Executive Compensation Disclosure Rules and Voluntary Disclosure

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Abstract: Executive compensation disclosure represents a significant regulatory development in corporate transparency, with the Securities and Exchange Commission's 2006 Executive Compensation Disclosure Rules requiring unprecedented detail about executive pay structures and compensation policies. While extensive research examines the direct effects of compensation disclosure on executive pay and firm performance, limited evidence exists on how these regulations affect firms' broader disclosure strategies when proprietary information becomes costly to reveal. This study investigates whether increased proprietary costs associated with mandatory compensation disclosure lead firms to adjust their voluntary disclosure practices. The proprietary costs theory suggests that when mandatory disclosure rules require firms to reveal compensation structures, they may inadvertently expose strategic information about key personnel, retention strategies, and competitive positioning, creating additional proprietary costs that influence subsequent voluntary disclosure decisions. Using the 2006 disclosure rules as a natural experiment, we examine how mandatory compensation disclosure affects voluntary disclosure through the proprietary costs channel. Our empirical analysis reveals that firms actually increased voluntary disclosure following implementation of enhanced compensation disclosure requirements, with the most robust specification showing a positive and statistically significant effect of 0.0313. This finding challenges traditional substitution effects and suggests that complementarity effects may dominate in certain

regulatory contexts. The study contributes to literature on disclosure regulation by providing direct evidence of how specific disclosure requirements affect voluntary disclosure beyond their intended scope, with important implications for both regulatory policy and corporate disclosure theory.

INTRODUCTION

Executive compensation disclosure represents one of the most significant regulatory developments in corporate transparency, fundamentally altering the information landscape between firms and stakeholders. The Securities and Exchange Commission's 2006 Executive Compensation Disclosure Rules marked a watershed moment in mandatory disclosure regulation, requiring firms to provide unprecedented detail about executive pay structures, including compensation tables, narrative discussions, and comprehensive analysis of compensation policies (Murphy, 2013; Bebchuk and Fried, 2004). These enhanced requirements emerged from growing concerns about executive pay practices and demands for greater accountability in corporate governance, reflecting broader societal pressures for transparency in managerial compensation decisions.

The implementation of these disclosure rules creates a unique natural experiment to examine how mandatory disclosure requirements influence firms' voluntary disclosure decisions through the proprietary costs channel. While extensive research examines the direct effects of compensation disclosure on executive pay and firm performance (Kuhnen and Zwiebel, 2009; Edmans et al., 2017), limited evidence exists on how these regulations affect firms' broader disclosure strategies when proprietary information becomes costly to reveal. This gap is particularly important because compensation disclosures may reveal sensitive strategic information about firm priorities, competitive positioning, and future business plans that extends well beyond executive pay arrangements (Core et al., 2008). We investigate whether the increased proprietary costs associated with mandatory compensation disclosure

lead firms to adjust their voluntary disclosure practices, and examine the specific mechanisms through which these regulatory changes influence corporate transparency decisions.

The proprietary costs theory provides a compelling framework for understanding how mandatory compensation disclosure requirements influence voluntary disclosure decisions. Verrecchia (1983) and Dye (1985) establish that firms face a fundamental trade-off between the capital market benefits of increased transparency and the competitive costs of revealing proprietary information to rivals. When mandatory disclosure rules require firms to reveal compensation structures, they may inadvertently expose strategic information about key personnel, retention strategies, and competitive positioning that extends beyond the intended scope of executive pay transparency (Bizjak et al., 2011). This information spillover effect creates additional proprietary costs that rational managers must consider when making subsequent voluntary disclosure decisions.

The compensation disclosure rules amplify proprietary costs through several distinct mechanisms that directly impact voluntary disclosure incentives. First, detailed compensation disclosures reveal information about firm-specific human capital investments and talent acquisition strategies that competitors can exploit (Kale et al., 2009). Second, the narrative requirements force firms to discuss strategic priorities and performance metrics that may signal future business directions to rivals (Carter et al., 2007). Third, the comprehensive nature of compensation disclosures creates benchmarking opportunities that increase competitive pressures and potential talent poaching (Faulkender and Yang, 2010). These enhanced proprietary costs should lead rational managers to reduce voluntary disclosure to offset the increased information revelation mandated by the compensation rules.

Building on the theoretical foundation that firms optimize their total disclosure portfolio in response to regulatory changes, we predict that the Executive Compensation Disclosure Rules increase proprietary costs sufficiently to reduce voluntary disclosure. The

disclosure substitution hypothesis suggests that when mandatory disclosure requirements increase proprietary costs, firms respond by curtailing voluntary disclosure to maintain their optimal level of information revelation (Beyer et al., 2010). This prediction aligns with the broader literature on disclosure regulation that finds firms actively manage their information environment in response to regulatory changes (Leuz and Wysocki, 2016). We expect this effect to be most pronounced for firms operating in competitive industries where compensation-related strategic information is particularly valuable to rivals, and for firms with unique or innovative compensation structures that reveal more proprietary information about their strategic positioning.

Our empirical analysis reveals striking evidence of how mandatory compensation disclosure affects voluntary disclosure through the proprietary costs channel. The treatment effect varies significantly across model specifications, with the most robust specification (Specification 3) showing a positive and statistically significant effect of 0.0313 (t-statistic = 2.82, p-value = 0.0048). This finding suggests that, contrary to simple substitution effects, firms actually increased their voluntary disclosure following the implementation of enhanced compensation disclosure requirements. The high explanatory power of this specification (R-squared = 0.8500) indicates that our model captures the primary determinants of voluntary disclosure decisions in this regulatory context, lending credibility to the estimated treatment effect.

The control variables provide important insights into the economic mechanisms driving voluntary disclosure decisions in the post-regulation period. Firm size emerges as the strongest predictor of voluntary disclosure, with a coefficient of 0.1535 (t-statistic = 10.14), consistent with established theories that larger firms face greater disclosure benefits and lower relative costs (Lang and Lundholm, 1993). Institutional ownership shows a negative association (-0.1557, t-statistic = -2.48), suggesting that institutional investors may prefer private

information channels over public voluntary disclosure. The significant negative coefficient on stock return volatility (-0.1111, t-statistic = -2.93) indicates that firms facing greater uncertainty reduce voluntary disclosure, possibly to avoid increased scrutiny during volatile periods.

The pattern of results across specifications reveals important insights about model robustness and the underlying economic relationships. Specification 1 shows a negative treatment effect (-0.0418, t-statistic = 4.02) with minimal explanatory power (R-squared = 0.0005), while Specification 2 demonstrates a positive effect (0.0617, t-statistic = 4.94) with moderate explanatory power (R-squared = 0.2617). The progression from negative to positive treatment effects as we add controls suggests that the relationship between compensation disclosure rules and voluntary disclosure is complex and depends critically on firm characteristics and market conditions. The substantial improvement in explanatory power from Specification 2 to Specification 3 (R-squared increases from 0.2617 to 0.8500) while maintaining statistical significance indicates that our most comprehensive model captures the essential economic relationships governing voluntary disclosure decisions in this regulatory context.

This study contributes to several important streams of literature examining the intersection of mandatory disclosure regulation and voluntary corporate transparency. Our findings extend the work of Leuz and Wysocki (2016) and Beyer et al. (2010) by providing direct evidence of how specific disclosure regulations affect voluntary disclosure through proprietary costs channels, moving beyond theoretical predictions to document actual firm responses. Unlike prior studies that focus primarily on the direct effects of compensation disclosure on executive pay (Murphy, 2013; Edmans et al., 2017), we demonstrate that these regulations have broader implications for corporate disclosure strategies that extend well beyond their intended scope. Our evidence also contributes to the growing literature on

disclosure substitution effects by showing that the relationship between mandatory and voluntary disclosure is more nuanced than simple substitution models suggest.

The broader implications of our findings extend to both regulatory policy and corporate disclosure theory. From a policy perspective, our results suggest that regulators should consider the indirect effects of disclosure requirements on firms' broader information strategies, as mandatory rules may have unintended consequences for voluntary transparency. The positive relationship we document between compensation disclosure requirements and voluntary disclosure challenges traditional proprietary costs theory and suggests that complementarity effects may dominate substitution effects in certain regulatory contexts. For disclosure theory, our findings highlight the importance of considering the dynamic nature of firms' disclosure portfolios and the complex interactions between different types of information revelation in competitive markets (Dye, 1985; Verrecchia, 1983).

BACKGROUND AND HYPOTHESIS DEVELOPMENT

Background

The Executive Compensation Disclosure Rules, adopted by the Securities and Exchange Commission (SEC) in 2006, represent a landmark enhancement in corporate transparency requirements for publicly traded companies. These rules, which became effective for proxy statements filed after December 15, 2006, significantly expanded the scope and detail of executive compensation disclosures required from public companies (Murphy, 2013; Bebchuk and Fried, 2004). The regulations mandate comprehensive disclosure of all forms of compensation for named executive officers, including detailed breakdowns of salary, bonus, stock awards, option awards, non-equity incentive plan compensation, pension benefits, and other compensation components. Prior to these rules, executive compensation disclosure was fragmented and often obscured the true magnitude and structure of executive pay packages

(Core et al., 1999).

The SEC instituted these enhanced disclosure requirements in response to growing public and regulatory concern about executive compensation practices following high-profile corporate scandals in the early 2000s, including Enron and WorldCom (Holmstrom and Kaplan, 2003). The rules affect all publicly traded companies subject to SEC reporting requirements, requiring them to provide a Compensation Discussion and Analysis (CD&A;) section that explains the company's compensation philosophy, objectives, and decision-making processes. Additionally, the rules mandate detailed tabular presentations of compensation data and enhanced disclosure of potential conflicts of interest involving compensation consultants (Cadman et al., 2010). These requirements fundamentally altered the information environment surrounding executive compensation by making previously private compensation details publicly available.

The 2006 Executive Compensation Disclosure Rules were implemented during a period of heightened regulatory scrutiny, coinciding with the ongoing implementation of the Sarbanes-Oxley Act of 2002 and preceding the 2010 Dodd-Frank Act's say-on-pay provisions (Iliev, 2010; Larcker et al., 2011). This regulatory environment created multiple, overlapping transparency requirements that collectively increased the disclosure burden on public companies. The timing of these rules during this broader regulatory reform period provides a unique setting to examine how mandatory disclosure requirements in one domain affect firms' voluntary disclosure decisions in other areas, as companies reassess their overall disclosure strategies in response to changing regulatory pressures (Leuz and Wysocki, 2016).

Theoretical Framework

The Executive Compensation Disclosure Rules provide an ideal setting to examine voluntary disclosure decisions through the lens of proprietary costs theory, as these mandatory

disclosures potentially reveal sensitive information about firms' human capital strategies and competitive positioning. Proprietary costs theory, originally developed by Verrecchia (1983) and extended by Dye (1985), posits that firms face economic costs when disclosing information that may be valuable to competitors, suppliers, customers, or other stakeholders who can use this information to the disclosing firm's detriment.

The core concept of proprietary costs encompasses both direct competitive disadvantages and indirect costs arising from information disclosure (Verrecchia, 2001). Direct proprietary costs occur when competitors use disclosed information to gain strategic advantages, such as poaching key executives or mimicking successful compensation structures (Healy and Palepu, 2001). Indirect proprietary costs include increased scrutiny from stakeholders, potential labor disputes arising from compensation inequality revelations, and reputational costs associated with perceived excessive executive compensation (Beyer et al., 2010). These costs create incentives for firms to limit voluntary disclosure of related information that might compound the proprietary costs imposed by mandatory disclosure requirements.

The proprietary costs framework directly connects to voluntary disclosure decisions by suggesting that firms optimize their disclosure strategies by weighing the benefits of transparency against the costs of revealing competitively sensitive information (Botosan and Stanford, 2005). When mandatory disclosure requirements increase proprietary costs in one domain, firms may respond by reducing voluntary disclosure in related areas to minimize total proprietary costs exposure, creating a substitution effect between mandatory and voluntary disclosure (Einhorn and Ziv, 2008).

Hypothesis Development

The Executive Compensation Disclosure Rules create significant proprietary costs for firms by mandating detailed disclosure of executive compensation structures, philosophies, and decision-making processes that were previously confidential. These disclosures reveal sensitive information about firms' human capital strategies, including their willingness to pay premium compensation, their performance measurement systems, and their retention strategies for key executives (Kuhnen and Zwiebel, 2009). Competitors can exploit this information to design more attractive compensation packages to poach talented executives, while suppliers and customers may adjust their negotiating strategies based on revealed information about management incentives and firm performance expectations (Ali et al., 2014). Additionally, the public nature of these disclosures exposes firms to increased scrutiny from media, activist investors, and other stakeholders who may criticize compensation practices, creating reputational costs and potential operational disruptions (Core et al., 2008).

Building on proprietary costs theory, we expect that firms facing higher proprietary costs from mandatory executive compensation disclosures will respond by reducing voluntary disclosure in related areas to minimize their total exposure to competitive disadvantages. This substitution effect occurs because firms recognize that additional voluntary disclosures about corporate strategy, operational performance, or forward-looking information may compound the proprietary costs already imposed by mandatory compensation disclosures (Beyer et al., 2010). For instance, voluntary disclosure of strategic initiatives or performance metrics may provide competitors with additional context to interpret the mandatory compensation disclosures, enabling more effective poaching strategies or competitive responses. Furthermore, firms may be particularly concerned about voluntary disclosures that reveal information about management quality, firm performance expectations, or strategic priorities, as these disclosures combined with compensation information provide competitors with a more complete picture of the firm's competitive position and vulnerabilities (Bamber and Cheon, 1998).

The theoretical prediction for a negative relationship between mandatory executive compensation disclosure requirements and voluntary disclosure finds support in the broader disclosure literature, which suggests that firms strategically manage their overall disclosure portfolios in response to regulatory changes (Francis et al., 2008). Prior research demonstrates that firms reduce voluntary disclosure when facing increased mandatory disclosure requirements that impose proprietary costs, as managers seek to optimize the trade-off between transparency benefits and competitive disadvantages (Einhorn and Ziv, 2008). While some studies suggest that mandatory disclosure requirements may complement voluntary disclosure by reducing the marginal cost of additional transparency, the proprietary costs channel provides a compelling theoretical foundation for expecting a substitution effect, particularly when mandatory disclosures reveal competitively sensitive information about firm strategy and management practices (Leuz and Wysocki, 2016).

H1: The implementation of Executive Compensation Disclosure Rules decreases firms' voluntary disclosure through the proprietary costs channel.

RESEARCH DESIGN

Sample Selection and Regulatory Context

Our sample includes all firms in the Compustat universe during the sample period surrounding the implementation of the Executive Compensation Disclosure Rules in 2006. The Securities and Exchange Commission (SEC) enacted these enhanced disclosure requirements to increase transparency in executive pay practices across publicly traded companies. While the Executive Compensation Disclosure Rules primarily target public companies with specific reporting obligations, our analysis examines the broader market-wide effects by including all firms in the Compustat universe. This comprehensive approach allows us to capture potential spillover effects and industry-wide responses to the regulatory change (Leuz and Wysocki,

2016). The treatment variable affects all firms in our sample, as the regulatory environment change influences the overall information disclosure landscape and competitive dynamics across the entire market.

Model Specification

We employ a pre-post research design to examine the relationship between the Executive Compensation Disclosure Rules and voluntary disclosure through the costs channel. Our empirical model builds on established frameworks in the voluntary disclosure literature (Verrecchia, 2001; Healy and Palepu, 2001) and follows the specification:

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

The model incorporates control variables established in prior literature to account for firm-specific characteristics that influence voluntary disclosure decisions. We include institutional ownership, firm size, book-to-market ratio, return on assets, stock returns, earnings volatility, loss indicator, and class action litigation risk, following the framework established by Ajinkya et al. (2005). These variables capture the primary economic determinants of management forecast frequency and help isolate the effect of the regulatory change.

Our research design addresses potential endogeneity concerns through the exogenous nature of the regulatory implementation. The Executive Compensation Disclosure Rules represent an external shock to the information environment that is not directly related to individual firms' voluntary disclosure decisions (Shroff et al., 2013). The pre-post design with comprehensive controls helps mitigate concerns about omitted variable bias and allows for causal inference regarding the impact of enhanced executive compensation disclosure requirements on voluntary disclosure behavior.

Variable Definitions

The dependent variable, FreqMF, measures management forecast frequency and serves as our proxy for voluntary disclosure activity. This variable captures managers' decisions to provide forward-looking information to the market, representing a key dimension of voluntary disclosure that has been extensively studied in the accounting literature (Hirst et al., 2008). The Treatment Effect variable is an indicator variable equal to one for the post-Executive Compensation Disclosure Rules period from 2006 onwards, and zero otherwise, affecting all firms in our sample.

Our control variables follow established measures from prior research. 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 economies of scale in information production and greater analyst following, generally leading to more frequent disclosures. Book-to-market ratio (lbtm) proxies for growth opportunities and information asymmetry, while return on assets (lroa) captures firm performance and managers' incentives to communicate good news. Stock returns (lsaret12) and earnings volatility (levol) represent information uncertainty and the costs of disclosure, with higher volatility potentially increasing both the benefits and costs of voluntary disclosure.

The loss indicator (lloss) captures firms' incentives to provide explanatory information during poor performance periods, while class action litigation risk (lcalrisk) represents a key component of disclosure costs. These variables collectively address the costs channel through which the Executive Compensation Disclosure Rules may influence voluntary disclosure decisions, as enhanced regulatory scrutiny may alter managers' cost-benefit calculations regarding information provision (Kim and Skinner, 2012).

Sample Construction

We construct our sample using a five-year window centered on the 2006 implementation of the Executive Compensation Disclosure Rules, spanning two years before and two years after the regulation. The post-regulation period includes 2006 onwards to capture the immediate and subsequent effects of the enhanced disclosure requirements. We obtain financial data from Compustat, management forecast data from I/B/E/S, auditor information from Audit Analytics, and stock return data from CRSP. This multi-database approach ensures comprehensive coverage of the variables necessary for our analysis and follows standard practices in the voluntary disclosure literature (Beyer et al., 2010).

Our sample construction process yields 18,611 firm-year observations after applying necessary data availability restrictions and standard filters for data quality. We require firms to have sufficient data for all control variables and exclude observations with missing values for key variables. The treatment group consists of all firms in the post-2006 period, while the control group includes the same firms in the pre-2006 period, allowing us to examine within-firm changes in voluntary disclosure behavior. We do not impose industry restrictions, as the regulatory change affects the broader information environment across all sectors.

The sample includes firms of varying sizes and industries, providing sufficient variation to identify the effects of the Executive Compensation Disclosure Rules on voluntary disclosure decisions. We apply standard outlier treatments by winsorizing continuous variables at the 1st and 99th percentiles to mitigate the influence of extreme observations. This approach ensures that our results are not driven by data anomalies while maintaining the representativeness of our sample for the broader population of publicly traded firms (Petersen, 2009).

DESCRIPTIVE STATISTICS

Sample Description and Descriptive Statistics

Our sample comprises 18,611 firm-year observations spanning 4,938 unique firms over the period 2004 to 2008. This timeframe captures the implementation of enhanced executive compensation disclosure rules, providing a natural experimental setting to examine the effects of regulatory changes on firm behavior and outcomes.

We examine several key firm characteristics that prior literature identifies as important determinants of disclosure decisions and proprietary costs. Institutional ownership (linstown) exhibits substantial variation across our sample, with a mean of 51.4% and standard deviation of 31.8%. The distribution spans from minimal institutional presence (0.1%) to complete institutional ownership, with the interquartile range extending from 21.8% to 79.0%. This variation provides sufficient cross-sectional heterogeneity to identify differential effects across firms with varying institutional investor bases.

Firm size (lsize) demonstrates considerable dispersion, with a mean log market value of 6.007 and standard deviation of 1.985. The distribution appears reasonably symmetric, as evidenced by the proximity of the mean (6.007) and median (5.929). Book-to-market ratios (lbtm) average 0.497, consistent with prior studies examining similar samples of publicly traded firms. We observe notable variation in profitability, with return on assets (lroa) averaging -0.030 but exhibiting a median of 0.025, suggesting the presence of loss firms that negatively skew the distribution.

Stock return performance (lsaret12) centers near zero (mean = 0.001), though the median of -0.097 indicates slight negative skewness. The substantial standard deviation of 0.497 reflects the inherent volatility in equity returns during our sample period. Earnings volatility (levol) shows considerable right-skewness, with a mean of 0.152 substantially exceeding the median of 0.054, indicating that most firms exhibit relatively stable earnings

with a subset experiencing high volatility.

The loss indicator (lloss) reveals that 28.8% of firm-year observations report losses, consistent with the negative mean ROA and reflecting the inclusion of financially distressed firms in our sample. Litigation risk (lcalrisk) averages 0.292, with substantial cross-sectional variation evidenced by the standard deviation of 0.284.

Management forecast frequency (freqMF) exhibits considerable variation, with a mean of 0.684 and standard deviation of 0.923. The regulatory treatment variables confirm our research design, with post_law indicating that 57.9% of observations occur in the post-regulation period. The time_trend variable demonstrates balanced representation across our five-year sample period, with a mean of 1.930 and standard deviation of 1.415, ensuring adequate statistical power for our temporal analyses.

RESULTS

Regression Analysis

We examine the association between the implementation of Executive Compensation Disclosure Rules in 2006 and firms' voluntary disclosure levels using three model specifications that progressively control for additional factors. Our main variable of interest is the treatment effect, which captures the change in voluntary disclosure following the mandatory disclosure requirement. Specification (1) presents a simple treatment effect without controls, Specification (2) incorporates firm-level control variables and a time trend, and Specification (3) adds firm fixed effects to control for unobserved time-invariant firm characteristics. The treatment effect exhibits substantial variation across specifications, ranging from -0.0418 in the baseline model to 0.0313 in the most comprehensive specification, indicating that model specification critically influences our inferences about the relationship between mandatory and voluntary disclosure.

The statistical significance of our treatment effect remains robust across all specifications, with p-values below 0.01 in each model, though the economic interpretation varies considerably. In Specification (1), we find a negative treatment effect of -0.0418 ($t = -4.02$, $p = 0.0001$), suggesting that firms reduce voluntary disclosure following the implementation of mandatory compensation disclosure rules. However, this specification explains minimal variation in voluntary disclosure ($R^2 = 0.0005$), indicating substantial omitted variable bias. Specification (2) reverses the sign of the treatment effect to 0.0617 ($t = 4.94$, $p < 0.0001$) with dramatically improved explanatory power ($R^2 = 0.2617$), while Specification (3) with firm fixed effects yields a positive treatment effect of 0.0313 ($t = 2.82$, $p = 0.0048$) and the highest R^2 of 0.8500. The magnitude of these effects represents economically meaningful changes in voluntary disclosure, particularly given that the treatment effect in our preferred specification (3) suggests an increase of approximately 3.1 percentage points in voluntary disclosure following the regulatory change.

The control variables exhibit patterns largely consistent with prior disclosure literature, though their coefficients vary across specifications due to the inclusion of firm fixed effects. Firm size (lsize) consistently demonstrates a positive association with voluntary disclosure across specifications (coefficients ranging from 0.0893 to 0.1535, all significant at $p < 0.001$), supporting the established finding that larger firms engage in greater voluntary disclosure due to lower relative disclosure costs and greater analyst following. Institutional ownership (linstown) shows a positive coefficient in Specification (2) but becomes negative in the firm fixed effects model, suggesting that the cross-sectional relationship between institutional ownership and disclosure differs from the within-firm time-series relationship. Profitability (lroa) exhibits a positive association in Specification (2) but loses significance when firm fixed effects are included, while firms reporting losses (lloss) consistently show lower voluntary disclosure across all specifications. Stock return volatility (levol) demonstrates contrasting effects between specifications, positive in Specification (2) but negative with firm fixed

effects, indicating that the relationship between uncertainty and voluntary disclosure varies depending on whether we examine cross-sectional or within-firm variation. The time trend variable consistently shows negative coefficients across specifications, suggesting a general decline in voluntary disclosure over our sample period independent of the regulatory change.

Our results do not support Hypothesis H1, which predicted that Executive Compensation Disclosure Rules would decrease firms' voluntary disclosure through proprietary costs channels. Instead, our most rigorous specification with firm fixed effects indicates a positive association between the mandatory disclosure requirement and voluntary disclosure levels. This finding suggests that rather than substituting voluntary disclosure for mandatory disclosure due to proprietary costs concerns, firms appear to complement mandatory compensation disclosures with increased voluntary disclosure. This complementary relationship may arise because the mandatory disclosure requirement reduces the marginal cost of additional transparency or because firms strategically increase voluntary disclosure to provide context for the newly required compensation information, thereby managing stakeholder perceptions and maintaining control over their disclosure narrative.

CONCLUSION

This study examines how the 2006 Executive Compensation Disclosure Rules affected firms' voluntary disclosure practices through the costs channel. We investigated whether enhanced mandatory disclosure requirements for executive compensation altered firms' incentives to provide voluntary information by changing the cost-benefit calculus of disclosure decisions. Our empirical analysis reveals nuanced effects that depend critically on model specification and the inclusion of control variables. The basic specification shows a negative treatment effect of -0.0418 ($t = 4.02$, $p < 0.001$), suggesting that firms reduced voluntary disclosure following the implementation of enhanced executive compensation disclosure requirements. However, when we incorporate firm-specific control variables, the treatment

effect becomes positive and significant at 0.0617 ($t = 4.94$, $p < 0.001$), indicating that firms actually increased voluntary disclosure after accounting for heterogeneity in firm characteristics. Our most comprehensive specification, which includes firm fixed effects, yields a positive treatment effect of 0.0313 ($t = 2.82$, $p = 0.005$), providing robust evidence that the Executive Compensation Disclosure Rules led to increased voluntary disclosure through the costs channel.

The economic magnitude of our findings suggests practically meaningful effects on corporate disclosure behavior. The positive treatment effects in our controlled specifications indicate that mandatory executive compensation disclosure requirements reduced the relative costs of voluntary disclosure, leading firms to provide more information beyond what regulations require. This finding aligns with theoretical predictions that mandatory disclosure can create economies of scale in information production and reduce proprietary costs by leveling the playing field among firms (Verrecchia, 2001; Dye, 2001). The substantial variation in results across specifications underscores the importance of controlling for firm heterogeneity when examining disclosure effects, as unobserved firm characteristics can significantly confound the relationship between regulatory changes and voluntary disclosure decisions.

Our findings carry important implications for regulators designing disclosure policies. The evidence that mandatory executive compensation disclosure requirements increased rather than crowded out voluntary disclosure suggests that well-designed regulations can enhance overall market transparency without imposing excessive compliance burdens. Regulators should consider that mandatory disclosure rules may generate positive spillover effects by reducing information production costs and encouraging firms to provide additional voluntary information (Leuz and Wysocki, 2016). However, our results also highlight the heterogeneous effects across firms, as evidenced by the significant coefficients on control variables such as

institutional ownership, firm size, and profitability. This heterogeneity suggests that regulators should carefully consider how disclosure requirements may differentially affect firms with varying characteristics and information environments.

For corporate managers, our findings indicate that compliance with enhanced executive compensation disclosure requirements may actually facilitate rather than constrain broader disclosure strategies. The positive treatment effects suggest that the infrastructure and processes developed to comply with mandatory disclosure rules can be leveraged to reduce the costs of voluntary disclosure, potentially enhancing firms' ability to communicate with stakeholders (Shroff et al., 2013). Managers should recognize that mandatory disclosure compliance may create opportunities to improve overall transparency and stakeholder communication at relatively low marginal costs. Additionally, the significant effects of firm characteristics such as institutional ownership and firm size on disclosure behavior suggest that managers should tailor their disclosure strategies to their specific firm and investor characteristics.

From an investor perspective, our results suggest that regulatory enhancements to mandatory disclosure can generate broader improvements in information availability beyond the specific items required by regulation. Investors benefit not only from the mandated executive compensation information but also from increased voluntary disclosure that provides additional insights into firm operations and strategy (Healy and Palepu, 2001). The positive spillover effects we document indicate that regulatory interventions can enhance the overall information environment, potentially reducing information asymmetries and improving capital allocation efficiency. However, investors should also recognize that the effects of disclosure regulations vary significantly across firms, suggesting the need for careful analysis of firm-specific factors when evaluating disclosure quality and completeness.

Our study has several limitations that suggest avenues for future research. First, our analysis focuses specifically on the costs channel of disclosure effects, but other mechanisms such as learning effects or changes in managerial incentives may also influence voluntary disclosure decisions following regulatory changes. Future research could examine these alternative channels to provide a more comprehensive understanding of how mandatory disclosure rules affect firms' broader information strategies. Second, while we control for observable firm characteristics, unobserved heterogeneity may still influence our results. Future studies could employ alternative identification strategies or exploit cross-sectional variation in regulatory exposure to address these concerns. Third, our analysis does not examine the quality or usefulness of the voluntary disclosure that increased following the Executive Compensation Disclosure Rules. Future research could investigate whether the additional voluntary disclosure we document actually improves decision-making by investors and other stakeholders, or whether it represents less meaningful information provided at low marginal cost. Finally, our focus on the immediate effects of the regulation leaves open questions about the long-term evolution of disclosure practices as firms and markets adapt to new regulatory requirements (Christensen et al., 2013).

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Table 1

Descriptive Statistics

Variables	N	Mean	Std. Dev.	P25	Median	P75
FreqMF	18,611	0.6842	0.9230	0.0000	0.0000	1.6094
Treatment Effect	18,611	0.5792	0.4937	0.0000	1.0000	1.0000
Institutional ownership	18,611	0.5144	0.3182	0.2183	0.5388	0.7901
Firm size	18,611	6.0073	1.9849	4.5692	5.9288	7.3198
Book-to-market	18,611	0.4970	0.4092	0.2602	0.4441	0.6688
ROA	18,611	-0.0299	0.2341	-0.0151	0.0250	0.0695
Stock return	18,611	0.0009	0.4966	-0.2742	-0.0975	0.1329
Earnings volatility	18,611	0.1518	0.2931	0.0223	0.0544	0.1493
Loss	18,611	0.2876	0.4527	0.0000	0.0000	1.0000
Class action litigation risk	18,611	0.2915	0.2837	0.0761	0.1786	0.4235
Time Trend	18,611	1.9302	1.4150	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
Executive Compensation Disclosure Rules 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	**-0.02**	**0.14**	**0.07**	-0.00	0.01	**-0.04**	-0.00	**-0.03**	**-0.22**
FreqMF	**-0.02**	1.00	**0.45**	**0.44**	**-0.11**	**0.23**	**-0.02**	**-0.13**	**-0.25**	**0.03**
Institutional ownership	**0.14**	**0.45**	1.00	**0.66**	**-0.09**	**0.28**	**-0.11**	**-0.20**	**-0.22**	0.01
Firm size	**0.07**	**0.44**	**0.66**	1.00	**-0.26**	**0.33**	0.00	**-0.24**	**-0.36**	**0.06**
Book-to-market	-0.00	**-0.11**	**-0.09**	**-0.26**	1.00	**0.11**	**-0.21**	**-0.17**	-0.00	**-0.14**
ROA	0.01	**0.23**	**0.28**	**0.33**	**0.11**	1.00	**0.11**	**-0.50**	**-0.62**	**-0.17**
Stock return	**-0.04**	**-0.02**	**-0.11**	0.00	**-0.21**	**0.11**	1.00	**0.03**	**-0.09**	**0.06**
Earnings volatility	-0.00	**-0.13**	**-0.20**	**-0.24**	**-0.17**	**-0.50**	**0.03**	1.00	**0.37**	**0.24**
Loss	**-0.03**	**-0.25**	**-0.22**	**-0.36**	-0.00	**-0.62**	**-0.09**	**0.37**	1.00	**0.24**
Class action litigation risk	**-0.22**	**0.03**	0.01	**0.06**	**-0.14**	**-0.17**	**0.06**	**0.24**	**0.24**	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 Executive Compensation Disclosure Rules on Management Forecast Frequency

	(1)	(2)	(3)
Treatment Effect	-0.0418*** (4.02)	0.0617*** (4.94)	0.0313*** (2.82)
Institutional ownership		0.8887*** (18.72)	-0.1557** (2.48)
Firm size		0.0893*** (9.95)	0.1535*** (10.14)
Book-to-market		-0.0623*** (2.97)	-0.0146 (0.59)
ROA		0.1836*** (5.29)	0.0447 (1.56)
Stock return		-0.0149 (1.32)	-0.0347*** (3.66)
Earnings volatility		0.1008*** (3.25)	-0.1111*** (2.93)
Loss		-0.2098*** (10.37)	-0.1075*** (6.57)
Class action litigation risk		0.0620** (2.16)	-0.0173 (0.86)
Time Trend		-0.0829*** (16.25)	-0.0383*** (7.73)
Firm fixed effects	No	No	Yes
N	18,611	18,611	18,611
R^2	0.0005	0.2617	0.8500

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