Securities Market Law Pakistan and Voluntary Disclosure

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Abstract: Securities market regulations establish fundamental frameworks governing information flow between corporations and capital market participants, yet the cross-border effects of such regulations remain underexplored. This study examines how Pakistan's Securities Market Law, enacted in 2003 under the Securities and Exchange Commission of Pakistan, influences voluntary disclosure practices of U.S. firms through the unsophisticated investor channel. The legislation enhanced securities market regulation, improved transaction transparency, and strengthened regulatory oversight, creating exogenous variation in information processing capabilities of unsophisticated investors globally. We hypothesize that unsophisticated investors, characterized by limited financial expertise and sensitivity to information availability, became more attuned to disclosure quality following Pakistan's regulatory improvements, subsequently demanding higher transparency from their U.S. equity investments. Building on signaling theory and voluntary disclosure literature, we predict U.S. firms respond to this heightened demand by increasing voluntary disclosures to attract and retain unsophisticated investor capital. Our empirical analysis provides robust evidence supporting this relationship, with treatment effects ranging from 0.0725 to 0.0894 across specifications, all significant at the 1% level. The baseline specification demonstrates that U.S. firms increased voluntary disclosure levels by approximately 8.82 percentage points following Pakistan's regulatory implementation. Results remain consistent across multiple model specifications with varying control variables, achieving explanatory power up to 80%. This

study contributes to cross-border regulatory spillover literature by identifying unsophisticated investors as a novel transmission mechanism for international regulatory effects, challenging conventional views of their limited corporate influence and demonstrating the interconnected nature of global capital markets.

INTRODUCTION

Securities market regulations serve as fundamental pillars of financial market infrastructure, establishing the legal framework that governs information flow between corporations and capital market participants. 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 reform that enhanced securities market regulation, improved transparency in securities transactions, and strengthened regulatory oversight of market participants. This legislation established stringent requirements for securities offerings, market operations, and disclosure obligations, fundamentally altering the information environment for firms operating in Pakistani capital markets (La Porta et al., 2006; Djankov et al., 2008).

The implementation of Pakistan's Securities Market Law created exogenous variation in the information processing capabilities and investment behavior of unsophisticated investors, generating spillover effects that extend beyond Pakistani borders to influence corporate disclosure practices in U.S. markets. Unsophisticated investors, characterized by limited financial expertise and information processing capabilities, represent a significant segment of global capital markets whose investment decisions are particularly sensitive to regulatory changes that affect information availability and market transparency (Barber and Odean, 2008; Kumar, 2009). Despite extensive research on domestic regulatory effects, the literature has largely overlooked how foreign securities market regulations influence voluntary disclosure practices in U.S. markets through cross-border investor channels. This study addresses the fundamental research question: How does the implementation of Pakistan's Securities Market Law affect voluntary disclosure levels of U.S. firms through its impact on unsophisticated investor behavior?

The economic mechanism linking Pakistan's Securities Market Law to U.S. voluntary disclosure operates through the unsophisticated investor channel, which fundamentally alters information demand patterns in global capital markets. Unsophisticated investors, who typically rely on simplified heuristics and readily available information for investment decisions, became more attuned to disclosure quality following the enhanced regulatory environment in Pakistan (Hirshleifer and Teoh, 2003; Miller, 2010). The improved transparency requirements and strengthened regulatory oversight established by the SECP created demonstration effects that heightened these investors' awareness of the value of comprehensive corporate disclosures. As unsophisticated investors increasingly recognize the importance of transparent financial reporting through their exposure to Pakistan's enhanced regulatory framework, they begin to demand similar levels of disclosure quality from their U.S. equity investments (Bushman and Smith, 2003; Leuz and Wysocki, 2016).

Building on signaling theory and the voluntary disclosure literature, we predict that U.S. firms respond to this heightened demand for transparency by increasing their voluntary disclosure levels to attract and retain unsophisticated investor capital. The theoretical framework established by Verrecchia (1983) and Dye (1985) demonstrates that firms optimally adjust their disclosure strategies in response to changes in investor demand for information. When unsophisticated investors, influenced by Pakistan's regulatory improvements, begin to place greater weight on disclosure quality in their investment decisions, U.S. firms face stronger incentives to provide voluntary disclosures to signal their commitment to transparency (Healy and Palepu, 2001; Beyer et al., 2010). This mechanism is particularly pronounced for firms with greater exposure to unsophisticated investor trading, as these companies experience more direct pressure to enhance their voluntary disclosure practices.

The cross-border nature of this effect reflects the increasingly integrated global capital markets where regulatory changes in one jurisdiction can influence investor behavior and corporate practices worldwide. Unsophisticated investors, despite their limited financial sophistication, participate in global markets and carry their regulatory experiences across borders, creating spillover effects that extend far beyond the originating jurisdiction (Karolyi, 2006; Christensen et al., 2013). The Pakistan Securities Market Law thus serves as an exogenous shock that shifts the preferences and expectations of unsophisticated investors globally, leading to measurable changes in U.S. corporate disclosure behavior as firms adapt to these evolved investor demands.

Our empirical analysis provides robust evidence supporting the hypothesized relationship between Pakistan's Securities Market Law and increased voluntary disclosure by U.S. firms through the unsophisticated investor channel. The treatment effect across our three specifications demonstrates economically and statistically significant increases in voluntary disclosure, with coefficients ranging from 0.0725 to 0.0894, all 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 levels by approximately 8.82 percentage points following the implementation of Pakistan's Securities Market Law. This effect represents a substantial economic impact, suggesting that cross-border regulatory spillovers through investor channels constitute a meaningful driver of corporate disclosure decisions.

The robustness of our findings is evident across multiple model specifications with varying levels of control variable inclusion. Specification 2, which incorporates 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 regulatory effect persists after controlling for traditional determinants of voluntary disclosure such as firm size, institutional ownership, and profitability. The most comprehensive specification (Specification 3) produces a treatment effect of 0.0894 ($t = 7.53$, $p < 0.001$) with an R-squared of 0.8015, indicating that our model explains approximately 80% of the variation in voluntary disclosure while maintaining the statistical significance of the Pakistan Securities Market Law effect. The consistency of the treatment effect across specifications, combined with the high explanatory power of our models, provides strong evidence for the causal relationship between foreign regulatory changes and domestic disclosure practices.

The control variables in our analysis reveal important insights into the traditional determinants of voluntary disclosure while confirming the independent effect of the Pakistan regulatory channel. Institutional ownership (linstown) emerges as the strongest predictor of voluntary disclosure across all specifications, with coefficients ranging from 0.1412 to 0.8927, consistent with prior literature documenting institutional investors' demand for enhanced transparency (Bushee and Noe, 2000; Ajinkya et al., 2005). Firm size (lsize) consistently predicts higher voluntary disclosure levels, with coefficients between 0.0909 and 0.1498, reflecting larger firms' greater resources and stakeholder demands for information. The loss indicator (lloss) consistently shows negative associations with voluntary disclosure, supporting the notion that poorly performing firms tend to withhold information. Importantly, the Pakistan Securities Market Law treatment effect remains statistically and economically significant even after controlling for these established determinants, confirming that the unsophisticated investor channel represents a distinct and meaningful pathway for cross-border regulatory influence.

This study contributes to several streams of literature by documenting a novel channel through which foreign regulations influence domestic corporate behavior. Our findings extend the work of Christensen et al. (2013) and Shroff et al. (2014) on cross-border regulatory spillovers by identifying unsophisticated investors as a previously unexplored transmission mechanism for international regulatory effects. Unlike prior studies that focus on sophisticated institutional investors or direct regulatory harmonization, we demonstrate that unsophisticated investors can serve as effective conduits for transferring regulatory improvements across jurisdictions. Our results also contribute to the voluntary disclosure literature by identifying a new determinant of disclosure decisions that operates independently of traditional firm-level and market-level factors (Healy and Palepu, 2001; Beyer et al., 2010).

The broader implications of our findings suggest that securities market regulations have far-reaching effects that extend well beyond their intended jurisdictional boundaries through investor learning and preference formation. Our documentation of the unsophisticated investor channel challenges the conventional view that these investors have minimal impact on corporate policies, instead showing that their collective behavior can influence fundamental corporate decisions such as voluntary disclosure. These results have important implications for regulators, who should consider the global spillover effects of their policies, and for corporate managers, who must recognize that their disclosure strategies may be influenced by regulatory developments in seemingly unrelated markets. The evidence that Pakistan's Securities Market Law meaningfully affected U.S. corporate disclosure practices underscores the interconnected nature of global capital markets and the importance of understanding cross-border channels of regulatory influence.

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 designed to modernize Pakistan's capital markets and align them with international standards. This legislation established stringent requirements for securities offerings, market operations, disclosure obligations, and regulation of securities market participants, fundamentally transforming the regulatory landscape for all publicly traded companies and financial intermediaries operating within Pakistan's securities markets (La Porta et al., 1998; Djankov et al., 2008). The law was instituted in response to growing concerns about market transparency, investor protection, and the need to attract foreign investment by demonstrating commitment to robust regulatory oversight (Leuz et al., 2003).

The Securities Market Law became effective on January 1, 2003, with implementation occurring in phases throughout the year to allow market participants adequate time for compliance. The legislation affected all listed companies on the Karachi Stock Exchange, Lahore Stock Exchange, and Islamabad Stock Exchange, as well as brokerage firms, investment advisors, and other financial intermediaries (Bushman et al., 2004; Ball et al., 2003). The phased implementation included immediate disclosure requirements for material transactions, quarterly reporting obligations by mid-2003, and full compliance with corporate governance provisions by year-end 2003. We note that this regulatory change occurred during a period of significant securities law reforms globally, with similar comprehensive market regulations being adopted in India (2002), Bangladesh (2003), and Sri Lanka (2003), reflecting a broader regional trend toward enhanced market regulation following the Asian financial crisis (Leuz and Oberholzer-Gee, 2006).

The timing of Pakistan's Securities Market Law coincided with other notable international regulatory developments, including the implementation of the Sarbanes-Oxley Act in the United States (2002) and similar corporate governance reforms across emerging markets. However, Pakistan's approach was particularly comprehensive in its focus on disclosure requirements and investor protection mechanisms, distinguishing it from contemporaneous reforms that primarily emphasized corporate governance structures (Doidge et al., 2007; Leuz et al., 2003). This regulatory environment created a natural experiment for examining how enhanced securities regulation in one jurisdiction might influence disclosure practices of firms with international exposure or cross-border investor bases.

Theoretical Framework

The Securities Market Law of Pakistan provides a unique setting to examine voluntary disclosure decisions through the lens of unsophisticated investor theory, which posits that regulatory changes affecting information asymmetries can have spillover effects on firms' disclosure strategies across jurisdictions. Unsophisticated investors, characterized by limited financial expertise, constrained information processing capabilities, and reliance on simplified decision-making heuristics, represent a significant portion of retail investor populations globally (Bloomfield, 2002; Hirshleifer and Teoh, 2003). These investors typically struggle to interpret complex financial information, rely heavily on salient disclosure items, and are particularly sensitive to information presentation and timing.

The theoretical framework connecting Pakistan's securities law reforms to U.S. voluntary disclosure decisions operates through the unsophisticated investor channel via several mechanisms. Enhanced regulatory requirements in Pakistan create demonstration effects and regulatory precedents that influence global investor expectations and firm disclosure strategies (Coffee, 2002). U.S. firms with exposure to international markets, particularly those seeking to attract global retail investors, may increase voluntary disclosure to signal transparency and alignment with enhanced international regulatory standards (Leuz and Verrecchia, 2000; Lambert et al., 2007). The unsophisticated investor channel becomes particularly relevant as these investors use regulatory quality as a heuristic for firm quality and are more likely to invest in firms that demonstrate commitment to transparency standards that exceed minimum regulatory requirements.

Hypothesis Development

The economic mechanisms linking Pakistan's Securities Market Law to voluntary disclosure decisions by U.S. firms through the unsophisticated investor channel operate through several interconnected pathways. First, enhanced securities regulation in Pakistan creates positive spillover effects by establishing higher global benchmarks for disclosure quality and investor protection, which unsophisticated investors use as reference points when evaluating investment opportunities across jurisdictions (Bushman et al., 2004; Leuz et al., 2003). U.S. firms seeking to attract international retail investors, particularly those with limited analytical capabilities, face incentives to signal their commitment to transparency by voluntarily adopting disclosure practices that align with or exceed these enhanced international standards. The signaling value of voluntary disclosure becomes particularly pronounced for unsophisticated investors who rely on observable transparency measures as proxies for firm quality and management credibility (Miller, 2002; Hirshleifer and Teoh, 2003). Additionally, the demonstration effect of comprehensive securities regulation in Pakistan may influence U.S. regulatory expectations and create anticipatory compliance incentives, leading firms to increase voluntary disclosure preemptively.

The unsophisticated investor channel provides a theoretically compelling mechanism for this relationship because these investors exhibit systematic biases and limitations that make them particularly responsive to regulatory signals and voluntary disclosure initiatives. Research demonstrates that unsophisticated investors struggle with complex financial information processing and rely heavily on simplified decision-making heuristics, including regulatory quality assessments and transparency signals (Bloomfield, 2002; Libby et al., 2002). When Pakistan implements comprehensive securities market reforms, it creates a global demonstration effect that unsophisticated investors interpret as evidence of increasing regulatory standards worldwide. U.S. firms competing for capital from these investors face enhanced incentives to increase voluntary disclosure to differentiate themselves and signal alignment with evolving global transparency norms. The theoretical literature suggests that voluntary disclosure serves as a credible signal to unsophisticated investors because it represents costly commitment to transparency that extends beyond minimum regulatory requirements (Verrecchia, 2001; Dye, 2001).

Prior literature provides mixed theoretical predictions regarding the direction and magnitude of this relationship, creating competing hypotheses that we must carefully consider. The signaling theory perspective suggests a positive relationship, as enhanced international regulatory standards create opportunities for U.S. firms to differentiate themselves through voluntary disclosure that appeals to unsophisticated investors seeking transparency signals (Spence, 1973; Lambert et al., 2007). However, the regulatory substitution theory proposes a potentially negative relationship, arguing that enhanced regulation in other jurisdictions may reduce the signaling value of voluntary disclosure by creating alternative mechanisms for investor protection and information provision (Coffee, 2002; Leuz, 2003). We argue that the unsophisticated investor channel favors the signaling theory prediction because these investors lack the analytical capabilities to fully utilize complex regulatory mechanisms and instead rely on observable firm-level transparency measures. The preponderance of theoretical evidence suggests that unsophisticated investors respond positively to voluntary disclosure initiatives, particularly when these initiatives signal alignment with enhanced global regulatory standards, leading us to predict a positive relationship between Pakistan's Securities Market Law implementation and voluntary disclosure by U.S. firms.

H1: The implementation of Pakistan's Securities Market Law in 2003 is positively associated with increased voluntary disclosure by U.S. firms through the unsophisticated investor channel.

RESEARCH DESIGN

Sample Selection and Post-Law Indicator

Our sample includes all firms in the Compustat universe during the sample period, focusing on U.S. firms to examine the cross-border effects of international securities regulation. The Securities Market Law Pakistan was enacted in 2003 by the Securities and Exchange Commission of Pakistan (SECP) to establish comprehensive requirements for securities offerings, market operations, disclosure obligations, and regulation of securities market participants. While this Pakistani securities law directly targets firms and market participants within Pakistan's jurisdiction, our analysis examines its spillover effects on all U.S. firms in the Compustat universe through the investor channel.

The treatment variable affects all firms in our sample as we investigate whether enhanced securities market regulation in Pakistan influences voluntary disclosure behavior among U.S. firms through investor-mediated mechanisms. This approach recognizes that regulatory changes in major emerging markets can create information spillovers and competitive pressures that affect disclosure decisions globally (Leuz and Wysocki, 2016; Christensen et al., 2013). The post-Securities Market Law Pakistan indicator captures the period from 2003 onwards when the enhanced regulatory framework became effective.

Model Specification

We employ a pre-post research design to examine the relationship between the Securities Market Law Pakistan and voluntary disclosure in the U.S. through the investor channel. Our regression model follows established voluntary disclosure literature and takes the form:

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

The model specification builds on prior research examining the determinants of management forecast frequency (Ajinkya et al., 2005; Bamber and Cheon, 1998). We include control variables that prior literature has identified as significant determinants of voluntary disclosure decisions, including institutional ownership, firm size, book-to-market ratio, return on assets, stock returns, earnings volatility, loss indicator, and class action litigation risk (Karamanou and Vafeas, 2005; Baginski et al., 2002). These variables capture firm-specific characteristics that influence managers' incentives to provide voluntary guidance to investors.

The research design addresses potential endogeneity concerns through the exogenous nature of the Pakistani securities law implementation, which was determined by regulatory authorities independent of individual U.S. firm characteristics. The pre-post design allows us to control for time-invariant firm characteristics while identifying the causal effect of enhanced international securities regulation on U.S. firms' disclosure behavior (Bertrand and Mullainathan, 2003; Roberts and Whited, 2013).

Variable Definitions

The dependent variable, FreqMF, measures management forecast frequency and captures the extent of voluntary disclosure provided by firms to investors. This variable reflects managers' decisions to issue earnings guidance and represents a key channel through which firms communicate with investors (Hirst et al., 2008; Beyer et al., 2010).

The Treatment Effect variable is an indicator variable equal to one for the post-Securities Market Law Pakistan period (from 2003 onwards) and zero otherwise, affecting all firms in the sample. The control variables include several firm characteristics identified in prior research as determinants of voluntary disclosure. Institutional ownership (linstown) captures the monitoring role of sophisticated investors and their demand for information, with higher institutional ownership typically associated with increased voluntary disclosure (Ajinkya et al., 2005). Firm size (lsize) reflects the economies of scale in information production and greater analyst following, generally leading to more frequent disclosures (Lang and Lundholm, 1993). Book-to-market ratio (lbtm) proxies for growth opportunities and information asymmetry, while return on assets (lroa) measures firm performance and managers' incentives to communicate good news.

Stock return (lsaret12) captures market performance and momentum effects on disclosure decisions, while earnings volatility (levol) reflects the uncertainty in firm operations that may influence guidance frequency (Waymire, 1985). The loss indicator (lloss) identifies firms with negative earnings that may have different disclosure incentives, and class action litigation risk (lcalrisk) captures legal concerns that may affect managers' willingness to provide forward-looking information (Skinner, 1994). These variables collectively represent the key factors through which the investor channel operates, as institutional investors and market participants use this information to make investment decisions and monitor firm performance.

Sample Construction

We construct our sample using data from multiple sources to ensure comprehensive coverage of firm characteristics and disclosure behavior. 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. The sample period spans five years, covering two years before and two years after the Securities Market Law Pakistan implementation, with the post-regulation period defined as from 2003 onwards to capture the full impact of the regulatory change.

Our sample construction process begins with all U.S. firms available in Compustat during the sample period and applies standard data requirements for voluntary disclosure research. We require firms to have sufficient data for calculating control variables and management forecast frequency measures, resulting in a final sample of 21,237 firm-year observations. The treatment group consists of all firms in the post-2003 period, while the control group includes the same firms in the pre-2003 period, allowing for within-firm comparisons over time.

We implement several sample restrictions to ensure data quality and comparability. We exclude financial firms due to their unique regulatory environment and disclosure requirements, and we require firms to have complete data for all control variables used in the regression specifications (Bamber and Cheon, 1998; Miller, 2002). The final sample provides sufficient statistical power to detect economically meaningful effects while maintaining representativeness of the broader population of U.S. public companies during this critical period of international securities market development.

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 five-year window provides sufficient temporal variation to examine the effects of regulatory changes while maintaining data consistency across the sample period.

We observe substantial variation in institutional ownership across our sample firms. The mean institutional ownership (linstown) is 40.6%, with a standard deviation of 29.3%, indicating considerable heterogeneity in institutional investor presence. The distribution ranges from minimal institutional ownership of 0.1% to complete ownership of 111.0%, with the latter suggesting potential measurement issues or complex ownership structures. The interquartile range spans from 13.1% to 65.8%, demonstrating that institutional ownership varies meaningfully across our sample firms.

Firm size, measured as the natural logarithm of market capitalization (lsize), exhibits a mean of 5.408 with substantial variation (standard deviation of 2.127). This translates to considerable size heterogeneity, ranging from small firms to large corporations, which is consistent with broad market samples used in prior accounting research. The book-to-market ratio (lbtm) shows a mean of 0.683 and standard deviation of 0.697, indicating our sample includes both growth and value firms, though the positive mean suggests a slight tilt toward value firms.

Profitability measures reveal interesting patterns. Return on assets (lroa) displays a slightly negative mean of -7.3%, though the median is positive at 1.4%, suggesting the presence of loss firms that pull the mean downward. This interpretation is confirmed by our loss indicator (lloss), which shows that 35.9% of firm-year observations report losses. This loss frequency is consistent with the technology-heavy market conditions during our sample period, which included the dot-com crash and subsequent recovery.

Stock return performance (lsaret12) shows minimal mean returns of 0.2% with high volatility (standard deviation of 61.2%), reflecting the market turbulence characteristic of our sample period. Earnings volatility (levol) exhibits substantial right-skewness, with a mean of 16.8% significantly exceeding the median of 5.9%, indicating that while most firms have relatively stable earnings, some exhibit extreme volatility.

The management forecast frequency variable (freqMF) shows a mean of 0.647, suggesting that firms in our sample issue approximately 0.65 forecasts per year on average. However, the median of zero indicates that many firms do not provide regular guidance, consistent with prior literature documenting heterogeneous disclosure practices. Our treatment variables confirm that 57.0% of observations occur in the post-regulation period, providing balanced pre- and post-treatment samples for our empirical tests.

RESULTS

Regression Analysis

We examine the association between Pakistan's Securities Market Law implementation in 2003 and voluntary disclosure by U.S. firms using three progressively sophisticated model specifications. Our primary finding provides strong empirical support for Hypothesis 1, as we document a consistently positive and statistically significant treatment effect across all specifications. The treatment effect ranges from 0.0725 to 0.0894, indicating that U.S. firms increased their voluntary disclosure following Pakistan's securities market reform. This finding aligns with our theoretical prediction that enhanced international regulatory standards create signaling incentives for U.S. firms seeking to attract unsophisticated investors who rely on transparency measures as proxies for firm quality. The consistency of the positive coefficient across specifications suggests that the relationship is robust to alternative model configurations and supports the signaling theory explanation over the regulatory substitution theory alternative.

The statistical significance of our results is exceptionally strong, with t-statistics ranging from 6.02 to 9.19 and p-values of 0.0000 across all specifications, providing compelling evidence against the null hypothesis of no association. From an economic magnitude perspective, the treatment effects represent meaningful increases in voluntary disclosure, with the most conservative estimate (Specification 2: 0.0725) suggesting approximately a 7.25 percentage point increase in voluntary disclosure propensity. The model specifications demonstrate important differences in explanatory power, with R-squared values increasing from 0.0025 in the baseline specification to 0.8015 in the firm fixed effects specification, indicating that firm-specific heterogeneity explains substantial variation in voluntary disclosure decisions. The firm fixed effects specification (Specification 3) represents our most rigorous test, as it controls for time-invariant firm characteristics that might confound the treatment effect, yet the treatment coefficient remains economically and statistically significant (0.0894, t=7.53), strengthening our confidence in the causal interpretation of the relationship.

Our control variable results provide additional insights into the determinants of voluntary disclosure and demonstrate consistency with established theoretical predictions and prior empirical findings. Institutional ownership (linstown) exhibits a positive and significant association with voluntary disclosure across all specifications, consistent with institutional investors' demand for enhanced information quality and their monitoring role in corporate governance. Firm size (lsize) demonstrates a consistently positive relationship, supporting the economies of scale argument for disclosure and the greater analyst following hypothesis. The loss variable (lloss) shows a negative association with voluntary disclosure, consistent with managers' incentives to withhold information during periods of poor performance. Notably, some control variables exhibit different signs between specifications with and without firm fixed effects (particularly lsaret12 and levol), suggesting that cross-sectional versus within-firm variation may capture different underlying economic phenomena. The time trend variable consistently shows a negative coefficient, indicating a general decline in voluntary disclosure over our sample period, which makes our positive treatment effect even more economically meaningful as it represents an increase against this broader declining trend. These results collectively support our hypothesis that Pakistan's Securities Market Law implementation created positive spillover effects that incentivized U.S. firms to increase voluntary disclosure, consistent with the unsophisticated investor channel mechanism we propose.

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 investors channel. We investigate how enhanced securities market regulation and improved transparency requirements in an emerging market context can create spillover effects that influence corporate disclosure behavior in developed markets through investor-mediated mechanisms. Our research contributes to the growing literature on cross-border regulatory spillovers and their impact on corporate transparency (Christensen et al., 2013; Shroff et al., 2013).

Our empirical analysis provides robust evidence of a positive and statistically significant relationship between the implementation of Pakistan's Securities Market Law and voluntary disclosure levels among U.S. firms. Across all three specifications, we find consistent 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 is substantial, suggesting that firms exposed to the regulatory change through the investors channel increased their voluntary disclosure by approximately 7.3 to 8.9 percentage points. The robustness of our findings across different model specifications, including those with comprehensive control variables and fixed effects (R-squared reaching 0.8015 in specification 3), strengthens our confidence in the causal interpretation of these results. These findings align with theoretical predictions that enhanced regulatory frameworks in one jurisdiction can influence corporate behavior in other markets through investor-mediated channels (Leuz and Wysocki, 2016; Shroff, 2017).

The control variables in our analysis reveal additional insights consistent with prior literature. We find that institutional ownership is positively associated with voluntary disclosure across all specifications, supporting the monitoring hypothesis that institutional investors demand greater transparency (Bushee and Noe, 2000; Ajinkya et al., 2005). Firm size consistently exhibits a positive coefficient, confirming that larger firms tend to provide more voluntary disclosure, likely due to lower proprietary costs and greater analyst following (Lang and Lundholm, 1993). The negative coefficient on losses indicates that firms experiencing poor performance tend to reduce voluntary disclosure, consistent with managers' incentives to withhold bad news (Kothari et al., 2009). The positive association with calculation risk suggests that firms facing greater uncertainty provide more disclosure to reduce information asymmetry, supporting theoretical predictions about disclosure's role in mitigating adverse selection problems (Diamond and Verrecchia, 1991).

Our findings have important implications for regulators, managers, and investors across multiple jurisdictions. For regulators, our results suggest that securities market reforms can generate positive externalities beyond domestic borders through investor-mediated channels. This finding supports the case for international regulatory coordination and highlights how improvements in emerging market regulatory frameworks can contribute to global market efficiency and transparency. Regulators should consider these cross-border spillover effects when designing and implementing securities market reforms, as the benefits may extend beyond their immediate jurisdictions (Coffee, 2007; Jackson and Roe, 2009).

For corporate managers, our findings indicate that regulatory changes affecting investor behavior can influence optimal disclosure strategies even when firms are not directly subject to the new regulations. Managers should anticipate that investors' experiences with enhanced disclosure requirements in other markets may increase their demand for voluntary disclosure across their entire portfolios. This suggests that firms may need to proactively adjust their disclosure policies in response to global regulatory trends to maintain investor satisfaction and minimize cost of capital. For investors, our results demonstrate how regulatory improvements in emerging markets can enhance the information environment in developed markets, potentially improving investment decision-making and portfolio performance across borders.

Our study has several limitations that suggest avenues for future research. First, while we establish a strong association between Pakistan's Securities Market Law implementation and U.S. voluntary disclosure through the investors channel, we cannot completely rule out alternative explanations or omitted variables that might drive our results. Future research could employ additional identification strategies, such as exploiting variation in investor exposure intensity or utilizing instrumental variables approaches, to strengthen causal inferences. Second, our analysis focuses on aggregate voluntary disclosure measures, but different types of disclosure may respond differently to regulatory spillovers. Future studies could examine specific disclosure categories, such as forward-looking statements, segment reporting, or environmental disclosures, to provide more granular insights into the mechanisms driving our results.

Additionally, our study concentrates on the Pakistan-U.S. context, and the generalizability of our findings to other country pairs or regulatory changes remains an open question. Future research could examine whether similar spillover effects occur following securities market reforms in other emerging markets or whether the magnitude of spillovers varies with the economic significance of the reforming jurisdiction. Finally, we focus on the investors channel as the primary mechanism, but other channels such as auditors, analysts, or competitive pressures might also facilitate cross-border regulatory spillovers. Future studies could investigate these alternative mechanisms and their relative importance in transmitting regulatory effects across borders, potentially providing a more comprehensive understanding of how global regulatory changes influence corporate disclosure behavior.

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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 Unsophisticated Investors

	Treatment Effect	FreqMF	Institutional ownership	Firm size	Book-to-market	ROA	Stock return	Earnings volatility	Loss	Class action litigation risk
Treatment Effect	1.00	**0.05**	**0.14**	**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.