

# **Pay Ratio Disclosure Rule and Voluntary Disclosure**

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**Abstract:** This study examines how the SEC's Pay Ratio Disclosure Rule of 2015 affects firms' voluntary disclosure practices through the litigation risk channel. While prior research documents relationships between mandatory disclosure requirements and firm behavior, the specific mechanism linking pay ratio disclosure to voluntary disclosure decisions remains unexplored. Using a quasi-experimental setting created by the regulation's implementation, we investigate how mandatory pay ratio disclosure influences litigation risk and subsequent voluntary disclosure decisions. Our empirical analysis reveals that firms significantly adjusted their voluntary disclosure practices following the regulation, with a baseline treatment effect of  $-0.0474$  ( $t$ -statistic = 3.06). The effect strengthens to  $-0.0897$  when controlling for firm characteristics, with institutional ownership and firm size emerging as key determinants. The negative coefficient on calendar-based litigation risk ( $-0.2209$ ) supports the theoretical framework linking litigation risk to disclosure decisions. These findings demonstrate that increased transparency requirements regarding executive compensation lead to significant changes in firms' voluntary disclosure behavior as a risk management response. The study contributes to the literature by documenting the specific mechanism through which mandatory pay ratio disclosure requirements influence voluntary disclosure decisions, providing important insights for regulators and practitioners regarding the spillover effects of disclosure regulations.

## INTRODUCTION

The Securities and Exchange Commission's Pay Ratio Disclosure Rule of 2015 represents a significant shift in corporate transparency requirements, mandating firms to disclose the ratio between CEO and median employee compensation. This regulation has sparked considerable debate regarding its effects on corporate disclosure practices and litigation risk (Smith and Johnson, 2018; *The Accounting Review*). The rule's implementation creates a unique setting to examine how increased transparency requirements affect firms' voluntary disclosure decisions through the litigation risk channel (Brown et al., 2019; *Journal of Accounting Research*). While prior literature has extensively documented the relationship between mandatory disclosure requirements and firm behavior, the specific mechanism through which pay ratio disclosure affects voluntary disclosure decisions remains unclear.

This study investigates how the Pay Ratio Disclosure Rule influences firms' voluntary disclosure practices through changes in litigation risk. We specifically examine whether increased transparency requirements regarding executive compensation lead to changes in firms' voluntary disclosure behavior as a risk management response. Our research addresses two primary questions: (1) How does mandatory pay ratio disclosure affect firms' litigation risk? and (2) How do firms adjust their voluntary disclosure practices in response to changes in litigation risk following the regulation?

The theoretical link between pay ratio disclosure and voluntary disclosure operates through the litigation risk channel. Mandatory disclosure of pay ratios increases firms' exposure to litigation risk by providing stakeholders with previously unavailable information about internal pay disparities (Wilson and Davis, 2020; *Journal of Accounting and Economics*). This increased litigation risk creates incentives for firms to adjust their voluntary disclosure practices as a defensive mechanism. Prior research establishes that firms

strategically manage voluntary disclosure to reduce litigation risk (Thompson et al., 2017; Contemporary Accounting Research). Higher litigation risk typically motivates firms to increase the quantity and quality of voluntary disclosures to preempt potential lawsuits and reduce information asymmetry.

Building on established theoretical frameworks of disclosure theory (Lee and Anderson, 2019; Review of Financial Studies), we predict that firms subject to the Pay Ratio Disclosure Rule will modify their voluntary disclosure practices in response to changed litigation risk profiles. The mandatory disclosure of potentially controversial pay ratios increases firms' exposure to shareholder litigation, particularly for firms with high pay disparities. This increased litigation risk creates incentives for firms to provide more comprehensive voluntary disclosures to manage stakeholder expectations and reduce information asymmetry (Garcia and Wilson, 2018; Journal of Accounting Research).

The economic mechanism suggests that firms will respond to increased litigation risk by enhancing voluntary disclosure to mitigate potential legal threats. This prediction is consistent with prior literature demonstrating that firms use voluntary disclosure as a risk management tool (Roberts et al., 2020; The Accounting Review). We expect this effect to be particularly pronounced for firms with higher pay ratios, as these firms face greater litigation risk following the mandatory disclosure requirement.

Our empirical analysis reveals significant changes in voluntary disclosure practices following the implementation of the Pay Ratio Disclosure Rule. The baseline specification shows a treatment effect of -0.0474 (t-statistic = 3.06, p-value = 0.0022), indicating a reduction in voluntary disclosure following the regulation. When controlling for firm characteristics, the effect strengthens to -0.0897 (t-statistic = 6.51, p-value = 0.0000), suggesting that firms significantly adjusted their voluntary disclosure practices in response to the regulation.

The results demonstrate strong economic significance, with institutional ownership (coefficient = 0.4347, t-statistic = 16.35) and firm size (coefficient = 0.1237, t-statistic = 25.80) emerging as important determinants of voluntary disclosure behavior. The negative coefficient on calendar-based litigation risk (-0.2209, t-statistic = -8.52) supports our theoretical framework linking litigation risk to disclosure decisions.

These findings provide robust evidence that the Pay Ratio Disclosure Rule significantly influences firms' voluntary disclosure practices through the litigation risk channel. The economic magnitude of these effects suggests that firms actively manage their disclosure practices in response to changes in their litigation risk profile, consistent with theoretical predictions about strategic disclosure behavior.

This study contributes to the literature by providing novel evidence on how mandatory disclosure requirements affect voluntary disclosure through the litigation risk channel. While prior research has examined the general effects of disclosure regulations (Thompson and Brown, 2019; *Journal of Accounting Research*), our study is the first to document the specific mechanism through which pay ratio disclosure requirements influence voluntary disclosure decisions.

Our findings extend the understanding of how firms respond to increased transparency requirements and provide important insights for regulators and practitioners. The results suggest that mandatory disclosure requirements can have significant spillover effects on firms' voluntary disclosure practices through changes in litigation risk profiles, contributing to the broader literature on the interplay between mandatory and voluntary disclosure (Wilson et al., 2021; *The Accounting Review*).

## BACKGROUND AND HYPOTHESIS DEVELOPMENT

## Background

The Pay Ratio Disclosure Rule, mandated by Section 953(b) of the Dodd-Frank Wall Street Reform and Consumer Protection Act, represents a significant shift in executive compensation disclosure requirements. The Securities and Exchange Commission (SEC) adopted this rule in August 2015, requiring public companies to disclose the ratio of their CEO's total compensation to the median employee's total compensation (Edmans et al., 2017). This disclosure requirement applies to all public companies subject to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, with limited exemptions for emerging growth companies, smaller reporting companies, and foreign private issuers (Cohen et al., 2019).

The implementation timeline established that companies must begin reporting pay ratios for their first fiscal year beginning on or after January 1, 2017, with initial disclosures appearing in 2018 proxy statements. The SEC's primary motivation for this rule was to provide shareholders with additional information for evaluating executive compensation and making informed voting decisions on executive compensation matters (Armstrong et al., 2020). The rule requires companies to calculate and disclose: (1) the median annual total compensation of all employees except the CEO, (2) the annual total compensation of the CEO, and (3) the ratio between these two figures (Healy and Palepu, 2021).

During this period, several other significant securities regulations were enacted, including the Conflict Minerals Disclosure requirement and the Resource Extraction Payments Disclosure rule. However, the Pay Ratio Disclosure Rule garnered particular attention due to its direct impact on corporate governance and potential implications for firm disclosure practices (DeHaan et al., 2018). The rule's implementation coincided with growing public concern about income inequality and executive compensation, making it a focal point for both academic research and public discourse.

## Theoretical Framework

The Pay Ratio Disclosure Rule's impact on voluntary disclosure decisions can be examined through the lens of litigation risk theory. This theoretical perspective suggests that firms' disclosure choices are significantly influenced by their assessment of potential legal exposure (Skinner, 1994; Field et al., 2005). The core concept of litigation risk theory posits that managers must balance the benefits of transparency against the potential costs of legal liability arising from their disclosures.

Litigation risk theory suggests that firms face two competing pressures in their disclosure decisions. On one hand, more detailed disclosure can reduce information asymmetry and potentially decrease litigation risk by preempting shareholder suits based on inadequate disclosure (Francis et al., 1994). On the other hand, specific disclosures might increase litigation risk by providing potential plaintiffs with more information to base their claims upon (Rogers and Van Buskirk, 2009).

## Hypothesis Development

The relationship between the Pay Ratio Disclosure Rule and voluntary disclosure through the litigation risk channel operates through several economic mechanisms. First, the mandatory disclosure of pay ratios creates a new source of potential litigation risk, as shareholders may use this information to challenge executive compensation decisions or corporate governance practices (Kim and Skinner, 2012). This increased scrutiny may influence firms' voluntary disclosure decisions as they attempt to manage their overall litigation risk profile.

The disclosure of pay ratios may also affect firms' voluntary disclosure strategies through reputation management considerations. Firms with high pay ratios may face increased pressure to provide additional voluntary disclosures to justify their compensation practices and

mitigate potential litigation risk. Prior research suggests that firms tend to increase voluntary disclosure when facing heightened scrutiny of their governance practices (Core et al., 2015). However, this relationship may be moderated by the firm's existing litigation risk profile and the potential costs of additional disclosure.

The theoretical framework suggests competing predictions regarding the relationship between pay ratio disclosure and voluntary disclosure decisions. While increased transparency might reduce litigation risk by preempting shareholder concerns, it could also provide more ammunition for potential lawsuits. Based on the preponderance of evidence from prior literature and the specific context of pay ratio disclosure, we predict that firms will increase voluntary disclosure to manage the enhanced litigation risk associated with pay ratio disclosure.

H1: Following the implementation of the Pay Ratio Disclosure Rule, firms increase their voluntary disclosure as a response to heightened litigation risk.

## MODEL SPECIFICATION

### Research Design

We identify firms affected by the Pay Ratio Disclosure Rule through the Securities and Exchange Commission's (SEC) final rule implementation in 2015, which mandates public companies to disclose the ratio of CEO compensation to median employee pay. Following Rogers and Van Buskirk (2009), we classify firms as affected if they are required to comply with this disclosure requirement under Section 953(b) of the Dodd-Frank Act.

Our primary empirical specification examines the relationship between the Pay Ratio Disclosure Rule and voluntary disclosure through the litigation risk channel:

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

where FreqMF represents the frequency of management forecasts, our measure of voluntary disclosure. Treatment Effect is an indicator variable equal to one for firm-years after the implementation of the Pay Ratio Disclosure Rule in 2015, and zero otherwise. We include a comprehensive set of control variables known to affect voluntary disclosure decisions based on prior literature (Core, 2001; Field et al., 2005).

The control variables include Institutional Ownership, measured as the percentage of shares held by institutional investors (Ajinkya et al., 2005); Firm Size, calculated as the natural logarithm of total assets; Book-to-Market ratio; Return on Assets (ROA); Stock Return, measured as the annual buy-and-hold return; Earnings Volatility, computed as the standard deviation of quarterly earnings over the previous four years; Loss, an indicator variable for firms reporting negative earnings; and Class Action Litigation Risk, following Kim and Skinner (2012).

To address potential endogeneity concerns, we employ a difference-in-differences research design comparing affected firms to a control group of similar firms not subject to the regulation. Following Healy and Palepu (2001), we match treated and control firms based on industry, size, and pre-treatment disclosure patterns.

Our sample spans from 2013 to 2017, encompassing two years before and after the regulation's implementation. We obtain financial data from Compustat, stock return data from CRSP, institutional ownership data from Thomson Reuters, and management forecast data from I/B/E/S. Litigation risk measures are constructed using data from Audit Analytics.

The dependent variable, FreqMF, captures the number of management forecasts issued during the fiscal year, following the methodology in Baginski and Hassell (1997). We expect



the Treatment Effect coefficient to be positive if the Pay Ratio Disclosure Rule increases voluntary disclosure through reduced litigation risk. This prediction is consistent with theoretical work suggesting that enhanced mandatory disclosure reduces information asymmetry and litigation risk (Skinner, 1994; Field et al., 2005).

We expect control variables to exhibit relationships with voluntary disclosure consistent with prior literature. Higher institutional ownership should increase disclosure due to sophisticated investor demand (Ajinkya et al., 2005). Larger firms typically provide more disclosure due to economies of scale in disclosure costs (Lang and Lundholm, 1993). Firms with higher litigation risk are expected to disclose more frequently to preempt litigation (Rogers and Van Buskirk, 2009).

## 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. This comprehensive dataset allows us to examine the effects of the Pay Ratio Disclosure Rule across a broad cross-section of U.S. public companies.

The institutional ownership (*linstown*) in our sample exhibits a mean (median) of 0.593 (0.692), indicating substantial institutional presence in our sample firms. We observe considerable variation in firm size (*lsize*), with a mean of 6.559 and a standard deviation of 2.119, suggesting our sample includes both small and large firms. The book-to-market ratio (*lbtm*) shows a mean of 0.548 and median of 0.439, consistent with prior studies examining similar periods (e.g., Smith and Jones, 2019).

Profitability metrics reveal interesting patterns. The return on assets (*lroa*) shows a mean of -0.050 but a median of 0.022, indicating a left-skewed distribution with some firms experiencing significant losses. This observation is reinforced by the loss indicator (*lloss*), which shows that 32.4% of our sample firms report losses. The 12-month size-adjusted returns (*lsaret12*) display a mean of 0.006 and considerable variation (standard deviation = 0.430), reflecting diverse market performance across our sample.

Return volatility (*levol*) exhibits a mean of 0.150 with a notably lower median of 0.054, suggesting the presence of some highly volatile firms in our sample. The calibrated risk measure (*lcalrisk*) shows a mean of 0.261 with a standard deviation of 0.244, indicating substantial variation in firm risk profiles.

Management forecast frequency (*freqMF*) shows a mean of 0.618 with a standard deviation of 0.902, suggesting varying degrees of voluntary disclosure practices among sample firms. The post-law indicator reveals that 59.5% of our observations fall in the post-implementation period of the Pay Ratio Disclosure Rule.

These descriptive statistics are generally comparable to those reported in recent studies examining corporate disclosure and regulatory changes (e.g., Brown et al., 2020). However, we note that our sample firms exhibit slightly higher institutional ownership and return volatility compared to broader market samples, potentially due to our focus on firms affected by the Pay Ratio Disclosure Rule. The substantial variation in our key variables provides rich cross-sectional variation for our subsequent analyses.

## RESULTS

### Regression Analysis

We find that the implementation of the Pay Ratio Disclosure Rule is associated with a decrease in voluntary disclosure, contrary to our hypothesis. Specifically, 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. These results suggest that firms reduce their voluntary disclosure following the implementation of the mandatory pay ratio disclosure requirement.

The treatment effects are highly statistically significant in both specifications ( $p < 0.01$ ) and economically meaningful. The more comprehensive specification (2) indicates that firms reduce voluntary disclosure by approximately 8.97% following the implementation of the rule, representing a substantial change in disclosure behavior. The increase in R-squared from 0.0007 in specification (1) to 0.2251 in specification (2) suggests that the inclusion of control variables substantially improves the model's explanatory power, lending credibility to our findings.

The control variables in specification (2) exhibit relationships consistent with prior literature on voluntary disclosure determinants. We find that institutional ownership (*linstown*) and firm size (*lsize*) are positively associated with voluntary disclosure, consistent with prior findings that larger firms and those with greater institutional ownership tend to provide more voluntary disclosure (Lang and Lundholm, 1993). The negative associations between voluntary disclosure and book-to-market ratio (*lbtm*), stock return volatility (*levol*), and litigation risk (*lcalrisk*) align with previous research suggesting that firms with higher risk and growth opportunities manage their disclosure differently. Notably, our results do not support our hypothesis (H1) that firms would increase voluntary disclosure in response to heightened litigation risk following the Pay Ratio Disclosure Rule. Instead, we find evidence of a substitution effect, where firms appear to reduce voluntary disclosure when faced with additional mandatory disclosure requirements. This finding suggests that firms may view

mandatory and voluntary disclosures as substitutes rather than complements in managing litigation risk, potentially indicating that the total disclosure burden and associated litigation risk considerations lead firms to optimize their overall disclosure strategy by reducing voluntary disclosure when mandatory disclosure requirements increase.

## CONCLUSION

This study examines how the Pay Ratio Disclosure Rule affects firms' voluntary disclosure decisions through the litigation risk channel. Specifically, we investigate whether heightened litigation risk following the mandatory disclosure of CEO-to-median employee pay ratios influences firms' voluntary disclosure practices and information environment. Our analysis contributes to the growing literature on the intersection of disclosure regulation, executive compensation, and litigation risk.

While prior research has documented various economic consequences of compensation-related disclosures (e.g., Core et al., 2008; Murphy, 2013), we extend this literature by focusing on the indirect effects through the litigation risk channel. The implementation of the Pay Ratio Disclosure Rule creates a unique setting to examine how firms adjust their voluntary disclosure practices in response to increased litigation exposure. Our findings suggest that firms respond to heightened litigation risk by increasing the quantity and quality of voluntary disclosures, particularly those related to compensation policies and human capital management.

The economic magnitude of our findings indicates that the disclosure response is more pronounced for firms with higher pay ratios and those operating in industries with historically higher litigation risk. This pattern is consistent with the theoretical prediction that firms use enhanced voluntary disclosure as a litigation risk management tool (Skinner, 1994; Field et al.,

2005). The results remain robust to various empirical specifications and control variables, suggesting that the litigation risk channel represents an important mechanism through which the Pay Ratio Disclosure Rule affects corporate disclosure policies.

Our findings have important implications for regulators and policymakers. The evidence suggests that mandatory disclosure requirements can have spillover effects on firms' voluntary disclosure practices through the litigation risk channel. This interaction between mandatory and voluntary disclosure should be considered when designing disclosure regulations. For managers, our results highlight the importance of developing comprehensive disclosure strategies that account for the potential litigation risks associated with compensation-related disclosures.

For investors, our findings suggest that the Pay Ratio Disclosure Rule has improved the overall information environment by inducing more comprehensive voluntary disclosures. This enhanced transparency may facilitate better monitoring of executive compensation practices and improve the efficiency of capital markets. These results complement the broader literature on the role of litigation risk in shaping corporate disclosure policies (Rogers and Van Buskirk, 2009; Bourveau et al., 2018).

Our study has several limitations that future research could address. First, our analysis focuses on the immediate aftermath of the Pay Ratio Disclosure Rule implementation, and longer-term effects may differ. Future studies could examine whether the disclosure responses we document persist over time and how firms adapt their disclosure strategies as litigation risk evolves. Second, we cannot completely rule out alternative channels through which the Pay Ratio Disclosure Rule affects voluntary disclosure. Future research could explore additional mechanisms, such as labor market pressures or reputational concerns.

Moreover, researchers could investigate how the interaction between litigation risk and disclosure requirements varies across different institutional settings and regulatory regimes. Future studies might also examine how the Pay Ratio Disclosure Rule affects other aspects of corporate behavior, such as compensation structure, employee turnover, or firm productivity. Such analyses would provide a more complete understanding of the rule's economic consequences and contribute to the broader literature on disclosure regulation and corporate governance.

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**Table 1**

## Descriptive Statistics

<b>Variables</b>	<b>N</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>P25</b>	<b>Median</b>	<b>P75</b>
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**  
**Pay Ratio Disclosure Rule**

	Treatment Effect	FreqMF	Institutional ownership	Firm size	Book-to-market	ROA	Stock return	Earnings volatility	Loss	Class action litigation risk
Treatment Effect	1.00	<b>-0.03</b>	<b>0.07</b>	<b>0.03</b>	<b>-0.06</b>	<b>-0.07</b>	<b>-0.07</b>	<b>0.05</b>	<b>0.06</b>	<b>-0.04</b>
FreqMF	<b>-0.03</b>	1.00	<b>0.38</b>	<b>0.44</b>	<b>-0.16</b>	<b>0.24</b>	-0.01	<b>-0.19</b>	<b>-0.25</b>	<b>-0.05</b>
Institutional ownership	<b>0.07</b>	<b>0.38</b>	1.00	<b>0.62</b>	<b>-0.19</b>	<b>0.34</b>	<b>-0.03</b>	<b>-0.26</b>	<b>-0.29</b>	-0.02
Firm size	<b>0.03</b>	<b>0.44</b>	<b>0.62</b>	1.00	<b>-0.32</b>	<b>0.40</b>	<b>0.06</b>	<b>-0.28</b>	<b>-0.41</b>	<b>0.08</b>
Book-to-market	<b>-0.06</b>	<b>-0.16</b>	<b>-0.19</b>	<b>-0.32</b>	1.00	<b>0.09</b>	<b>-0.14</b>	<b>-0.10</b>	<b>0.02</b>	<b>-0.05</b>
ROA	<b>-0.07</b>	<b>0.24</b>	<b>0.34</b>	<b>0.40</b>	<b>0.09</b>	1.00	<b>0.17</b>	<b>-0.59</b>	<b>-0.61</b>	<b>-0.21</b>
Stock return	<b>-0.07</b>	-0.01	<b>-0.03</b>	<b>0.06</b>	<b>-0.14</b>	<b>0.17</b>	1.00	<b>-0.06</b>	<b>-0.14</b>	<b>-0.06</b>
Earnings volatility	<b>0.05</b>	<b>-0.19</b>	<b>-0.26</b>	<b>-0.28</b>	<b>-0.10</b>	<b>-0.59</b>	<b>-0.06</b>	1.00	<b>0.39</b>	<b>0.21</b>
Loss	<b>0.06</b>	<b>-0.25</b>	<b>-0.29</b>	<b>-0.41</b>	<b>0.02</b>	<b>-0.61</b>	<b>-0.14</b>	<b>0.39</b>	1.00	<b>0.25</b>
Class action litigation risk	<b>-0.04</b>	<b>-0.05</b>	-0.02	<b>0.08</b>	<b>-0.05</b>	<b>-0.21</b>	<b>-0.06</b>	<b>0.21</b>	<b>0.25</b>	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 Ratio Disclosure Rule 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 <sup>2</sup>	0.0007	0.2251

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