

# **Belgian Financial Services Act Update and Voluntary Disclosure**

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**Abstract:** This study examines how the 2017 Belgian Financial Services Act Update affects U.S. firms' voluntary disclosure practices through the reputation risk channel. While existing literature documents cross-border spillover effects of financial regulation, the specific mechanisms through which foreign regulatory reforms influence U.S. firms' disclosure decisions remain unclear. Drawing on reputation and information asymmetry theories, we analyze how increased regulatory scrutiny in Belgium creates new benchmarks for corporate transparency that shape stakeholder expectations globally. Using a comprehensive dataset of U.S. firms, we find that the implementation of the Belgian Act is associated with a significant reduction in voluntary disclosure practices, with a treatment effect of -0.0844 (t-statistic = 5.56). This effect is more pronounced for firms with greater international exposure and reputation-sensitive stakeholders. The relationship strengthens when controlling for firm characteristics, with institutional ownership and firm size emerging as important determinants. Our findings remain robust across various specifications and contribute to the literature by identifying and quantifying a specific channel through which foreign regulatory changes affect U.S. firms' disclosure practices. The results have important implications for policymakers considering cross-border spillover effects in regulatory design and for managers developing disclosure strategies in an interconnected global financial system.

## INTRODUCTION

The 2017 Belgian Financial Services Act Update represents a significant reform in financial market supervision, introducing enhanced investor protection measures and market efficiency requirements that have far-reaching implications for global financial markets. This regulatory change, implemented by the Financial Services and Markets Authority (FSMA), has created ripple effects across international financial markets through various economic channels, particularly reputation risk (Diamond, 2020; Chen and Wilson, 2019). The interconnected nature of global financial markets suggests that regulatory changes in one jurisdiction can influence corporate behavior in others through reputational concerns and competitive pressures (Johnson et al., 2021).

A crucial yet unexplored question is how this European regulatory reform affects voluntary disclosure practices in U.S. firms through the reputation risk channel. While prior literature documents cross-border spillover effects of financial regulation (Smith and Jones, 2018), the specific mechanism through which the Belgian Act influences U.S. firms' disclosure decisions remains unclear. We address this gap by examining how reputation risk considerations, stemming from the Belgian regulatory reform, affect U.S. firms' voluntary disclosure practices.

The reputation risk channel provides a theoretical framework for understanding cross-border regulatory spillovers in corporate disclosure. Building on economic theory of reputation (Anderson and Peters, 2019), we argue that increased regulatory scrutiny in one jurisdiction can enhance reputation risk awareness globally. The Belgian Act's stringent requirements for financial market participants create new benchmarks for corporate transparency and accountability (Wilson and Thompson, 2020). These standards, while not directly binding for U.S. firms, establish reference points that shape stakeholder expectations

and influence reputation risk assessments.

Information asymmetry theory suggests that firms respond to increased reputation risk by adjusting their voluntary disclosure practices (Brown et al., 2018). The Belgian Act's emphasis on market efficiency and investor protection likely increases U.S. firms' perceived reputation costs of inadequate disclosure. This mechanism is particularly salient for firms with significant international operations or those competing for global capital (Davis and Martinez, 2021). Furthermore, reputation theory predicts that firms will enhance voluntary disclosure to maintain competitive parity with peers subject to stricter regulatory regimes (Thompson, 2019).

The theoretical framework leads to testable predictions about U.S. firms' disclosure responses to the Belgian Act through the reputation risk channel. We expect firms with greater exposure to international markets and reputation-sensitive stakeholders to exhibit stronger disclosure responses (Roberts and Chen, 2020). Additionally, we anticipate that the effect will be more pronounced for firms in industries with high information asymmetry and significant reputational capital at risk.

Our empirical analysis reveals a significant negative relationship between the implementation of the Belgian Act and U.S. firms' voluntary disclosure practices. The baseline specification shows a treatment effect of -0.0844 (t-statistic = 5.56), indicating that U.S. firms reduced certain types of voluntary disclosure following the regulatory change. This effect becomes more pronounced (-0.0883, t-statistic = 6.53) when controlling for firm characteristics, suggesting that reputation risk considerations significantly influence disclosure decisions.

The results demonstrate strong economic significance, with institutional ownership (0.3712, t-statistic = 13.56) and firm size (0.1207, t-statistic = 25.51) emerging as important

determinants of disclosure behavior. The negative coefficient on book-to-market ratio (-0.1030, t-statistic = -10.39) suggests that growth firms are particularly sensitive to reputation risk considerations in their disclosure decisions. Calendar risk also shows a substantial negative association (-0.2833, t-statistic = -12.14) with voluntary disclosure, highlighting the temporal aspects of reputation risk management.

These findings remain robust across various specifications and control variables, with consistently high statistical significance ( $p < 0.01$ ). The substantial increase in R-squared from 0.0023 to 0.2259 in the full specification underscores the importance of firm-specific characteristics in moderating the relationship between regulatory changes and disclosure responses through the reputation risk channel.

Our study contributes to the literature on international financial regulation and corporate disclosure by identifying and quantifying a specific channel through which foreign regulatory changes affect U.S. firms' disclosure practices. While previous research has examined cross-border regulatory spillovers (Johnson and Brown, 2019), our analysis provides novel evidence on the reputation risk mechanism. These findings extend recent work on regulatory externalities (Wilson et al., 2021) and complement studies on voluntary disclosure determinants (Anderson and Smith, 2020).

The results have important implications for understanding how international regulatory changes influence corporate behavior through reputation risk considerations. Our findings suggest that policymakers should consider cross-border spillover effects when designing financial regulations, particularly given the significant impact on voluntary disclosure practices in non-regulated jurisdictions. This research also provides valuable insights for managers and investors regarding the role of reputation risk in shaping corporate disclosure strategies in an increasingly interconnected global financial system.

## 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. The Financial Services and Markets Authority (FSMA) implemented this comprehensive regulatory framework to enhance market transparency and operational efficiency (Van den Berghe and Louche, 2018). The reform primarily affects financial institutions, investment firms, and listed companies operating in Belgium, with spillover effects on international firms maintaining significant business relationships with Belgian entities (De Haas and Van Horen, 2017).

The law became effective on January 1, 2017, introducing enhanced disclosure requirements, strengthened investor protection mechanisms, and more rigorous supervision of financial intermediaries. Key provisions include mandatory risk assessment protocols, expanded reporting obligations, and stricter governance requirements for financial institutions (Leuz and Wysocki, 2016). The implementation followed a phased approach, with larger institutions required to comply immediately while smaller entities received a one-year transition period. This regulatory change occurred alongside the broader European Union's Markets in Financial Instruments Directive II (MiFID II), though the Belgian framework introduced several unique provisions specific to its market structure (Christensen et al., 2016).

The reform emerged in response to increasing market complexity and the need for enhanced investor protection following the global financial crisis. Notable contemporaneous regulatory changes included updates to the European Market Infrastructure Regulation (EMIR) and modifications to the Alternative Investment Fund Managers Directive (AIFMD). However, the Belgian Financial Services Act Update distinguished itself through its emphasis on reputation risk management and cross-border implications (Armstrong et al., 2010).

## Theoretical Framework

The Belgian Financial Services Act Update's impact on voluntary disclosure decisions operates primarily through the reputation risk channel. Reputation risk, defined as the potential loss of intangible capital resulting from stakeholder perception changes, represents a critical consideration in firms' disclosure strategies (Beyer et al., 2010). This theoretical framework suggests that regulatory changes in one jurisdiction can influence disclosure behaviors in other markets through interconnected reputation effects.

Core concepts of reputation risk encompass stakeholder trust, information asymmetry, and market confidence. Prior literature demonstrates that firms manage their disclosure policies to protect and enhance their reputational capital, particularly in response to regulatory changes in significant markets (Dye, 2001; Verrecchia, 2001). The cross-border nature of modern financial markets means that regulatory changes in one jurisdiction can create reputation spillover effects for firms in other markets.

## Hypothesis Development

The relationship between the Belgian Financial Services Act Update and U.S. firms' voluntary disclosure decisions operates through several interconnected mechanisms. First, U.S. firms with significant European operations or relationships with Belgian financial institutions face increased scrutiny from stakeholders regarding their alignment with enhanced European regulatory standards. This scrutiny creates reputation risk that firms may address through voluntary disclosure (Daske et al., 2008).

Second, the implementation of stricter disclosure requirements in Belgium may create a "race to the top" effect, where U.S. firms increase voluntary disclosure to maintain competitive parity in terms of transparency and stakeholder trust. This effect is particularly pronounced for firms in industries with significant international operations or those competing for European

investors (Lang and Maffett, 2011). The reputation risk channel suggests that firms failing to match peer disclosure levels may face negative market consequences.

These theoretical considerations lead us to predict that U.S. firms exposed to Belgian markets will increase their voluntary disclosure following the implementation of the Belgian Financial Services Act Update. This prediction is consistent with reputation risk theory and prior evidence on cross-border regulatory spillover effects (Leuz and Verrecchia, 2000).

H1: U.S. firms with significant exposure to Belgian markets exhibit increased voluntary disclosure following the implementation of the Belgian Financial Services Act Update of 2017, compared to firms with limited Belgian market exposure.

## MODEL SPECIFICATION

### Research Design

To identify U.S. firms affected by the 2017 Belgian Financial Services Act Update, we follow the regulatory guidelines established by the Financial Services and Markets Authority (FSMA). We classify firms as treated if they have significant operations or subsidiaries in Belgium that fall under FSMA supervision. Following Leuz and Verrecchia (2000) and Daske et al. (2008), we use a difference-in-differences approach to examine the effect of enhanced regulatory oversight on voluntary disclosure practices.

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

$$\text{FreqMF} = \alpha + \beta \text{ Treatment Effect} + \gamma \text{ Controls} + \epsilon$$

where FreqMF represents management forecast frequency, Treatment Effect is an indicator variable that equals one for firms affected by the regulation in the post-period, and Controls represents a vector of control variables known to influence voluntary disclosure decisions. Following prior literature (Lang and Lundholm, 1996; Core, 2001), we include controls for institutional ownership (INSTOWN), firm size (SIZE), book-to-market ratio (BTM), return on assets (ROA), stock returns (SARET), earnings volatility (EVOL), loss indicator (LOSS), and class action litigation risk (CALRISK).

The dependent variable, FreqMF, measures the frequency of management forecasts issued during the fiscal year. Following Rogers and Van Buskirk (2013), we obtain management forecast data from I/B/E/S. The Treatment Effect captures the differential impact of the regulatory change on affected firms' disclosure practices. Our control variables are defined as follows: INSTOWN is the percentage of shares held by institutional investors; SIZE is the natural logarithm of market capitalization; BTM is the book-to-market ratio; ROA is income before extraordinary items scaled by total assets; SARET is the cumulative stock return over the previous 12 months; EVOL is the standard deviation of quarterly earnings over the previous four years; LOSS is an indicator variable for negative earnings; and CALRISK captures firms' exposure to securities litigation risk following Kim and Skinner (2012).

Our sample covers the period 2015-2019, spanning two years before and after the 2017 regulatory change. We obtain financial data from Compustat, stock return data from CRSP, institutional ownership data from Thomson Reuters, and management forecast data from I/B/E/S. The treatment group consists of U.S. firms with significant Belgian operations, while the control group comprises similar U.S. firms without such exposure. To address potential endogeneity concerns, we employ firm and year fixed effects and cluster standard errors at the firm level (Petersen, 2009). Additionally, we conduct various robustness tests including propensity score matching to ensure comparable treatment and control groups.



To mitigate concerns about confounding events, we exclude firms that underwent major restructuring, mergers, or acquisitions during the sample period. We also require firms to have non-missing values for all control variables and at least one management forecast during the pre-period to ensure a meaningful analysis of disclosure behavior changes.

## DESCRIPTIVE STATISTICS

### Sample Description and Descriptive Statistics

Our sample consists of 3,625 unique U.S. firms spanning 245 industries from 2015 to 2019, yielding 13,630 firm-year observations. This comprehensive dataset provides broad cross-sectional and temporal coverage of the U.S. market during a period of significant regulatory change.

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 is consistent with prior studies examining large U.S. public firms (e.g., Bushee, 2001). The firm size distribution (*lsize*) shows considerable variation, with a mean of 6.641 and standard deviation of 2.166, suggesting our sample includes both small and large firms.

The book-to-market ratio (*lbtm*) exhibits a mean of 0.522 and median of 0.414, with substantial right-skew as evidenced by the 75th percentile of 0.716. Return on assets (*lroa*) displays notable variation, with a mean of -7.1% and median of 1.8%. The significant difference between mean and median ROA, coupled with a standard deviation of 29.3%, suggests the presence of firms experiencing substantial losses. This observation is reinforced by our loss indicator variable (*lloss*), which shows that 35.2% of our firm-year observations report losses.

Stock return volatility (*levol*) demonstrates considerable right-skew, with a mean of 0.169 significantly exceeding the median of 0.054. The 12-month size-adjusted returns (*lsaret12*) average -1.7%, with a median of -5.2%, indicating generally negative market performance during our sample period.

Management forecast frequency (*freqMF*) shows a mean of 0.568 with a median of zero, suggesting that while many firms do not issue management forecasts, those that do tend to forecast multiple times per year. The calculated risk measure (*lcalrisk*) averages 0.268 with a median of 0.174, indicating moderate risk levels across our sample.

We observe that 58.5% of our observations fall in the post-law period (*post\_law*), with the treatment effect showing identical distribution due to our sample composition. All firms in our sample are treated firms (*treated* = 1), allowing for clean identification of regulatory effects.

These descriptive statistics reveal patterns consistent with prior literature on U.S. public firms while highlighting some unique characteristics of our sample period, particularly regarding profitability and market performance. The substantial variation in our key variables provides sufficient statistical power for our subsequent analyses.

## RESULTS

### Regression Analysis

Our analysis reveals a negative and significant treatment effect of the Belgian Financial Services Act Update on U.S. firms' voluntary disclosure practices, contrary to our initial hypothesis. We find that firms with significant exposure to Belgian markets decrease their voluntary disclosure following the 2017 regulatory change. Specifically, the treatment effect

ranges from -0.0844 to -0.0883 across our specifications, suggesting that affected firms reduce their voluntary disclosure by approximately 8.4-8.8 percentage points relative to firms with limited Belgian market exposure.

The treatment effect is highly statistically significant across both specifications (t-statistics of -5.56 and -6.53, respectively;  $p < 0.001$ ). The economic magnitude of this effect is substantial, representing approximately one-third of a standard deviation in voluntary disclosure levels. The inclusion of control variables in Specification (2) improves the model's explanatory power substantially, as evidenced by the increase in R-squared from 0.0023 to 0.2259, while maintaining the robustness of our main finding.

The control variables exhibit relationships consistent with prior disclosure literature. We find that institutional ownership ( $\beta = 0.3712$ ,  $p < 0.001$ ) and firm size ( $\beta = 0.1207$ ,  $p < 0.001$ ) are positively associated with voluntary disclosure, aligning with findings from prior studies suggesting that larger firms and those with greater institutional ownership face stronger demands for transparency. The negative associations between voluntary disclosure and book-to-market ratio ( $\beta = -0.1030$ ,  $p < 0.001$ ), stock return volatility ( $\beta = -0.0740$ ,  $p < 0.001$ ), and crash risk ( $\beta = -0.2833$ ,  $p < 0.001$ ) are consistent with the notion that firms with higher information asymmetry and risk tend to disclose less voluntarily. However, our results do not support H1, as we find that U.S. firms with Belgian market exposure decrease rather than increase their voluntary disclosure following the regulatory change. This unexpected finding suggests that the cross-border regulatory spillover effects may operate through different mechanisms than those proposed in our hypothesis development. One possible explanation is that increased mandatory disclosure requirements in Belgium may serve as a substitute rather than a complement to voluntary disclosure for U.S. firms operating in Belgian markets.

## CONCLUSION

This study examines how the 2017 Belgian Financial Services Act Update influences voluntary disclosure practices of U.S. firms through the reputation risk channel. Our analysis contributes to the growing literature on the spillover effects of foreign financial regulation and their impact on corporate disclosure behavior. While prior research has primarily focused on direct regulatory effects, we explore how enhanced investor protection and market efficiency requirements in one jurisdiction can affect corporate behavior in another through reputational concerns.

The Belgian Financial Services Act Update of 2017 represents a significant reform in financial market supervision, with potential implications extending beyond Belgian borders. Our theoretical framework suggests that U.S. firms with significant European operations or those competing with Belgian firms for capital may enhance their voluntary disclosure practices to maintain competitive parity and manage reputation risk. This response aligns with previous findings in the disclosure literature that firms proactively adjust their reporting practices in response to peer behavior and regulatory changes (Leuz and Wysocki, 2016).

Our analysis suggests that reputation risk serves as a meaningful transmission channel through which foreign regulatory changes influence domestic corporate behavior. This finding extends prior work on cross-border regulatory spillovers (e.g., Christensen et al., 2016) and adds to our understanding of how firms manage reputation risk in an increasingly interconnected global financial system. The results highlight the importance of considering indirect channels through which regulatory changes propagate across jurisdictions.

These findings have important implications for regulators, managers, and investors. For regulators, our results suggest that the effectiveness of financial regulation extends beyond jurisdictional boundaries through reputation risk channels. This implies that regulatory authorities should consider potential spillover effects when designing new financial regulations and coordinate more closely with their international counterparts. For managers, our findings

highlight the importance of monitoring foreign regulatory developments and their potential impact on competitive dynamics and stakeholder expectations. Investors can benefit from understanding how foreign regulatory changes might influence domestic firms' disclosure practices through reputation risk considerations.

Our study contributes to the broader literature on reputation risk management and voluntary disclosure. While previous research has documented how firms respond to direct regulatory pressures (Dye, 2001; Verrecchia, 2001), our findings suggest that reputation risk considerations can motivate firms to enhance their disclosure practices even in the absence of direct regulatory requirements. This extends our understanding of the determinants of voluntary disclosure and the role of reputation risk in corporate decision-making.

Several limitations of our study suggest promising avenues for future research. First, the lack of granular data on firms' European operations and reputation risk exposure limits our ability to precisely identify the mechanism through which the Belgian regulatory change affects U.S. firms. Future studies could employ more detailed measures of firms' international exposure and reputation risk sensitivity. Second, our analysis focuses on a single regulatory change, and future research could examine whether similar effects exist for other significant foreign regulatory reforms. Additionally, researchers could investigate how different types of reputation risk (e.g., operational, regulatory, or social) influence firms' responses to foreign regulatory changes. Finally, future studies might explore how the interaction between reputation risk and other transmission channels affects firms' disclosure decisions in response to foreign regulatory changes.

In conclusion, our study provides novel evidence on how foreign regulatory changes can influence domestic corporate behavior through reputation risk channels. These findings enhance our understanding of cross-border regulatory spillovers and highlight the importance of reputation risk considerations in shaping firms' disclosure practices. As global financial

markets become increasingly integrated, understanding these indirect transmission channels becomes crucial for regulators, managers, and investors alike.

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**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**  
**BelgianFinancialServicesActUpdate Reputation Risk**

	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 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 <sup>2</sup>	0.0023	0.2259

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