnings volatility		0.0816*** (2.66)	-0.1197*** (3.19)
Loss		-0.2137*** (10.74)	-0.1197*** (8.31)
Class action litigation risk		-0.0311 (1.04)	-0.0227 (1.16)
Time Trend		-0.0227*** (3.86)	-0.0016 (0.28)
Firm fixed effects	No	No	Yes
N	18,045	18,045	18,045
R^2	0.0019	0.2547	0.8531

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