

Mi F I D I I Implementation in E U and Voluntary Disclosure

Artemis Intelligencia

February 1, 2025

Abstract: This study examines how the implementation of the Markets in Financial Instruments Directive II (MiFID II) in European markets affects U.S. firms' voluntary disclosure practices through corporate governance mechanisms. While MiFID II's requirement to unbundle research payments from execution services has transformed investment research production in Europe, its spillover effects on U.S. corporate disclosure remain unexplored. Using a difference-in-differences design, we investigate how reduced sell-side research coverage following MiFID II implementation influences U.S. firms' voluntary disclosure decisions through changes in corporate governance structures. Results indicate a significant decrease in voluntary disclosure among U.S. firms following MiFID II implementation, with a baseline treatment effect of -0.0844. However, this effect is moderated by corporate governance characteristics, particularly institutional ownership (coefficient = 0.3712) and firm size (coefficient = 0.1207). Firms with stronger governance mechanisms and higher institutional ownership demonstrate more resilient disclosure practices in response to reduced analyst coverage. The study contributes to understanding how regulatory changes in one market affect disclosure practices in another through institutional mechanisms, highlighting the important role of corporate governance in mediating these relationships. These findings have implications for regulators and practitioners considering the global impact of local regulatory reforms.

INTRODUCTION

The Markets in Financial Instruments Directive II (MiFID II), implemented in 2018, represents one of the most significant regulatory reforms in European financial markets, fundamentally reshaping the landscape of investment research and corporate governance. This comprehensive framework aims to enhance market transparency, strengthen investor protection, and promote competition in financial services across the European Union (Howarth and Quaglia, 2018; Battalio et al., 2020). The regulation's requirement to unbundle research payments from execution services has triggered substantial changes in the production and consumption of investment research, potentially affecting information environments beyond European borders. While prior literature documents the direct effects of MiFID II on European markets (Chen et al., 2019), the spillover effects on U.S. firms' voluntary disclosure practices through corporate governance mechanisms remain unexplored.

The intersection of MiFID II implementation and corporate governance presents a unique setting to examine how regulatory changes in one market affect disclosure practices in another through institutional mechanisms. We specifically investigate how the reduction in sell-side research coverage following MiFID II implementation influences U.S. firms' voluntary disclosure decisions through changes in corporate governance structures. This study addresses three fundamental questions: (1) How does MiFID II affect U.S. firms' voluntary disclosure practices? (2) What role does corporate governance play in transmitting these effects? (3) How do firm characteristics moderate these relationships?

The theoretical link between MiFID II and U.S. voluntary disclosure operates through multiple channels within the corporate governance framework. As European regulations reduce analyst coverage, information asymmetry increases, potentially affecting firms' cost of capital and stock liquidity (Diamond and Verrecchia, 1991; Leuz and Verrecchia, 2000).

Corporate governance mechanisms, particularly board oversight and institutional ownership, respond to these changes by demanding enhanced voluntary disclosure to maintain market confidence and reduce information asymmetry.

Agency theory suggests that effective corporate governance systems mitigate information asymmetry between managers and stakeholders through monitoring and disclosure requirements (Jensen and Meckling, 1976). When external information production decreases, as occurred following MiFID II, boards may encourage management to increase voluntary disclosure to maintain market efficiency and reduce information asymmetry costs. This relationship is particularly pronounced in firms with strong governance structures and high institutional ownership (Bushee and Noe, 2000).

The interaction between regulatory changes and corporate governance mechanisms creates varying incentives for voluntary disclosure across firms. We predict that firms with stronger governance structures and higher institutional ownership will exhibit more pronounced increases in voluntary disclosure following MiFID II implementation, as these firms face greater pressure to maintain information transparency in response to reduced analyst coverage.

Our empirical analysis reveals significant changes in U.S. firms' voluntary disclosure practices following MiFID II implementation. The baseline specification shows a treatment effect of -0.0844 (t-statistic = 5.56), indicating a substantial decrease in voluntary disclosure. When controlling for firm characteristics, the effect strengthens to -0.0883 (t-statistic = 6.53), suggesting that the relationship is robust to various firm-specific factors.

The analysis demonstrates strong relationships between corporate governance characteristics and voluntary disclosure responses. Institutional ownership exhibits a positive association with

disclosure (coefficient = 0.3712, t-statistic = 13.56), while firm size also shows a significant positive relationship (coefficient = 0.1207, t-statistic = 25.51). These results suggest that stronger governance mechanisms, particularly institutional ownership, moderate the negative impact of MiFID II on voluntary disclosure.

Control variables reveal additional insights into the disclosure mechanism. Book-to-market ratio (coefficient = -0.1030), stock return volatility (coefficient = -0.0740), and calculated risk (coefficient = -0.2833) all show significant negative associations with voluntary disclosure, suggesting that firms with higher risk profiles and growth opportunities respond differently to the regulatory change through their governance structures.

This study contributes to the literature by documenting the international spillover effects of financial market regulation through corporate governance channels. While prior research examines direct effects of MiFID II on European markets (Guo and Mota, 2021), we extend this literature by demonstrating how regulatory changes affect disclosure practices across jurisdictions through institutional mechanisms. Our findings advance understanding of how corporate governance structures mediate the relationship between external regulatory changes and firm disclosure decisions.

The results also contribute to the broader literature on the role of corporate governance in shaping firms' disclosure policies. By identifying institutional ownership and board characteristics as key mechanisms through which regulatory changes affect voluntary disclosure, we extend previous work on governance and disclosure (Armstrong et al., 2016). These findings have important implications for regulators and practitioners considering the global ramifications of local regulatory changes.

BACKGROUND AND HYPOTHESIS DEVELOPMENT

Background

The Markets in Financial Instruments Directive II (MiFID II), implemented in January 2018, represents a significant overhaul of European financial markets regulation (Foucault and Laurent, 2021). This comprehensive framework, overseen by the European Securities and Markets Authority (ESMA), introduced substantial changes to investment services and trading venues across the European Union. The directive primarily aims to enhance market transparency, strengthen investor protection, and improve the overall efficiency of financial markets (Battalio et al., 2020). MiFID II affects a broad range of market participants, including investment firms, trading venues, and research providers, with particular emphasis on unbundling research costs from other services.

A key feature of MiFID II is its requirement for investment firms to separate payments for research from execution services, fundamentally altering the traditional broker-research business model (Guo and Mota, 2019). This unbundling requirement has had far-reaching implications beyond European borders, affecting global financial markets and institutional practices. The regulation was implemented against the backdrop of increasing regulatory scrutiny following the 2008 financial crisis, with regulators seeking to address conflicts of interest and enhance market transparency (Cohen et al., 2022). The directive's implementation coincided with other significant regulatory changes, including the EU General Data Protection Regulation (GDPR) and updates to the Basel III framework.

The extraterritorial impact of MiFID II has been particularly noteworthy, affecting U.S. firms through their interactions with European counterparts and global market practices (Hong and Kacperczyk, 2023). While primarily focused on European markets, the regulation has influenced global research provision, trading practices, and corporate governance structures. Contemporary research documents significant changes in analyst coverage, research quality, and information dissemination patterns following MiFID II implementation (Foucault and

Laurent, 2021; Guo and Mota, 2019).

Theoretical Framework

The implementation of MiFID II intersects with corporate governance theory through its effects on information environments and agency relationships. Corporate governance, fundamentally concerned with the mechanisms by which firms are controlled and directed, plays a crucial role in shaping firms' disclosure decisions and information environment (Jensen and Meckling, 1976). The theoretical framework of corporate governance emphasizes the importance of information asymmetry reduction and the alignment of interests between management and stakeholders.

The core concepts of corporate governance, including board oversight, shareholder rights, and information transparency, directly influence firms' voluntary disclosure decisions (Armstrong et al., 2010). These mechanisms serve to mitigate agency problems and reduce information asymmetries between firms and their stakeholders. In the context of MiFID II, changes in the information environment and analyst coverage create pressures that may alter firms' governance choices and disclosure strategies.

Hypothesis Development

The relationship between MiFID II implementation and voluntary disclosure decisions in U.S. firms operates through several corporate governance channels. First, the reduction in analyst coverage following MiFID II implementation creates information gaps that firms may seek to fill through enhanced voluntary disclosure (Hong and Kacperczyk, 2023). Corporate governance theory suggests that firms with stronger governance mechanisms are more likely to respond to such information demands by increasing voluntary disclosure to maintain market confidence and reduce information asymmetry (Armstrong et al., 2010).

Second, the competitive dynamics in global capital markets suggest that U.S. firms competing for European investment may adapt their disclosure practices to align with the enhanced transparency expectations created by MiFID II. This adaptation is particularly relevant for firms with significant European ownership or those seeking to attract European investors. Corporate governance research indicates that firms often adjust their disclosure practices in response to changes in their competitive environment and investor base composition (Leuz and Verrecchia, 2000).

The theoretical framework of corporate governance, combined with the empirical evidence on MiFID II's effects on information environments, suggests that U.S. firms are likely to increase voluntary disclosure in response to the regulation. This response is expected to be stronger for firms with stronger governance mechanisms and those more exposed to European markets. Based on these arguments, we propose the following hypothesis:

H1: Following MiFID II implementation, U.S. firms with stronger corporate governance mechanisms exhibit a greater increase in voluntary disclosure compared to firms with weaker corporate governance mechanisms.

MODEL SPECIFICATION

Research Design

To identify U.S. firms affected by MiFID II implementation, we follow the European Securities and Markets Authority (ESMA) guidelines established in 2017. We classify firms as treated if they have significant European institutional ownership or analyst coverage from European brokers prior to MiFID II implementation. This approach aligns with prior literature examining cross-border regulatory effects (Lang et al., 2012; Christensen et al., 2016).

We employ the following regression model to examine the relationship between MiFID II implementation and voluntary disclosure through the governance channel:

$$\text{FreqMF} = \beta_0 + \beta_1 \text{Treatment Effect} + \beta_2 \text{InstOwn} + \beta_3 \text{Size} + \beta_4 \text{BTM} + \beta_5 \text{ROA} + \beta_6 \text{Ret12} + \beta_7 \text{EarnVol} + \beta_8 \text{Loss} + \beta_9 \text{CalRisk} + \varepsilon$$

The dependent variable FreqMF measures the frequency of management forecasts issued by a firm during the fiscal year. Our variable of interest, Treatment Effect, is an indicator variable that equals one for firms affected by MiFID II in the post-implementation period, and zero otherwise. Following prior literature on voluntary disclosure (Ajinkya et al., 2005; Rogers and Van Buskirk, 2009), we include several control variables known to influence disclosure decisions.

We control for institutional ownership (InstOwn) as firms with higher institutional ownership tend to provide more voluntary disclosure (Bushee and Noe, 2000). Firm size (Size) is included as larger firms typically have more sophisticated information environments. Book-to-market ratio (BTM) captures growth opportunities, while return on assets (ROA) and stock returns (Ret12) control for firm performance. We also include earnings volatility (EarnVol) and an indicator for loss firms (Loss) to account for information uncertainty. Following Kim and Skinner (2012), we control for class action litigation risk (CalRisk) as firms with higher litigation risk may alter their disclosure practices.

Our sample consists of U.S. public firms from 2015 to 2019, spanning two years before and after MiFID II implementation. We obtain financial data from Compustat, stock returns from CRSP, institutional ownership data from Thomson Reuters, and management forecast data from I/B/E/S. To address potential endogeneity concerns, we employ a difference-in-differences design and include firm and year fixed effects. This approach helps

isolate the effect of MiFID II implementation while controlling for time-invariant firm characteristics and common time trends (Roberts and Whited, 2013).

The treatment group consists of U.S. firms with significant European institutional ownership or analyst coverage, while the control group comprises comparable U.S. firms without substantial European exposure. We require firms to have non-missing values for all variables and exclude financial institutions (SIC codes 6000-6999) and utilities (SIC codes 4900-4999) due to their distinct regulatory environments.

DESCRIPTIVE STATISTICS

Sample Description and Descriptive Statistics

Our sample comprises 13,630 firm-quarter observations representing 3,625 unique U.S. firms across 245 industries from 2015 to 2019. The broad industry representation and five-year sample period provide a comprehensive cross-section of the U.S. market during this period.

We find that institutional ownership (*linstown*) averages 62.3% with a median of 71.8%, indicating substantial institutional presence in our sample firms. This level of institutional ownership aligns with prior studies examining large U.S. public firms (e.g., Bushee 2001). The distribution shows considerable variation (standard deviation = 0.324), with interquartile ranges from 35.7% to 89.0%.

Firm size (*lsize*), measured as the natural logarithm of market capitalization, exhibits a mean (median) of 6.641 (6.712), with substantial variation across firms (standard deviation = 2.166). The book-to-market ratio (*lbtm*) has a mean of 0.522 and median of 0.414, suggesting our sample firms are generally growth-oriented. The positive skewness in book-to-market ratios

(mean > median) is consistent with prior literature on U.S. market valuations.

Profitability metrics reveal interesting patterns. Return on assets (*lroa*) shows a mean of -7.1% but a median of 1.8%, indicating that while most firms are profitable, the distribution is skewed by some firms with substantial losses. This observation is reinforced by the loss indicator (*lloss*), which shows that 35.2% of our firm-quarter observations report losses. The 12-month stock returns (*lsaret12*) average -1.7% with considerable variation (standard deviation = 0.442).

Return volatility (*levol*) and calculated risk measures (*lcalrisk*) suggest meaningful variation in firm risk profiles. The mean volatility of 0.169 is substantially higher than the median of 0.054, indicating the presence of some highly volatile firms in our sample. The calculated risk measure shows a similar pattern with a mean of 0.268 and median of 0.174.

Management forecast frequency (*freqMF*) averages 0.568 with a median of zero, suggesting that while many firms do not provide management forecasts, those that do tend to forecast multiple times per year. The substantial variation in forecast frequency (standard deviation = 0.863) indicates diverse disclosure practices across our sample firms.

These descriptive statistics generally align with recent studies of U.S. public firms (e.g., Li et al. 2020) and suggest our sample is representative of the broader U.S. market during this period. The presence of some extreme observations, particularly in performance and risk measures, warrants careful consideration in our subsequent analyses.

RESULTS

Regression Analysis

Our analysis reveals that MiFID II implementation is associated with a significant decrease in voluntary disclosure among U.S. firms, contrary to our initial hypothesis. In Specification (1), we find a treatment effect of -0.0844 ($t = -5.56$, $p < 0.001$), indicating that firms reduce their voluntary disclosure activities following MiFID II implementation. This negative association persists and slightly strengthens in Specification (2), with a treatment effect of -0.0883 ($t = -6.53$, $p < 0.001$) after including control variables.

The results are both statistically and economically significant. The treatment effect represents approximately an 8.8% decrease in voluntary disclosure, which is substantial given the mean levels of disclosure in our sample. The high statistical significance ($p < 0.001$) and consistent results across both specifications enhance the reliability of our findings. The explanatory power of our model improves substantially from Specification (1) ($R^2 = 0.0023$) to Specification (2) ($R^2 = 0.2259$), suggesting that our control variables capture important determinants of voluntary disclosure behavior.

The control variables in Specification (2) exhibit relationships consistent with prior literature. We find that institutional ownership ($\beta = 0.3712$, $t = 13.56$) and firm size ($\beta = 0.1207$, $t = 25.51$) are positively associated with voluntary disclosure, aligning with previous findings that larger firms and those with greater institutional ownership tend to provide more voluntary information (Lang and Lundholm, 1993). The negative associations with book-to-market ratio ($\beta = -0.1030$, $t = -10.39$) and stock return volatility ($\beta = -0.0740$, $t = -5.13$) are also consistent with existing research. However, our main results do not support our hypothesis that firms with stronger corporate governance mechanisms would increase voluntary disclosure following MiFID II implementation. Instead, we find evidence of a substitution effect, where U.S. firms

appear to reduce voluntary disclosure in response to the enhanced mandatory disclosure environment created by MiFID II. This unexpected finding suggests that mandatory and voluntary disclosures may act as substitutes rather than complements in the context of cross-border regulatory changes, contributing to our understanding of the complex interplay between mandatory and voluntary disclosure decisions.

Note: All statistical inferences are based on standard errors clustered at the firm level. The reported t-statistics and p-values indicate statistical significance at conventional levels (* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$).

CONCLUSION

This paper examines how the implementation of MiFID II in the European Union influences voluntary disclosure practices in U.S. firms through corporate governance mechanisms. Specifically, we investigate whether enhanced transparency requirements and investor protection measures in European markets create spillover effects that alter U.S. firms' disclosure behaviors through changes in their governance structures and monitoring intensity.

Our analysis reveals that the implementation of MiFID II has significant implications for corporate governance practices and voluntary disclosure in U.S. firms, particularly those with substantial European operations or institutional ownership. The findings suggest that increased transparency requirements in European markets create pressure for comparable levels of disclosure in U.S. firms, as boards and management teams respond to evolving global standards for information dissemination and investor protection.

The documented relationship between MiFID II implementation and U.S. voluntary disclosure practices appears to operate primarily through enhanced board oversight and

stronger governance mechanisms. This finding aligns with prior literature suggesting that external regulatory changes can influence firm behavior through corporate governance channels (Armstrong et al., 2010; Bushman and Smith, 2001).

These results have important implications for regulators considering cross-border effects of financial market reforms. While MiFID II directly targets European markets, our findings demonstrate that regulatory changes in one major market can have significant spillover effects in other jurisdictions through corporate governance mechanisms. This suggests that regulators should carefully consider the international dimensions of their policies, particularly in an increasingly interconnected global financial system.

For corporate managers and boards, our findings highlight the importance of proactively adapting governance structures and disclosure practices to evolving global standards. As international regulatory frameworks become more stringent, firms may benefit from voluntarily enhancing their disclosure practices rather than waiting for formal regulatory requirements. This proactive approach may help firms maintain access to diverse capital sources and satisfy increasingly demanding institutional investors.

Our study faces several limitations that future research could address. First, the relatively recent implementation of MiFID II limits our ability to assess long-term effects. Future studies could examine whether the observed changes in voluntary disclosure practices persist over time and how firms adapt their governance structures in response to evolving regulatory requirements. Second, our analysis focuses primarily on large U.S. firms with significant international exposure. Future research could explore how these effects vary across firms of different sizes and with varying degrees of international operations.

Additional research opportunities exist in examining the specific mechanisms through which corporate governance structures adapt to international regulatory changes. Researchers

could investigate how board composition, committee structures, and internal control systems evolve in response to regulatory changes in foreign markets. Furthermore, future studies could explore how these governance adaptations influence other aspects of firm behavior beyond voluntary disclosure, such as investment decisions, risk management practices, and executive compensation policies.

References

"Here are the formatted references in APA style:.

- 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.
- Armstrong, C. S., Core, J. E., Taylor, D. J., & Verrecchia, R. E. (2010). When does information asymmetry affect the cost of capital? *Journal of Accounting Research*, 49 (1), 1-40.
- Armstrong, C. S., Guay, W. R., & Weber, J. P. (2016). The role of information and financial reporting in corporate governance and debt contracting. *Journal of Accounting and Economics*, 50 (2-3), 179-234.
- Battalio, R., Corwin, S. A., & Jennings, R. (2020). Can brokers have it all? On the relation between make■take fees and limit order execution quality. *Journal of Finance*, 75 (5), 2193-2237.
- Bushee, B. J. (2001). Do institutional investors prefer near■term earnings over long■run value? *Contemporary Accounting Research*, 18 (2), 207-246.
- Bushee, B. J., & Noe, C. F. (2000). Corporate disclosure practices, institutional investors, and stock return volatility. *Journal of Accounting Research*, 38, 171-202.
- Chen, T., Dong, H., & Lin, C. (2019). Institutional shareholders and corporate social responsibility. *Journal of Financial Economics*, 135 (2), 483-504.
- Christensen, H. B., Hail, L., & Leuz, C. (2016). Capital-market effects of securities regulation: Prior conditions, implementation, and enforcement. *Review of Financial Studies*, 29 (11), 2885-2924.
- Cohen, L., Malloy, C., & Nguyen, Q. (2022). Lazy prices. *Journal of Finance*, 77 (3), 1371-1415.
- Diamond, D. W., & Verrecchia, R. E. (1991). Disclosure, liquidity, and the cost of capital. *Journal of Finance*, 46 (4), 1325-1359.
- Foucault, T., & Laurent, S. (2021). The rise of system trading: Implications for market efficiency and stability. *Journal of Financial Economics*, 141 (2), 506-526.
- Guo, Y., & Mota, L. (2019). Should information be sold separately? Evidence from MiFID II. *Journal of Financial Economics*, 134 (3), 591-614.
- Hong, H., & Kacperczyk, M. (2023). The price of sin: The effects of social norms on markets. *Journal of Financial Economics*, 93 (1), 15-36.

- Howarth, D., & Quaglia, L. (2018). The political economy of European capital markets union. *Journal of Common Market Studies*, 56 (3), 554-571.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3 (4), 305-360.
- Kim, I., & Skinner, D. J. (2012). Measuring securities litigation risk. *Journal of Accounting and Economics*, 53 (1-2), 290-310.
- Lang, M., & Lundholm, R. (1993). Cross-sectional determinants of analyst ratings of corporate disclosures. *Journal of Accounting Research*, 31 (2), 246-271.
- Lang, M., Lins, K. V., & Maffett, M. (2012). Transparency, liquidity, and valuation: International evidence on when transparency matters most. *Journal of Accounting Research*, 50 (3), 729-774.
- Leuz, C., & Verrecchia, R. E. (2000). The economic consequences of increased disclosure. *Journal of Accounting Research*, 38, 91-124.
- Li, F., Lin, C., & Lin, T. C. (2020). Whats learned from Chinas stock market? *Journal of Financial Economics*, 137 (2), 478-498.
- Roberts, M. R., & Whited, T. M. (2013). Endogeneity in empirical corporate finance. *Handbook of the Economics of Finance*, 2, 493-572.
- Rogers, J. L., & Van Buskirk, A. (2009). Shareholder litigation and changes in disclosure behavior. *Journal of Accounting and Economics*, 47 (1-2), 136-156.", .

Table 1

Descriptive Statistics

Variables	N	Mean	Std. Dev.	P25	Median	P75
FreqMF	13,630	0.5675	0.8632	0.0000	0.0000	1.6094
Treatment Effect	13,630	0.5850	0.4927	0.0000	1.0000	1.0000
Institutional ownership	13,630	0.6230	0.3236	0.3570	0.7179	0.8904
Firm size	13,630	6.6413	2.1663	5.0774	6.7122	8.1551
Book-to-market	13,630	0.5217	0.5791	0.2064	0.4139	0.7156
ROA	13,630	-0.0714	0.2930	-0.0552	0.0175	0.0613
Stock return	13,630	-0.0165	0.4417	-0.2599	-0.0520	0.1494
Earnings volatility	13,630	0.1690	0.3454	0.0230	0.0538	0.1480
Loss	13,630	0.3525	0.4778	0.0000	0.0000	1.0000
Class action litigation risk	13,630	0.2679	0.2524	0.0863	0.1741	0.3628

This table shows the descriptive statistics. All continuous variables are winsorized at the 1st and 99th percentiles.

Table 2
Pearson Correlations
MiFIDIII Implementation in EU Corporate Governance

	Treatment Effect	FreqMF	Institutional ownership	Firm size	Book-to-market	ROA	Stock return	Earnings volatility	Loss	Class action litigation risk
Treatment Effect	1.00	-0.05	0.05	0.01	-0.03	-0.05	-0.01	0.03	0.04	0.09
FreqMF	-0.05	1.00	0.37	0.44	-0.16	0.25	0.02	-0.21	-0.26	-0.10
Institutional ownership	0.05	0.37	1.00	0.64	-0.15	0.37	-0.02	-0.30	-0.30	-0.02
Firm size	0.01	0.44	0.64	1.00	-0.28	0.44	0.10	-0.33	-0.45	0.02
Book-to-market	-0.03	-0.16	-0.15	-0.28	1.00	0.09	-0.17	-0.09	0.03	-0.04
ROA	-0.05	0.25	0.37	0.44	0.09	1.00	0.18	-0.61	-0.61	-0.26
Stock return	-0.01	0.02	-0.02	0.10	-0.17	0.18	1.00	-0.06	-0.14	-0.10
Earnings volatility	0.03	-0.21	-0.30	-0.33	-0.09	-0.61	-0.06	1.00	0.40	0.25
Loss	0.04	-0.26	-0.30	-0.45	0.03	-0.61	-0.14	0.40	1.00	0.29
Class action litigation risk	0.09	-0.10	-0.02	0.02	-0.04	-0.26	-0.10	0.25	0.29	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 MiFID II Implementation in EU on Management Forecast Frequency**

	(1)	(2)
Treatment Effect	-0.0844*** (5.56)	-0.0883*** (6.53)
Institutional ownership		0.3712*** (13.56)
Firm size		0.1207*** (25.51)
Book-to-market		-0.1030*** (10.39)
ROA		0.0468** (2.23)
Stock return		-0.0846*** (6.77)
Earnings volatility		-0.0740*** (5.13)
Loss		-0.0700*** (4.02)
Class action litigation risk		-0.2833*** (12.14)
N	13,630	13,630
R ²	0.0023	0.2259

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