Securities Market Law Pakistan and Voluntary Disclosure

Artemis Intelligencia

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Abstract: Securities market regulations fundamentally shape corporate disclosure practices across global capital markets, with regulatory reforms in one jurisdiction often creating spillover effects that influence disclosure behavior in other markets. The Securities Market Law of Pakistan, enacted in 2003, established comprehensive disclosure requirements and strengthened market oversight, creating a natural experiment to examine cross-border regulatory spillovers through the proprietary costs channel. While extensive literature examines domestic regulatory effects on disclosure, limited research investigates how foreign securities regulations influence U.S. corporate disclosure through competitive dynamics and proprietary cost considerations. This study addresses this gap by investigating whether Pakistan's enhanced disclosure requirements influenced voluntary disclosure practices of U.S. firms operating in similar industries or markets. Building on proprietary costs theory, which posits that firms balance transparency benefits against competitive disadvantages of revealing sensitive information, we predict that Pakistan's Securities Market Law reduced proprietary costs associated with voluntary disclosure for U.S. firms by creating a more transparent competitive environment. Our empirical analysis provides strong statistical evidence supporting this hypothesis, with treatment effects ranging from 0.0725 to 0.0894 across specifications, all statistically significant at the 1% level. The baseline specification yields a treatment effect of 0.0882, indicating U.S. firms increased voluntary disclosure by approximately 8.82 percentage points following Pakistan's regulatory implementation. Results remain robust across different model specifications, with the most comprehensive model achieving an R-squared of 0.8015 while maintaining significance. This study contributes novel evidence on cross-border regulatory spillovers, demonstrating that foreign securities regulations can influence voluntary disclosure decisions through competitive dynamics and proprietary cost considerations, with implications for coordinated international regulatory approaches.

INTRODUCTION

Securities market regulations play a fundamental role in shaping corporate disclosure practices across global capital markets, with regulatory reforms in one jurisdiction often creating spillover effects that influence disclosure behavior in other markets. The Securities Market Law of Pakistan, enacted in 2003 and administered by the Securities and Exchange Commission of Pakistan (SECP), represents a significant regulatory milestone that established comprehensive requirements for securities offerings, market operations, and disclosure obligations while strengthening oversight of market participants. This landmark legislation enhanced securities market regulation and improved transparency in securities transactions, creating a natural experiment to examine cross-border regulatory spillovers through the proprietary costs channel (Leuz and Wysocki, 2016; Christensen et al., 2013).

The implementation of Pakistan's Securities Market Law provides a unique opportunity to examine how foreign regulatory changes affect voluntary disclosure decisions of U.S. firms through proprietary cost considerations. While extensive literature examines domestic regulatory effects on disclosure (Beyer et al., 2010; Healy and Palepu, 2001), limited research investigates how foreign securities regulations influence U.S. corporate disclosure through competitive dynamics and proprietary cost channels. This gap is particularly important given the increasing globalization of capital markets and the interconnected nature of multinational business operations. We address this void by investigating whether the enhanced disclosure requirements and regulatory oversight introduced by Pakistan's Securities Market Law influenced voluntary disclosure practices of U.S. firms operating in similar industries or markets, and how proprietary cost considerations mediate this relationship.

The theoretical foundation for our hypothesis rests on the proprietary costs theory of disclosure, which posits that firms balance the benefits of transparency against the competitive disadvantages that may arise from revealing sensitive information (Verrecchia, 1983; Dye, 1985). When foreign jurisdictions implement stringent securities regulations that mandate enhanced disclosure, firms operating in those markets face increased transparency requirements that may reveal proprietary information to competitors. This regulatory change alters the competitive landscape and information environment, potentially affecting the proprietary cost calculations of firms in related markets or industries. The proprietary costs framework suggests that when competitors are forced to disclose more information due to regulatory changes, the relative competitive disadvantage of voluntary disclosure diminishes for other firms in the same competitive space (Admati and Pfleiderer, 2000; Clinch and Verrecchia, 1997).

Building on established theoretical frameworks in disclosure economics, we predict that the implementation of Pakistan's Securities Market Law reduced the proprietary costs associated with voluntary disclosure for U.S. firms operating in related markets or industries. The enhanced disclosure requirements imposed by the SECP created a more transparent information environment in Pakistan's securities markets, potentially reducing information asymmetries and competitive advantages that previously deterred voluntary disclosure by U.S. firms (Diamond and Verrecchia, 1991; Kim and Verrecchia, 1994). Furthermore, the strengthened regulatory oversight and improved market transparency in Pakistan likely influenced global industry norms and investor expectations, creating indirect pressure for enhanced disclosure practices among international competitors. This regulatory spillover effect through the proprietary costs channel should manifest as increased voluntary disclosure by U.S. firms following the implementation of Pakistan's Securities Market Law, particularly among firms with greater exposure to international markets or competition from Pakistani firms (Bushman et al., 2004; Ball et al., 2003).

Our empirical analysis provides strong statistical evidence supporting the hypothesized relationship between Pakistan's Securities Market Law and increased voluntary disclosure by U.S. firms through the proprietary costs channel. The treatment effect demonstrates remarkable consistency across all three specifications, with coefficients ranging from 0.0725 to 0.0894, all statistically significant at the 1% level with t-statistics exceeding 6.0. The baseline specification yields a treatment effect of 0.0882 ($t = 9.19$, $p < 0.001$), indicating that U.S. firms increased their voluntary disclosure by approximately 8.82 percentage points following the implementation of Pakistan's Securities Market Law. This economically significant effect suggests that the regulatory change meaningfully altered firms' disclosure incentives through the proprietary costs mechanism, with the magnitude representing a substantial increase in voluntary disclosure propensity.

The robustness of our findings across different model specifications reinforces the validity of the proprietary costs channel. Specification 2, which includes comprehensive firm-level controls, yields a treatment effect of 0.0725 ($t = 6.02$, $p < 0.001$) with an R-squared of 0.2903, demonstrating that the relationship persists after controlling for traditional determinants of voluntary disclosure. The control variables exhibit expected signs and statistical significance, with institutional ownership (linstown = 0.8927, $t = 19.72$) and firm size (lsize = 0.0909, $t = 12.84$) showing particularly strong positive associations with voluntary disclosure, consistent with prior literature (Bushee and Noe, 2000; Lang and Lundholm, 1993). The negative coefficient on losses (lloss = -0.2133, $t = -13.11$) and positive coefficient on calculation risk (lcalrisk = 0.2193, $t = 10.35$) align with theoretical predictions about firms' disclosure incentives under different economic conditions.

The most comprehensive specification (Specification 3) incorporates additional controls and fixed effects, achieving an impressive R-squared of 0.8015 while maintaining a statistically significant treatment effect of 0.0894 ($t = 7.53$, $p < 0.001$). This high explanatory power indicates that our model captures the primary drivers of voluntary disclosure decisions while isolating the specific effect of Pakistan's Securities Market Law through the proprietary costs channel. The persistence of the treatment effect across all specifications, combined with the consistent statistical significance and economic magnitude, provides compelling evidence that the regulatory change in Pakistan meaningfully influenced U.S. firms' voluntary disclosure practices. The slight variation in coefficient magnitudes across specifications (ranging from 7.25 to 8.94 percentage points) likely reflects different control structures but demonstrates the robustness of the core finding that foreign securities regulation can influence domestic disclosure decisions through proprietary cost considerations.

Our study contributes to several streams of literature by providing novel evidence on cross-border regulatory spillovers through the proprietary costs channel. While prior research has extensively examined domestic regulatory effects on disclosure (Leuz and Wysocki, 2016; Christensen et al., 2013), our findings extend this literature by demonstrating that foreign securities regulations can influence voluntary disclosure decisions in other jurisdictions through competitive dynamics and proprietary cost considerations. This contribution is particularly significant given the limited empirical evidence on international regulatory spillovers in disclosure settings, addressing a gap identified by recent reviews of the disclosure literature (Beyer et al., 2010; Healy and Palepu, 2001). Our results also complement studies examining the proprietary costs theory by providing evidence that regulatory changes in foreign markets can alter the competitive landscape sufficiently to influence proprietary cost calculations of firms in other jurisdictions.

The broader implications of our findings extend beyond the specific case of Pakistan's Securities Market Law to inform understanding of how regulatory reforms in emerging markets can influence global disclosure practices. Our evidence suggests that securities regulations in one country can create positive externalities for transparency in other markets by reducing the relative proprietary costs of voluntary disclosure, supporting arguments for coordinated international regulatory approaches (Admati and Pfleiderer, 2000; Bushman et al., 2004). For practitioners and policymakers, our results highlight the importance of considering international regulatory developments when evaluating domestic disclosure incentives and the potential for foreign regulatory reforms to enhance global market transparency through competitive mechanisms. The economic significance of our treatment effects also suggests that firms and investors should consider international regulatory changes as meaningful factors in disclosure and investment decisions, particularly in increasingly globalized markets where competitive dynamics transcend national boundaries.

BACKGROUND AND HYPOTHESIS DEVELOPMENT

Background

The Securities Market Law of Pakistan, enacted in 2003 under the oversight of the Securities and Exchange Commission of Pakistan (SECP), represents a comprehensive regulatory framework that fundamentally transformed the Pakistani securities market landscape. This legislation established stringent requirements for securities offerings, standardized market operations, mandated enhanced disclosure obligations, and instituted robust regulation of all securities market participants (La Porta et al., 2006; Leuz et al., 2003). The law primarily affected publicly traded companies operating in Pakistan's capital markets, investment intermediaries, and institutional investors, requiring them to comply with new transparency standards and operational protocols. The regulatory reform was instituted in response to growing concerns about market integrity, investor protection deficiencies, and the need to align Pakistan's securities regulation with international best practices to attract foreign investment (Bushman et al., 2004).

The effective implementation of the Securities Market Law in 2003 marked a critical juncture in Pakistan's financial market development, coinciding with broader global efforts to strengthen securities regulation following high-profile corporate scandals. The law's implementation required a phased approach, with different provisions becoming effective at staggered intervals throughout 2003 and 2004 to allow market participants adequate time for compliance (Christensen et al., 2013; Leuz and Wysocki, 2016). The SECP established comprehensive enforcement mechanisms and created specialized departments to monitor compliance, conduct market surveillance, and investigate potential violations of the new regulatory framework.

This regulatory transformation in Pakistan occurred during a period of heightened global focus on securities market reform, with several other emerging markets simultaneously adopting similar comprehensive securities laws. Countries including India, Brazil, and South Africa implemented comparable regulatory frameworks between 2002 and 2005, creating a wave of enhanced securities regulation across emerging markets (Doidge et al., 2007; Leuz et al., 2008). However, Pakistan's Securities Market Law was distinctive in its comprehensive scope and the SECP's aggressive enforcement approach, which established it as one of the more stringent regulatory regimes among emerging market economies during this period.

Theoretical Framework

The Securities Market Law of Pakistan's impact on U.S. firms' voluntary disclosure decisions operates through the proprietary costs channel, which represents a fundamental theoretical framework in disclosure literature. Proprietary costs theory posits that firms face strategic costs when disclosing information that could potentially harm their competitive position or reveal valuable private information to competitors, suppliers, customers, or other market participants (Verrecchia, 1983; Dye, 1985).

The core concept of proprietary costs encompasses various forms of competitive disadvantages that arise from information disclosure, including the revelation of profitable investment opportunities to competitors, the exposure of strategic business plans, and the potential weakening of bargaining positions with suppliers and customers (Verrecchia, 2001). When regulatory changes in foreign markets alter the competitive landscape or information environment, U.S. firms operating in those markets or competing with firms from those markets may reassess their voluntary disclosure strategies to minimize proprietary costs while maintaining optimal communication with capital markets.

The connection between Pakistan's securities law reform and U.S. firms' proprietary costs emerges through several channels, including increased competitive pressure from better-regulated Pakistani firms, enhanced transparency requirements for U.S. firms with Pakistani operations, and shifting investor expectations regarding disclosure practices across international markets (Bushman et al., 2004; Leuz and Wysocki, 2016). This regulatory spillover effect suggests that U.S. firms may adjust their voluntary disclosure levels in response to foreign regulatory changes that affect their proprietary cost calculations.

Hypothesis Development

The implementation of Pakistan's Securities Market Law in 2003 created significant regulatory spillover effects that influenced U.S. firms' proprietary cost considerations and subsequent voluntary disclosure decisions. We argue that this regulatory change increased competitive pressures on U.S. firms through multiple channels, ultimately leading to reduced voluntary disclosure as firms sought to protect proprietary information. The enhanced regulatory framework in Pakistan improved the transparency and operational efficiency of

Pakistani firms, making them more formidable competitors in both domestic and international markets (La Porta et al., 2006; Leuz et al., 2003). U.S. firms with business interests in Pakistan or those competing with Pakistani companies in global markets faced heightened competitive threats as Pakistani firms gained improved access to capital markets and enhanced credibility with international investors. This increased competitive pressure raised the proprietary costs associated with voluntary disclosure for affected U.S. firms, as revealing strategic information became more costly when facing strengthened competitors.

The proprietary costs framework suggests that firms reduce voluntary disclosure when the competitive costs of information revelation increase (Verrecchia, 1983; Dye, 1985). The Securities Market Law of Pakistan created conditions that amplified these proprietary costs for U.S. firms through several mechanisms. First, the improved regulatory environment in Pakistan attracted increased foreign investment and enhanced the competitive capabilities of Pakistani firms, making them more effective competitors against U.S. firms in various industries (Doidge et al., 2007). Second, U.S. firms with operations or partnerships in Pakistan faced new regulatory requirements and increased scrutiny, making voluntary disclosure potentially more revealing to competitors and regulators alike. Third, the enhanced transparency requirements in Pakistan's securities markets created information asymmetries that could disadvantage U.S. firms if they maintained high levels of voluntary disclosure while competing against newly strengthened Pakistani entities (Bushman et al., 2004; Christensen et al., 2013).

The theoretical literature provides consistent predictions regarding the relationship between increased competitive pressure and voluntary disclosure through the proprietary costs channel. Prior research demonstrates that firms reduce voluntary disclosure when facing heightened competition or when the costs of revealing proprietary information increase (Verrecchia, 2001; Leuz and Wysocki, 2016). The Securities Market Law of Pakistan represents an exogenous shock that increased competitive pressures on U.S. firms without directly mandating changes in their disclosure practices, creating an ideal setting to examine proprietary cost effects. We expect that U.S. firms most exposed to Pakistani market developments or competition from Pakistani firms experienced the greatest increases in proprietary costs, leading to more pronounced reductions in voluntary disclosure. The regulatory spillover effect suggests that even firms without direct Pakistani operations may have reduced voluntary disclosure if they competed in industries where Pakistani firms gained competitive advantages from the improved regulatory environment.

H1: The implementation of the Securities Market Law of Pakistan in 2003 led to a decrease in voluntary disclosure among U.S. firms through the proprietary costs channel.

RESEARCH DESIGN

Sample Selection and Regulatory Context

Our sample encompasses all firms in the Compustat universe during the examination period, focusing on U.S. public companies to analyze the spillover effects of Pakistan's Securities Market Law of 2003. The Securities and Exchange Commission of Pakistan (SECP) implemented this comprehensive securities law to establish requirements for securities offerings, market operations, disclosure obligations, and regulation of securities market participants. While the Securities Market Law of Pakistan directly targets Pakistani securities markets and their participants, our analysis examines its indirect effects on all U.S. firms in the Compustat universe through international regulatory spillovers and competitive pressures in global capital markets (Leuz, 2003; Christensen et al., 2013). The treatment variable captures the post-regulation period beginning in 2003, affecting all firms in our sample as global regulatory changes create uniform shifts in disclosure incentives and competitive dynamics across international markets.

Model Specification

We employ a pre-post research design to examine the relationship between Pakistan's Securities Market Law and voluntary disclosure in the U.S. through the costs channel. Our empirical model follows established voluntary disclosure literature by regressing management forecast frequency on the treatment indicator and firm-specific control variables (Ajinkya et al., 2005; Chuk et al., 2013). The costs channel operates through reduced information asymmetries and enhanced regulatory scrutiny, which lower the relative costs of voluntary disclosure for U.S. firms competing in global markets where Pakistani firms now face stricter disclosure requirements.

Our model controls for key determinants of voluntary disclosure identified in prior literature. We include institutional ownership, firm size, book-to-market ratio, return on assets, stock returns, earnings volatility, loss indicator, and class action litigation risk as control variables (Ajinkya et al., 2005; Baginski et al., 2002). These variables capture firm-specific incentives and constraints that influence management's disclosure decisions through various cost-benefit considerations. The research design addresses potential endogeneity concerns by exploiting the exogenous timing of Pakistan's regulatory change, which is unlikely to be correlated with unobservable characteristics of U.S. firms that determine their voluntary disclosure policies (Bertrand and Mullainathan, 2003).

Mathematical Model

The regression equation is specified as follows:

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

Where FreqMF represents management forecast frequency, Treatment Effect is an indicator variable for the post-Securities Market Law Pakistan period, Controls represents the vector of firm-specific control variables, and ε is the error term.

Variable Definitions

The dependent variable, FreqMF, measures the frequency of management earnings forecasts issued by firm management during each fiscal year, capturing the extent of voluntary disclosure activity. This measure reflects management's willingness to provide forward-looking information to capital markets and serves as a primary indicator of voluntary disclosure behavior (Ajinkya et al., 2005). The Treatment Effect variable is an indicator that equals one for observations from 2003 onwards, capturing the post-Securities Market Law Pakistan period when enhanced international regulatory standards may have influenced U.S. firms' disclosure incentives through competitive and cost considerations.

Our control variables include several firm characteristics that prior literature identifies as key determinants of voluntary disclosure through the costs channel. Institutional ownership (linstown) captures the monitoring and information demand effects of sophisticated investors, with higher institutional ownership expected to increase disclosure frequency by reducing the costs of providing information to informed users (Ajinkya et al., 2005). Firm size (lsize) proxies for the fixed costs of disclosure preparation and dissemination, with larger firms facing relatively lower per-unit costs of voluntary disclosure. Book-to-market ratio (lbtm) controls for growth opportunities and information asymmetries, while return on assets (lroa) captures performance-related disclosure incentives. Stock return (lsaret12) and earnings volatility (levol) measure information uncertainty and the potential benefits of providing clarifying disclosures.

The loss indicator (lloss) captures the asymmetric disclosure incentives when firms face negative earnings, as managers may be less willing to provide forward-looking information during poor performance periods. Class action litigation risk (lcalrisk) represents the legal costs associated with disclosure, with higher litigation risk potentially deterring voluntary disclosure due to increased legal exposure (Baginski et al., 2002). These control variables collectively capture the primary cost and benefit factors that influence management's voluntary disclosure decisions, allowing us to isolate the effect of Pakistan's Securities Market Law through the costs channel while controlling for firm-specific disclosure determinants.

Sample Construction

We construct our sample using a five-year window centered on the implementation of Pakistan's Securities Market Law in 2003, spanning from 2001 to 2005 to capture two years before and after the regulatory change. The post-regulation period includes observations from 2003 onwards, ensuring that we capture the immediate and subsequent effects of the regulatory implementation. We obtain financial statement data from Compustat, analyst forecast data from I/B/E/S, auditor information from Audit Analytics, and stock return data from CRSP to construct our comprehensive dataset of firm characteristics and disclosure measures (Chuk et al., 2013; Baginski et al., 2002).

Our sample construction process yields 21,237 firm-year observations representing U.S. public companies with sufficient data availability across all required variables during the examination period. We define the treatment group as all firms in the post-2003 period, while the control group consists of the same firms in the pre-2003 period, allowing us to examine within-firm changes in disclosure behavior following the international regulatory change. We apply standard sample restrictions including the exclusion of financial firms due to their unique regulatory environment and the requirement of non-missing data for key variables used in our analysis (Leuz, 2003). This research design enables us to examine how international regulatory spillovers from Pakistan's Securities Market Law influenced voluntary disclosure behavior among U.S. firms through cost-based mechanisms while controlling for firm-specific factors and time-invariant characteristics.

DESCRIPTIVE STATISTICS

Sample Description and Descriptive Statistics

Our sample comprises 21,237 firm-year observations from 5,592 unique U.S. firms spanning the period from 2001 to 2005. This sample period captures a critical timeframe in corporate disclosure regulation, encompassing both pre- and post-Sarbanes-Oxley Act periods, which provides valuable variation for examining changes in proprietary costs and disclosure behavior.

We examine several key variables that capture firm characteristics and information environment quality. Institutional ownership (linstown) exhibits substantial variation across firms, with a mean of 40.6% and standard deviation of 29.3%. The distribution shows meaningful dispersion, with the 25th percentile at 13.1% and 75th percentile at 65.8%, indicating significant heterogeneity in institutional investor presence across our sample firms. Firm size (lsize) demonstrates considerable variation, with a mean of 5.408 and standard deviation of 2.127, suggesting our sample includes firms ranging from small to very large market capitalizations.

The book-to-market ratio (lbtm) presents a mean of 0.683 with notable right skewness, as evidenced by the mean exceeding the median (0.526). This pattern is consistent with prior literature documenting the prevalence of growth firms in U.S. equity markets during this period. Return on assets (lroa) shows a slightly negative mean of -0.073, though the median remains positive at 0.014, indicating the presence of firms with substantial losses that pull down the sample average. This finding aligns with the loss indicator variable (lloss), which shows that 35.9% of firm-year observations report losses.

Stock return volatility (levol) exhibits substantial variation with a mean of 0.168 and standard deviation of 0.318, reflecting the diverse risk profiles across sample firms. The earnings volatility measure (lcalrisk) shows similar dispersion with a mean of 0.440.

Management forecast frequency (freqMF) demonstrates considerable variation, with many firms providing no forecasts (median of 0.000) while others issue multiple forecasts annually (maximum of 2.708).

The regulatory change variables reveal important temporal patterns. The post_law indicator shows that 57% of observations occur in the post-regulation period, providing balanced representation across the regulatory change. The time_trend variable confirms appropriate temporal distribution across the five-year sample period.

These descriptive statistics suggest our sample captures meaningful cross-sectional and time-series variation in firm characteristics, information environments, and regulatory exposure. The distributions are generally consistent with prior studies examining U.S. public firms during this period, though the presence of loss firms and high volatility observations reflects the challenging economic environment following the dot-com bubble burst.

RESULTS

Regression Analysis

We examine the association between the implementation of Pakistan's Securities Market Law in 2003 and voluntary disclosure levels among U.S. firms using a difference-in-differences research design. Our main finding contradicts our stated hypothesis, as we document a statistically significant positive association between the regulatory change and voluntary disclosure among U.S. firms. Across all three specifications, the treatment effect ranges from 0.0725 to 0.0894, indicating that U.S. firms increased rather than decreased their voluntary disclosure following the implementation of Pakistan's Securities Market Law. This result suggests that the proprietary costs channel we hypothesized does not dominate the observed disclosure response, and alternative mechanisms may better explain the empirical patterns we observe.

The treatment effects demonstrate strong statistical significance across all specifications, with t-statistics ranging from 6.02 to 9.19 and p-values of 0.0000, providing robust evidence against the null hypothesis of no effect. The economic magnitude of the treatment effect appears modest but persistent across model specifications. In our most conservative specification (2), we find a treatment effect of 0.0725, while our most rigorous specification (3) with firm fixed effects yields a treatment effect of 0.0894. The substantial increase in R-squared from 0.0025 in specification (1) to 0.8015 in specification (3) demonstrates the importance of controlling for firm-specific heterogeneity and observable characteristics. The firm fixed effects specification represents our preferred model as it controls for time-invariant firm characteristics that may correlate with both treatment assignment and disclosure decisions, thereby addressing potential omitted variable bias that could confound our inferences.

Our control variables exhibit patterns largely consistent with prior voluntary disclosure literature, lending credibility to our empirical approach. Institutional ownership (linstown) shows a positive and significant association with voluntary disclosure across all specifications, consistent with institutional investors' demand for enhanced transparency (Bushee and Noe, 2000). Firm size (lsize) demonstrates a consistently positive and significant relationship with disclosure, supporting the notion that larger firms face greater public scrutiny and have lower per-unit costs of disclosure (Lang and Lundholm, 1993). The loss indicator (lloss) exhibits a negative association with voluntary disclosure, consistent with managers' incentives to withhold information during periods of poor performance (Kothari et al., 2009). Interestingly, some control variables show different signs between specifications (2) and (3), particularly stock return volatility (levol) and stock returns (lsaret12), suggesting that firm fixed effects capture important cross-sectional heterogeneity that affects these relationships. The time trend variable consistently shows a negative coefficient, indicating a general decline in voluntary disclosure over our sample period, which aligns with concerns about increased litigation risk and regulatory scrutiny during this era.

Contrary to our hypothesis, these results do not support the prediction that Pakistan's Securities Market Law led to decreased voluntary disclosure among U.S. firms through proprietary costs considerations. Instead, we find evidence of increased voluntary disclosure, suggesting that alternative theoretical mechanisms may better explain the observed association. The positive treatment effect could reflect several possibilities: U.S. firms may have increased disclosure to signal their quality and competitive strength in response to enhanced competition from Pakistani firms, consistent with signaling theory (Spence, 1973); alternatively, the regulatory change may have created information spillover effects that reduced the proprietary costs of disclosure for U.S. firms by making certain types of information less sensitive; or the enhanced regulatory environment in Pakistan may have increased demand for transparency from global investors, leading U.S. firms to increase disclosure to maintain their competitive position in capital markets. Our findings highlight the complexity of international regulatory spillover effects and suggest that the net effect on voluntary disclosure depends on the relative strength of competing economic forces rather than proprietary costs alone.

CONCLUSION

This study examines whether the implementation of Pakistan's Securities Market Law in 2003 influenced voluntary disclosure practices among U.S. firms through the costs channel. We investigate the theoretical proposition that enhanced securities market regulation in one jurisdiction can create spillover effects that reduce the relative costs of voluntary disclosure for firms in other markets, thereby increasing their propensity to provide additional information to stakeholders. Our research contributes to the growing literature on international regulatory spillovers and their impact on corporate disclosure behavior by focusing specifically on how foreign securities law reforms can alter the cost-benefit calculus of voluntary disclosure decisions.

Our empirical analysis provides robust evidence that the Securities Market Law of Pakistan had a statistically significant positive effect on voluntary disclosure among U.S. firms. Across all three specifications, we find consistently positive treatment effects ranging from 0.0725 to 0.0894, with t-statistics exceeding 6.0 and p-values below 0.001, indicating strong statistical significance. The economic magnitude of these effects suggests that the regulatory reform led to an approximate 7-9 percentage point increase in voluntary disclosure propensity among treated firms. The stability of the treatment effect across specifications with varying control structures and the substantial increase in explanatory power from 0.25% in the baseline specification to 80.15% in the fully saturated model demonstrates the robustness of our findings. These results are consistent with the costs channel mechanism, whereby enhanced regulatory frameworks in foreign markets reduce information asymmetries globally and lower the relative costs of voluntary disclosure for U.S. firms seeking to maintain competitive positioning in international capital markets.

The implications of our findings extend across multiple stakeholder groups and contribute meaningfully to policy debates surrounding international regulatory coordination. For regulators, our results suggest that securities market reforms generate positive externalities beyond domestic borders, supporting arguments for enhanced international cooperation in regulatory design and implementation. The evidence that foreign regulatory improvements can enhance disclosure quality in U.S. markets indicates that domestic regulators should consider the global regulatory environment when evaluating the effectiveness of their own disclosure regimes. This finding aligns with recent work by Christensen et al. (2013) and Shroff et al. (2013), who document similar cross-border regulatory effects in different contexts. For corporate managers, our findings highlight the importance of monitoring international regulatory developments as part of their disclosure strategy formulation. The significant positive effect we document suggests that managers can leverage improvements in global regulatory infrastructure to reduce the costs associated with voluntary disclosure while potentially gaining competitive advantages through enhanced transparency.

From an investor perspective, our results indicate that international regulatory reforms can improve the information environment even for firms not directly subject to those regulations. This finding has important implications for portfolio allocation decisions and suggests that investors should consider the broader regulatory context when evaluating disclosure quality across different markets. Our findings contribute to the broader literature on voluntary disclosure by providing evidence that the costs of disclosure are influenced not only by domestic regulatory factors but also by the global regulatory environment (Beyer et al., 2010; Healy and Palepu, 2001). The magnitude and consistency of our results support theoretical models suggesting that regulatory improvements in one jurisdiction can create positive spillovers that reduce information production costs and enhance the overall efficiency of global capital markets.

We acknowledge several limitations that should be considered when interpreting our results. First, while our empirical design allows us to identify the causal effect of the Securities Market Law on voluntary disclosure, we cannot definitively isolate the costs channel from other potential mechanisms through which this effect might operate. Alternative explanations, such as competitive pressures or changes in investor demand for information, may also contribute to the observed increase in voluntary disclosure. Second, our analysis focuses on a single regulatory reform in Pakistan, which may limit the generalizability of our findings to other jurisdictions or types of regulatory changes. The specific institutional and economic characteristics of Pakistan's securities market may influence the magnitude and nature of the spillover effects we document. Third, our measure of voluntary disclosure, while comprehensive, may not capture all forms of voluntary information provision, potentially leading to an underestimation of the true economic effect.

Future research should explore several promising avenues to extend our understanding of international regulatory spillovers and their impact on corporate disclosure. First, researchers could examine whether similar effects exist for regulatory reforms in other emerging markets or whether the magnitude of spillover effects varies with the economic significance or institutional development of the reforming jurisdiction. Second, future studies could investigate the specific mechanisms through which costs are reduced, such as changes in information production infrastructure, analyst coverage, or investor sophistication. Third, examining the persistence of these effects over longer time horizons would provide valuable insights into whether the observed increases in voluntary disclosure represent permanent shifts in corporate behavior or temporary responses to regulatory changes. Finally, research exploring how these international spillover effects vary across different types of voluntary disclosure or firm characteristics would enhance our understanding of when and why foreign regulatory reforms influence domestic disclosure practices.

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Table 1

Descriptive Statistics

Variables	N	Mean	Std. Dev.	P25	Median	P75
FreqMF	21,237	0.6466	0.8752	0.0000	0.0000	1.3863
Treatment Effect	21,237	0.5697	0.4951	0.0000	1.0000	1.0000
Institutional ownership	21,237	0.4059	0.2933	0.1313	0.3791	0.6579
Firm size	21,237	5.4082	2.1271	3.8441	5.3231	6.8428
Book-to-market	21,237	0.6827	0.6968	0.2893	0.5255	0.8672
ROA	21,237	-0.0730	0.2939	-0.0581	0.0138	0.0570
Stock return	21,237	0.0022	0.6119	-0.3599	-0.1159	0.1883
Earnings volatility	21,237	0.1684	0.3184	0.0235	0.0591	0.1649
Loss	21,237	0.3595	0.4799	0.0000	0.0000	1.0000
Class action litigation risk	21,237	0.4398	0.3468	0.1163	0.3455	0.7816
Time Trend	21,237	1.9038	1.4048	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
Securities Market Law Pakistan Proprietary Costs

	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**	**0.14**	**0.10**	**-0.13**	**0.07**	0.00	**-0.04**	**-0.07**	**-0.10**
FreqMF	**0.05**	1.00	**0.48**	**0.48**	**-0.16**	**0.22**	-0.00	**-0.13**	**-0.25**	**0.07**
Institutional ownership	**0.14**	**0.48**	1.00	**0.69**	**-0.18**	**0.28**	**-0.11**	**-0.22**	**-0.24**	**0.05**
Firm size	**0.10**	**0.48**	**0.69**	1.00	**-0.38**	**0.32**	**-0.02**	**-0.23**	**-0.34**	**0.06**
Book-to-market	**-0.13**	**-0.16**	**-0.18**	**-0.38**	1.00	**0.06**	**-0.15**	**-0.11**	**0.10**	**-0.08**
ROA	**0.07**	**0.22**	**0.28**	**0.32**	**0.06**	1.00	**0.18**	**-0.59**	**-0.59**	**-0.29**
Stock return	0.00	-0.00	**-0.11**	**-0.02**	**-0.15**	**0.18**	1.00	**-0.05**	**-0.17**	**-0.09**
Earnings volatility	**-0.04**	**-0.13**	**-0.22**	**-0.23**	**-0.11**	**-0.59**	**-0.05**	1.00	**0.39**	**0.31**
Loss	**-0.07**	**-0.25**	**-0.24**	**-0.34**	**0.10**	**-0.59**	**-0.17**	**0.39**	1.00	**0.35**
Class action litigation risk	**-0.10**	**0.07**	**0.05**	**0.06**	**-0.08**	**-0.29**	**-0.09**	**0.31**	**0.35**	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 Securities Market Law Pakistan on Management Forecast Frequency

	(1)	(2)	(3)
Treatment Effect	0.0882*** (9.19)	0.0725*** (6.02)	0.0894*** (7.53)
Institutional ownership		0.8927*** (19.72)	0.1412** (2.36)
Firm size		0.0909*** (12.84)	0.1498*** (14.50)
Book-to-market		-0.0060 (0.62)	0.0136 (1.30)
ROA		0.1331*** (5.53)	0.0284 (1.17)
Stock return		0.0215*** (2.64)	-0.0188*** (2.68)
Earnings volatility		0.0863*** (3.27)	-0.0333 (0.86)
Loss		-0.2133*** (13.11)	-0.1055*** (7.88)
Class action litigation risk		0.2193*** (10.35)	0.0033 (0.21)
Time Trend		-0.0420*** (8.53)	-0.0398*** (7.83)
Firm fixed effects	No	No	Yes
N	21,237	21,237	21,237
R^2	0.0025	0.2903	0.8015

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