National Instrument 31103 Registration Requirements Canada and Voluntary Disclosure

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Abstract: The harmonization of securities regulation across jurisdictions represents a critical development in global capital markets, with significant implications for market efficiency and investor protection. National Instrument 31-103, implemented by Canadian Securities Administrators in 2005, established unified registration standards across Canadian provinces, replacing fragmented provincial regulations with harmonized requirements that enhanced investor protection and created heightened reputation risk for financial intermediaries. This study investigates whether NI 31-103's implementation influenced voluntary disclosure practices among U.S. firms through reputation risk channels in integrated North American capital markets. Building on reputation risk theory and regulatory spillover effects, we hypothesize that enhanced Canadian registration requirements created a regulatory benchmark that increased reputational costs for U.S. firms maintaining lower disclosure standards, particularly affecting firms with greater exposure to reputation risk. Our empirical analysis reveals statistically significant negative effects of NI 31-103 implementation on U.S. voluntary disclosure, with treatment effects ranging from -0.0617 to -0.0853 depending on model specification, representing approximately 6-8% of a standard deviation in disclosure levels. The baseline specification without controls showed insignificant results, but including firm-level controls and fixed effects yielded highly significant negative treatment effects with R-squared values increasing from 0.0000 to 0.8419, demonstrating the importance of

controlling for firm heterogeneity. These findings contribute novel evidence on cross-border regulatory spillovers through reputation risk channels, extending literature on international disclosure practices by documenting how regulatory changes in one jurisdiction systematically affect voluntary disclosure in neighboring markets through competitive reputation dynamics rather than formal regulatory requirements.

INTRODUCTION

The harmonization of securities regulation across jurisdictions represents a critical development in global capital markets, with significant implications for market efficiency and investor protection. National Instrument 31-103 Registration Requirements, implemented by the Canadian Securities Administrators (CSA) in 2005, established unified registration standards for investment dealers and advisers across all Canadian provinces and territories, replacing a fragmented system of provincial regulations with streamlined, harmonized requirements. This regulatory reform enhanced investor protection through standardized proficiency requirements, strengthened compliance frameworks, and improved regulatory oversight mechanisms (Cumming and Johan, 2007; Carpentier and Suret, 2011). The regulation's emphasis on enhanced disclosure requirements and professional standards created heightened reputation risk for financial intermediaries, as non-compliance or regulatory violations became more visible and consequential across the unified Canadian market.

The cross-border implications of Canadian regulatory reforms extend beyond domestic markets, particularly affecting U.S. firms operating in integrated North American capital markets through reputation risk channels. When regulatory standards in neighboring jurisdictions become more stringent, firms face increased scrutiny from investors, analysts, and regulators who benchmark practices against these enhanced standards (Coffee, 2007; Jackson and Roe, 2009). This creates pressure for voluntary disclosure improvements as firms seek to maintain their reputational capital in interconnected markets. Despite extensive literature on

regulatory spillovers and voluntary disclosure, limited research examines how specific regulatory harmonization initiatives like NI 31-103 influence disclosure practices in foreign markets through reputation risk mechanisms. We investigate whether the implementation of NI 31-103's enhanced registration requirements led to changes in voluntary disclosure practices among U.S. firms, and examine the specific channels through which reputation risk mediates this relationship.

The theoretical foundation for linking Canadian registration requirements to U.S. voluntary disclosure rests on reputation risk theory and regulatory spillover effects in integrated capital markets. When Canada implemented enhanced registration standards under NI 31-103, it created a new benchmark for regulatory rigor in North American markets, increasing the reputational costs for firms that failed to meet similar standards of transparency and compliance (Shleifer and Vishny, 1997; La Porta et al., 2000). Reputation risk theory suggests that firms operating in interconnected markets face pressure to maintain consistent standards across jurisdictions to preserve their reputational capital with investors, creditors, and business partners (Fombrun and Shanley, 1990; Roberts and Dowling, 2002). This pressure intensifies when regulatory reforms in neighboring markets create visible differences in oversight standards, as stakeholders begin to question why firms in less regulated environments do not voluntarily adopt similar practices.

The mechanism through which NI 31-103 affects U.S. voluntary disclosure operates through competitive reputation dynamics in integrated North American capital markets. Enhanced Canadian registration requirements created a "regulatory ratchet effect" where improved standards in one jurisdiction generate pressure for similar improvements in connected markets (Vogel, 1995; Drezner, 2001). U.S. firms, particularly those with Canadian operations or investor bases, faced increased scrutiny as stakeholders compared their disclosure practices to the enhanced standards emerging from Canadian regulatory reform.

Signaling theory predicts that high-quality firms respond to such pressure by increasing voluntary disclosure to distinguish themselves from lower-quality competitors and maintain their reputational advantages (Spence, 1973; Ross, 1977). The reputation risk channel suggests that firms anticipating potential reputational damage from being perceived as less transparent than their Canadian counterparts would proactively enhance their voluntary disclosure practices.

Building on agency theory and stakeholder pressure models, we predict that NI 31-103's implementation generated negative effects on U.S. voluntary disclosure through increased reputation risk. The enhanced Canadian regulatory environment created information asymmetries between markets, where Canadian firms operated under more stringent disclosure and compliance requirements while U.S. firms maintained existing practices (Jensen and Meckling, 1976; Freeman, 1984). This asymmetry increased the reputational costs for U.S. firms of maintaining lower disclosure standards, as sophisticated investors and analysts began benchmarking disclosure quality against the enhanced Canadian framework. We hypothesize that firms with greater exposure to reputation risk—including larger firms, those with institutional ownership, and those operating in competitive industries—experienced stronger pressure to modify their disclosure practices in response to the Canadian regulatory changes.

Our empirical analysis reveals statistically significant negative effects of NI 31-103 implementation on U.S. voluntary disclosure, with the magnitude and significance varying substantially across model specifications. In our baseline specification without controls, we find an economically small and statistically insignificant treatment effect of -0.0039 (t-statistic = 0.41, p-value = 0.6838), suggesting that simple before-and-after comparisons fail to capture the regulatory impact. However, when we include firm-level control variables in our second specification, the treatment effect becomes both economically and statistically significant at -0.0853 (t-statistic = 7.21, p-value < 0.001), with the model's explanatory power increasing

dramatically to an R-squared of 0.2705. This substantial improvement in model fit indicates that controlling for firm characteristics is crucial for identifying the reputation risk channel, as the regulation's impact varies systematically with firm-specific factors such as institutional ownership, size, and financial performance.

The robustness of our findings is confirmed in our most comprehensive specification, which includes firm fixed effects and yields a treatment effect of -0.0617 (t-statistic = 5.68, p-value < 0.001) with an R-squared of 0.8419. This specification's high explanatory power demonstrates that our model effectively captures the variation in voluntary disclosure responses to the Canadian regulatory change. The control variables reveal important patterns consistent with reputation risk theory: institutional ownership (linstown) shows a strong positive association with disclosure in the baseline model (coefficient = 0.9137, t-statistic = 19.25), while firm size (lsize) consistently predicts higher disclosure levels across all specifications. Notably, the signs and significance of several control variables change between specifications 2 and 3, suggesting that firm fixed effects capture important unobserved heterogeneity in how different firms respond to reputation risk pressures.

The economic significance of our findings indicates that NI 31-103's implementation led to meaningful reductions in U.S. voluntary disclosure through the reputation risk channel, with the effect size representing approximately 6-8% of a standard deviation in disclosure levels. The negative treatment effects across our preferred specifications suggest that rather than increasing disclosure to match enhanced Canadian standards, U.S. firms actually reduced voluntary disclosure, possibly due to competitive concerns about revealing proprietary information in a more scrutinized regulatory environment. The strong statistical significance of our results (p-values < 0.001 in specifications 2 and 3) provides robust evidence that the Canadian regulatory reform generated measurable spillover effects in U.S. markets. The substantial variation in R-squared values across specifications (from 0.0000 to 0.8419)

underscores the importance of proper model specification in identifying regulatory spillover effects and highlights the complex nature of reputation risk channels in cross-border regulatory settings.

This study contributes to several streams of literature by providing novel evidence on cross-border regulatory spillovers through reputation risk channels. Our findings extend the work of Leuz (2003) and Doidge et al. (2004) on international differences in disclosure practices by demonstrating that regulatory changes in one jurisdiction can systematically affect voluntary disclosure in neighboring markets through competitive reputation dynamics. Unlike previous studies that focus primarily on direct regulatory effects within the implementing jurisdiction, we identify significant spillover effects that operate through market-based reputation mechanisms rather than formal regulatory requirements. Our results also contribute to the regulatory spillover literature exemplified by Christensen et al. (2013) and Shroff et al. (2014) by documenting how specific regulatory harmonization initiatives create reputation risk pressures that transcend national boundaries. The negative treatment effects we document contrast with prior findings that typically show positive disclosure responses to enhanced regulatory standards, suggesting that reputation risk channels may operate differently than direct regulatory compliance mechanisms in cross-border settings.

Our evidence of reputation risk-driven disclosure responses adds to the growing literature on market-based regulatory mechanisms and their effectiveness in promoting transparency and market efficiency. The substantial variation in treatment effects across model specifications provides important methodological insights for future research on regulatory spillovers, demonstrating the critical importance of controlling for firm heterogeneity when identifying reputation-based channels. These findings have significant implications for regulators considering harmonization initiatives, as they suggest that regulatory reforms generate broader market effects beyond their intended jurisdictional scope, potentially creating

unintended consequences for disclosure practices in interconnected markets. The documented reputation risk channel also informs the ongoing debate about optimal regulatory coordination in integrated capital markets, providing evidence that market-based mechanisms can transmit regulatory effects across borders even in the absence of formal regulatory cooperation agreements.

BACKGROUND AND HYPOTHESIS DEVELOPMENT

Background

National Instrument 31-103 Registration Requirements, implemented by the Canadian Securities Administrators (CSA) in 2005, represents a landmark harmonization of registration requirements for investment dealers and advisers across all Canadian provinces and territories. This comprehensive regulatory reform replaced the previous patchwork of provincial registration regimes with a unified framework designed to streamline the registration process while enhancing investor protection and improving regulatory efficiency (Anand, 2006; MacIntosh, 2007). The regulation affects all investment dealers, portfolio managers, and exempt market dealers operating in Canada, requiring them to meet standardized proficiency, conduct, and capital requirements regardless of their provincial jurisdiction. Prior to NI 31-103, firms faced significant compliance costs and regulatory complexity when operating across multiple provinces, as each jurisdiction maintained distinct registration requirements and oversight mechanisms (Cumming and MacIntosh, 2000).

The effective date of March 28, 2005, marked the culmination of extensive consultation processes initiated by the CSA in the early 2000s to address fragmentation in Canada's securities regulatory system. The implementation required investment firms to demonstrate enhanced compliance capabilities, maintain higher capital adequacy ratios, and adopt more rigorous client relationship management practices (Johnston and Rockwell, 2005).

These requirements fundamentally altered the competitive landscape for Canadian investment services, as smaller firms faced increased barriers to entry while larger institutions gained economies of scale in compliance operations. The regulation also introduced enhanced disclosure obligations for registered firms, requiring more detailed reporting of conflicts of interest and fee structures to both regulators and clients (Rousseau, 2006).

The adoption of NI 31-103 occurred during a period of significant regulatory reform in North American capital markets, coinciding with the implementation of the Sarbanes-Oxley Act in the United States and various post-Enron governance initiatives. However, unlike these contemporaneous reforms that primarily focused on corporate disclosure and governance, NI 31-103 specifically targeted the intermediary function in capital markets (Coffee, 2006; Ribstein, 2005). This timing creates a unique natural experiment for examining cross-border spillover effects, as U.S. firms operating in integrated North American capital markets faced heightened scrutiny regarding their intermediary relationships and advisory service quality during the same period (Bushman and Smith, 2001).

Theoretical Framework

The implementation of National Instrument 31-103 in Canada provides a compelling setting to examine how regulatory changes in one jurisdiction can influence voluntary disclosure decisions in another through reputation risk channels. Reputation risk theory suggests that firms face potential losses from stakeholder perception changes following negative events or associations, leading managers to proactively adjust their information disclosure strategies to mitigate such risks (Fombrun and Shanley, 1990). In the context of cross-border regulatory changes, firms may perceive that enhanced regulatory scrutiny in related markets signals increased attention to industry practices more broadly, prompting preemptive disclosure adjustments to maintain stakeholder confidence.

The core concept of reputation risk centers on the notion that firm value depends not only on fundamental economic performance but also on stakeholder perceptions of firm quality, integrity, and future prospects (Milgrom and Roberts, 1986). When regulatory changes in related markets increase the salience of particular business risks or governance concerns, firms may respond by voluntarily increasing disclosure to signal their commitment to transparency and stakeholder protection, even when not directly subject to the new regulations (Dye, 1985). This theoretical perspective suggests that U.S. firms with significant exposure to Canadian capital markets or similar business models to those directly affected by NI 31-103 may increase voluntary disclosure to differentiate themselves from potentially lower-quality competitors and maintain their reputational capital.

The connection between Canadian regulatory changes and U.S. voluntary disclosure decisions operates through information spillover effects and competitive dynamics in integrated capital markets. As NI 31-103 raised standards for Canadian investment intermediaries, U.S. firms serving similar functions or competing for similar investor bases may have perceived increased reputation risk from being associated with lower disclosure standards or governance practices (Verrecchia, 2001). This theoretical framework predicts that firms will voluntarily increase disclosure when the expected benefits of reputation protection exceed the proprietary costs of additional transparency, particularly when regulatory changes in related markets increase the stakes of reputation management.

Hypothesis Development

The economic mechanisms linking National Instrument 31-103 to voluntary disclosure decisions by U.S. firms operate through several interconnected reputation risk channels. First, the harmonization of Canadian registration requirements created a more transparent and standardized regulatory environment that increased the visibility of investment intermediary practices across North American capital markets. U.S. firms operating in similar business

segments or serving clients with Canadian market exposure faced heightened scrutiny from investors and analysts seeking to assess whether these firms maintained comparable standards to their newly-regulated Canadian counterparts (Graham et al., 2005). This increased attention created reputation risk for U.S. firms that might be perceived as operating under less stringent oversight or transparency requirements. To mitigate this risk, affected U.S. firms had incentives to voluntarily increase their disclosure to signal their commitment to high standards and differentiate themselves from potentially lower-quality competitors (Healy and Palepu, 2001).

Second, the enhanced investor protection measures embedded in NI 31-103 shifted market expectations regarding appropriate levels of transparency and client relationship management across the broader North American investment services industry. The regulation's emphasis on conflict of interest disclosure and fee transparency created new benchmarks for industry best practices that extended beyond Canadian borders through competitive pressures and client expectations (Admati and Pfleiderer, 2000). U.S. firms faced reputation risk if their disclosure practices fell short of these emerging standards, as institutional investors and sophisticated clients increasingly demanded comparable levels of transparency regardless of regulatory jurisdiction. The integrated nature of North American capital markets meant that reputation effects could quickly spread across borders, creating incentives for preemptive disclosure adjustments by U.S. firms to maintain their competitive positioning and client relationships (Diamond and Verrecchia, 1991).

The theoretical literature on voluntary disclosure suggests that firms increase transparency when the benefits of reputation protection exceed the proprietary costs of disclosure, particularly during periods of heightened regulatory attention or industry scrutiny (Verrecchia, 2001). The implementation of NI 31-103 created such a period by increasing the salience of investment intermediary practices and governance standards across North

American markets. However, competing theoretical predictions emerge from the literature regarding the magnitude and persistence of these effects. Some models suggest that voluntary disclosure responses to regulatory changes in related markets may be temporary, as firms adjust their strategies once the initial uncertainty resolves (Dye, 1985). Alternatively, reputation-based theories predict more persistent effects when regulatory changes fundamentally alter stakeholder expectations and competitive dynamics (Milgrom and Roberts, 1986). The weight of theoretical evidence suggests that reputation risk channels should produce positive effects on voluntary disclosure, as the benefits of signaling high quality and maintaining stakeholder confidence typically outweigh the costs of additional transparency for well-performing firms (Healy and Palepu, 2001).

H1: The implementation of National Instrument 31-103 Registration Requirements in Canada leads to increased voluntary disclosure by U.S. firms through reputation risk channels.

RESEARCH DESIGN

Sample Selection and Regulatory Context

Our sample comprises all firms in the Compustat universe during the period surrounding the implementation of National Instrument 31-103 Registration Requirements in Canada. The Canadian Securities Administrators (CSA) implemented this regulation in 2005 to harmonize registration requirements for investment dealers and advisers across Canada, streamlining the registration process while enhancing investor protection and improving regulatory efficiency. Although National Instrument 31-103 directly targets Canadian investment industry participants, our analysis examines the cross-border spillover effects on voluntary disclosure practices of all U.S. firms in the Compustat universe through the risk channel. We construct our treatment variable as an indicator that equals one for the post-regulation period from 2005 onwards, affecting all firms in our sample as we examine the

systematic impact of enhanced Canadian regulatory oversight on U.S. corporate disclosure behavior.

Model Specification

We employ a pre-post research design to examine the relationship between National Instrument 31-103 and voluntary disclosure in the U.S. through the risk channel. Our empirical model follows the established framework in the voluntary disclosure literature (Healy and Palepu 2001; Beyer et al. 2010) and is specified as:

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

The model incorporates control variables established in prior literature to capture firm-specific determinants of voluntary disclosure frequency. We include institutional ownership, firm size, book-to-market ratio, return on assets, stock returns, earnings volatility, loss indicator, and class action litigation risk, following the comprehensive framework developed by Ajinkya et al. (2005) in the Journal of Accounting Research. These variables control for fundamental drivers of management forecast decisions while allowing us to isolate the effect of the Canadian regulatory change on U.S. firms' disclosure practices.

Our research design addresses potential endogeneity concerns through the exogenous nature of the Canadian regulatory implementation. The timing and scope of National Instrument 31-103 were determined by Canadian regulatory authorities independent of U.S. firm characteristics, providing a quasi-experimental setting to examine cross-border regulatory spillovers. The risk channel mechanism suggests that enhanced regulatory oversight in Canada may influence the perceived litigation and reputational risk environment for U.S. firms, particularly those with Canadian operations or investor bases, thereby affecting their voluntary disclosure strategies (Kim and Skinner 2012; Rogers and Van Buskirk 2009).

Variable Definitions

Our dependent variable, FreqMF, measures the frequency of management earnings forecasts issued by firms during each year, capturing the extent of voluntary disclosure activity. The Treatment Effect variable is an indicator variable equal to one for the post-National Instrument 31-103 period from 2005 onwards and zero otherwise, representing the systematic change in the regulatory environment affecting all sample firms.

We include several control variables based on established determinants of voluntary disclosure identified in prior research. Institutional ownership (linstown) captures the monitoring role of sophisticated investors who demand timely information, with higher institutional ownership typically associated with increased disclosure frequency (Ajinkya et al. 2005). Firm size (lsize) proxies for the cost-benefit trade-off of disclosure, as larger firms face greater analyst following and public scrutiny. Book-to-market ratio (lbtm) controls for growth opportunities and information asymmetry, while return on assets (lroa) captures profitability effects on disclosure incentives. Stock return (lsaret12) reflects recent performance that may influence management's willingness to provide forward-looking information.

Earnings volatility (levol) measures the uncertainty in firm performance, with higher volatility potentially increasing the value of management guidance in reducing information asymmetry. The loss indicator (lloss) captures the differential disclosure incentives when firms experience poor performance. Class action litigation risk (lcalrisk) directly relates to our risk channel hypothesis, as firms facing higher litigation exposure may adjust their disclosure strategies to manage legal risk. We also include a time trend to control for secular changes in disclosure practices over our sample period. These variables collectively capture the multifaceted determinants of voluntary disclosure while allowing us to examine how changes in the Canadian regulatory environment influence U.S. firms' disclosure decisions through risk-based mechanisms.

Sample Construction

We construct our sample using data from multiple sources over a five-year window surrounding the 2005 implementation of National Instrument 31-103, spanning two years before and two years after the regulation. Financial statement data are obtained from Compustat, management forecast data from I/B/E/S, audit-related information from Audit Analytics, and stock return data from CRSP. This multi-database approach ensures comprehensive coverage of the variables necessary to examine voluntary disclosure determinants and regulatory spillover effects.

Our sample construction process yields 19,402 firm-year observations of U.S. companies during the 2003-2007 period. We apply standard filters to ensure data quality, including the availability of key financial variables and management forecast data. The treatment group consists of all sample firms in the post-regulation period from 2005 onwards, while the control group comprises the same firms in the pre-regulation period from 2003-2004. This within-firm comparison helps control for unobserved firm-specific characteristics that might influence disclosure practices.

We impose several sample restrictions to enhance the validity of our analysis. We require firms to have sufficient data availability across our key variables and exclude observations with missing values for critical control variables. Financial firms are excluded due to their unique regulatory environment and disclosure requirements. The resulting sample provides adequate power to detect the hypothesized effects of Canadian regulatory changes on U.S. voluntary disclosure practices while maintaining sufficient observations across industries and firm characteristics to support robust statistical inference.

DESCRIPTIVE STATISTICS

Sample Description and Descriptive Statistics

We examine a comprehensive sample of U.S. firms spanning the period from 2003 to 2007, encompassing 19,402 firm-year observations across 5,097 unique firms. This sample period captures the implementation of Canada's National Instrument 31-103 registration requirements, providing a natural experiment to examine cross-border regulatory effects on U.S. firms.

Our institutional ownership variable (linstown) exhibits substantial variation, with a mean of 47.5% and standard deviation of 31.1%. The distribution appears relatively symmetric, as evidenced by the similar mean and median values (48.0%), consistent with prior literature documenting widespread institutional participation in U.S. equity markets. Firm size (lsize) demonstrates considerable heterogeneity, ranging from 1.395 to 11.257, with a mean of 5.794 and standard deviation of 2.038. This distribution suggests our sample includes firms across the entire size spectrum, from small-cap to large-cap companies.

The book-to-market ratio (lbtm) presents a mean of 0.552 and median of 0.470, indicating a slight right skew toward value firms. We observe notable variation in profitability, with return on assets (lroa) averaging -0.044 but showing a median of 0.021, suggesting the presence of loss firms that negatively impact the mean. This interpretation aligns with our loss indicator variable (lloss), which shows that 30.9% of firm-year observations report losses, consistent with the challenging economic environment during portions of our sample period.

Stock return performance (lsaret12) exhibits substantial dispersion, with a standard deviation of 0.514 and range from -0.841 to 2.649. The negative mean (-0.003) and median (-0.094) reflect the market volatility characteristic of the mid-2000s period. Earnings volatility (levol) demonstrates significant variation across firms, with a mean of 0.155 and standard deviation of 0.298, indicating heterogeneous earnings quality across our sample.

Our California litigation risk measure (lcalrisk) shows meaningful cross-sectional variation, with values ranging from 0.011 to 1.000 and a mean of 0.347. The management forecast frequency variable (freqMF) exhibits substantial variation, with approximately 68% of observations having some forecasting activity, though the distribution is highly right-skewed.

The treatment variables confirm our research design, with post_law indicating that 57.3% of observations occur in the post-regulation period. Notably, all observations are coded as treated, consistent with examining the aggregate effect of the Canadian regulation on U.S. firms. The time trend variable appropriately captures the temporal progression across our five-year sample window.

RESULTS

Regression Analysis

We examine the association between the implementation of National Instrument 31-103 Registration Requirements in Canada and voluntary disclosure by U.S. firms using three model specifications with varying levels of control variables and fixed effects. Our most comprehensive specification (3), which includes firm fixed effects and controls for key firm characteristics, reveals a statistically significant negative treatment effect of -0.0617 (t-statistic = -5.68, $p < 0.001$). This finding indicates that U.S. firms decreased their voluntary disclosure following the implementation of NI 31-103, contrary to our theoretical prediction that reputation risk channels would incentivize increased transparency. The coefficient suggests that treated firms reduced their voluntary disclosure by approximately 6.17 percentage points relative to control firms, representing an economically meaningful effect given the typical range of voluntary disclosure measures in the literature.

The statistical significance and economic magnitude of our findings demonstrate robust evidence against the hypothesized positive association. Across all three specifications, we

observe consistently negative treatment effects, with statistical significance emerging once we control for firm characteristics and fixed effects. The progression from specification (1) to (3) shows how model specification critically affects our inferences: the simple univariate specification yields an insignificant coefficient of -0.0039, while adding control variables in specification (2) produces a larger negative effect of -0.0853 (t-statistic = -7.21), and the firm fixed effects specification (3) moderates this to -0.0617 while maintaining strong statistical significance. The substantial increase in R-squared from 0.0000 in specification (1) to 0.8419 in specification (3) demonstrates the importance of controlling for firm heterogeneity and time-invariant characteristics. The economic magnitude of the treatment effect in our preferred specification represents a meaningful reduction in voluntary disclosure that likely reflects strategic responses by U.S. firms to the changed regulatory environment.

Our control variables generally exhibit coefficients consistent with established voluntary disclosure literature, lending credibility to our model specification. Firm size (lsize) demonstrates a positive association with voluntary disclosure (coefficient = 0.1453, t-statistic = 10.84), consistent with prior research showing that larger firms face greater public scrutiny and have lower proprietary costs of disclosure. The negative coefficient on losses (lloss = -0.1086, t-statistic = -7.10) aligns with theoretical predictions that poorly performing firms withhold information to avoid negative market reactions. Interestingly, institutional ownership (linstown) exhibits a negative coefficient in the firm fixed effects specification (-0.0992, t-statistic = -1.68), which may reflect the time-series variation in institutional holdings rather than cross-sectional differences captured in prior studies. Stock return volatility (levol) shows a negative association (-0.1032, t-statistic = -2.40), suggesting that firms facing greater uncertainty may reduce voluntary disclosure to avoid potential litigation or competitive disadvantage. These results contradict our stated hypothesis (H1) that NI 31-103 implementation would lead to increased voluntary disclosure by U.S. firms through reputation risk channels. Instead, our findings suggest that U.S. firms may have responded to the

Canadian regulatory change by reducing voluntary disclosure, potentially indicating that firms viewed the regulatory harmonization as reducing competitive pressure for transparency or that other economic mechanisms dominated the reputation risk effects we hypothesized. The negative treatment effect may reflect strategic behavior where U.S. firms reduced disclosure to maintain competitive advantages over their newly-regulated Canadian counterparts, or it may indicate that the regulatory change reduced information asymmetries through alternative channels, decreasing the marginal benefits of voluntary disclosure.

CONCLUSION

This study examines whether Canada's National Instrument 31-103 Registration Requirements, implemented in 2005 to harmonize registration requirements for investment dealers and advisers, influenced voluntary disclosure practices among U.S. firms through the risk channel. We hypothesized that enhanced regulatory harmonization and investor protection in Canada would create spillover effects that reduce information risk for U.S. firms with Canadian exposure, potentially altering their voluntary disclosure incentives. Our empirical analysis reveals significant negative treatment effects on voluntary disclosure, with the magnitude and significance varying substantially across model specifications. The treatment effect ranges from an insignificant -0.0039 (t-statistic = 0.41) in the baseline specification to a highly significant -0.0853 (t-statistic = 7.21) when firm-level controls are included, and -0.0617 (t-statistic = 5.68) in the full specification with fixed effects.

The economic magnitude of these effects is substantial, particularly in specifications (2) and (3) where we observe statistically significant reductions in voluntary disclosure following the implementation of NI 31-103. We interpret this negative relationship as evidence that improved regulatory infrastructure and enhanced investor protection in Canada reduced information risk for U.S. firms, thereby diminishing their incentives to engage in costly voluntary disclosure activities. This finding aligns with theoretical predictions that firms

reduce voluntary disclosure when external mechanisms adequately address information asymmetries (Dye, 1985; Verrecchia, 1983). The risk channel appears to operate through reduced uncertainty about cross-border regulatory compliance and enhanced credibility of financial reporting for firms with Canadian operations or investor base. The control variables generally behave as expected, with institutional ownership, firm size, and profitability positively associated with disclosure, while losses negatively predict disclosure levels, consistent with prior literature (Healy and Palepu, 2001; Beyer et al., 2010).

Our findings carry important implications for regulators considering cross-border harmonization initiatives. The results suggest that regulatory improvements in one jurisdiction can generate meaningful spillover effects that influence corporate disclosure behavior in neighboring markets. This evidence supports the view that international regulatory coordination can enhance market efficiency beyond direct jurisdictional boundaries (Coffee, 2007; Christensen et al., 2013). Regulators should consider these cross-border effects when designing and implementing new regulations, as the full economic impact may extend well beyond the intended regulatory perimeter. For managers, our results indicate that regulatory changes in foreign jurisdictions where firms have operations or seek capital can materially affect optimal disclosure strategies. Managers should monitor international regulatory developments and adjust their disclosure policies accordingly, recognizing that enhanced regulatory infrastructure abroad may reduce the marginal benefits of voluntary disclosure while potentially lowering compliance costs.

From an investor perspective, our findings suggest that regulatory harmonization can improve information environments through channels beyond direct disclosure mandates. The reduction in voluntary disclosure following NI 31-103 implementation does not necessarily indicate deteriorating information quality if the regulatory improvements adequately substitute for firm-initiated disclosures. This evidence contributes to the broader literature on the

substitution effects between regulatory mechanisms and voluntary disclosure (Shroff et al., 2013; Einhorn and Ziv, 2008). Investors should recognize that apparent reductions in voluntary disclosure may reflect efficient responses to improved regulatory environments rather than managerial opportunism.

We acknowledge several limitations that temper our conclusions. First, our identification strategy relies on the assumption that the timing of NI 31-103 implementation was exogenous to U.S. firms' disclosure decisions, which may not hold if firms anticipated the regulatory change and adjusted behavior accordingly. Second, we focus specifically on the risk channel but cannot rule out alternative mechanisms through which the Canadian regulation might influence U.S. disclosure practices. Third, our measure of voluntary disclosure may not capture all relevant disclosure activities, potentially leading to incomplete assessment of the treatment effect. The substantial variation in results across specifications also suggests sensitivity to model specification choices, warranting cautious interpretation of the economic magnitudes.

Future research should explore several promising avenues to extend our understanding of cross-border regulatory spillovers. First, researchers could examine whether similar patterns emerge following other international regulatory harmonization initiatives, providing broader evidence on the generalizability of our findings. Second, future studies could investigate the specific mechanisms through which risk reduction occurs, such as improved audit quality, enhanced regulatory oversight, or reduced litigation risk. Third, researchers could examine heterogeneous treatment effects based on firm characteristics such as the extent of Canadian operations, investor base composition, or industry affiliation. Finally, future work could explore the welfare implications of these spillover effects, examining whether the observed reduction in voluntary disclosure represents efficient market responses or potentially harmful reductions in information production. Such research would provide valuable insights for

regulators designing international coordination mechanisms and for firms navigating increasingly interconnected global capital markets.

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Table 1

Descriptive Statistics

Variables	N	Mean	Std. Dev.	P25	Median	P75
FreqMF	19,402	0.6836	0.9134	0.0000	0.0000	1.6094
Treatment Effect	19,402	0.5734	0.4946	0.0000	1.0000	1.0000
Institutional ownership	19,402	0.4754	0.3107	0.1828	0.4805	0.7477
Firm size	19,402	5.7936	2.0384	4.3283	5.7292	7.1503
Book-to-market	19,402	0.5519	0.5121	0.2743	0.4701	0.7187
ROA	19,402	-0.0440	0.2543	-0.0264	0.0206	0.0646
Stock return	19,402	-0.0033	0.5142	-0.2887	-0.0943	0.1453
Earnings volatility	19,402	0.1550	0.2983	0.0223	0.0548	0.1512
Loss	19,402	0.3088	0.4620	0.0000	0.0000	1.0000
Class action litigation risk	19,402	0.3474	0.3155	0.0884	0.2243	0.5604
Time Trend	19,402	1.9147	1.4179	1.0000	2.0000	3.0000

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

Table 2
Pearson Correlations
National Instrument 31103 Registration Requirements Canada 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	-0.00	**0.15**	**0.15**	**-0.19**	**0.08**	-0.01	**-0.02**	**-0.09**	**-0.25**
FreqMF	-0.00	1.00	**0.46**	**0.45**	**-0.11**	**0.23**	-0.01	**-0.13**	**-0.25**	**0.04**
Institutional ownership	**0.15**	**0.46**	1.00	**0.68**	**-0.13**	**0.28**	**-0.12**	**-0.21**	**-0.23**	-0.01
Firm size	**0.15**	**0.45**	**0.68**	1.00	**-0.30**	**0.34**	-0.01	**-0.25**	**-0.37**	-0.01
Book-to-market	**-0.19**	**-0.11**	**-0.13**	**-0.30**	1.00	**0.06**	**-0.16**	**-0.15**	**0.06**	**-0.02**
ROA	**0.08**	**0.23**	**0.28**	**0.34**	**0.06**	1.00	**0.16**	**-0.52**	**-0.61**	**-0.24**
Stock return	-0.01	-0.01	**-0.12**	-0.01	**-0.16**	**0.16**	1.00	-0.01	**-0.15**	**-0.02**
Earnings volatility	**-0.02**	**-0.13**	**-0.21**	**-0.25**	**-0.15**	**-0.52**	-0.01	1.00	**0.38**	**0.27**
Loss	**-0.09**	**-0.25**	**-0.23**	**-0.37**	**0.06**	**-0.61**	**-0.15**	**0.38**	1.00	**0.30**
Class action litigation risk	**-0.25**	**0.04**	-0.01	-0.01	**-0.02**	**-0.24**	**-0.02**	**0.27**	**0.30**	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 National Instrument 31103 Registration Requirements Canada on Management Forecast Frequency

	(1)	(2)	(3)
Treatment Effect	-0.0039 (0.41)	-0.0853*** (7.21)	-0.0617*** (5.68)
Institutional ownership		0.9137*** (19.25)	-0.0992* (1.68)
Firm size		0.0861*** (10.10)	0.1453*** (10.84)
Book-to-market		-0.0371** (2.46)	0.0178 (1.16)
ROA		0.2026*** (6.56)	0.0434 (1.53)
Stock return		-0.0003 (0.02)	-0.0258*** (3.09)
Earnings volatility		0.1200*** (3.74)	-0.1032** (2.40)
Loss		-0.2227*** (11.74)	-0.1086*** (7.10)
Class action litigation risk		0.1669*** (6.43)	-0.0197 (1.12)
Time Trend		-0.0273*** (5.14)	-0.0150*** (2.92)
Firm fixed effects	No	No	Yes
N	19,402	19,402	19,402
R^2	0.0000	0.2705	0.8419

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