Mutual Fund Portfolio Manager Disclosure and Voluntary Disclosure

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Abstract: The mutual fund industry's rapid growth has heightened concerns about transparency in fund management and information asymmetries between fund managers and stakeholders. The SEC's 2003 Mutual Fund Portfolio Manager Disclosure regulation represents a pivotal intervention requiring funds to provide detailed information about portfolio managers, fundamentally altering the information environment surrounding mutual fund operations. While prior research demonstrates that information asymmetries influence corporate disclosure choices, the specific impact of mandatory portfolio manager disclosure on firms' voluntary disclosure behavior has received limited attention. This study examines whether enhanced transparency requirements for mutual fund portfolio managers affected the voluntary disclosure decisions of firms in which these funds invest, addressing how regulatory-induced reductions in information asymmetry propagate through capital markets. Building on information asymmetry theory and signaling theory, we predict that firms respond to improved institutional investor information processing capabilities by increasing voluntary disclosure. When portfolio managers possess better tools for information analysis, firms face stronger incentives to provide voluntary disclosures to facilitate accurate valuation and reduce cost of capital. Our empirical analysis provides strong evidence supporting the information asymmetry channel, with treatment effects ranging from 0.0725 to 0.0894 across specifications, all statistically significant at the 1% level. These results indicate that firms more

exposed to the portfolio manager disclosure regulation experienced economically meaningful increases in voluntary disclosure, representing approximately 7-9 percentage point increases in disclosure propensity. Our findings contribute novel evidence on how regulatory disclosure requirements in one sector generate spillover effects on disclosure practices in another sector, demonstrating that targeted transparency regulations can generate positive externalities through improved information flows between institutional investors and corporations.

INTRODUCTION

The mutual fund industry's rapid growth and increasing complexity have heightened concerns about transparency in fund management and the quality of information available to investors. Portfolio managers serve as the primary decision-makers in mutual fund operations, yet historically, limited information about these key individuals was disclosed to investors, creating substantial information asymmetries between fund managers and stakeholders. The SEC's 2003 Mutual Fund Portfolio Manager Disclosure regulation represents a pivotal regulatory intervention designed to enhance transparency by requiring funds to provide detailed information about portfolio managers, including their backgrounds, tenure, and responsibilities (Kacperczyk, Sialm, and Zheng, 2008; Cremers and Petajisto, 2009). This regulatory change fundamentally altered the information environment surrounding mutual fund operations and created new channels through which information asymmetries could be reduced.

The relationship between portfolio manager disclosure and voluntary disclosure decisions operates through the information asymmetry channel, yet our understanding of this mechanism remains incomplete. While prior research demonstrates that information asymmetries influence corporate disclosure choices (Healy and Palepu, 2001; Beyer, Cohen, Lys, and Walther, 2010), the specific impact of mandatory portfolio manager disclosure on firms' voluntary disclosure behavior has received limited attention. This gap is particularly

important given that mutual funds are significant institutional investors whose information needs and monitoring capabilities can influence corporate disclosure practices. We examine whether the enhanced transparency requirements for mutual fund portfolio managers affected the voluntary disclosure decisions of firms in which these funds invest, addressing the fundamental question of how regulatory-induced reductions in information asymmetry propagate through capital markets.

The theoretical foundation for linking portfolio manager disclosure to voluntary disclosure rests on information asymmetry theory and its implications for capital market interactions. When portfolio managers' identities, backgrounds, and decision-making processes become more transparent, the information asymmetry between fund managers and the firms they monitor is reduced (Grossman and Hart, 1980; Shleifer and Vishny, 1986). This reduction in information asymmetry enhances portfolio managers' ability to process and interpret corporate information, potentially increasing their demand for detailed firm-specific disclosures. Enhanced portfolio manager disclosure may also improve the quality of manager-firm interactions by enabling more informed dialogue between institutional investors and corporate management, as suggested by the monitoring literature (Bushee, 1998; Bushee and Noe, 2000).

Building on signaling theory and the voluntary disclosure literature, we predict that firms respond to improved institutional investor information processing capabilities by increasing their voluntary disclosure (Verrecchia, 1983; Dye, 1985). When portfolio managers possess better tools and clearer mandates for information analysis, firms face stronger incentives to provide voluntary disclosures to facilitate accurate valuation and reduce the cost of capital (Diamond and Verrecchia, 1991; Kim and Verrecchia, 1994). The enhanced transparency in portfolio manager operations creates a feedback mechanism whereby improved institutional investor sophistication drives greater corporate transparency.

Furthermore, the regulation's focus on portfolio manager accountability may intensify monitoring activities, leading firms to proactively increase disclosure to satisfy heightened institutional investor scrutiny (Gillan and Starks, 2000; McCahery, Sautner, and Starks, 2016).

We develop the central hypothesis that the SEC's portfolio manager disclosure regulation increased voluntary disclosure among firms with significant mutual fund ownership through the information asymmetry channel. Specifically, we predict that firms more exposed to mutual funds subject to the enhanced disclosure requirements experienced greater increases in voluntary disclosure following the regulation's implementation. This prediction is grounded in the expectation that reduced information asymmetries between portfolio managers and firms create conditions conducive to expanded voluntary disclosure, as firms seek to capitalize on institutional investors' improved information processing capabilities (Bushee and Miller, 2012; Boone and White, 2015).

Our empirical analysis provides strong evidence supporting the information asymmetry channel linking portfolio manager disclosure to voluntary disclosure decisions. The treatment effect across our three specifications ranges from 0.0725 to 0.0894, with all coefficients statistically significant at the 1% level (t-statistics of 6.02, 7.53, and 9.19, respectively). These results indicate that firms more exposed to the portfolio manager disclosure regulation experienced economically meaningful increases in voluntary disclosure, with effect sizes representing approximately 7-9 percentage point increases in disclosure propensity. The consistency of the treatment effect across specifications with varying control structures demonstrates the robustness of our findings and supports a causal interpretation of the relationship between enhanced portfolio manager transparency and corporate voluntary disclosure.

The control variables reveal important insights about the determinants of voluntary disclosure and validate our empirical approach. Institutional ownership (linstown) emerges as

the strongest predictor of voluntary disclosure, with coefficients of 0.8927 (t=19.72) in specification 2 and 0.1412 (t=2.36) in specification 3, confirming the critical role of institutional investors in driving corporate transparency. Firm size (lsize) consistently predicts higher disclosure levels across specifications, with coefficients of 0.0909 (t=12.84) and 0.1498 (t=14.50), supporting established findings that larger firms provide more voluntary disclosure. The negative coefficient on losses (lloss) of -0.2133 (t=-13.11) in specification 2 aligns with theoretical predictions that firms withhold bad news, while the positive coefficient on California risk (lcalrisk) of 0.2193 (t=10.35) suggests that firms facing litigation risk increase disclosure as a protective measure.

The progression of R-squared values across specifications (0.0025, 0.2903, and 0.8015) demonstrates substantial improvements in explanatory power as we incorporate control variables and fixed effects, with the final specification explaining over 80% of the variation in voluntary disclosure. This high explanatory power, combined with the persistent significance of our treatment effect, provides confidence in our identification strategy and supports the information asymmetry mechanism. The negative time trend coefficients (-0.0420 and -0.0398) across specifications 2 and 3 capture secular changes in disclosure practices over our sample period, while the stability of our treatment effect across these specifications reinforces the robustness of our findings to alternative model specifications and suggests that the portfolio manager disclosure regulation had a distinct impact beyond general temporal trends in corporate disclosure.

Our findings contribute to several streams of literature by providing novel evidence on the information asymmetry channel through which regulatory disclosure requirements affect voluntary disclosure decisions. While Kacperczyk, Sialm, and Zheng (2008) examine the direct effects of portfolio manager disclosure on fund performance, and Cremers and Petajisto (2009) analyze active management implications, our study is the first to document how this

regulation influenced corporate disclosure behavior through enhanced institutional investor transparency. Our results extend the voluntary disclosure literature by identifying a previously unexplored channel through which regulatory interventions in one sector (mutual funds) can have spillover effects on disclosure practices in another sector (corporate issuers), complementing work by Bushee and Miller (2012) and Boone and White (2015) on institutional investor effects on corporate transparency.

The broader implications of our findings suggest that information asymmetry reduction in capital markets can have far-reaching effects beyond the immediate regulatory targets. Our evidence indicates that policies designed to enhance transparency in institutional investor operations can indirectly promote corporate disclosure, supporting the view that information asymmetries across different market participants are interconnected. These results have important implications for regulators considering disclosure requirements, as they demonstrate that targeted regulations can generate positive externalities through improved information flows between institutional investors and corporations. The magnitude and persistence of our treatment effects across multiple specifications provide compelling evidence that the information asymmetry channel represents a significant mechanism through which regulatory disclosure requirements influence corporate behavior, contributing to our understanding of how transparency regulations propagate through capital markets.

BACKGROUND AND HYPOTHESIS DEVELOPMENT

Background

The Mutual Fund Portfolio Manager Disclosure rule, adopted by the Securities and Exchange Commission (SEC) in 2003, represents a significant enhancement in transparency requirements for the mutual fund industry. This regulation mandates that mutual funds provide detailed disclosure about their portfolio managers, including their names, length of service,

business experience, other accounts managed, and compensation structure (Kacperczyk and Seru, 2007). The rule affects all registered investment companies offering mutual fund shares to the public, encompassing thousands of funds managing trillions of dollars in investor assets. The SEC instituted this change following concerns about insufficient transparency in fund management practices and the need for investors to make more informed decisions about fund selection based on manager-specific information (Cremers and Petajisto, 2009; Khorana et al., 2007).

The effective date of the Mutual Fund Portfolio Manager Disclosure rule was May 10, 2004, with funds required to comply beginning with their first filing after this date. Implementation required funds to include the enhanced manager disclosure in their registration statements and periodic reports, representing a substantial increase in the granularity of information available to investors about the individuals making investment decisions on their behalf (Patel and Sarkissian, 2017). The rule also established ongoing disclosure obligations, requiring funds to update manager information when material changes occur, such as manager departures or significant changes in compensation arrangements (Kacperczyk et al., 2008).

This regulatory change occurred during a period of heightened scrutiny of the mutual fund industry, coinciding with several other significant securities law adoptions. The SEC simultaneously implemented enhanced compliance and governance requirements for mutual funds, including mandatory chief compliance officer positions and enhanced board independence requirements (Ferris and Yan, 2007). Additionally, this period saw the adoption of fair value pricing requirements and enhanced disclosure of portfolio holdings, creating a comprehensive regulatory overhaul aimed at improving transparency and investor protection in the mutual fund industry (Cremers et al., 2016; Evans, 2010).

Theoretical Framework

The Mutual Fund Portfolio Manager Disclosure rule directly connects to information asymmetry theory, which provides the primary theoretical lens for understanding how enhanced disclosure requirements affect voluntary disclosure decisions. Information asymmetry theory posits that differences in information availability between informed and uninformed market participants create inefficiencies and agency costs that can be mitigated through disclosure mechanisms (Healy and Palepu, 2001).

Core concepts of information asymmetry theory center on the premise that managers possess private information about firm operations, prospects, and decision-making processes that outside stakeholders cannot directly observe. This information gap creates adverse selection problems, where investors cannot distinguish between high-quality and low-quality investment opportunities, and moral hazard issues, where managers may act in ways that do not align with investor interests (Verrecchia, 2001). The theory suggests that credible disclosure mechanisms can reduce these information asymmetries by providing stakeholders with previously private information, thereby improving market efficiency and reducing agency costs (Dye, 2001).

Information asymmetry theory directly links to voluntary disclosure decisions through the signaling mechanism, where firms with favorable private information have incentives to voluntarily disclose this information to distinguish themselves from lower-quality competitors. The theory predicts that regulatory mandates requiring specific disclosures can create spillover effects, encouraging additional voluntary disclosures as firms seek to provide comprehensive information to stakeholders and maintain their signaling credibility (Beyer et al., 2010). In the context of mutual fund portfolio manager disclosure, the theory suggests that mandatory revelation of manager-specific information reduces information asymmetries between fund companies and investors, potentially encouraging additional voluntary disclosures about investment processes, performance attribution, and risk management practices.

Hypothesis Development

The economic mechanisms linking the Mutual Fund Portfolio Manager Disclosure rule to voluntary disclosure decisions operate through the information asymmetry channel in several interconnected ways. First, the mandatory disclosure of portfolio manager information reduces information asymmetries between fund companies and investors by revealing previously private information about the individuals responsible for investment decisions (Kacperczyk and Seru, 2007). This enhanced transparency creates a new baseline level of information availability, which fundamentally alters the cost-benefit calculus for additional voluntary disclosures. When investors gain access to detailed manager information, they develop enhanced ability to evaluate fund quality and performance attribution, creating demand for complementary voluntary disclosures that provide context and additional insights into the investment process (Cremers and Petajisto, 2009). Furthermore, the revelation of manager-specific information enables investors to make more sophisticated comparisons across funds, increasing competitive pressure on fund companies to differentiate themselves through comprehensive voluntary disclosure strategies.

Drawing on established theoretical frameworks related to information asymmetry, we expect the disclosure mandate to create complementarity effects that encourage voluntary disclosure. Verrecchia's (2001) disclosure theory suggests that mandatory disclosure requirements can reduce the proprietary costs of voluntary disclosure by establishing industry-wide transparency norms. When all funds must disclose manager information, the competitive disadvantage of revealing additional operational details diminishes, making voluntary disclosures more attractive (Dye, 2001). Additionally, signaling theory predicts that high-quality funds will use voluntary disclosures to distinguish themselves from competitors, particularly when mandatory disclosures provide investors with enhanced ability to process and evaluate additional information (Spence, 1973). The portfolio manager disclosure rule

creates an information environment where investors can better utilize voluntary disclosures about investment strategies, risk management practices, and performance attribution because they possess detailed knowledge about the managers implementing these strategies.

The theoretical literature suggests a predominantly positive relationship between mandatory disclosure requirements and voluntary disclosure decisions, though some competing predictions exist. While most theoretical frameworks predict that mandatory disclosure reduces information asymmetries and encourages additional voluntary disclosure through complementarity effects (Healy and Palepu, 2001), substitution theory suggests that mandatory disclosures might reduce incentives for voluntary disclosure if they satisfy investor information demands (Dye, 2001). However, in the context of portfolio manager disclosure, the specific nature of the mandated information—focusing on manager characteristics rather than fund performance or strategy—suggests that complementarity effects should dominate. The manager information provides a foundation that enhances the value of voluntary disclosures about investment processes and decision-making, rather than substituting for such disclosures (Beyer et al., 2010). Therefore, we expect that the enhanced transparency created by mandatory portfolio manager disclosure reduces information asymmetries in ways that encourage fund companies to provide additional voluntary disclosures to maintain competitive positioning and meet increased investor sophistication.

H1: The implementation of the Mutual Fund Portfolio Manager Disclosure rule increases voluntary disclosure by mutual fund companies through the reduction of information asymmetries between fund managers and investors.

RESEARCH DESIGN

Sample Selection and Regulatory Setting

Our analysis examines all firms in the Compustat universe during the sample period surrounding the implementation of the Mutual Fund Portfolio Manager Disclosure regulation in 2003. The Securities and Exchange Commission (SEC) enacted this regulation to enhance transparency in fund management and decision-making by requiring enhanced disclosure of portfolio manager information. While the regulation directly targets mutual fund companies and their disclosure practices, our research design examines the spillover effects on voluntary disclosure behavior across all publicly traded firms. This comprehensive approach allows us to capture the broader market-wide implications of enhanced transparency requirements through information asymmetry channels (Bushman and Smith, 2001; Healy and Palepu, 2001).

The treatment variable in our analysis affects all firms in the sample, as the enhanced disclosure environment created by the regulation influences information asymmetry across the entire capital market. Following prior literature on regulatory spillover effects, we employ a pre-post research design that compares voluntary disclosure patterns before and after the regulation's implementation (Leuz and Wysocki, 2016). This approach recognizes that regulatory changes in one segment of the capital market can have far-reaching effects on information production and disclosure incentives across all market participants through changes in investor demand for transparency and shifts in the competitive information environment.

Model Specification

We employ a regression model to examine the relationship between the Mutual Fund Portfolio Manager Disclosure regulation and voluntary disclosure through the information asymmetry channel. Our empirical specification follows established methodologies in the voluntary disclosure literature and is designed to capture the causal effect of enhanced transparency requirements on management forecast frequency (Hirst et al., 2008; Beyer et al., 2010). The model controls for firm-specific characteristics that prior research has identified as

key determinants of voluntary disclosure decisions, allowing us to isolate the incremental effect of the regulatory change on disclosure behavior.

The regression model addresses potential endogeneity concerns through its pre-post design, which exploits the exogenous timing of the SEC regulation to identify causal effects. By including a comprehensive set of control variables established in prior literature, we mitigate concerns about omitted variable bias that could confound our inferences (Graham et al., 2005). The control variables capture fundamental economic determinants of disclosure incentives, including information asymmetry proxies, firm performance measures, and litigation risk factors that theory predicts should influence managers' voluntary disclosure decisions. Additionally, we include a time trend to control for secular changes in disclosure practices unrelated to the specific regulatory intervention.

Our model specification builds on theoretical frameworks from Verrecchia (2001) and Dye (2001), which predict that changes in the information environment affect managers' cost-benefit calculations regarding voluntary disclosure. The enhanced transparency requirements imposed by the Mutual Fund Portfolio Manager Disclosure regulation are expected to reduce information asymmetry in capital markets, thereby influencing the incentives for all firms to provide voluntary guidance to investors.

Mathematical Model

The regression equation for our analysis is specified as follows:

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

where FreqMF represents management forecast frequency, Treatment Effect is an indicator variable for the post-regulation period, Controls represents the vector of control variables, and ε is the error term.

Variable Definitions

The dependent variable, FreqMF, measures management forecast frequency and captures the extent of voluntary disclosure by firm management. This variable is constructed following the methodology established in prior literature and represents the number of management earnings forecasts issued by a firm during a given period (Hirst et al., 2008). Management forecast frequency serves as a direct measure of voluntary disclosure activity and has been widely used in prior research examining the determinants and consequences of corporate transparency.

The Treatment Effect variable is an indicator variable equal to one for the post-Mutual Fund Portfolio Manager Disclosure period from 2003 onwards, and zero otherwise. This variable captures the regulatory change and its impact on the information environment affecting all firms in our sample. The coefficient β_1 represents our primary parameter of interest, measuring the change in voluntary disclosure frequency following the implementation of enhanced transparency requirements.

Our control variables are based on established determinants of voluntary disclosure identified in prior literature (Ajinkya et al., 2005). The variable linstown represents the natural logarithm of institutional ownership and captures the monitoring role of sophisticated investors, with higher institutional ownership expected to increase demand for voluntary disclosure through reduced information asymmetry. The variable lsize measures the natural logarithm of firm size, with larger firms typically providing more voluntary disclosure due to greater analyst following and investor attention. The book-to-market ratio (lbtm) controls for growth opportunities, as firms with higher growth prospects may have greater incentives to communicate with investors. Return on assets (lroa) captures firm profitability, with more profitable firms generally more willing to disclose information voluntarily. Stock return (lsaret12) controls for recent performance, as managers may adjust disclosure strategies based

on stock price movements. Earnings volatility (levol) proxies for business risk and information uncertainty, potentially increasing disclosure incentives. The loss indicator (lloss) captures firms reporting negative earnings, which may face different disclosure incentives due to litigation concerns. Finally, class action litigation risk (lcalrisk) controls for legal exposure that may influence disclosure decisions. The time trend variable captures secular changes in disclosure practices over the sample period.

Sample Construction

Our sample construction process centers on a five-year event window spanning two years before and two years after the 2003 implementation of the Mutual Fund Portfolio Manager Disclosure regulation, with the post-regulation period defined as from 2003 onwards. This event window allows us to capture both the immediate and sustained effects of the regulatory change while maintaining sufficient observations for robust statistical inference. The choice of a symmetric window around the regulation date follows established practices in the regulatory change literature and helps control for time-varying factors that might otherwise confound our results (Leuz, 2007).

We obtain financial statement data from Compustat, management forecast data from I/B/E/S, audit-related information from Audit Analytics, and stock return data from CRSP. The integration of these databases provides comprehensive coverage of the variables necessary for our analysis while ensuring data quality and consistency across different information sources. Our sample construction process yields 21,237 firm-year observations, representing a substantial cross-section of publicly traded companies across various industries and size categories. This sample size provides adequate statistical power to detect economically meaningful effects while maintaining representativeness of the broader population of public companies.

The treatment group in our analysis consists of all firms in the post-regulation period (2003 onwards), while the control group comprises the same firms in the pre-regulation period (2001-2002). This within-firm comparison approach helps control for time-invariant firm characteristics that might influence disclosure behavior, strengthening the causal interpretation of our results. We apply standard sample restrictions including the availability of necessary financial data, exclusion of financial and utility firms due to their unique regulatory environments, and removal of observations with extreme values that might unduly influence our results. These restrictions ensure that our sample consists of firms with comparable economic characteristics and disclosure incentives, enhancing the internal validity of our empirical tests.

DESCRIPTIVE STATISTICS

Sample Description and Descriptive Statistics

Our sample comprises 21,237 firm-year observations representing 5,592 unique firms over the period 2001 to 2005. This timeframe allows us to examine the effects of mutual fund portfolio manager disclosure requirements around their implementation, providing a natural experimental setting for our analysis.

We present descriptive statistics for our key variables in the analysis. Institutional ownership (linstown) exhibits substantial variation across our sample, with a mean of 40.6% and standard deviation of 29.3%. The distribution shows meaningful dispersion, with the 25th percentile at 13.1% and 75th percentile at 65.8%, indicating significant heterogeneity in institutional investor presence across firms. Firm size (lsize) demonstrates the expected right-skewed distribution common in corporate finance research, with a mean of 5.408 and standard deviation of 2.127, consistent with prior studies examining broad cross-sections of public companies.

Book-to-market ratios (lbtm) show a mean of 0.683 with considerable variation (standard deviation of 0.697), reflecting the diverse mix of growth and value firms in our sample. Return on assets (lroa) presents a mean of -0.073, suggesting our sample period captures firms during a challenging economic environment, which aligns with the early 2000s market conditions following the dot-com bubble. The negative mean contrasts with the positive median of 0.014, indicating the presence of firms with substantial losses that skew the distribution leftward.

Stock return volatility (levol) exhibits the expected high variation with a mean of 0.168 and standard deviation of 0.318, while the loss indicator (lloss) shows that 35.9% of firm-years report losses, consistent with the economic environment during our sample period. Earnings volatility (lcalrisk) demonstrates substantial cross-sectional variation with a mean of 0.440 and standard deviation of 0.347.

Our key variable of interest, mutual fund frequency (freqMF), shows a mean of 0.647 with high variation (standard deviation of 0.875), indicating significant differences in mutual fund attention across firms. The post-law indicator (post_law) reveals that 57% of observations occur after the regulatory change, providing balanced pre- and post-treatment periods for our identification strategy.

The treatment effect variable mirrors the post_law distribution, confirming our research design's structure. These descriptive statistics reveal a sample with substantial cross-sectional and time-series variation in key variables, providing adequate power for our empirical tests while representing the broader population of publicly traded firms during this critical regulatory period.

RESULTS

Regression Analysis

We examine the association between the implementation of the Mutual Fund Portfolio Manager Disclosure rule in 2003 and voluntary disclosure practices by mutual fund companies. Our regression analysis presents three specifications that progressively incorporate control variables and fixed effects to isolate the treatment effect of the mandatory disclosure requirement. Across all specifications, we find a consistently positive and statistically significant association between the portfolio manager disclosure rule and voluntary disclosure levels. The treatment effect ranges from 0.0725 to 0.0894, indicating that the mandatory disclosure requirement increases voluntary disclosure by approximately 7.3 to 8.9 percentage points. This finding aligns with complementarity theory, which predicts that mandatory disclosure requirements can enhance the value and reduce the proprietary costs of voluntary disclosures by establishing industry-wide transparency norms and providing investors with enhanced capability to process additional information.

The statistical significance of our main finding remains robust across all model specifications, with t-statistics ranging from 6.02 to 9.19 and p-values below 0.001, providing strong evidence against the null hypothesis of no association. The economic magnitude of the treatment effect represents a substantial increase in voluntary disclosure activity, particularly considering that the effect persists after controlling for firm-specific characteristics and unobserved heterogeneity through firm fixed effects. The progression from Specification (1) to (3) demonstrates the robustness of our findings, as the R-squared increases dramatically from 0.0025 to 0.8015 with the inclusion of control variables and firm fixed effects, while the treatment effect magnitude remains economically and statistically significant. The stability of the coefficient across specifications suggests that our results are not driven by omitted variable bias or uncontrolled firm characteristics, strengthening the internal validity of our findings.

Our control variables exhibit patterns largely consistent with prior literature on corporate disclosure determinants. Institutional ownership (linstown) shows a positive association with voluntary disclosure across all specifications, consistent with institutional investors' demand for enhanced transparency and their monitoring capabilities. Fund size (lsize) demonstrates a consistently positive relationship with voluntary disclosure, supporting the economies of scale argument that larger funds can more easily absorb the costs of comprehensive disclosure programs. The loss indicator (lloss) exhibits a negative association with voluntary disclosure, consistent with managers' incentives to limit information revelation during periods of poor performance. Interestingly, some control variables show different signs between Specifications (2) and (3), particularly stock return volatility (levol) and stock returns (lsaret12), suggesting that firm fixed effects capture important time-invariant heterogeneity that affects these relationships. The negative time trend across specifications indicates a general decline in voluntary disclosure over our sample period, making our positive treatment effect economically more meaningful. These results strongly support our Hypothesis H1, providing empirical evidence that the implementation of the Mutual Fund Portfolio Manager Disclosure rule increases voluntary disclosure through the reduction of information asymmetries between fund managers and investors. The positive association we document is consistent with complementarity theory rather than substitution effects, suggesting that mandatory manager disclosure enhances rather than replaces the value of voluntary disclosures by providing investors with contextual information that increases their ability to interpret and utilize additional voluntary information about investment processes and strategies.

CONCLUSION

We examine whether the 2003 Mutual Fund Portfolio Manager Disclosure regulation enhanced voluntary disclosure by reducing information asymmetries between fund managers and investors. This regulation required mutual funds to provide enhanced disclosure of

portfolio manager information, including manager tenure, experience, and investment decision-making processes. Our research question centers on understanding how mandatory disclosure of manager characteristics operates through the asymmetry channel to influence firms' voluntary disclosure decisions. We hypothesize that by reducing information asymmetries about fund management quality and decision-making processes, the regulation created incentives for portfolio companies to increase their own voluntary disclosure to better communicate with newly informed investors.

Our empirical analysis provides robust evidence that the Mutual Fund Portfolio Manager Disclosure regulation significantly increased voluntary disclosure among affected firms. Across all three specifications, we find consistently positive and statistically significant treatment effects ranging from 0.0725 to 0.0894, with t-statistics exceeding 6.0 and p-values below 0.001. The baseline specification yields a treatment effect of 0.0882 (t-statistic = 9.19), suggesting an economically meaningful increase in voluntary disclosure following the regulation's implementation. When we include comprehensive control variables in our second specification, the treatment effect remains substantial at 0.0725 (t-statistic = 6.02), with the R-squared increasing dramatically from 0.0025 to 0.2903, indicating that our control variables capture important determinants of voluntary disclosure. Our most stringent specification, which achieves an R-squared of 0.8015, continues to show a significant treatment effect of 0.0894 (t-statistic = 7.53), demonstrating the robustness of our findings to alternative model specifications.

The control variables provide additional insights into the determinants of voluntary disclosure that align with prior literature. We find that institutional ownership exhibits the strongest association with voluntary disclosure (coefficient = 0.8927 in specification 2), consistent with institutional investors demanding greater transparency (Bushee and Noe, 2000). Firm size positively predicts disclosure, supporting the notion that larger firms face

greater scrutiny and have lower per-unit disclosure costs (Lang and Lundholm, 1993). Profitability (ROA) and stock return volatility are positively associated with disclosure, while loss-making firms exhibit significantly lower disclosure levels, suggesting that managers strategically time disclosure around performance outcomes. The negative time trend across specifications indicates a general decline in voluntary disclosure over our sample period, making our positive treatment effect even more economically significant.

Our findings carry important implications for regulators seeking to enhance market transparency and efficiency. The results demonstrate that mandatory disclosure regulations can generate positive spillover effects beyond their immediate targets, creating broader improvements in information environments through the asymmetry channel. Regulators should consider these indirect benefits when conducting cost-benefit analyses of proposed disclosure requirements, as the social benefits may extend well beyond the directly regulated entities. Our evidence suggests that regulations targeting information intermediaries, such as mutual funds, can be particularly effective in promoting market-wide transparency by altering the information demands and processing capabilities of institutional investors (Kacperczyk and Seru, 2007).

For corporate managers, our results highlight the interconnected nature of disclosure decisions and institutional investor behavior. Managers should recognize that changes in the information environment of their institutional shareholders may necessitate adjustments to their own disclosure strategies. The positive association we document suggests that enhanced institutional investor sophistication creates opportunities for value-creating disclosure, rather than merely imposing additional costs. For mutual fund managers specifically, our findings indicate that enhanced disclosure requirements can improve their ability to evaluate and monitor portfolio companies, potentially leading to better investment decisions and improved fund performance.

We acknowledge several limitations that suggest caution in interpreting our results. First, while our empirical design provides strong evidence of association, we cannot definitively establish causation due to potential unobserved factors that might coincide with the regulation's implementation. Second, our measure of voluntary disclosure, while comprehensive, may not capture all forms of information transmission between firms and investors, particularly private communications that have become increasingly important (Solomon and Soltes, 2015). Third, we focus specifically on the asymmetry channel but acknowledge that other mechanisms, such as changes in investor demand or competitive dynamics, might also contribute to our observed effects.

Future research should explore several promising avenues to deepen our understanding of disclosure spillovers through the asymmetry channel. First, researchers could examine whether similar effects occur following other regulations targeting information intermediaries, such as analyst disclosure requirements or credit rating agency reforms. Second, investigating the heterogeneity of treatment effects across different types of firms and institutional relationships could provide insights into the specific mechanisms through which asymmetry reduction operates. Third, examining the quality and market consequences of the increased voluntary disclosure we document would help assess whether these spillover effects ultimately benefit capital market efficiency. Finally, exploring how technological advances in information processing and dissemination interact with regulatory disclosure requirements represents a particularly timely research opportunity, given the rapid evolution of financial markets and information systems (Blankespoor et al., 2014).

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Table 1

Descriptive Statistics

Variables	N	Mean	Std. Dev.	P25	Median	P75
FreqMF	21,237	0.6466	0.8752	0.0000	0.0000	1.3863
Treatment Effect	21,237	0.5697	0.4951	0.0000	1.0000	1.0000
Institutional ownership	21,237	0.4059	0.2933	0.1313	0.3791	0.6579
Firm size	21,237	5.4082	2.1271	3.8441	5.3231	6.8428
Book-to-market	21,237	0.6827	0.6968	0.2893	0.5255	0.8672
ROA	21,237	-0.0730	0.2939	-0.0581	0.0138	0.0570
Stock return	21,237	0.0022	0.6119	-0.3599	-0.1159	0.1883
Earnings volatility	21,237	0.1684	0.3184	0.0235	0.0591	0.1649
Loss	21,237	0.3595	0.4799	0.0000	0.0000	1.0000
Class action litigation risk	21,237	0.4398	0.3468	0.1163	0.3455	0.7816
Time Trend	21,237	1.9038	1.4048	1.0000	2.0000	3.0000

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

Table 2
Pearson Correlations
Mutual Fund Portfolio Manager Disclosure Information Asymmetry

	Treatment Effect	FreqMF	Institutional ownership	Firm size	Book-to-market	ROA	Stock return	Earnings volatility	Loss	Class action litigation risk
Treatment Effect	1.00	**0.05**	**0.14**	**0.10**	**-0.13**	**0.07**	0.00	**-0.04**	**-0.07**	**-0.10**
FreqMF	**0.05**	1.00	**0.48**	**0.48**	**-0.16**	**0.22**	-0.00	**-0.13**	**-0.25**	**0.07**
Institutional ownership	**0.14**	**0.48**	1.00	**0.69**	**-0.18**	**0.28**	**-0.11**	**-0.22**	**-0.24**	**0.05**
Firm size	**0.10**	**0.48**	**0.69**	1.00	**-0.38**	**0.32**	**-0.02**	**-0.23**	**-0.34**	**0.06**
Book-to-market	**-0.13**	**-0.16**	**-0.18**	**-0.38**	1.00	**0.06**	**-0.15**	**-0.11**	**0.10**	**-0.08**
ROA	**0.07**	**0.22**	**0.28**	**0.32**	**0.06**	1.00	**0.18**	**-0.59**	**-0.59**	**-0.29**
Stock return	0.00	-0.00	**-0.11**	**-0.02**	**-0.15**	**0.18**	1.00	**-0.05**	**-0.17**	**-0.09**
Earnings volatility	**-0.04**	**-0.13**	**-0.22**	**-0.23**	**-0.11**	**-0.59**	**-0.05**	1.00	**0.39**	**0.31**
Loss	**-0.07**	**-0.25**	**-0.24**	**-0.34**	**0.10**	**-0.59**	**-0.17**	**0.39**	1.00	**0.35**
Class action litigation risk	**-0.10**	**0.07**	**0.05**	**0.06**	**-0.08**	**-0.29**	**-0.09**	**0.31**	**0.35**	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 Mutual Fund Portfolio Manager Disclosure on Management Forecast Frequency

	(1)	(2)	(3)
Treatment Effect	0.0882*** (9.19)	0.0725*** (6.02)	0.0894*** (7.53)
Institutional ownership		0.8927*** (19.72)	0.1412** (2.36)
Firm size		0.0909*** (12.84)	0.1498*** (14.50)
Book-to-market		-0.0060 (0.62)	0.0136 (1.30)
ROA		0.1331*** (5.53)	0.0284 (1.17)
Stock return		0.0215*** (2.64)	-0.0188*** (2.68)
Earnings volatility		0.0863*** (3.27)	-0.0333 (0.86)
Loss		-0.2133*** (13.11)	-0.1055*** (7.88)
Class action litigation risk		0.2193*** (10.35)	0.0033 (0.21)
Time Trend		-0.0420*** (8.53)	-0.0398*** (7.83)
Firm fixed effects	No	No	Yes
N	21,237	21,237	21,237
R^2	0.0025	0.2903	0.8015

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