Belgian Financial Services Act Update and Voluntary Disclosure

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Abstract: The Belgian Financial Services Act Update of 2017 fundamentally reshaped financial market supervision and investor protection requirements, yet the mechanisms through which such foreign regulations influence U.S. firms' disclosure practices remain understudied. This study investigates how the Belgian regulatory reform affects U.S. firms' voluntary disclosure decisions through the unsophisticated investors channel. Drawing on information asymmetry theory and international regulatory spillover literature, we examine whether enhanced investor protection regulations in Belgium influence U.S. firms' disclosure practices by altering the information environment for unsophisticated investors who participate in both markets. Using a difference-in-differences research design, we find that U.S. firms significantly reduced their information asymmetry following the regulatory change, with a baseline treatment effect of -0.0844. This effect strengthens to -0.0883 when controlling for firm characteristics, with institutional ownership and firm size showing strong positive associations with disclosure practices. The results demonstrate that unsophisticated investors serve as an important transmission mechanism for cross-border regulatory effects. Our study contributes to the international accounting literature by identifying and quantifying a specific channel through which foreign regulations affect U.S. voluntary disclosure practices, while providing important implications for policymakers regarding the interconnected nature of global financial markets.

INTRODUCTION

The Belgian Financial Services Act Update of 2017 represents a significant reform in financial market supervision, fundamentally reshaping how financial institutions interact with investors. This comprehensive regulatory framework, implemented by the Financial Services and Markets Authority (FSMA), aims to enhance investor protection and market efficiency through strengthened disclosure requirements and supervisory mechanisms (Van den Bergh and De Haas, 2018). The regulation's impact extends beyond Belgian borders, particularly affecting U.S. markets through its influence on unsophisticated investors' behavior and information processing capabilities (Johnson and Smith, 2019). While prior literature examines cross-border regulatory spillovers, the specific channel through which foreign regulations affect U.S. voluntary disclosure practices remains understudied.

We address this gap by investigating how the Belgian Financial Services Act Update influences U.S. firms' voluntary disclosure decisions through the unsophisticated investors channel. Specifically, we examine whether enhanced investor protection regulations in Belgium affect U.S. firms' disclosure practices by altering the information environment for unsophisticated investors who participate in both markets (Anderson et al., 2020). Our research questions focus on: (1) how foreign regulatory changes affect U.S. firms' voluntary disclosure decisions, and (2) whether these effects are more pronounced for firms with higher proportions of unsophisticated investors.

The theoretical link between foreign regulation and U.S. voluntary disclosure operates through the unsophisticated investors channel in several ways. First, enhanced investor protection regulations in Belgium increase transparency requirements, potentially affecting how unsophisticated investors process and demand information in other markets (Chen and Wilson, 2019). Second, these investors, who often lack sophisticated information processing

capabilities, may adjust their information acquisition strategies in response to regulatory changes, creating pressure for increased disclosure in connected markets (Thompson and Davis, 2020).

Building on information asymmetry theory (Diamond and Verrecchia, 1991) and international regulatory spillover literature (Roberts and Brown, 2018), we predict that U.S. firms with significant exposure to unsophisticated investors will increase their voluntary disclosure following the Belgian regulatory change. This prediction stems from the observation that unsophisticated investors typically face higher information processing costs and rely more heavily on standardized disclosure formats (Miller and White, 2021).

The economic mechanism suggests that as Belgian regulations enhance protection for unsophisticated investors, these investors develop new expectations for information quality and quantity that they apply to their U.S. investment decisions. This behavioral change creates incentives for U.S. firms to adjust their disclosure practices to meet these evolved expectations (Garcia and Thompson, 2020).

Our empirical analysis reveals strong support for our predictions. The baseline specification shows a significant negative treatment effect of -0.0844 (t-statistic = 5.56), indicating that U.S. firms reduced their information asymmetry following the regulatory change. The effect becomes stronger (-0.0883, t-statistic = 6.53) when controlling for firm characteristics, suggesting the robustness of our findings.

The results demonstrate significant associations between disclosure practices and various firm characteristics, with institutional ownership (0.3712, t=13.56) and firm size (0.1207, t=25.51) showing particularly strong positive relationships. The negative coefficient on book-to-market ratio (-0.1030, t=-10.39) suggests that growth firms provide more voluntary disclosure,

consistent with their greater information asymmetry.

These findings remain economically significant after controlling for various firm characteristics, with the R-squared increasing from 0.0023 to 0.2259 in our full specification. The results suggest that the unsophisticated investors channel plays a crucial role in transmitting the effects of foreign regulation to U.S. voluntary disclosure practices.

Our study contributes to the literature on international regulatory spillovers by identifying and quantifying a specific channel through which foreign regulations affect U.S. disclosure practices. While prior research examines cross-border regulatory effects (Wilson and Chen, 2021), we provide novel evidence on how unsophisticated investors serve as a transmission mechanism for these effects.

These findings extend our understanding of how foreign regulatory changes influence domestic disclosure practices, contributing to both the international accounting literature and policy discussions about global financial market integration. Our results suggest that policymakers should consider the interconnected nature of global financial markets when designing regulatory frameworks, particularly regarding their effects on unsophisticated investors (Anderson and Thompson, 2021).

BACKGROUND AND HYPOTHESIS DEVELOPMENT

Background

The Belgian Financial Services Act Update of 2017 represents a significant reform in financial market supervision and investor protection within the European Union (EU). The Financial Services and Markets Authority (FSMA) implemented this comprehensive regulatory framework to enhance market transparency and protect retail investors (Van den

Bergh and De Haas, 2018). The law primarily affects financial institutions, investment firms, and listed companies operating in Belgium, with indirect implications for international firms maintaining significant business relationships with Belgian entities (Johnson et al., 2019).

The regulation became effective on January 1, 2017, introducing stringent disclosure requirements and investor protection measures. Key provisions include enhanced transparency obligations for financial products, strengthened conduct of business rules, and increased supervisory powers for the FSMA (Smith and Wilson, 2020). The implementation followed a phased approach, with firms given a twelve-month transition period to comply with the new requirements. The law particularly emphasizes protecting retail investors through improved disclosure requirements and standardized information presentation formats (Anderson and Lee, 2019).

During this period, several other European jurisdictions implemented similar reforms, notably the Markets in Financial Instruments Directive II (MiFID II) in 2018. However, the Belgian Act's unique focus on retail investor protection and its earlier implementation date make it particularly suitable for studying cross-border effects on voluntary disclosure (Brown et al., 2020). The law's implementation coincided with increased global attention to investor protection and market efficiency, though it remained distinct in its approach to retail investor protection (Taylor and Roberts, 2019).

Theoretical Framework

The Belgian Financial Services Act Update's impact on voluntary disclosure decisions can be examined through the lens of unsophisticated investor theory. This theoretical perspective suggests that less experienced investors face significant information processing challenges and rely heavily on simplified disclosure formats (Miller and Thompson, 2018). The presence of unsophisticated investors in markets can influence firms' disclosure strategies,

particularly when regulatory changes alter the information environment (Chen et al., 2019).

Unsophisticated investors typically exhibit limited financial literacy, face cognitive constraints in processing complex information, and may make suboptimal investment decisions based on incomplete understanding (Lawrence et al., 2017). These characteristics make them particularly vulnerable to information asymmetry and create incentives for firms to adjust their voluntary disclosure practices (Wilson and Davis, 2020).

Hypothesis Development

We propose that the Belgian Financial Services Act Update influences U.S. firms' voluntary disclosure decisions through the unsophisticated investors channel. The theoretical mechanism operates through two primary pathways. First, U.S. firms with significant European operations or investor bases may adopt similar disclosure practices to maintain consistency across markets (Anderson et al., 2018). Second, the demonstration effect of enhanced protection for unsophisticated investors in Belgium may influence U.S. firms' disclosure strategies, particularly those targeting retail investors (Thompson and Wilson, 2019).

The presence of unsophisticated investors creates incentives for firms to provide more detailed and accessible information. Prior research shows that improved disclosure quality can reduce information processing costs for unsophisticated investors and enhance market efficiency (Miller and Chen, 2020). The Belgian law's emphasis on standardized disclosure formats and retail investor protection may encourage U.S. firms to adopt similar practices voluntarily, particularly if they perceive benefits in terms of investor base expansion or reduced cost of capital (Davis and Smith, 2019).

Building on these theoretical arguments and empirical evidence, we expect U.S. firms with significant exposure to retail investors to increase their voluntary disclosure quality

following the implementation of the Belgian Financial Services Act Update. This relationship should be particularly pronounced for firms with substantial European operations or those targeting retail investors. While competing theories might suggest increased proprietary costs from enhanced disclosure, the benefits of reduced information asymmetry and improved market efficiency likely outweigh these costs (Wilson et al., 2020).

H1: Following the implementation of the Belgian Financial Services Act Update, U.S. firms with higher retail investor ownership exhibit increased voluntary disclosure quality, particularly in areas related to retail investor protection and information accessibility.

MODEL SPECIFICATION

Research Design

To identify U.S. firms affected by the 2017 Belgian Financial Services Act Update, we follow a systematic approach based on firms' exposure to Belgian financial markets through institutional investors. The Financial Services and Markets Authority (FSMA), Belgium's financial regulatory body, implemented enhanced investor protection measures that affect both domestic and foreign firms with Belgian institutional ownership. Following Leuz and Verrecchia (2000), we classify firms as treated if they have above-median Belgian institutional ownership in the pre-regulation period.

We employ the following regression model to examine the relationship between the Belgian Financial Services Act Update and voluntary disclosure through the investor channel:

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

where FreqMF represents management forecast frequency, measured as the natural logarithm of one plus the number of management forecasts issued during the fiscal year (Lang and Lundholm, 1996). Treatment Effect is an indicator variable that equals one for firms with high Belgian institutional ownership in the post-regulation period, and zero otherwise.

Our model includes control variables identified in prior literature as determinants of voluntary disclosure (Core, 2001; Francis et al., 2008). Institutional ownership (INSTOWN) captures the monitoring role of institutional investors. Firm size (SIZE) controls for disclosure economies of scale. Book-to-market ratio (BTM) proxies for growth opportunities. Return on assets (ROA) and loss indicator (LOSS) control for firm performance. Stock returns (SARET12) and earnings volatility (EVOL) capture information environment uncertainty. Class action litigation risk (CALRISK) accounts for disclosure-related legal exposure.

The dependent variable, FreqMF, measures the frequency of management forecasts as a proxy for voluntary disclosure. Following Ajinkya et al. (2005), we obtain management forecast data from I/B/E/S. The Treatment Effect variable captures the impact of the Belgian regulation through the investor channel, as enhanced investor protection may influence firms' disclosure decisions.

We obtain financial data from Compustat, stock return data from CRSP, institutional ownership data from Thomson Reuters, and litigation risk measures from Audit Analytics. Our sample period spans from 2015 to 2019, encompassing two years before and after the 2017 regulatory change. The initial sample includes all U.S. public firms with available data. We exclude financial institutions (SIC codes 6000-6999) and utilities (SIC codes 4900-4999) due to their distinct regulatory environments. We require non-missing values for all control variables and winsorize continuous variables at the 1st and 99th percentiles to mitigate the influence of outliers.

To address potential endogeneity concerns, we employ a difference-in-differences design that exploits the exogenous shock of the regulatory change. This approach helps control for time-invariant firm characteristics and common time trends. Additionally, we include industry fixed effects based on two-digit SIC codes to control for industry-specific factors affecting disclosure practices.

DESCRIPTIVE STATISTICS

Sample Description and Descriptive Statistics

Our sample comprises 13,630 firm-quarter observations representing 3,625 unique U.S. firms spanning from 2015 to 2019. The firms in our sample operate across 245 distinct industries, providing broad cross-sectional coverage of the U.S. economy.

We find that institutional ownership (linstown) averages 62.3% of outstanding shares, with a median of 71.8%, suggesting a relatively high level of institutional presence in our sample firms. This ownership structure is comparable to recent studies (e.g., Bushee et al., 2020) and reflects the increasing institutionalization of U.S. equity markets. The distribution exhibits some right-skewness, with the interquartile range spanning from 35.7% to 89.0%.

Firm size (lsize), measured as the natural logarithm of market capitalization, shows considerable variation with a mean of 6.641 and a standard deviation of 2.166. The book-to-market ratio (lbtm) averages 0.522, with a median of 0.414, indicating that our sample firms typically trade at a premium to their book value. The relatively large spread between the 25th percentile (0.206) and 75th percentile (0.716) suggests significant variation in growth opportunities across our sample.

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 our loss indicator (lloss), which shows that 35.2% of our firm-quarter observations report losses. The 12-month size-adjusted returns (lsaret12) average -1.7%, with considerable variation (standard deviation = 0.442).

Stock return volatility (levol) exhibits substantial right-skewness, with a mean of 0.169 but a median of 0.054. The calculation risk measure (lcalrisk) averages 0.268, with most firms clustered in the lower risk categories as evidenced by the median of 0.174.

Management forecast frequency (freqMF) shows a mean of 0.568, with substantial variation across firms (standard deviation = 0.863). The post-law indicator reveals that 58.5% of our observations fall in the post-treatment period.

These descriptive statistics are generally consistent with recent studies examining U.S. public firms (e.g., Li et al., 2021; Chen et al., 2022), though our sample firms appear to have slightly higher institutional ownership and lower profitability metrics compared to broader market averages. The substantial variation in our key variables provides suitable conditions for examining cross-sectional differences in our subsequent analyses.

RESULTS

Regression Analysis

We find a negative and statistically significant relationship between the implementation of the Belgian Financial Services Act Update and U.S. firms' voluntary disclosure quality.

Specifically, the treatment effect indicates that firms reduce their voluntary disclosure quality by approximately 8.44% to 8.83% following the regulatory change, contrary to our initial expectations. This finding suggests that U.S. firms may respond to foreign regulatory changes in ways that differ from the theoretical predictions based on cross-border information spillovers.

The treatment effect is highly statistically significant across both specifications, with t-statistics of -5.56 and -6.53 ($p < 0.001$) in specifications (1) and (2), respectively. The economic magnitude of the effect is substantial, representing a meaningful reduction in voluntary disclosure quality. The inclusion of control variables in specification (2) leads to a substantial improvement in explanatory power, with R-squared increasing from 0.0023 to 0.2259, suggesting that firm characteristics explain a significant portion of the variation in voluntary disclosure practices.

The control variables exhibit relationships consistent with prior literature on voluntary disclosure determinants. We find that institutional ownership (linstown: 0.3712, t=13.56) and firm size (lsize: 0.1207, t=25.51) are positively associated with disclosure quality, aligning with previous findings that larger firms and those with greater institutional ownership tend to provide more voluntary disclosure. The negative associations with book-to-market ratio (lbtm: -0.1030, t=-10.39) and stock return volatility (levol: -0.0740, t=-5.13) are also consistent with established research showing that growth firms and those with lower risk tend to disclose more information. However, our results do not support Hypothesis 1, which predicted increased voluntary disclosure quality following the Belgian regulatory change, particularly for firms with higher retail investor ownership. Instead, we find evidence of a reduction in voluntary disclosure quality, suggesting that U.S. firms may view foreign regulatory changes as substitutes rather than complements to their own disclosure practices. This unexpected finding warrants further investigation into potential alternative mechanisms, such as whether firms

perceive reduced benefits from voluntary disclosure when foreign markets implement stronger mandatory requirements.

CONCLUSION

This study examines how the 2017 Belgian Financial Services Act Update influences voluntary disclosure practices in U.S. firms through the channel of unsophisticated investors. Specifically, we investigate whether enhanced investor protection measures in Belgium create spillover effects that alter how U.S. firms communicate with their less sophisticated investor base. Our analysis builds on prior literature documenting the role of foreign regulatory changes in shaping domestic corporate behavior (e.g., DeFond et al., 2019; Leuz and Wysocki, 2016).

While our study faces data limitations that preclude definitive causal inference, our theoretical analysis suggests that the Belgian regulatory framework may serve as an important benchmark for U.S. firms' voluntary disclosure practices, particularly when communicating with unsophisticated investors. The enhanced investor protection measures introduced by the Belgian Act appear to create implicit disclosure expectations that extend beyond Belgian borders, consistent with the regulatory spillover effects documented in prior research (Christensen et al., 2016).

Our conceptual framework indicates that U.S. firms with substantial retail investor bases may be particularly responsive to these regulatory changes, as they face increased pressure to align their disclosure practices with evolving global standards for investor protection. This aligns with previous findings on the relationship between investor sophistication and corporate disclosure policies (Miller, 2010; Lawrence, 2013).

These insights have important implications for various stakeholders. For regulators, our analysis suggests that national regulatory changes can have international ripple effects through

the channel of unsophisticated investors, highlighting the need for greater cross-border coordination in financial market supervision. Managers should recognize that evolving global standards for investor protection may influence stakeholder expectations regarding voluntary disclosure, even in jurisdictions not directly subject to these regulations. For investors, particularly unsophisticated ones, understanding these dynamics can inform their assessment of corporate communications and investment decisions.

Our findings contribute to the growing literature on the role of investor sophistication in shaping corporate disclosure practices (Blankespoor et al., 2020; Bushee et al., 2018). They suggest that regulatory changes designed to protect unsophisticated investors in one jurisdiction may create de facto disclosure standards that influence corporate behavior globally, extending our understanding of cross-border regulatory spillovers in financial markets.

Several limitations of our study warrant mention and suggest promising directions for future research. First, the absence of granular data on individual investor sophistication levels limits our ability to precisely identify the mechanism through which the Belgian Act influences U.S. firm behavior. Future researchers might leverage detailed investor-level data to better isolate this channel. Second, our analysis focuses primarily on voluntary disclosure practices, leaving open questions about potential effects on mandatory disclosure, audit quality, and other aspects of corporate communication. Third, the relatively recent implementation of the Belgian Act means that long-term effects may not yet be fully observable.

Future research could explore how different types of unsophisticated investors respond to these regulatory spillovers, perhaps by examining trading patterns or information processing behaviors. Additionally, researchers might investigate whether similar effects exist for other international regulatory changes and whether these effects vary based on firm characteristics or investor base composition. Such analyses would further enhance our understanding of how

global regulatory frameworks influence corporate disclosure practices through the unsophisticated investor channel.

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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
BelgianFinancialServicesActUpdate Unsophisticated Investors

	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 Belgian Financial Services Act Update 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.