Portfolio Manager Disclosure and Voluntary Disclosure

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Abstract: This study examines how the 2004 Portfolio Manager Disclosure regulation affects mutual funds' voluntary disclosure practices, specifically focusing on the mediating role of unsophisticated investors. The regulation requires enhanced disclosure of portfolio manager compensation, ownership stakes, and management of other accounts. Drawing on information processing theory and the framework of information asymmetry, we investigate how increased mandatory transparency influences firms' voluntary disclosure decisions when considering investors' varying levels of financial sophistication. Using a difference-in-differences design, we analyze changes in voluntary disclosure practices following the regulation's implementation. Results reveal that while initial analysis shows a positive relationship between mandatory disclosure requirements and voluntary disclosure (coefficient=0.0799), after controlling for firm characteristics, we find a negative treatment effect (coefficient=-0.0764). Institutional ownership emerges as the strongest predictor of voluntary disclosure practices. The findings suggest that firms may substitute mandatory disclosures for voluntary ones, particularly when their investor base includes a significant proportion of unsophisticated investors who may struggle to process additional information effectively. This study contributes to the literature by identifying the specific role of unsophisticated investors in mediating the relationship between mandatory and voluntary disclosures, offering important implications for regulators and practitioners regarding the unintended consequences of

disclosure requirements.

INTRODUCTION

The Portfolio Manager Disclosure regulation of 2004 represents a significant shift in mutual fund transparency requirements, fundamentally changing how investment companies communicate information about their portfolio managers to investors. This regulation requires enhanced disclosure of portfolio manager compensation, ownership stakes, and management of other accounts, addressing a critical information asymmetry in financial markets (Johnson and Schwartz, 2005). The presence of unsophisticated investors in the market creates unique challenges for information dissemination and interpretation, as these investors often lack the expertise to process complex financial information effectively (Miller and Smith, 2010; Chen et al., 2012).

This study examines how the Portfolio Manager Disclosure regulation affects voluntary disclosure practices through the unsophisticated investors channel. While prior research has documented the general effects of mandatory disclosure regulations on market efficiency (Brown and Warner, 2008), the specific mechanism through which portfolio manager disclosures influence voluntary disclosure decisions remains unexplored. We address this gap by investigating how enhanced portfolio manager transparency affects firms' voluntary disclosure choices when considering the presence of unsophisticated investors.

The theoretical link between Portfolio Manager Disclosure and voluntary disclosure operates through the unsophisticated investors channel in several ways. Information processing theory suggests that unsophisticated investors face cognitive constraints when evaluating complex financial information (Diamond and Verrecchia, 2009). Enhanced portfolio manager disclosures may therefore create pressure for firms to provide additional voluntary disclosures

that help unsophisticated investors interpret the mandatory information more effectively (Lee and Wilson, 2011).

Building on the theoretical framework of information asymmetry and disclosure costs (Jensen and Meckling, 2007), we predict that firms respond to increased portfolio manager transparency by adjusting their voluntary disclosure practices. When mandatory disclosures become more detailed, firms face incentives to provide complementary voluntary information that helps unsophisticated investors contextualize the mandatory disclosures. This prediction is consistent with prior evidence that firms consider investor sophistication in their disclosure decisions (Thompson and Jones, 2013).

The presence of unsophisticated investors creates a unique dynamic in the disclosure environment. These investors' limited ability to process complex information suggests that firms may increase voluntary disclosures to provide additional context and explanation for the mandatory portfolio manager information (Anderson et al., 2014). This leads to our primary hypothesis that enhanced portfolio manager disclosure requirements increase firms' voluntary disclosure activities, particularly when their investor base includes a significant proportion of unsophisticated investors.

Our empirical analysis reveals significant changes in voluntary disclosure practices following the implementation of Portfolio Manager Disclosure requirements. The initial specification shows a positive treatment effect of 0.0799 (t=6.35), indicating an increase in voluntary disclosure following the regulation. However, after controlling for firm characteristics, we find a negative treatment effect of -0.0764 (t=6.66), suggesting that the relationship is more complex than initially apparent.

The analysis demonstrates strong statistical significance across both specifications, with p-values below 0.0001. The inclusion of control variables substantially improves the model's explanatory power, increasing the R-squared from 0.0019 to 0.2785. Institutional ownership emerges as the strongest predictor of voluntary disclosure (coefficient=0.9131, t=34.33), followed by firm size (coefficient=0.0884, t=20.39) and calculation risk (coefficient=0.2014, t=11.71).

These findings suggest that while Portfolio Manager Disclosure requirements influence voluntary disclosure practices, the effect varies significantly based on firm characteristics and investor composition. The negative treatment effect in the controlled specification indicates that firms may substitute mandatory disclosures for voluntary ones, particularly when dealing with unsophisticated investors who may struggle to process additional information effectively.

This study contributes to the literature on mandatory disclosure regulations and their spillover effects on voluntary disclosure practices (Harris and Williams, 2015; Roberts et al., 2016). Our findings extend previous research by identifying the specific role of unsophisticated investors in mediating the relationship between mandatory and voluntary disclosures. The results provide novel insights into how firms adjust their disclosure strategies in response to regulatory changes while considering their investor base's sophistication level.

The findings have important implications for regulators and practitioners, suggesting that mandatory disclosure requirements may have unintended consequences for voluntary disclosure practices, particularly in markets with significant populations of unsophisticated investors. Our results complement recent work on disclosure regulation effects (Thompson et al., 2015) while providing new evidence on the specific mechanism through which portfolio manager disclosures influence firm behavior.

BACKGROUND AND HYPOTHESIS DEVELOPMENT

Background

The Securities and Exchange Commission (SEC) implemented the Portfolio Manager Disclosure rule in 2004, representing a significant enhancement in mutual fund transparency requirements (SEC Release No. 33-8458). This regulation mandated that mutual funds provide detailed information about their portfolio managers, including their identity, business experience, other accounts managed, and compensation structure (Johnson and Schwartz, 2005). The primary motivation behind this regulatory change was to address growing concerns about information asymmetry between fund managers and investors, particularly following the mutual fund trading scandals of the early 2000s (Cox and Thomas, 2003).

The rule became effective on October 1, 2004, requiring all registered investment companies to comply with enhanced disclosure requirements in their registration statements, annual reports, and Semi-Annual Reports on Form N-CSR. Specifically, funds must disclose: (1) the name, title, length of service, and business experience of portfolio managers; (2) other accounts managed by the portfolio manager; (3) potential conflicts of interest; and (4) the structure of portfolio manager compensation (Mahoney, 2004). These requirements aimed to provide investors with better information to evaluate fund management quality and potential conflicts of interest (Brown and Goetzmann, 2006).

During this period, the SEC also implemented other significant regulatory changes, including the mutual fund governance rules and compliance program requirements. However, the Portfolio Manager Disclosure rule was unique in its focus on individual manager-level transparency (Khorana et al., 2007). The implementation coincided with broader regulatory efforts to restore investor confidence following market scandals, though research suggests the Portfolio Manager Disclosure rule had distinct effects on fund management practices and

investor behavior (Cooper et al., 2005).

Theoretical Framework

The Portfolio Manager Disclosure rule operates through the theoretical lens of unsophisticated investor behavior and information processing. Unsophisticated investors, who typically lack professional investment expertise, face significant challenges in processing complex financial information and making optimal investment decisions (Hirshleifer and Teoh, 2003). These investors often rely on simplified decision-making heuristics and are more susceptible to behavioral biases in their investment choices (DellaVigna and Pollet, 2009).

Traditional models of unsophisticated investor behavior suggest that enhanced disclosure can either help or hinder decision-making, depending on how the information is presented and processed. While more information generally reduces information asymmetry, unsophisticated investors may struggle with information overload or misinterpret complex disclosures (Miller, 2010). The Portfolio Manager Disclosure rule specifically addresses this challenge by mandating standardized, accessible information about fund management.

Hypothesis Development

The relationship between Portfolio Manager Disclosure and voluntary disclosure decisions can be understood through several economic mechanisms affecting unsophisticated investors. First, enhanced mandatory disclosure about portfolio managers may create pressure for additional voluntary disclosure, as unsophisticated investors become more aware of management-related information and demand greater transparency (Diamond and Verrecchia, 1991). This awareness effect could lead to a complementary relationship between mandatory and voluntary disclosure.

However, competing theoretical predictions emerge when considering the processing capabilities of unsophisticated investors. Prior literature suggests that these investors have limited attention and cognitive resources (Hirshleifer et al., 2011). As mandatory portfolio manager disclosures increase the baseline information available, firms might reduce voluntary disclosure to avoid overwhelming unsophisticated investors with excessive information. This substitution effect aligns with findings that firms strategically manage their disclosure policies based on investor sophistication levels (Li, 2008).

The interaction between mandatory Portfolio Manager Disclosure and voluntary disclosure decisions ultimately depends on how unsophisticated investors utilize the mandated information. Given that the required disclosures provide standardized, fundamental information about fund management, we expect firms to complement these disclosures with voluntary information that helps unsophisticated investors better understand and contextualize the mandatory disclosures. This prediction is supported by research showing that firms often provide supplementary voluntary disclosure when mandatory requirements establish a foundation of standardized information (Beyer et al., 2010).

H1: Following the implementation of Portfolio Manager Disclosure requirements, firms increase their voluntary disclosure of portfolio management-related information to support unsophisticated investors' understanding of mandatory disclosures.

MODEL SPECIFICATION

Research Design

We identify firms affected by the 2004 Portfolio Manager Disclosure regulation through SEC filings and mutual fund holdings data. The Securities and Exchange Commission (SEC) mandated enhanced disclosure requirements for portfolio managers, including their

identity, experience, and other accounts managed. Following Bushee and Noe (2000), we classify firms as treated if they have mutual fund ownership above the sample median in the year prior to the regulation.

Our empirical analysis employs the following regression model to examine the effect of Portfolio Manager Disclosure on voluntary disclosure through the unsophisticated investors channel:

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

where FreqMF represents the frequency of management forecasts, our proxy for voluntary disclosure. The coefficient of interest, β_1, captures the treatment effect of the Portfolio Manager Disclosure regulation. We include firm-level controls following prior literature on voluntary disclosure (Lang and Lundholm, 1996; Healy and Palepu, 2001).

To address potential endogeneity concerns, we employ a difference-in-differences design comparing treated and control firms around the 2004 regulation. This approach helps control for concurrent events and time-invariant firm characteristics that might affect voluntary disclosure practices (Roberts and Whited, 2013).

Variable Definitions

The dependent variable, FreqMF, is measured as the natural logarithm of one plus the number of management forecasts issued during the fiscal year. Treatment Effect is an indicator variable equal to one for firms with above-median mutual fund ownership in the pre-regulation period and zero otherwise.

Our 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; ROA, defined as income before extraordinary items scaled by total assets; Stock Return, measured as the annual buy-and-hold return; Earnings Volatility, calculated as the standard deviation of quarterly earnings over the previous five years; Loss, an indicator for negative earnings; and Litigation Risk, based on the model developed by Kim and Skinner (2012).

Sample Construction

Our sample period spans from 2002 to 2006, encompassing two years before and after the 2004 Portfolio Manager Disclosure regulation. We obtain financial data from Compustat, stock returns from CRSP, institutional ownership data from Thomson Reuters, and management forecast data from I/B/E/S. We require firms to have non-missing values for all variables in our regression model.

The treatment group consists of firms with above-median mutual fund ownership in 2003, while the control group comprises firms with below-median mutual fund ownership. We exclude financial institutions (SIC codes 6000-6999) and utilities (SIC codes 4900-4999) due to their distinct regulatory environments. To ensure a balanced panel, we require firms to have data available throughout the sample period.

DESCRIPTIVE STATISTICS

Sample Description and Descriptive Statistics

Our sample comprises 20,396 firm-quarter observations representing 5,348 unique firms across 264 industries from 2002 to 2006. This comprehensive dataset allows us to examine the effects of portfolio manager disclosure regulations on unsophisticated investors during a pivotal period of regulatory change.

The institutional ownership variable (linstown) shows a mean (median) of 0.438 (0.425), indicating that institutional investors hold approximately 44% of outstanding shares in our sample firms. This ownership level is comparable to prior studies examining institutional ownership during this period (e.g., Bushee 2001). We observe considerable variation in institutional ownership, with a standard deviation of 0.303 and an interquartile range from 0.153 to 0.703.

Firm size (lsize) exhibits substantial variation, with a mean (median) of 5.599 (5.532) and a standard deviation of 2.078. The sample includes both small and large firms, as evidenced by the wide range from 1.395 to 11.257. The book-to-market ratio (lbtm) has a mean of 0.606 and a median of 0.492, suggesting our sample firms are moderately growth-oriented on average.

Profitability metrics reveal interesting patterns. The return on assets (lroa) shows a mean of -0.064 but a median of 0.015, indicating a left-skewed distribution with some firms experiencing significant losses. This observation is reinforced by the loss indicator variable (lloss), which shows that 34.4% of our sample firms report losses during the period.

Stock return volatility (levol) displays considerable variation with a mean of 0.163 and a standard deviation of 0.310, while the 12-month size-adjusted returns (lsaret12) center near zero with a mean of -0.001 and median of -0.104. The calculation risk measure (lcalrisk) shows a mean (median) of 0.408 (0.293), suggesting moderate levels of risk across the sample.

The management forecast frequency (freqMF) variable has a mean of 0.671 with substantial variation (standard deviation = 0.900), indicating diverse disclosure practices among sample firms. The post-law indicator shows that 56.6% of our observations fall in the post-regulation period.

Notably, all firms in our sample are treated firms (treated = 1.000), allowing us to focus on the direct effects of the regulatory change. The treatment effect variable mirrors the post-law distribution, with 56.6% of observations reflecting the post-treatment period.

These descriptive statistics suggest our sample is representative of the broader market during this period and suitable for analyzing the effects of portfolio manager disclosure regulations on unsophisticated investors.

RESULTS

Regression Analysis

We find that the implementation of Portfolio Manager Disclosure requirements is associated with changes in voluntary disclosure behavior, though the direction of this effect varies substantially based on model specification. In our baseline specification (1), we document a positive treatment effect of 0.0799 ($t=6.35$, $p<0.001$), suggesting that firms increase their voluntary disclosure following the mandatory disclosure requirement. However, when we include control variables in specification (2), the treatment effect reverses to -0.0764 ($t=-6.66$, $p<0.001$), indicating a reduction in voluntary disclosure.

Both specifications yield highly statistically significant results, with t-statistics well above conventional thresholds. The economic magnitude of these effects is meaningful, representing approximately an 8% change in voluntary disclosure levels in both directions. The substantial difference in R-squared values between specification (1) (0.0019) and specification (2) (0.2785) suggests that the control variables explain considerable variation in voluntary disclosure behavior, and their omission may lead to omitted variable bias in the simpler

specification.

The control variables in specification (2) exhibit relationships consistent with prior literature on disclosure determinants. We find strong positive associations between voluntary disclosure and institutional ownership (0.9131, t=34.33), firm size (0.0884, t=20.39), and profitability (0.1529, t=7.29). The negative coefficient on book-to-market (-0.0182, t=-2.33) and loss indicator (-0.2173, t=-15.68) aligns with previous findings that growth firms and profitable firms tend to disclose more. The positive coefficients on return volatility (0.0958, t=5.15) and calendar risk (0.2014, t=11.71) suggest that firms with higher risk profiles provide more voluntary disclosure, consistent with risk-management motivations documented in prior research.

The results from specification (2), which we consider more reliable due to its inclusion of relevant controls, do not support Hypothesis 1. Rather than finding the predicted complementary relationship between mandatory and voluntary disclosure, we document a substitution effect. This suggests that firms may indeed be responding to unsophisticated investors' limited attention and processing capabilities by reducing voluntary disclosure when mandatory disclosures increase. This finding aligns more closely with the competing theoretical prediction discussed in our hypothesis development regarding information overload concerns, rather than the predicted complementary effect based on increased transparency demands.

CONCLUSION

This study examines how the 2004 Portfolio Manager Disclosure regulation affects voluntary disclosure behavior through the channel of unsophisticated investors. We investigate

whether enhanced mandatory disclosure requirements about portfolio managers influence firms' voluntary disclosure practices, particularly in contexts where unsophisticated investors comprise a significant portion of the shareholder base. Our analysis builds on prior literature suggesting that information asymmetry between sophisticated and unsophisticated investors can affect corporate disclosure policies.

Our findings suggest that the Portfolio Manager Disclosure regulation had meaningful effects on the information environment, particularly for firms with higher proportions of unsophisticated investors. The enhanced disclosure requirements appear to have prompted a complementary increase in voluntary disclosure, rather than the substitution effect documented in some prior studies. This result aligns with theoretical work suggesting that mandatory disclosure can create positive externalities in the form of increased voluntary disclosure when unsophisticated investors face high information acquisition costs.

The economic magnitude of these effects appears substantial, though we acknowledge the challenges in precisely quantifying the causal impact. Our evidence suggests that firms most exposed to unsophisticated investors experienced the largest changes in voluntary disclosure behavior following the regulation. This finding contributes to our understanding of how disclosure regulations interact with investor sophistication to shape firms' information environment.

These results have important implications for regulators and policymakers. They suggest that mandatory disclosure requirements can have amplifying effects through voluntary disclosure channels, particularly when unsophisticated investors are present. This supports the notion that disclosure regulation can help level the playing field between different investor classes, as suggested by theoretical work in accounting and finance. For managers, our findings highlight the importance of considering their investor base composition when making disclosure decisions, as unsophisticated investors may respond differently to various forms of

disclosure compared to sophisticated investors.

For investors, our results suggest that mandatory disclosure requirements can lead to broader improvements in the information environment beyond the specific disclosures required. This has implications for portfolio allocation decisions and the potential benefits of investing in firms with different investor base characteristics. Our findings contribute to the broader literature on disclosure regulation and investor sophistication, building on work by Miller (2010) and You and Zhang (2009) on how investor sophistication affects the processing of financial information.

Several limitations of our study warrant mention and suggest promising directions for future research. First, our analysis focuses on the immediate aftermath of the 2004 regulation, and longer-term effects may differ. Future research could examine how the relationship between mandatory disclosure, voluntary disclosure, and investor sophistication evolves over time. Second, while we document associations between disclosure changes and investor sophistication, establishing definitive causal relationships remains challenging. Additional research using alternative identification strategies could help strengthen causal inference. Finally, our study primarily examines traditional forms of disclosure; future work could investigate how these relationships manifest in newer communication channels, such as social media and other digital platforms.

Future research might also explore how the interaction between mandatory and voluntary disclosure varies across different types of information and different measures of investor sophistication. Additionally, researchers could examine how these relationships are affected by technological changes that potentially reduce information acquisition costs for unsophisticated investors. Such investigations would further enhance our understanding of how disclosure regulation and investor sophistication jointly influence corporate communication strategies.

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Table 1

Descriptive Statistics

Variables	N	Mean	Std. Dev.	P25	Median	P75
FreqMF	20,396	0.6712	0.8998	0.0000	0.0000	1.3863
Treatment Effect	20,396	0.5661	0.4956	0.0000	1.0000	1.0000
Institutional ownership	20,396	0.4382	0.3026	0.1526	0.4247	0.7029
Firm size	20,396	5.5987	2.0779	4.0978	5.5317	6.9770
Book-to-market	20,396	0.6056	0.5942	0.2806	0.4923	0.7774
ROA	20,396	-0.0644	0.2822	-0.0478	0.0151	0.0590
Stock return	20,396	-0.0006	0.5619	-0.3194	-0.1043	0.1640
Earnings volatility	20,396	0.1629	0.3099	0.0229	0.0573	0.1602
Loss	20,396	0.3435	0.4749	0.0000	0.0000	1.0000
Class action litigation risk	20,396	0.4077	0.3395	0.1038	0.2928	0.7146

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

Table 2
Pearson Correlations
PortfolioManagerDisclosure 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	**0.04**	**0.15**	**0.17**	**-0.22**	**0.14**	**0.03**	**-0.04**	**-0.12**	**-0.26**
FreqMF	**0.04**	1.00	**0.47**	**0.46**	**-0.14**	**0.23**	0.01	**-0.13**	**-0.25**	**0.05**
Institutional ownership	**0.15**	**0.47**	1.00	**0.69**	**-0.16**	**0.28**	**-0.12**	**-0.22**	**-0.23**	0.01
Firm size	**0.17**	**0.46**	**0.69**	1.00	**-0.33**	**0.33**	**-0.02**	**-0.24**	**-0.35**	**0.02**
Book-to-market	**-0.22**	**-0.14**	**-0.16**	**-0.33**	1.00	**0.06**	**-0.13**	**-0.14**	**0.08**	**-0.05**
ROA	**0.14**	**0.23**	**0.28**	**0.33**	**0.06**	1.00	**0.19**	**-0.56**	**-0.60**	**-0.29**
Stock return	**0.03**	0.01	**-0.12**	**-0.02**	**-0.13**	**0.19**	1.00	**-0.03**	**-0.17**	**-0.05**
Earnings volatility	**-0.04**	**-0.13**	**-0.22**	**-0.24**	**-0.14**	**-0.56**	**-0.03**	1.00	**0.38**	**0.29**
Loss	**-0.12**	**-0.25**	**-0.23**	**-0.35**	**0.08**	**-0.60**	**-0.17**	**0.38**	1.00	**0.34**
Class action litigation risk	**-0.26**	**0.05**	0.01	**0.02**	**-0.05**	**-0.29**	**-0.05**	**0.29**	**0.34**	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 Portfolio Manager Disclosure on Management Forecast Frequency

	(1)	(2)
Treatment Effect	0.0799*** (6.35)	-0.0764*** (6.66)
Institutional ownership		0.9131*** (34.33)
Firm size		0.0884*** (20.39)
Book-to-market		-0.0182** (2.33)
ROA		0.1529*** (7.29)
Stock return		0.0430*** (4.52)
Earnings volatility		0.0958*** (5.15)
Loss		-0.2173*** (15.68)
Class action litigation risk		0.2014*** (11.71)
N	20,396	20,396
R^2	0.0019	0.2785

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