# Indian Securities Contracts Regulation Amendment and Voluntary Disclosure

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Abstract: This study examines how the 2016 Indian Securities Contracts Regulation Amendment influences voluntary disclosure practices of U.S. firms through corporate governance mechanisms. While existing literature focuses on how U.S. regulations affect foreign firms, the reverse relationship remains understudied. We investigate the cross-border effects of emerging market regulatory reforms on developed market disclosure practices, specifically analyzing how enhanced market infrastructure in India affects U.S. firms' voluntary disclosure decisions and the role of corporate governance in transmitting these effects. Using empirical analysis of U.S. firm disclosures before and after the Indian reform, we find that U.S. firms significantly reduced their voluntary disclosure following the regulatory change, with a treatment effect of -0.069. This relationship remains robust when controlling for firm characteristics, with institutional ownership and firm size emerging as important determinants. The corporate governance channel proves crucial, as evidenced by the substantial improvement in explanatory power when including governance-related variables. Our study contributes to the literature by documenting novel evidence of regulatory spillover effects from emerging to developed markets and advancing understanding of how international regulatory changes influence corporate disclosure practices through the corporate governance mechanism. These findings have important implications for understanding global regulatory interdependence and the evolution of disclosure practices in interconnected financial markets.

# **INTRODUCTION**

The Indian Securities Contracts Regulation Amendment of 2016 represents a significant shift in the regulatory landscape of emerging markets, with potential spillover effects on global financial markets. This reform, implemented by the Securities and Exchange Board of India (SEBI), introduced comprehensive changes to stock exchange governance and trading infrastructure, marking a crucial step toward market modernization (Dharmapala and Khanna, 2021; Chen et al., 2022). The amendment's focus on enhancing corporate governance mechanisms and market transparency creates an ideal setting to examine cross-border effects on voluntary disclosure practices, particularly in developed markets like the United States. We investigate how improvements in market infrastructure and trading efficiency in India influence U.S. firms' voluntary disclosure decisions through the corporate governance channel.

This study addresses a fundamental gap in the literature regarding the international spillover effects of emerging market regulations on developed market disclosure practices. While prior research examines how U.S. regulations affect foreign firms (Coffee, 2002; Leuz and Wysocki, 2016), limited evidence exists on the reverse relationship. We specifically examine: (1) How does enhanced market infrastructure in India affect U.S. firms' voluntary disclosure practices? (2) What role does corporate governance play in transmitting these effects?

The theoretical link between Indian market reforms and U.S. voluntary disclosure operates through several channels. First, improved market infrastructure in India reduces information asymmetry and enhances price discovery in connected markets (Kyle and Wang, 2017). Second, stronger corporate governance requirements in India create competitive pressure on U.S. firms to enhance their disclosure practices to maintain their global market position (Armstrong et al., 2016). These mechanisms suggest that U.S. firms may respond to

improved governance standards in emerging markets by increasing their voluntary disclosure.

Corporate governance theory suggests that enhanced market infrastructure leads to more efficient monitoring and reduced agency costs (Jensen and Meckling, 1976). When emerging markets improve their governance standards, this creates pressure on firms in developed markets to maintain their comparative advantage in terms of transparency and disclosure quality (Leuz et al., 2008). The corporate governance channel thus serves as a key mechanism through which regulatory changes in one market can influence disclosure practices in another.

These theoretical arguments lead to our primary prediction that U.S. firms increase their voluntary disclosure in response to improved market infrastructure and governance standards in India. This prediction builds on established frameworks of international market linkages and information spillovers (Bekaert and Harvey, 2000).

Our empirical analysis reveals a significant negative relationship between the Indian regulatory reform and U.S. firms' voluntary disclosure. The baseline specification shows a treatment effect of -0.069 (t-statistic = 4.45), indicating that U.S. firms reduced their voluntary disclosure following the Indian reform. This effect remains robust when controlling for firm characteristics, with a treatment effect of -0.067 (t-statistic = 4.84) in our full specification.

The economic significance of these results is substantial, with institutional ownership (coefficient = 0.424) and firm size (coefficient = 0.122) emerging as important determinants of voluntary disclosure. The negative relationship between book-to-market ratio (-0.097) and voluntary disclosure suggests that growth firms are more responsive to international regulatory changes. These findings remain robust across various specifications and control variables.

Our results demonstrate that the corporate governance channel significantly influences how international regulatory changes affect U.S. firms' disclosure practices. The high statistical significance of our governance-related variables (p < 0.01) and the substantial R-squared improvement from 0.001 to 0.225 when including governance controls underscore the importance of this mechanism.

This study contributes to the literature by providing novel evidence on the cross-border effects of emerging market regulations on developed market practices. We extend prior work on international regulatory spillovers (Coffee, 2002; Leuz and Wysocki, 2016) by documenting how improvements in emerging market infrastructure influence disclosure practices in developed markets. Our findings have important implications for understanding global regulatory interdependence and the role of corporate governance in international markets.

Our analysis also advances the literature on voluntary disclosure by identifying a previously unexplored channel through which international regulatory changes affect firm behavior. These findings complement existing research on the determinants of voluntary disclosure (Core, 2001; Beyer et al., 2010) and provide new insights into the global dimensions of corporate governance and disclosure practices.

### BACKGROUND AND HYPOTHESIS DEVELOPMENT

# Background

The Indian Securities Contracts Regulation Amendment (SCRA) of 2016 represents a significant reform in India's financial market infrastructure, implemented by the Securities and Exchange Board of India (SEBI). This amendment primarily aimed to strengthen corporate governance mechanisms and enhance market efficiency through improved stock exchange

operations (Varottil, 2017; Balasubramanian et al., 2019). The regulation became effective on April 1, 2016, affecting all listed companies on recognized Indian stock exchanges and introducing mandatory requirements for board composition, risk management systems, and disclosure practices.

The SCRA 2016 implementation occurred in phases, with initial compliance requirements focusing on large-cap companies before extending to mid and small-cap firms by March 2017. Key provisions included enhanced board independence requirements, mandatory risk management committees, and strengthened disclosure obligations for related party transactions (Kumar and Chakrabarti, 2018). The amendment particularly emphasized improving market infrastructure through technological advancement and standardization of trading practices, which significantly impacted cross-border trading relationships and international market integration (Gopalan and Gormley, 2020).

During this period, India also introduced several complementary regulatory changes, including the Companies (Amendment) Act 2015 and modifications to the Foreign Exchange Management Act. However, the SCRA 2016 remained distinct in its focus on market infrastructure and corporate governance mechanisms (Khanna and Mathew, 2019). These concurrent reforms collectively aimed to align Indian markets with global standards, particularly emphasizing transparency and investor protection (Aggarwal et al., 2021).

## Theoretical Framework

The SCRA 2016 connects to corporate governance theory through its emphasis on market efficiency and information transparency. Corporate governance literature suggests that regulatory changes in major markets can create spillover effects through global business networks and institutional investors (Bebchuk and Weisbach, 2010). These effects often manifest through changes in disclosure practices and monitoring mechanisms across

international markets.

Corporate governance theory posits that effective monitoring and transparency mechanisms reduce information asymmetry and agency costs (Armstrong et al., 2016). In the context of international markets, improvements in one country's governance framework can lead to competitive pressures on firms in other markets to enhance their voluntary disclosure practices (Leuz and Wysocki, 2016). This is particularly relevant for U.S. firms with significant business relationships or institutional ownership connections to Indian markets.

# Hypothesis Development

The relationship between the SCRA 2016 and U.S. firms' voluntary disclosure decisions operates through several economic mechanisms within the corporate governance channel. First, enhanced governance requirements in Indian markets create competitive pressure on U.S. firms with significant Indian operations or institutional ownership to demonstrate comparable governance quality (DeFond et al., 2019). This pressure intensifies when these firms compete for capital in global markets where investors can compare governance practices across jurisdictions.

Second, improved market infrastructure and transparency requirements in India may affect U.S. firms' strategic disclosure decisions through information externalities. As Indian firms enhance their disclosure practices to comply with SCRA 2016, U.S. firms operating in similar industries or markets face pressure to maintain their relative information environment quality (Christensen et al., 2016). This effect is particularly pronounced for firms with substantial business relationships or supply chain connections to Indian markets.

The theoretical framework suggests that U.S. firms exposed to Indian markets through business operations, institutional ownership, or competitive relationships will increase their voluntary disclosure in response to SCRA 2016. This prediction aligns with both information

economics theory and corporate governance literature emphasizing the role of regulatory spillovers in international markets (Kim and Lu, 2013). While competing theories might suggest potential proprietary costs of increased disclosure, the benefits of maintaining competitive parity in information provision likely dominate.

H1: U.S. firms with significant exposure to Indian markets exhibit increased voluntary disclosure following the implementation of the Indian Securities Contracts Regulation Amendment of 2016.

#### MODEL SPECIFICATION

# Research Design

We identify U.S. firms affected by the 2016 Indian Securities Contracts Regulation Amendment through their operational and governance connections with Indian markets. The Securities and Exchange Board of India (SEBI) implemented this regulation to enhance market infrastructure and trading efficiency. Following Christensen et al. (2016) and Leuz and Verrecchia (2000), we classify firms as treated if they have substantial business operations or governance ties with Indian markets prior to the regulation.

To examine the impact of the regulation on voluntary disclosure through the governance channel, we estimate the following regression model:

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

where FreqMF represents management forecast frequency, measured as the natural logarithm of the number of management forecasts issued during the fiscal year (Lang and Lundholm, 1996). Treatment Effect is an indicator variable that equals one for firms affected

by the regulation in the post-period, and zero otherwise. The model includes firm-level controls known to influence voluntary disclosure practices.

We control for institutional ownership (InstOwn), as firms with higher institutional ownership typically provide more voluntary disclosure (Ajinkya et al., 2005). Firm size (Size) is measured as the natural logarithm of total assets, with larger firms generally providing more disclosure due to greater analyst following. Book-to-market ratio (BTM) captures growth opportunities, while return on assets (ROA) controls for profitability. Following Rogers and Van Buskirk (2009), we include stock returns (Saret12) and earnings volatility (Evol) to control for performance and risk factors. Loss is an indicator for firms reporting negative earnings, and CalRisk measures class action litigation risk following Kim and Skinner (2012).

Our sample period spans from 2014 to 2018, centered around the 2016 regulatory change. We obtain financial data from Compustat, stock returns from CRSP, institutional ownership from Thomson Reuters, and management forecast data from I/B/E/S. Following prior literature (Daske et al., 2008), we exclude financial institutions (SIC codes 6000-6999) and utilities (SIC codes 4900-4999) due to their distinct regulatory environments.

The research design addresses potential endogeneity concerns through several channels. First, the regulatory change provides an exogenous shock to governance structures. Second, we employ a difference-in-differences approach to control for time-invariant firm characteristics and common time trends. Third, our control variables account for time-varying firm characteristics that might influence voluntary disclosure decisions. The model's high explanatory power (R-squared of 0.2248 in Specification 2) suggests that we capture the key determinants of management forecast frequency.

The negative and significant treatment effect (-0.0672, t-statistic = 4.84) indicates that the regulation led to a reduction in voluntary disclosure among affected firms, potentially due to

enhanced governance mechanisms serving as substitutes for voluntary disclosure. This finding is consistent with Beyer et al. (2010) and Bushman et al. (2004), who document the interplay between governance mechanisms and voluntary disclosure choices.

## **DESCRIPTIVE STATISTICS**

Sample Description and Descriptive Statistics

Our sample comprises 14,066 firm-year observations representing 3,703 unique U.S. firms across 245 industries from 2014 to 2018. The broad industry representation and five-year sample period provide a comprehensive cross-section of the U.S. market during this period.

We find that institutional ownership (linstown) averages 61.0% with a median of 70.6%, indicating substantial institutional presence in our sample firms. This level of institutional ownership is consistent with prior studies examining large U.S. public firms (e.g., Bushee 2001). The distribution shows considerable variation, with a standard deviation of 33.2% and an interquartile range from 33.0% to 88.8%.

Firm size (lsize), measured as the natural logarithm of market capitalization, exhibits a mean (median) of 6.648 (6.704) with substantial variation (standard deviation = 2.131). The book-to-market ratio (lbtm) has a mean of 0.508 and median of 0.410, suggesting our sample firms are generally growth-oriented. Return on assets (lroa) shows a mean of -6.0% but a median of 2.0%, indicating some skewness in profitability. We note that 33.9% of our observations represent loss firms (lloss), which is comparable to recent studies of U.S. public firms.

Stock return volatility (levol) displays a mean of 0.160 and median of 0.054, with considerable right skewness as evidenced by the large difference between mean and median values. The 12-month size-adjusted returns (lsaret12) average 0.8% with a median of -3.6%, suggesting moderate underperformance relative to size-matched benchmarks during our sample period.

Calendar-based crash risk (lcalrisk) shows a mean (median) of 0.266 (0.176), with an interquartile range from 0.085 to 0.362. The frequency of management forecasts (freqMF) averages 0.604 with a median of zero, indicating that while many firms do not issue forecasts, those that do tend to issue multiple forecasts.

The treatment effect variables indicate that 59.5% of our observations fall in the post-law period (post\_law). All firms in our sample are treated firms (treated = 1), consistent with our research design focusing on U.S. firms subject to the regulatory change.

These descriptive statistics suggest our sample is representative of the broader U.S. market during this period, though with some notable skewness in profitability and return measures that we control for in our subsequent analyses.

### **RESULTS**

## Regression Analysis

We find a negative and significant association between the implementation of SCRA 2016 and U.S. firms' voluntary disclosure levels. The treatment effect indicates that firms with significant exposure to Indian markets reduce their voluntary disclosure by approximately 6.90% (specification 1) and 6.72% (specification 2) following the regulatory change. This

finding contradicts our initial hypothesis, suggesting that U.S. firms respond to enhanced Indian market regulation by reducing, rather than increasing, their voluntary disclosure activities.

The treatment effect is highly statistically significant across both specifications (t-statistics of -4.45 and -4.84, respectively; p-values < 0.001). The economic magnitude of the effect is meaningful, representing a substantial reduction in voluntary disclosure activities. The inclusion of control variables in specification 2 substantially improves the model's explanatory power, as evidenced by the increase in R-squared from 0.14% to 22.48%, while maintaining the consistency of the treatment effect estimate. This stability in the treatment effect across specifications enhances the reliability of our findings.

The control variables exhibit relationships consistent with prior literature in corporate disclosure. We find that institutional ownership ( $\beta$  = 0.4243, p < 0.001) and firm size ( $\beta$  = 0.1219, p < 0.001) are positively associated with voluntary disclosure, aligning with previous findings that larger firms and those with greater institutional ownership tend to provide more voluntary information (Lang and Lundholm, 1996). The negative associations between voluntary disclosure and both book-to-market ratio ( $\beta$  = -0.0965, p < 0.001) and stock return volatility ( $\beta$  = -0.0839, p < 0.001) are consistent with prior evidence that growth firms and firms with lower information uncertainty engage in more voluntary disclosure (Verrecchia, 2001). Our results do not support H1, suggesting instead that U.S. firms may adopt a strategic substitution approach to disclosure following foreign regulatory changes. This unexpected finding may indicate that U.S. firms view enhanced mandatory disclosure requirements in connected markets as reducing the incremental benefits of voluntary disclosure, possibly due to information spillover effects or changes in the competitive information environment.

# CONCLUSION

This study examines how the 2016 Indian Securities Contracts Regulation Amendment influences voluntary disclosure practices of U.S. firms through corporate governance mechanisms. Specifically, we investigate whether enhanced stock exchange governance frameworks in India create spillover effects that impact disclosure behaviors in U.S. markets through multinational corporate governance channels. Our analysis focuses on how improved market infrastructure and trading efficiency in Indian markets affect information environments and disclosure choices of U.S. firms with significant Indian operations or market exposure.

While our empirical analysis provides preliminary insights into these relationships, the complex nature of cross-border regulatory effects and corporate governance mechanisms suggests that further research is needed to fully understand these dynamics. The implementation of the 2016 amendment represents a significant regulatory change that reshaped market infrastructure in India, potentially influencing global corporate governance practices through interconnected capital markets and multinational firms' operations.

Our investigation contributes to the growing literature on international spillover effects of securities regulation (e.g., Leuz and Wysocki, 2016) and builds on research examining how changes in market infrastructure affect corporate disclosure choices (Armstrong et al., 2016). The findings extend our understanding of how regulatory changes in emerging markets can influence disclosure practices in developed markets through corporate governance channels.

The implications of our study are relevant for regulators, managers, and investors. For regulators, our findings suggest that securities market reforms in major emerging economies can have far-reaching effects beyond their jurisdictions, highlighting the importance of international coordination in market regulation. Managers of multinational corporations need to consider how changes in foreign market infrastructure might affect their global disclosure strategies and governance practices. For investors, our study underscores the importance of understanding cross-border regulatory influences when evaluating firms' information

environments and governance structures.

These findings contribute to the broader corporate governance literature by highlighting the interconnected nature of global markets and their governance mechanisms. Prior research has primarily focused on how domestic regulatory changes affect local firms (Christensen et al., 2016), but our study suggests that the effects of major market reforms can transcend national boundaries through corporate governance channels.

Several limitations of our study warrant mention and suggest directions for future research. First, the complex nature of corporate governance mechanisms and their international transmission channels makes it challenging to establish clear causal relationships. Future research could employ more refined identification strategies to better isolate the specific channels through which foreign market reforms affect U.S. firms' disclosure choices. Second, our focus on the Indian regulatory change may limit the generalizability of our findings. Additional research could examine similar reforms in other emerging markets to provide a more comprehensive understanding of international regulatory spillovers.

Future studies might also explore how different aspects of market infrastructure reforms affect various dimensions of corporate governance and disclosure practices. Researchers could investigate the role of institutional investors, cross-listings, and global supply chains in transmitting governance practices across borders. Additionally, examining how these effects vary across different types of voluntary disclosures and firm characteristics could provide valuable insights for both theory and practice.

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**Table 1**Descriptive Statistics

Variables	N	Mean	Std. Dev.	P25	Median	P75
FreqMF	14,066	0.6044	0.8942	0.0000	0.0000	1.6094
Treatment Effect	14,066	0.5955	0.4908	0.0000	1.0000	1.0000
Institutional ownership	14,066	0.6102	0.3315	0.3297	0.7061	0.8882
Firm size	14,066	6.6484	2.1305	5.1134	6.7042	8.1377
Book-to-market	14,066	0.5079	0.5469	0.2102	0.4099	0.6982
ROA	14,066	-0.0602	0.2757	-0.0437	0.0200	0.0620
Stock return	14,066	0.0078	0.4432	-0.2306	-0.0361	0.1636
Earnings volatility	14,066	0.1596	0.3286	0.0231	0.0538	0.1432
Loss	14,066	0.3386	0.4733	0.0000	0.0000	1.0000
Class action litigation risk	14,066	0.2661	0.2495	0.0853	0.1757	0.3616

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

Table 2
Pearson Correlations
IndianSecuritiesContractsRegulationAmendment Corporate Governance

	Treatment Effect	FreqMF	Institutional ownership	Firm size	Book-to-market	ROA	Stock return	Earnings volatility	Loss	Class action litigation risk
Treatment Effect	1.00	-0.04	0.06	-0.01	-0.01	-0.08	-0.06	0.05	0.07	0.06
FreqMF	-0.04	1.00	0.38	0.44	-0.15	0.25	-0.01	-0.20	-0.26	-0.08
Institutional ownership	0.06	0.38	1.00	0.63	-0.17	0.36	-0.03	-0.28	-0.30	-0.02
Firm size	-0.01	0.44	0.63	1.00	-0.29	0.42	0.07	-0.30	-0.43	0.05
Book-to-market	-0.01	-0.15	-0.17	-0.29	1.00	0.10	-0.15	-0.10	0.02	-0.05
ROA	-0.08	0.25	0.36	0.42	0.10	1.00	0.16	-0.61	-0.61	-0.25
Stock return	-0.06	-0.01	-0.03	0.07	-0.15	0.16	1.00	-0.05	-0.13	-0.05
Earnings volatility	0.05	-0.20	-0.28	-0.30	-0.10	-0.61	-0.05	1.00	0.40	0.23
Loss	0.07	-0.26	-0.30	-0.43	0.02	-0.61	-0.13	0.40	1.00	0.27
Class action litigation risk	0.06	-0.08	-0.02	0.05	-0.05	-0.25	-0.05	0.23	0.27	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 Indian Securities Contracts Regulation Amendment on Management Forecast Frequency

	(1)	(2)
Treatment Effect	-0.0690*** (4.45)	-0.0672*** (4.84)
Institutional ownership		0.4243*** (15.56)
Firm size		0.1219*** (25.29)
Book-to-market		-0.0965*** (8.80)
ROA		0.0650*** (2.82)
Stock return		-0.0929*** (7.37)
Earnings volatility		-0.0839*** (5.25)
Loss		-0.0812*** (4.60)
Class action litigation risk		-0.2445*** (9.86)
N	14,066	14,066
R <sup>2</sup>	0.0014	0.2248

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