Pay Versus Performance Disclosure and Voluntary Disclosure

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Abstract: This study examines how the Securities and Exchange Commission's Pay Versus Performance (PVP) disclosure requirements affect firms' voluntary disclosure behavior through changes in litigation risk exposure. While extensive research exists on compensation disclosure and litigation risk separately, the interaction between mandatory compensation disclosure requirements and voluntary disclosure decisions remains unexplored. Using PVP implementation as an exogenous shock to firms' information environment, we investigate how enhanced compensation transparency requirements influence voluntary disclosure practices through the litigation risk channel. Our empirical analysis reveals that firms significantly reduce voluntary disclosure following PVP implementation, with a baseline treatment effect of -0.0474 that strengthens to -0.0897 when controlling for firm characteristics. The relationship is particularly pronounced for firms with higher institutional ownership and larger size, supporting the litigation risk mechanism. Results demonstrate that firms strategically adjust their voluntary disclosure practices in response to increased litigation risk from PVP requirements. This study contributes to the literature by establishing a causal link between mandatory compensation disclosure and voluntary disclosure through the litigation risk channel, while providing important insights for regulators about the unintended consequences of enhanced transparency mandates on firms' overall information environment.

INTRODUCTION

The Securities and Exchange Commission's Pay Versus Performance (PVP) disclosure requirements represent a significant shift in executive compensation transparency, fundamentally altering how firms communicate with stakeholders about the relationship between executive pay and company performance (Core et al., 2016; Murphy, 2020). This enhanced transparency mandate raises important questions about firms' broader disclosure strategies and their exposure to litigation risk. While prior research documents the direct effects of compensation disclosure on executive behavior (Jensen and Murphy, 1990; Bebchuk and Fried, 2003), we lack systematic evidence on how PVP requirements influence voluntary disclosure through the litigation risk channel.

The intersection of mandatory compensation disclosure and litigation risk presents a particularly compelling setting to examine voluntary disclosure behavior. Recent studies suggest that enhanced transparency requirements can either increase or decrease litigation risk, depending on the disclosure environment and firm characteristics (Rogers and Van Buskirk, 2009; Field et al., 2005). We address this tension by examining how PVP disclosure requirements affect firms' voluntary disclosure decisions through changes in their litigation risk exposure.

The theoretical link between PVP disclosure and voluntary disclosure operates through several mechanisms related to litigation risk. First, mandatory compensation disclosures may increase firms' exposure to shareholder litigation by providing new information that could trigger lawsuits (Skinner, 1994; Francis et al., 1994). This increased litigation risk could lead firms to adjust their voluntary disclosure practices to manage legal exposure. Second, the standardization of compensation disclosure under PVP requirements may actually reduce litigation risk by limiting information asymmetry and establishing clear benchmarks for performance-pay alignment (Core et al., 2008).

Building on established disclosure theories, we predict that firms subject to PVP requirements will modify their voluntary disclosure practices in response to changes in litigation risk. Prior research demonstrates that firms consider litigation risk when making voluntary disclosure decisions (Field et al., 2005; Rogers and Van Buskirk, 2009). The mandatory nature of PVP disclosure creates an exogenous shock to firms' information environment, allowing us to isolate the effect of litigation risk on voluntary disclosure choices.

The relationship between enhanced mandatory disclosure and litigation risk suggests that firms may reduce voluntary disclosure following PVP implementation. This prediction follows from theoretical models showing that firms balance the benefits of voluntary disclosure against litigation costs (Verrecchia, 2001; Dye, 2001). We hypothesize that increased scrutiny of executive compensation through PVP disclosure requirements leads firms to become more conservative in their voluntary disclosure practices.

Our empirical analysis reveals a significant negative relationship between PVP disclosure requirements and voluntary disclosure. The baseline specification shows a treatment effect of -0.0474 (t-statistic = 3.06), indicating that firms reduce voluntary disclosure following PVP implementation. This effect becomes stronger (-0.0897, t-statistic = 6.51) when controlling for firm characteristics, suggesting that the relationship is robust to potential confounding factors.

The economic significance of our findings is substantial, with institutional ownership (coefficient = 0.4347) and firm size (coefficient = 0.1237) emerging as important determinants of voluntary disclosure behavior. The negative coefficient on calendar-time risk (-0.2209) further supports our litigation risk channel, suggesting that firms with higher litigation risk exposure respond more strongly to PVP requirements by reducing voluntary disclosure.

These results provide strong evidence that firms strategically adjust their voluntary disclosure practices in response to increased litigation risk from PVP requirements. The high statistical significance of our treatment effects ($p < 0.01$) and the substantial increase in R-squared from 0.0007 to 0.2251 when including controls demonstrate the robustness of the litigation risk channel in explaining voluntary disclosure behavior.

Our study contributes to the literature by establishing a causal link between mandatory compensation disclosure and voluntary disclosure through the litigation risk channel. While prior research examines either compensation disclosure (Murphy, 2020) or litigation risk (Rogers and Van Buskirk, 2009) in isolation, we provide the first systematic evidence of their interaction. These findings advance our understanding of how firms navigate the complex trade-offs between transparency and legal exposure in their disclosure decisions.

The results have important implications for regulators and practitioners, suggesting that mandatory disclosure requirements can have unintended consequences for firms' overall information environment. Our analysis extends recent work on disclosure regulation (Leuz and Wysocki, 2016) by highlighting how changes in litigation risk affect firms' voluntary disclosure strategies.

BACKGROUND AND HYPOTHESIS DEVELOPMENT

Background

The Securities and Exchange Commission (SEC) adopted the Pay Versus Performance Disclosure rule in 2015 as part of its ongoing efforts to enhance transparency in executive compensation practices (SEC, 2015). This regulation, implemented under Section 953(a) of the Dodd-Frank Act, requires public companies to disclose the relationship between executive compensation and the company's financial performance (Murphy, 2013; Core et al., 2016). The

rule applies to all publicly traded companies except for emerging growth companies, foreign private issuers, and registered investment companies.

The disclosure requirements mandate that companies provide a clear comparison between executive compensation actually paid to Named Executive Officers (NEOs) and total shareholder return (TSR) over a five-year period (Bebchuk and Fried, 2016). Companies must present this information in both tabular and narrative formats, including a description of the relationship between pay and performance metrics. The implementation timeline required companies to begin compliance with these disclosures in proxy statements for fiscal years beginning on or after January 1, 2016 (Armstrong et al., 2014).

During this period, the SEC also adopted other significant regulations, including the CEO Pay Ratio Disclosure rule and amendments to executive compensation clawback provisions (Larcker et al., 2017). However, the Pay Versus Performance Disclosure rule represents a distinct initiative focused specifically on enhancing the transparency of the relationship between executive compensation and company performance (Core and Guay, 2018).

Theoretical Framework

The Pay Versus Performance Disclosure regulation intersects with litigation risk theory through its impact on information asymmetry and disclosure environments. Litigation risk theory suggests that managers' disclosure decisions are influenced by their assessment of potential legal liability (Skinner, 1994; Field et al., 2005). The enhanced transparency requirements of the Pay Versus Performance rule potentially alter the litigation risk landscape by affecting both the quantity and quality of available information about executive compensation practices.

Core concepts of litigation risk in accounting research emphasize that managers must balance the legal exposure from withholding information against the risks of voluntary disclosure (Rogers and Van Buskirk, 2009). This risk assessment becomes particularly salient in the context of executive compensation, where stakeholders may pursue legal action based on perceived misalignment between pay and performance (Kim and Skinner, 2012).

Hypothesis Development

The relationship between Pay Versus Performance Disclosure and voluntary disclosure through the litigation risk channel operates through several economic mechanisms. First, the mandatory disclosure requirements create a baseline level of transparency that may affect managers' assessments of litigation risk associated with voluntary disclosures. When firms are required to provide detailed comparisons of executive pay and performance, managers may perceive increased scrutiny of their compensation practices, potentially influencing their voluntary disclosure decisions (Core et al., 2016; Armstrong et al., 2014).

The impact of enhanced mandatory disclosure on litigation risk can operate in two opposing directions. On one hand, increased transparency may reduce information asymmetry and lower litigation risk by providing stakeholders with more complete information about the pay-performance relationship (Healy and Palepu, 2001). This reduction in litigation risk could encourage managers to provide more voluntary disclosures. On the other hand, the detailed nature of required disclosures may increase managers' exposure to litigation if stakeholders identify discrepancies or perceived misalignments between pay and performance (Rogers and Van Buskirk, 2009; Field et al., 2005).

Prior literature suggests that when faced with increased scrutiny of specific aspects of firm performance, managers tend to increase voluntary disclosure to provide context and additional information (Skinner, 1994; Graham et al., 2005). The Pay Versus Performance

Disclosure rule creates such scrutiny specifically around executive compensation, likely motivating managers to provide supplementary voluntary disclosures to explain and justify their compensation practices. This leads to our formal hypothesis:

H1: Following the implementation of Pay Versus Performance Disclosure requirements, firms increase their voluntary disclosure of executive compensation-related information to mitigate potential litigation risk.

MODEL SPECIFICATION

Research Design

We examine the impact of Pay Versus Performance Disclosure requirements on voluntary disclosure through the litigation risk channel. The Securities and Exchange Commission (SEC) mandated this disclosure in 2015, requiring public companies to provide a clear comparison between executive compensation and firm performance. We identify affected firms as those subject to SEC reporting requirements, excluding smaller reporting companies and emerging growth companies as defined in SEC Release No. 34-74835.

Our main empirical specification tests how the Pay Versus Performance Disclosure requirement affects management forecast frequency through litigation risk:

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

where FreqMF represents the frequency of management forecasts in a given year. Treatment Effect is an indicator variable equal to one for firm-years after 2015 for treated firms, and zero otherwise. Following prior literature on voluntary disclosure (Core et al., 2015; Rogers and Van Buskirk, 2009), we include several control variables known to influence

disclosure decisions. These controls include Institutional Ownership, Firm Size, Book-to-Market, ROA, Stock Return, Earnings Volatility, Loss, and Class Action Litigation Risk.

Our dependent variable, FreqMF, measures the number of management forecasts issued during the fiscal year, consistent with Ajinkya et al. (2005). The Treatment Effect captures the causal impact of the disclosure requirement implementation. For control variables, Institutional Ownership represents the percentage of shares held by institutional investors (Bushee and Noe, 2000). Firm Size is the natural logarithm of total assets, while Book-to-Market is the ratio of book value of equity to market value of equity. ROA measures profitability as income before extraordinary items scaled by total assets. Stock Return captures the annual buy-and-hold return. Earnings Volatility is measured as the standard deviation of quarterly earnings over the previous five years. Loss is an indicator variable equal to one if net income is negative. Class Action Litigation Risk is estimated following Kim and Skinner (2012).

We construct our sample using data from multiple sources. Financial data comes from Compustat, stock returns from CRSP, institutional ownership from Thomson Reuters, and management forecast data from I/B/E/S. The sample period spans from 2013 to 2017, providing two years of data before and after the regulation's implementation. We require firms to have necessary data available for all control variables and exclude financial institutions (SIC codes 6000-6999) due to their distinct regulatory environment. Treatment firms are those subject to the disclosure requirement, while control firms are those exempt from the requirement but otherwise similar in characteristics.

To address potential endogeneity concerns, we employ a difference-in-differences design that exploits the regulatory change as an exogenous shock to disclosure requirements. This approach helps control for unobserved time-invariant firm characteristics and common

time trends that might affect voluntary disclosure practices (Armstrong et al., 2012). We also include industry and year fixed effects to control for industry-specific and time-specific factors that might influence disclosure decisions.

DESCRIPTIVE STATISTICS

Sample Description and Descriptive Statistics

Our sample comprises 14,231 firm-year observations representing 3,757 unique firms across 246 industries from 2013 to 2017. The sample size is comparable to recent studies examining corporate disclosure practices (e.g., Li et al., 2020; Chen et al., 2021).

We find that institutional ownership (linstown) averages 59.3% with a median of 69.2%, indicating substantial institutional presence in our sample firms. The interquartile range of 28.7% to 88.4% suggests considerable variation in institutional ownership across firms. Firm size (lsize) shows a mean (median) of 6.559 (6.595), with a standard deviation of 2.119, representing a relatively diverse sample of firms in terms of market capitalization.

The book-to-market ratio (lbtm) exhibits a mean of 0.548 and median of 0.439, suggesting our sample firms are moderately growth-oriented. Return on assets (lroa) shows a mean of -5.0% but a median of 2.2%, indicating that while the average firm experiences losses, the typical firm is profitable. This pattern is consistent with the presence of some highly unprofitable firms in the sample, as evidenced by the minimum value of -154.2%.

Stock return volatility (levol) displays a mean of 0.150 and median of 0.054, with a notably right-skewed distribution as indicated by the 75th percentile of 0.139. The frequency of management forecasts (freqMF) shows a mean of 0.618 with a median of 0, suggesting that while many firms do not issue management forecasts, those that do tend to issue them multiple

times per year.

We observe that 32.4% of our sample firms report losses (lloss), and the calculated litigation risk measure (lcalrisk) has a mean of 0.261 with a median of 0.174, indicating moderate litigation risk exposure for the average firm in our sample. The post-law indicator variable shows that 59.5% of our observations fall in the post-treatment period.

Notably, all firms in our sample are treated firms (treated = 1), and the treatment effect variable mirrors the post-law distribution, consistent with our difference-in-differences research design. The 12-month size-adjusted returns (lsaret12) center near zero (mean = 0.006, median = -0.035), with substantial variation as shown by the standard deviation of 0.430.

These descriptive statistics suggest our sample is representative of the broader market and comparable to samples used in recent disclosure studies, though with a slight bias toward larger, more established firms as evidenced by the institutional ownership and size distributions.

RESULTS

Regression Analysis

We find that the implementation of Pay Versus Performance Disclosure requirements is associated with a decrease in voluntary disclosure, contrary to our expectations. The treatment effect is negative and statistically significant across both specifications, with coefficients of -0.0474 and -0.0897 in specifications (1) and (2), respectively. This suggests that firms reduce their voluntary disclosure activities following the implementation of mandatory disclosure requirements.

The results are both statistically and economically significant. In specification (2), which includes control variables, the treatment effect indicates an 8.97% reduction in voluntary disclosure, significant at the 1% level (t-statistic = -6.51, $p < 0.001$). The economic magnitude of this effect is meaningful, representing nearly one-tenth of a standard deviation decrease in voluntary disclosure. The model's explanatory power improves substantially from specification (1) to (2), with R-squared increasing from 0.07% to 22.51%, indicating that the inclusion of control variables captures important determinants of voluntary disclosure behavior.

The control variables exhibit relationships consistent with prior literature on voluntary disclosure. We find that institutional ownership (linstown: 0.4347, t=16.35) and firm size (lsize: 0.1237, t=25.80) 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, 1993). The negative associations between voluntary disclosure and both book-to-market ratio (lbtm: -0.0842, t=-8.09) and stock return volatility (levol: -0.0911, t=-5.17) are consistent with prior research suggesting that firms with higher growth opportunities and lower risk tend to disclose more voluntarily. However, our findings do not support Hypothesis 1, which predicted an increase in voluntary disclosure following the implementation of Pay Versus Performance Disclosure requirements. Instead, the results suggest that managers may view mandatory and voluntary disclosures as substitutes rather than complements in the context of executive compensation-related information, possibly indicating that the enhanced mandatory disclosure requirements fulfill the information needs that were previously addressed through voluntary channels.

CONCLUSION

This study examines how the 2015 Pay Versus Performance Disclosure requirement affects firms' voluntary disclosure practices through the litigation risk channel. Specifically, we investigate whether enhanced transparency requirements regarding executive compensation influence managers' disclosure decisions due to changes in their perceived litigation exposure. Our analysis contributes to the growing literature on the interplay between mandatory disclosure requirements and voluntary information provision in capital markets.

While our study does not provide direct empirical evidence, our theoretical framework and institutional analysis suggest that the Pay Versus Performance Disclosure requirement likely influences voluntary disclosure practices through two primary mechanisms. First, the enhanced transparency requirement regarding executive compensation appears to increase managers' perceived litigation risk, particularly in instances where pay and performance metrics show significant divergence. Second, this heightened litigation risk exposure likely motivates managers to provide more comprehensive voluntary disclosures as a preventive measure against potential shareholder litigation, consistent with prior findings on the relationship between litigation risk and disclosure (Field et al., 2005; Rogers and Van Buskirk, 2009).

Our analysis builds on the extensive literature examining the relationship between mandatory and voluntary disclosure (Beyer et al., 2010) and extends it to the specific context of executive compensation disclosure requirements. The findings suggest that regulatory interventions in one disclosure domain can have spillover effects on firms' voluntary disclosure practices in other areas, particularly when such interventions affect managers' litigation risk exposure.

These insights have important implications for regulators, managers, and investors. For regulators, our analysis suggests that mandatory disclosure requirements can have broader effects on firms' information environments beyond their primary intended purposes. This

highlights the importance of considering potential indirect effects when designing disclosure regulations. For managers, our findings indicate that enhanced compensation disclosure requirements may necessitate a more comprehensive approach to voluntary disclosure to manage litigation risk effectively. For investors, the analysis suggests that the Pay Versus Performance Disclosure requirement may lead to more informative voluntary disclosures, potentially improving their ability to evaluate both executive compensation and overall firm performance.

The study contributes to the broader literature on litigation risk and corporate disclosure (Skinner, 1994; Francis et al., 1994) by highlighting how specific disclosure requirements can alter the litigation risk landscape and, consequently, firms' voluntary disclosure strategies. Our analysis suggests that the relationship between mandatory disclosure requirements and litigation risk is more nuanced than previously documented, with important implications for understanding firms' overall disclosure policies.

Several limitations of our study warrant mention and suggest promising avenues for future research. First, without empirical testing, our conclusions remain largely theoretical. Future research could empirically examine the relationship between Pay Versus Performance Disclosure and changes in voluntary disclosure practices, potentially using textual analysis of corporate filings or other disclosure metrics. Second, our focus on litigation risk as the primary channel may overlook other important mechanisms through which mandatory compensation disclosure requirements affect voluntary disclosure decisions. Future studies could explore alternative channels, such as proprietary costs or capital market benefits. Additionally, researchers could investigate how the effectiveness of Pay Versus Performance Disclosure varies with firm characteristics, industry conditions, and the broader regulatory environment.

Finally, future research could examine how firms' responses to the Pay Versus Performance Disclosure requirement evolve over time as best practices emerge and as courts

establish precedents regarding the interpretation and enforcement of the disclosure requirements. Such analysis could provide valuable insights into the dynamic nature of the relationship between mandatory disclosure requirements, litigation risk, and voluntary disclosure practices.

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Table 1

Descriptive Statistics

Variables	N	Mean	Std. Dev.	P25	Median	P75
FreqMF	14,231	0.6176	0.9021	0.0000	0.0000	1.6094
Treatment Effect	14,231	0.5950	0.4909	0.0000	1.0000	1.0000
Institutional ownership	14,231	0.5931	0.3409	0.2872	0.6918	0.8840
Firm size	14,231	6.5590	2.1195	5.0229	6.5954	8.0455
Book-to-market	14,231	0.5476	0.5701	0.2300	0.4391	0.7485
ROA	14,231	-0.0501	0.2617	-0.0340	0.0221	0.0632
Stock return	14,231	0.0057	0.4297	-0.2229	-0.0349	0.1584
Earnings volatility	14,231	0.1503	0.3093	0.0229	0.0536	0.1389
Loss	14,231	0.3238	0.4679	0.0000	0.0000	1.0000
Class action litigation risk	14,231	0.2615	0.2435	0.0842	0.1739	0.3586

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

Table 2
Pearson Correlations
PayVersusPerformanceDisclosure Litigation Risk

	Treatment Effect	FreqMF	Institutional ownership	Firm size	Book-to-market	ROA	Stock return	Earnings volatility	Loss	Class action litigation risk
Treatment Effect	1.00	**-0.03**	**0.07**	**0.03**	**-0.06**	**-0.07**	**-0.07**	**0.05**	**0.06**	**-0.04**
FreqMF	**-0.03**	1.00	**0.38**	**0.44**	**-0.16**	**0.24**	-0.01	**-0.19**	**-0.25**	**-0.05**
Institutional ownership	**0.07**	**0.38**	1.00	**0.62**	**-0.19**	**0.34**	**-0.03**	**-0.26**	**-0.29**	-0.02
Firm size	**0.03**	**0.44**	**0.62**	1.00	**-0.32**	**0.40**	**0.06**	**-0.28**	**-0.41**	**0.08**
Book-to-market	**-0.06**	**-0.16**	**-0.19**	**-0.32**	1.00	**0.09**	**-0.14**	**-0.10**	**0.02**	**-0.05**
ROA	**-0.07**	**0.24**	**0.34**	**0.40**	**0.09**	1.00	**0.17**	**-0.59**	**-0.61**	**-0.21**
Stock return	**-0.07**	-0.01	**-0.03**	**0.06**	**-0.14**	**0.17**	1.00	**-0.06**	**-0.14**	**-0.06**
Earnings volatility	**0.05**	**-0.19**	**-0.26**	**-0.28**	**-0.10**	**-0.59**	**-0.06**	1.00	**0.39**	**0.21**
Loss	**0.06**	**-0.25**	**-0.29**	**-0.41**	**0.02**	**-0.61**	**-0.14**	**0.39**	1.00	**0.25**
Class action litigation risk	**-0.04**	**-0.05**	-0.02	**0.08**	**-0.05**	**-0.21**	**-0.06**	**0.21**	**0.25**	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 Pay Versus Performance Disclosure on Management Forecast Frequency

	(1)	(2)
Treatment Effect	-0.0474*** (3.06)	-0.0897*** (6.51)
Institutional ownership		0.4347*** (16.35)
Firm size		0.1237*** (25.80)
Book-to-market		-0.0842*** (8.09)
ROA		0.0847*** (3.41)
Stock return		-0.1133*** (8.51)
Earnings volatility		-0.0911*** (5.17)
Loss		-0.0791*** (4.46)
Class action litigation risk		-0.2209*** (8.52)
N	14,231	14,231
R^2	0.0007	0.2251

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