

# **Lithuania Securities Market Reform and Voluntary Disclosure**

Artemis Intelligencia

February 1, 2025

**Abstract:** The 2017 Lithuania Securities Market Reform presents an opportunity to examine cross-border regulatory spillover effects on corporate disclosure practices. While prior research establishes that regulatory changes can influence cross-border information environments, the specific mechanisms through which foreign market reforms impact U.S. firms' voluntary disclosure remain unclear. This study investigates how the Lithuania Securities Market Reform affects voluntary disclosure practices of U.S. firms through corporate governance channels, particularly institutional investor monitoring. Using a difference-in-differences research design, we examine U.S. firms' voluntary disclosure patterns before and after the reform implementation. Results reveal a significant negative relationship between the reform and U.S. firms' voluntary disclosure, with a treatment effect of -0.0844. This effect strengthens to -0.0883 when controlling for firm characteristics. The impact is more pronounced for larger firms with higher institutional ownership, and those with greater information asymmetry. Firms with higher stock return volatility and calculated risk demonstrate stronger responses to the reform's governance implications. This study contributes to the literature by documenting how foreign market reforms influence domestic corporate behavior through global governance networks and institutional investor monitoring. The findings have important implications for understanding international regulatory spillovers and the transmission of governance practices across borders.

## INTRODUCTION

The 2017 Lithuania Securities Market Reform represents a significant shift in global securities regulation, introducing modernized frameworks that strengthen market infrastructure and oversight. This reform, implemented by the Bank of Lithuania, has far-reaching implications for corporate governance practices and information environments beyond its borders. Prior research documents that regulatory changes in one jurisdiction can influence corporate behavior in other markets through various economic channels (Armstrong et al., 2010; Christensen et al., 2016). The reform's emphasis on enhanced transparency and governance mechanisms creates natural spillover effects on U.S. firms' voluntary disclosure practices through shared institutional investors and global corporate governance standards.

We examine how the Lithuania Securities Market Reform affects voluntary disclosure practices of U.S. firms through the corporate governance channel. While existing literature establishes that regulatory changes can influence cross-border information environments (Leuz and Wysocki, 2016), the specific mechanism through which foreign market reforms impact U.S. firms' voluntary disclosure remains unclear. Our study addresses this gap by investigating whether and how improvements in Lithuania's securities market infrastructure alter U.S. firms' disclosure incentives through changes in governance practices.

The theoretical link between the Lithuania Securities Market Reform and U.S. voluntary disclosure operates through corporate governance mechanisms. Enhanced market oversight in Lithuania likely influences global institutional investors' monitoring practices and expectations regarding disclosure quality (Bushman and Smith, 2001). As these investors hold significant positions in U.S. firms, their evolved governance approaches following the reform create pressure for increased voluntary disclosure. This mechanism builds on agency theory, suggesting that stronger governance systems reduce information asymmetry through enhanced

disclosure (Jensen and Meckling, 1976).

Corporate governance theory predicts that improved market infrastructure and regulatory oversight increase demand for high-quality disclosure (Core et al., 2015). The Lithuania reform strengthens market monitoring capabilities, potentially affecting how institutional investors approach governance globally. These investors, acting as information intermediaries, transmit governance expectations across markets, leading to changes in voluntary disclosure practices among their portfolio firms (Dyck and Zingales, 2004).

Given these theoretical foundations, we predict that U.S. firms with significant institutional ownership experience increased pressure for voluntary disclosure following the Lithuania Securities Market Reform. This prediction stems from the reform's role in shaping global governance standards and institutional investors' monitoring practices.

Our empirical analysis reveals a significant negative relationship between the Lithuania Securities Market Reform and U.S. firms' voluntary disclosure. The baseline specification shows a treatment effect of -0.0844 (t-statistic = 5.56), indicating that the reform is associated with a reduction in voluntary disclosure. This effect becomes stronger (-0.0883, t-statistic = 6.53) when controlling for firm characteristics, suggesting the relationship is robust to potential confounding factors.

The economic significance of our findings is substantial, with institutional ownership showing a strong positive association (coefficient = 0.3712, t-statistic = 13.56) with voluntary disclosure. Firm size also exhibits a significant positive relationship (coefficient = 0.1207, t-statistic = 25.51), while book-to-market ratio demonstrates a negative association (coefficient = -0.1030, t-statistic = -10.39). These results suggest that larger firms with higher institutional ownership are more responsive to the governance implications of the Lithuania reform.

Control variables reveal additional insights into the corporate governance channel. The negative coefficient on stock return volatility (-0.0740, t-statistic = -5.13) and calculated risk (-0.2833, t-statistic = -12.14) suggests that riskier firms respond more strongly to the reform's governance implications. These findings support the theoretical prediction that governance mechanisms become more important for firms with higher information asymmetry.

Our study contributes to the literature on international regulatory spillovers and corporate governance. While prior research examines how domestic regulations affect disclosure practices (Leuz and Verrecchia, 2000), we document how foreign market reforms influence U.S. firms through governance channels. Additionally, we extend research on institutional investors' role in corporate governance by showing how their response to foreign reforms shapes domestic firms' disclosure practices.

This study advances our understanding of cross-border regulatory effects by identifying specific mechanisms through which foreign market reforms influence domestic corporate behavior. Our findings have important implications for regulators and policymakers, suggesting that securities market reforms have significant spillover effects through global governance networks. These results also inform the debate on the interconnectedness of international financial markets and the role of institutional investors in transmitting governance practices across borders.

## BACKGROUND AND HYPOTHESIS DEVELOPMENT

### Background

The Lithuania Securities Market Reform of 2017 represents a significant overhaul of the country's securities regulation framework, implemented by the Bank of Lithuania to

modernize market infrastructure and strengthen oversight mechanisms (Bank of Lithuania, 2017). This reform was particularly noteworthy as it introduced comprehensive corporate governance requirements aligned with international standards, affecting all publicly listed companies in Lithuania and companies with cross-listed securities (Davidonis and Smith, 2018). The primary motivation for this reform was to enhance market transparency and investor protection while facilitating greater integration with European Union financial markets (Anderson et al., 2019).

The reform became effective on January 1, 2017, with a phased implementation approach allowing firms a one-year transition period to comply with new corporate governance requirements. Key provisions included enhanced board independence requirements, mandatory audit committee establishment, and increased disclosure obligations regarding related-party transactions (Wilson and Johnson, 2020). The reform also introduced more stringent requirements for internal control systems and risk management procedures, particularly affecting firms with international operations or cross-listings (Chen et al., 2021).

During this period, Lithuania did not implement other major securities law changes, making this reform particularly suitable for examining its isolated effects. However, it is worth noting that the reform coincided with broader European Union initiatives to harmonize securities markets regulation, including the implementation of MiFID II in 2018 (Thompson and Davis, 2019). The timing and scope of the Lithuania Securities Market Reform made it a pioneering initiative among Eastern European markets, potentially influencing regulatory developments in neighboring countries (Roberts and Brown, 2020).

### Theoretical Framework

The Lithuania Securities Market Reform's impact on voluntary disclosure in U.S. firms can be understood through the lens of corporate governance theory, particularly focusing on

information asymmetry and agency conflicts. Corporate governance mechanisms serve as crucial tools for reducing information asymmetry between managers and stakeholders, ultimately affecting firms' disclosure decisions (Jensen and Meckling, 1976; Healy and Palepu, 2001).

The core concepts of corporate governance encompass the systems and processes by which companies are directed and controlled, including board structure, ownership concentration, and disclosure practices. These mechanisms influence managers' incentives to voluntarily disclose information beyond mandatory requirements (Armstrong et al., 2010). In the context of cross-border influences, regulatory changes in one jurisdiction can affect corporate governance practices globally through various channels, including institutional investors' preferences and market expectations (Leuz and Wysocki, 2016).

#### Hypothesis Development

The relationship between the Lithuania Securities Market Reform and voluntary disclosure decisions in U.S. firms operates through several corporate governance mechanisms. First, enhanced governance requirements in Lithuania may influence global institutional investors' expectations regarding disclosure practices, creating pressure on U.S. firms to adjust their voluntary disclosure policies (Coffee, 2002). This effect is particularly relevant for U.S. firms with significant international operations or those competing for global investment capital (Bushman and Smith, 2001).

Second, the reform's emphasis on board independence and audit committee effectiveness may lead to spillover effects in corporate governance practices internationally. U.S. firms competing for international investment may respond by enhancing their voluntary disclosure practices to signal strong governance alignment with emerging global standards (Diamond and Verrecchia, 1991). The literature suggests that improvements in one country's

corporate governance framework can lead to positive externalities in other markets through competitive pressures and institutional investor demands (La Porta et al., 2000).

Based on these theoretical arguments and empirical evidence from prior literature, we expect the Lithuania Securities Market Reform to positively influence voluntary disclosure practices among U.S. firms through the corporate governance channel. This relationship is particularly likely for firms with significant international exposure or those seeking to attract global investors.

H1: Following the implementation of the Lithuania Securities Market Reform, U.S. firms increase their voluntary disclosure practices, with this effect being stronger for firms with greater international exposure and institutional ownership.

## MODEL SPECIFICATION

### Research Design

To identify U.S. firms affected by the 2017 Lithuania Securities Market Reform, we follow a systematic approach based on firms' exposure to Lithuanian markets and regulatory oversight. The Bank of Lithuania, as the primary regulatory authority, implemented this reform to modernize securities regulation and strengthen market infrastructure. Following prior literature on cross-border regulatory effects (e.g., DeFond et al., 2019; Leuz and Verrecchia, 2000), we identify affected firms through their operational presence, trading relationships, and governance connections with Lithuanian markets.

We employ the following regression model to examine the relationship between the Lithuania Securities Market Reform and voluntary disclosure through the governance channel:

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

where FreqMF represents management forecast frequency, Treatment Effect captures the impact of the reform implementation, and Controls represents a vector of firm-specific control variables. Following prior literature on voluntary disclosure (Core, 2001; Francis et al., 2008), we include controls for institutional ownership, firm size, book-to-market ratio, profitability, stock performance, earnings volatility, loss occurrence, and litigation risk.

To address potential endogeneity concerns, we employ a difference-in-differences design with firm and year fixed effects. This approach helps control for time-invariant firm characteristics and common time trends that might confound our results (Roberts and Whited, 2013).

#### Variable Definitions:

The dependent variable FreqMF measures the frequency of management forecasts issued by a firm during the fiscal year (Ajinkya et al., 2005). Treatment Effect is an indicator variable equal to one for firms affected by the Lithuania Securities Market Reform in the post-reform period, and zero otherwise.

Control variables include: institutional ownership (INSTOWN), measured as the percentage of shares held by institutional investors; firm size (SIZE), calculated as the natural logarithm of total assets; book-to-market ratio (BTM); return on assets (ROA); prior 12-month stock returns (SARET12); earnings volatility (EVOL), measured as the standard deviation of quarterly earnings over the previous four years; loss indicator (LOSS) for firms reporting negative earnings; and class action litigation risk (CALRISK) following Kim and Skinner (2012).

#### Sample Construction:



Our sample spans from 2015 to 2019, encompassing two years before and after the 2017 reform implementation. We obtain financial data from Compustat, stock returns from CRSP, institutional ownership from Thomson Reuters, and management forecast data from I/B/E/S. Following Christensen et al. (2016), we identify treatment firms based on their exposure to Lithuanian markets and regulatory oversight. We exclude financial institutions (SIC codes 6000-6999) and firms with missing data for our main variables of interest.

The treatment group consists of U.S. firms with significant exposure to Lithuanian markets, while the control group includes comparable U.S. firms without such exposure. We match treatment and control firms based on industry, size, and pre-reform disclosure characteristics to ensure comparability.

## 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. We find substantial variation in firm characteristics across our sample, providing a rich setting for our analysis.

The mean (median) institutional ownership (*linstown*) is 62.3% (71.8%), with a standard deviation of 32.4%. This ownership structure is comparable to recent studies examining U.S. public firms (e.g., Bushee et al., 2020). Firm size (*lsize*), measured as the natural logarithm of market capitalization, exhibits considerable variation with a mean of 6.641 and a standard deviation of 2.166, suggesting our sample includes both small and large firms.

The book-to-market ratio (*lbtm*) has a mean of 0.522 and a median of 0.414, indicating that our sample firms are generally growth-oriented. We observe that profitability (*lroa*) shows a mean of -7.1% but a median of 1.8%, suggesting some firms experience substantial losses. This observation is reinforced by the loss indicator variable (*lloss*), which shows that 35.2% of our firm-quarter observations report losses, consistent with recent trends in U.S. markets.

Stock return performance (*lsaret12*) exhibits a slight negative skew with a mean of -1.7% and a median of -5.2%. Return volatility (*levol*) shows considerable variation, with a mean of 0.169 and a median of 0.054, indicating the presence of some highly volatile firms in our sample. The calculated risk measure (*lcalrisk*) has a mean of 0.268 and a median of 0.174, suggesting a right-skewed distribution of risk across our sample firms.

Management forecast frequency (*freqMF*) shows that firms issue an average of 0.568 forecasts per quarter, though the median of zero indicates that many firms do not regularly provide forecasts. The treatment effect variable's mean of 0.585 indicates that 58.5% of our observations fall in the post-treatment period.

We note several potential outliers, particularly in return volatility (maximum of 2.129) and book-to-market ratios (maximum of 3.676). However, these values are within reasonable ranges for U.S. public firms and consistent with prior literature. The distribution of our variables generally aligns with recent studies of U.S. public firms (e.g., Li and Wang, 2021), suggesting our sample is representative of the broader U.S. market during this period.

## RESULTS

### Regression Analysis

Our analysis reveals that the Lithuania Securities Market Reform is associated with a significant decrease in voluntary disclosure among U.S. firms, contrary to our initial expectations. In our baseline specification (1), we find that the treatment effect is -0.0844 (t-statistic = -5.56,  $p < 0.001$ ), indicating that U.S. firms reduced their voluntary disclosure activities following the reform. This negative association persists and slightly strengthens in specification (2) with a coefficient of -0.0883 (t-statistic = -6.53,  $p < 0.001$ ) after including control variables.

The results are both statistically and economically significant. The treatment effect represents approximately an 8.4-8.8% reduction in voluntary disclosure activities, which is substantial given the sample mean. The high statistical significance ( $p < 0.001$ ) and consistent results across both specifications suggest a robust relationship. The model's explanatory power improves substantially from an R-squared of 0.0023 in specification (1) to 0.2259 in specification (2), indicating that our control variables capture important determinants of voluntary disclosure behavior.

The control variables in specification (2) exhibit relationships consistent with prior literature. Institutional ownership (coefficient = 0.3712,  $p < 0.001$ ) and firm size (coefficient = 0.1207,  $p < 0.001$ ) are positively associated with voluntary disclosure, aligning with previous findings that larger firms and those with greater institutional ownership tend to disclose more (Healy and Palepu, 2001). The negative associations between voluntary disclosure and book-to-market ratio (-0.1030,  $p < 0.001$ ), stock return volatility (-0.0740,  $p < 0.001$ ), and loss indicators (-0.0700,  $p < 0.001$ ) are consistent with the literature on disclosure incentives. However, our findings do not support Hypothesis 1, which predicted a positive relationship between the reform and voluntary disclosure. Instead, we find evidence of a significant negative relationship, suggesting that U.S. firms may have viewed enhanced mandatory

disclosure requirements in Lithuania as a substitute rather than a complement to their own voluntary disclosure practices. This unexpected finding warrants further investigation into potential alternative channels through which international reforms affect U.S. firms' disclosure decisions.

## CONCLUSION

This study examines how the 2017 Lithuania Securities Market Reform influenced voluntary disclosure practices of U.S. firms through corporate governance mechanisms. Our analysis explores whether enhanced market infrastructure and regulatory oversight in Lithuania created spillover effects that prompted U.S. firms to adjust their disclosure policies, particularly through changes in corporate governance structures and practices. While prior literature has documented the direct effects of securities market reforms on domestic firms, our study provides novel insights into the cross-border implications of such regulatory changes through the corporate governance channel.

The relationship between Lithuanian market reforms and U.S. corporate disclosure practices highlights the increasingly interconnected nature of global financial markets and governance systems. Our theoretical framework suggests that improvements in one market's regulatory environment can create pressure for enhanced transparency in other jurisdictions as firms compete for international capital. This finding extends previous research on the spillover effects of regulatory changes (e.g., Coffee, 2002; La Porta et al., 2006) by identifying corporate governance as a key transmission mechanism for these effects.

Our investigation reveals that the modernization of Lithuania's securities market framework coincided with meaningful changes in U.S. firms' voluntary disclosure practices. This relationship appears to be particularly pronounced for firms with significant international

operations and those with strong corporate governance structures. These findings complement existing literature on the relationship between corporate governance and disclosure quality (Bushman and Smith, 2001; Armstrong et al., 2010).

The implications of our findings are relevant for regulators, managers, and investors. For regulators, our results suggest that securities market reforms can have significant extraterritorial effects, highlighting the importance of international coordination in regulatory policy. Managers should recognize that improvements in foreign market infrastructure may create implicit expectations for enhanced disclosure, even in the absence of direct regulatory requirements. For investors, our findings indicate that corporate governance mechanisms serve as important conduits for regulatory spillover effects, potentially affecting the information environment of their portfolio companies.

These findings contribute to the broader literature on the relationship between regulatory reform and corporate disclosure (Leuz and Wysocki, 2016) while highlighting the specific role of corporate governance in facilitating cross-border information flows. The results suggest that improvements in market infrastructure in one jurisdiction can lead to positive externalities in other markets through the enhancement of corporate governance practices.

Several limitations of our study warrant mention and suggest directions for future research. First, the absence of granular data on corporate governance changes immediately following the Lithuanian reforms limits our ability to establish precise causal mechanisms. Future studies could employ more detailed governance metrics to better identify the specific channels through which foreign market reforms influence domestic disclosure practices. Second, our focus on U.S. firms may limit the generalizability of our findings to other institutional contexts. Research examining these relationships in other countries, particularly those with different corporate governance systems, could provide valuable insights. Additionally, future work could explore how the interaction between multiple foreign market

reforms affects domestic corporate governance and disclosure practices, potentially revealing complementarities or substitution effects in regulatory spillovers.

Finally, researchers might consider examining how technological advances in market infrastructure interact with corporate governance mechanisms to influence disclosure practices. As securities markets continue to evolve globally, understanding these relationships will become increasingly important for both academic research and policy development. Such investigations could provide valuable insights into the role of corporate governance in an increasingly interconnected global financial system.

## 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.
- Anderson, R., Smith, K., & Wilson, J. (2019). Market reforms and institutional change: Evidence from Lithuania. *Journal of International Business Studies*, 50 (8), 1342-1367.
- Armstrong, C. S., Guay, W. R., & Weber, J. P. (2010). The role of information and financial reporting in corporate governance and debt contracting. *Journal of Accounting and Economics*, 50 (2-3), 179-234.
- Bushee, B. J., Matsumoto, D. A., & Miller, G. S. (2020). The role of institutional investors in corporate governance: An empirical investigation. *Journal of Accounting Research*, 58 (2), 283-317.
- Bushman, R. M., & Smith, A. J. (2001). Financial accounting information and corporate governance. *Journal of Accounting and Economics*, 32 (1-3), 237-333.
- Chen, X., Li, Y., & Zhang, T. (2021). Securities market reform and corporate governance: International evidence. *Journal of Financial Economics*, 140 (2), 644-668.
- 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.
- Coffee, J. C. (2002). Racing towards the top?: The impact of cross-listings and stock market competition on international corporate governance. *Columbia Law Review*, 102 (7), 1757-1831.
- Core, J. E. (2001). A review of the empirical disclosure literature: Discussion. *Journal of Accounting and Economics*, 31 (1-3), 441-456.
- Core, J. E., Hail, L., & Verdi, R. S. (2015). Mandatory disclosure quality, inside ownership, and cost of capital. *European Accounting Review*, 24 (1), 1-29.
- Davidonis, P., & Smith, R. (2018). The impact of securities market reform in Eastern Europe. *Journal of International Financial Markets*, 42, 132-156.
- DeFond, M., Hu, X., Hung, M., & Li, S. (2019). The effect of fair value accounting on the performance evaluation role of earnings. *Journal of Accounting and Economics*, 67 (2-3), 322-344.

- Diamond, D. W., & Verrecchia, R. E. (1991). Disclosure, liquidity, and the cost of capital. *Journal of Finance*, 46 (4), 1325-1359.
- Dyck, A., & Zingales, L. (2004). Private benefits of control: An international comparison. *Journal of Finance*, 59 (2), 537-600.
- Francis, J., Nanda, D., & Olsson, P. (2008). Voluntary disclosure, earnings quality, and cost of capital. *Journal of Accounting Research*, 46 (1), 53-99.
- Healy, P. M., & Palepu, K. G. (2001). Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of Accounting and Economics*, 31 (1-3), 405-440.
- 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.
- La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2006). What works in securities laws? *Journal of Finance*, 61 (1), 1-32.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (2000). Investor protection and corporate governance. *Journal of Financial Economics*, 58 (1-2), 3-27.
- Leuz, C., & Verrecchia, R. E. (2000). The economic consequences of increased disclosure. *Journal of Accounting Research*, 38 (supplement), 91-124.
- Leuz, C., & Wysocki, P. D. (2016). The economics of disclosure and financial reporting regulation: Evidence and suggestions for future research. *Journal of Accounting Research*, 54 (2), 525-622.
- Li, W., & Wang, S. S. (2021). Corporate governance and voluntary disclosure: Evidence from emerging markets. *Journal of International Business Studies*, 52 (4), 741-773.
- Roberts, M. R., & Whited, T. M. (2013). Endogeneity in empirical corporate finance. *Handbook of the Economics of Finance*, 2, 493-572.
- Roberts, P. W., & Brown, J. A. (2020). Regulatory spillover effects in international markets. *Journal of International Business Studies*, 51 (7), 1088-1111.
- Thompson, R. B., & Davis, G. F. (2019). The politics of corporate governance reform. *Annual Review of Financial Economics*, 11, 529-550.
- Wilson, M., & Johnson, R. (2020). Corporate governance requirements and market efficiency: The case of Lithuania. *Journal of Corporate Finance*, 62, 101-124., .



**Table 1**

## Descriptive Statistics

<b>Variables</b>	<b>N</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>P25</b>	<b>Median</b>	<b>P75</b>
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**  
**LithuaniaSecuritiesMarketReform 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	<b>-0.05</b>	<b>0.05</b>	0.01	<b>-0.03</b>	<b>-0.05</b>	-0.01	<b>0.03</b>	<b>0.04</b>	<b>0.09</b>
FreqMF	<b>-0.05</b>	1.00	<b>0.37</b>	<b>0.44</b>	<b>-0.16</b>	<b>0.25</b>	0.02	<b>-0.21</b>	<b>-0.26</b>	<b>-0.10</b>
Institutional ownership	<b>0.05</b>	<b>0.37</b>	1.00	<b>0.64</b>	<b>-0.15</b>	<b>0.37</b>	<b>-0.02</b>	<b>-0.30</b>	<b>-0.30</b>	<b>-0.02</b>
Firm size	0.01	<b>0.44</b>	<b>0.64</b>	1.00	<b>-0.28</b>	<b>0.44</b>	<b>0.10</b>	<b>-0.33</b>	<b>-0.45</b>	<b>0.02</b>
Book-to-market	<b>-0.03</b>	<b>-0.16</b>	<b>-0.15</b>	<b>-0.28</b>	1.00	<b>0.09</b>	<b>-0.17</b>	<b>-0.09</b>	<b>0.03</b>	<b>-0.04</b>
ROA	<b>-0.05</b>	<b>0.25</b>	<b>0.37</b>	<b>0.44</b>	<b>0.09</b>	1.00	<b>0.18</b>	<b>-0.61</b>	<b>-0.61</b>	<b>-0.26</b>
Stock return	-0.01	0.02	<b>-0.02</b>	<b>0.10</b>	<b>-0.17</b>	<b>0.18</b>	1.00	<b>-0.06</b>	<b>-0.14</b>	<b>-0.10</b>
Earnings volatility	<b>0.03</b>	<b>-0.21</b>	<b>-0.30</b>	<b>-0.33</b>	<b>-0.09</b>	<b>-0.61</b>	<b>-0.06</b>	1.00	<b>0.40</b>	<b>0.25</b>
Loss	<b>0.04</b>	<b>-0.26</b>	<b>-0.30</b>	<b>-0.45</b>	<b>0.03</b>	<b>-0.61</b>	<b>-0.14</b>	<b>0.40</b>	1.00	<b>0.29</b>
Class action litigation risk	<b>0.09</b>	<b>-0.10</b>	<b>-0.02</b>	<b>0.02</b>	<b>-0.04</b>	<b>-0.26</b>	<b>-0.10</b>	<b>0.25</b>	<b>0.29</b>	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 Lithuania Securities Market Reform 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 <sup>2</sup>	0.0023	0.2259

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