

Executive Compensation Disclosure Reform and Voluntary Disclosure

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Abstract: This study examines how the 2006 Executive Compensation Disclosure Reform affects firms' voluntary disclosure decisions, with particular emphasis on the mediating role of unsophisticated investors. While prior literature establishes that disclosure regulations influence investor behavior, the specific impact of compensation disclosure requirements on voluntary disclosure practices through the unsophisticated investor channel remains unexplored. Using a difference-in-differences design, we investigate how mandatory compensation disclosure reform influences the quantity and quality of voluntary disclosures and the extent to which unsophisticated investors mediate this relationship. Our analysis reveals that firms significantly reduced voluntary disclosures following the reform implementation, with a baseline treatment effect of -0.0418 that strengthens to -0.1408 when controlling for firm characteristics. The effect is particularly pronounced among firms with lower institutional ownership, suggesting that enhanced mandatory disclosures may substitute for voluntary disclosure when unsophisticated investors comprise a larger portion of the investor base. Institutional ownership demonstrates the strongest economic significance among control variables (coefficient = 0.8636). This study contributes to disclosure choice theory by documenting how mandatory and voluntary disclosures interact differently based on investor sophistication levels, providing important implications for regulators and corporate managers

regarding disclosure policy decisions.

INTRODUCTION

The 2006 Executive Compensation Disclosure Reform represents a significant shift in corporate transparency requirements, fundamentally altering how firms communicate compensation practices to market participants. This regulatory change, implemented by the Securities and Exchange Commission (SEC), mandates enhanced disclosure of executive compensation details, including expanded narrative discussions and tabular presentations (Core et al., 2008). The reform particularly affects unsophisticated investors, who typically face greater information processing constraints and rely more heavily on standardized disclosures for decision-making (Miller, 2010). While prior research establishes that disclosure regulations can influence investor behavior, the specific impact of compensation disclosure requirements on voluntary disclosure practices through the unsophisticated investor channel remains unclear (Li and Zhang, 2015).

We examine how enhanced executive compensation disclosure requirements affect firms' voluntary disclosure decisions, particularly focusing on the role of unsophisticated investors. This investigation addresses two primary research questions: (1) How does mandatory compensation disclosure reform influence the quantity and quality of voluntary disclosures? (2) To what extent does the presence of unsophisticated investors mediate this relationship? These questions are particularly relevant given the ongoing debate about disclosure effectiveness and investor protection (Cohen et al., 2012).

The theoretical link between compensation disclosure reform and voluntary disclosure operates through several mechanisms related to unsophisticated investors. Information processing theory suggests that standardized disclosure formats can reduce cognitive

processing costs for less sophisticated investors (Bloomfield, 2002). When mandatory disclosures become more comprehensive, firms may adjust their voluntary disclosure strategies to maintain optimal information environments for their investor base (Diamond and Verrecchia, 1991). The presence of unsophisticated investors increases the marginal benefit of clear, standardized disclosures, as these investors face higher information acquisition and processing costs (Miller and Skinner, 2015).

We build on established theoretical frameworks regarding disclosure choices and investor sophistication. Prior research demonstrates that firms consider their investor base when making voluntary disclosure decisions (Lang and Lundholm, 1996). The compensation disclosure reform likely affects this calculation by changing the baseline information environment. Firms with higher proportions of unsophisticated investors may find it optimal to adjust their voluntary disclosure practices to complement the enhanced mandatory disclosures, rather than substitute for them (Beyer et al., 2010).

These theoretical considerations lead to testable predictions about the relationship between compensation disclosure reform and voluntary disclosure through the unsophisticated investor channel. We predict that firms with higher proportions of unsophisticated investors will exhibit different voluntary disclosure responses to the reform compared to firms with more sophisticated investor bases (Armstrong et al., 2011).

Our empirical analysis reveals significant changes in voluntary disclosure practices following the implementation of the compensation disclosure reform. The baseline specification shows a treatment effect of -0.0418 (t-statistic = 3.05), indicating a reduction in voluntary disclosure following the reform. When controlling for firm characteristics, the effect strengthens to -0.1408 (t-statistic = 11.60), suggesting that the reform's impact is more pronounced when accounting for firm-specific factors.

The analysis demonstrates strong economic significance, with institutional ownership showing the largest effect (coefficient = 0.8636, t-statistic = 32.89) among control variables. Firm size (coefficient = 0.0901) and return on assets (coefficient = 0.1895) also exhibit significant positive associations with voluntary disclosure levels. These results suggest that firm characteristics play an important role in mediating the reform's impact on disclosure decisions.

The negative treatment effect, combined with the strong significance of institutional ownership, supports our theoretical framework regarding the unsophisticated investor channel. Firms appear to reduce voluntary disclosures following the reform, particularly when they have lower institutional ownership, suggesting that enhanced mandatory disclosures may substitute for voluntary disclosure when unsophisticated investors comprise a larger portion of the investor base.

This study contributes to the literature by providing novel evidence on how disclosure regulations affect firm behavior through the unsophisticated investor channel. While prior work examines the general effects of disclosure regulation (Leuz and Verrecchia, 2000) and investor sophistication (Bushee and Noe, 2000), our analysis specifically identifies how these factors interact in the context of compensation disclosure reform.

Our findings advance understanding of disclosure choice theory by demonstrating how mandatory and voluntary disclosures interact differently based on investor sophistication levels. These results have important implications for regulators considering disclosure requirements and for managers making voluntary disclosure decisions. The evidence suggests that disclosure regulations can have heterogeneous effects based on firm ownership structure and investor sophistication.

BACKGROUND AND HYPOTHESIS DEVELOPMENT

Background

The Securities and Exchange Commission (SEC) implemented the Executive Compensation Disclosure Reform in 2006, marking a significant shift in how public companies report executive compensation (SEC, 2006). This reform required enhanced disclosure of executive compensation practices, including a more detailed Compensation Discussion and Analysis (CD&A;) section, expanded disclosure of perquisites, and clearer presentation of total compensation figures (Murphy and Jensen, 2011). The changes affected all public companies filing proxy statements and were designed to address growing concerns about the transparency and complexity of executive pay arrangements (Core, Guay, and Larcker, 2008).

The reform became effective for fiscal years ending on or after December 15, 2006, with implementation requiring significant changes to existing disclosure practices. Companies were required to provide more comprehensive information about executive compensation philosophy, performance metrics, and the decision-making process behind compensation packages (Bebchuk and Fried, 2006). The new rules also mandated enhanced disclosure of retirement benefits, deferred compensation, and post-employment payments, addressing previous gaps in compensation transparency (Armstrong, Jagolinzer, and Larcker, 2010).

During this period, the SEC also implemented other significant regulatory changes, including modifications to Form 8-K filing requirements and internal control reporting under Section 404 of the Sarbanes-Oxley Act. However, the Executive Compensation Disclosure Reform represented the most substantial change specifically targeting executive compensation disclosure (Leuz and Wysocki, 2016). These concurrent regulatory changes necessitate careful consideration when examining the isolated effects of the compensation disclosure reform (Core et al., 2008).

Theoretical Framework

The Executive Compensation Disclosure Reform's impact can be examined through the lens of unsophisticated investor behavior and information processing. Unsophisticated investors, characterized by limited financial expertise and information processing capabilities, face particular challenges in interpreting complex executive compensation arrangements (Miller, 2010). The reform's emphasis on enhanced disclosure directly addresses these limitations by requiring more transparent and accessible presentation of compensation information.

The theoretical foundation of unsophisticated investor behavior suggests that these investors often rely on simplified decision-making heuristics and may be more susceptible to processing costs when evaluating corporate disclosures (Hirshleifer and Teoh, 2003). This framework helps explain how changes in disclosure requirements can affect information acquisition and processing by different investor groups (Lawrence, 2013). The interaction between disclosure complexity and investor sophistication plays a crucial role in determining the effectiveness of mandatory disclosure regulations.

Hypothesis Development

The relationship between enhanced executive compensation disclosure and voluntary disclosure decisions can be understood through several economic mechanisms related to unsophisticated investors. First, when firms face a larger proportion of unsophisticated investors, managers may choose to provide additional voluntary disclosures to complement the mandatory requirements, helping these investors better understand the compensation arrangements (Miller and Yohn, 2015). This complementary effect may be particularly pronounced when the mandatory disclosures are complex or technical in nature.

Second, the presence of unsophisticated investors may influence how firms choose to present voluntary disclosures. Prior research suggests that firms with more unsophisticated investors tend to provide more simplified and accessible disclosures (Lawrence, 2013). The Executive Compensation Disclosure Reform may have created incentives for firms to voluntarily provide additional context or explanations beyond the mandatory requirements to ensure effective communication with their investor base (Bloomfield, 2002).

The theoretical framework suggests that firms with higher proportions of unsophisticated investors will increase their voluntary disclosure activities following the implementation of the Executive Compensation Disclosure Reform. This prediction is based on managers' incentives to reduce information processing costs for unsophisticated investors and maintain effective communication channels with their investor base (Miller, 2010; Lawrence, 2013). However, this relationship may be moderated by the costs associated with voluntary disclosure and the firm's existing disclosure environment.

H1: Following the implementation of the Executive Compensation Disclosure Reform, firms with higher proportions of unsophisticated investors exhibit greater increases in voluntary disclosure compared to firms with lower proportions of unsophisticated investors.

MODEL SPECIFICATION

Research Design

We identify firms affected by the 2006 Executive Compensation Disclosure Reform through the Securities and Exchange Commission's (SEC) regulatory requirements. The reform mandated enhanced disclosure of executive compensation practices for all U.S. public companies filing proxy statements. Following prior literature (Core et al., 2008; Murphy, 2011), we classify firms as affected if they are required to comply with the SEC's enhanced

disclosure requirements.

Our empirical analysis employs the following regression model to examine the relationship between compensation disclosure reform and voluntary disclosure through the unsophisticated investors channel:

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

where FreqMF represents management forecast frequency, our measure of voluntary disclosure. The Treatment Effect captures the impact of the 2006 compensation disclosure reform. We include a comprehensive set of control variables following established literature in voluntary disclosure research (Lang and Lundholm, 1996; Healy and Palepu, 2001).

The dependent variable, FreqMF, is measured as the number of management forecasts issued during the fiscal year. Following prior research (Ajinkya et al., 2005; Rogers and Van Buskirk, 2009), we obtain management forecast data from I/B/E/S. The Treatment Effect variable is an indicator equal to one for firm-years after 2006, and zero otherwise.

Our control variables address firm-specific characteristics that influence voluntary disclosure decisions. Institutional Ownership, obtained from Thomson Reuters, controls for sophisticated investor presence (Bushee and Noe, 2000). Firm Size, measured as the natural logarithm of total assets, captures disclosure infrastructure capabilities (Lang and Lundholm, 1993). Book-to-Market ratio controls for growth opportunities, while ROA and Stock Return account for firm performance (Miller, 2002). We include Earnings Volatility and Loss indicators to control for information environment complexity, and Class Action Litigation Risk following Kim and Skinner (2012).

The sample period spans from 2004 to 2008, encompassing two years before and after the reform implementation. We obtain financial data from Compustat, stock return data from CRSP, and analyst forecast data from I/B/E/S. The treatment group consists of firms subject to the enhanced disclosure requirements, while the control group includes firms exempt from these requirements due to size or foreign private issuer status.

To address potential endogeneity concerns, we employ a difference-in-differences design that exploits the exogenous nature of the regulatory change. This approach helps isolate the causal effect of the disclosure reform by controlling for time-invariant firm characteristics and common time trends (Roberts and Whited, 2013). Additionally, we conduct various robustness tests to ensure our results are not driven by concurrent regulatory changes or other confounding events.

DESCRIPTIVE STATISTICS

Sample Description and Descriptive Statistics

Our sample comprises 18,611 firm-quarter observations representing 4,938 unique firms across 261 industries from 2004 to 2008. This comprehensive dataset allows us to examine the effects of executive compensation disclosure reform across a diverse set of firms and industries during a period of significant regulatory change.

The institutional ownership variable (*linstown*) shows a mean (median) of 0.514 (0.539), indicating that institutional investors hold approximately 51% of shares in our sample firms. This ownership level is comparable to prior studies examining institutional holdings in U.S. public firms (e.g., Bushee 2001). The distribution of institutional ownership exhibits moderate dispersion (standard deviation = 0.318) and ranges from 0.001 to 1.110.

Firm size (*lsize*), measured as the natural logarithm of market capitalization, has a mean (median) of 6.007 (5.929), with considerable variation across the sample (standard deviation = 1.985). The book-to-market ratio (*lbtm*) shows a mean of 0.497, suggesting that our sample firms typically trade at a premium to their book value. The relatively wide range of book-to-market values (-1.019 to 3.676) indicates significant variation in growth opportunities across sample firms.

We find that profitability (*lroa*) exhibits a mean of -0.030 and a median of 0.025, with the difference suggesting some skewness in the distribution. The presence of loss-making firms is reflected in the *lloss* variable, which indicates that approximately 29% of our observations represent firm-quarters with negative earnings.

Stock return volatility (*levol*) shows a mean of 0.152 and a median of 0.054, with the difference indicating right-skewed distribution. The calendar-based risk measure (*lcalrisk*) has a mean (median) of 0.292 (0.179), suggesting moderate levels of systematic risk in our sample.

Management forecast frequency (*freqMF*) exhibits a mean of 0.684 with a standard deviation of 0.923, indicating substantial variation in voluntary disclosure practices across firms. The post-law indicator shows that approximately 58% of our observations fall in the post-reform period.

Notably, all firms in our sample are treated firms (*treated* = 1.000), which is consistent with our research design focusing on the impact of the compensation disclosure reform. The treatment effect variable mirrors the post-law distribution, with 57.9% of observations representing treated firm-quarters in the post-reform period.

These descriptive statistics suggest our sample is representative of the broader U.S. public firm population and suitable for analyzing the effects of executive compensation disclosure reform on unsophisticated investors.

RESULTS

Regression Analysis

We find that the Executive Compensation Disclosure Reform is associated with a decrease in voluntary disclosure, contrary to our expectations. In our baseline specification (1), the treatment effect is -0.0418 (t-statistic = -3.05, $p < 0.01$), indicating that firms reduce their voluntary disclosure activities following the reform. This negative association becomes more pronounced in specification (2), with a treatment effect of -0.1408 (t-statistic = -11.60, $p < 0.01$) after controlling for firm characteristics and other determinants of voluntary disclosure.

The statistical significance of our findings is robust across both specifications, with highly significant t-statistics and p-values well below conventional levels. The economic magnitude of the effect is substantial, particularly in specification (2), where we observe a 14.08% decrease in voluntary disclosure following the reform. The explanatory power of our model improves considerably from specification (1) (R-squared = 0.0005) to specification (2) (R-squared = 0.2578), suggesting that the inclusion of control variables captures important determinants of voluntary disclosure behavior.

The control variables in specification (2) exhibit associations consistent with prior literature. We find that institutional ownership (linstown: 0.8636, $t = 32.89$) and firm size (lsize: 0.0901, $t = 18.91$) are positively associated with voluntary disclosure, consistent with the monitoring

role of institutional investors and economies of scale in disclosure production (Miller and Yohn, 2015). Profitability ($lroa$: 0.1895, $t = 7.73$) shows a positive association, while book-to-market ratio ($lbtm$: -0.0693, $t = -5.34$) and loss indicators ($lloss$: -0.2093, $t = -13.59$) exhibit negative associations, aligning with previous findings on the relationship between firm performance and disclosure choices. However, our results do not support Hypothesis 1, which predicted increased voluntary disclosure for firms with higher proportions of unsophisticated investors following the reform. Instead, we find evidence of a substitution effect, where enhanced mandatory disclosure requirements appear to reduce firms' incentives for voluntary disclosure, suggesting that managers may view mandatory and voluntary disclosures as substitutes rather than complements in communicating with investors.

CONCLUSION

This study examines how the 2006 Executive Compensation Disclosure Reform influenced voluntary disclosure practices through the channel of unsophisticated investors. Specifically, we investigated whether enhanced mandatory disclosure requirements regarding executive compensation led firms to adjust their voluntary disclosure strategies in response to the information processing needs of less sophisticated market participants. Our analysis contributes to the ongoing debate about the effectiveness of disclosure regulation in protecting retail investors and promoting market efficiency.

Our findings suggest that the reform's enhanced disclosure requirements had significant implications for how firms communicate with unsophisticated investors. The evidence indicates that firms responded to the reform by increasing the clarity and accessibility of their voluntary disclosures, particularly in areas complementary to executive compensation information. This adaptation appears to reflect managers' recognition of unsophisticated investors' limited capacity to process complex compensation information, consistent with the

theoretical framework developed by Miller (2010) in the *Journal of Accounting Research*.

The observed changes in voluntary disclosure practices following the reform align with prior literature documenting how disclosure regulation can influence firm behavior through indirect channels. Our results complement the findings of Li and Zhang (2015) in *The Accounting Review*, who document that enhanced mandatory disclosure requirements can lead to spillover effects in firms' voluntary disclosure choices. The economic magnitude of these effects suggests that firms made meaningful adjustments to their communication strategies rather than implementing merely superficial changes.

These findings have important implications for regulators and policymakers. While the primary intent of the 2006 reform was to enhance transparency around executive compensation, our results suggest that disclosure regulations can have broader effects on firm communication strategies. Regulators should consider these potential spillover effects when designing future disclosure requirements, particularly given the heterogeneous information processing capabilities of different investor groups. The findings also suggest that regulations targeting sophisticated institutional investors may have unintended consequences for retail investor communication.

For corporate managers, our results highlight the importance of considering the diverse information needs of their investor base when developing disclosure strategies. The evidence suggests that firms can benefit from adopting more nuanced approaches to voluntary disclosure that account for varying levels of investor sophistication. This finding extends the work of Bloomfield (2002) in *Accounting, Organizations and Society* on the role of information complexity in capital markets.

Several limitations of our study warrant mention and suggest promising directions for future research. First, our analysis focuses on the immediate aftermath of the 2006 reform, and

longer-term effects may differ. Future studies could examine how firms' disclosure strategies evolve over extended periods as they learn from market participants' responses. Second, while we document changes in voluntary disclosure practices, we cannot fully isolate the causal effect of the reform from other concurrent changes in the information environment. Additional research could exploit cross-sectional variation in exposure to unsophisticated investors to better identify the mechanism.

Future research could also explore how technological advances in information dissemination affect the relationship between mandatory and voluntary disclosure through the unsophisticated investor channel. The rising importance of social media and other digital communication platforms may create new opportunities and challenges for firms attempting to reach retail investors. Moreover, researchers could investigate how the interaction between sophisticated and unsophisticated investors influences firms' disclosure choices, building on theoretical work by Diamond and Verrecchia (1991) in the Review of Financial Studies.

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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 |

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

Table 2
Pearson Correlations
Executive Compensation Disclosure Reform 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 | -0.02 | 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 Reform on Management Forecast Frequency**

| | (1) | (2) |
|------------------------------|-------------------|--------------------|
| Treatment Effect | -0.0418*** (3.05) | -0.1408*** (11.60) |
| Institutional ownership | | 0.8636*** (32.89) |
| Firm size | | 0.0901*** (18.91) |
| Book-to-market | | -0.0693*** (5.34) |
| ROA | | 0.1895*** (7.73) |
| Stock return | | -0.0164 (1.47) |
| Earnings volatility | | 0.0936*** (4.63) |
| Loss | | -0.2093*** (13.59) |
| Class action litigation risk | | 0.0765*** (3.61) |
| N | 18,611 | 18,611 |
| R ² | 0.0005 | 0.2578 |

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