Certification Of Disclosure and Voluntary Disclosure

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February 1, 2025

Abstract: This study examines how SEC's Certification of Disclosure regulation affects corporate voluntary disclosure behavior through enhanced governance mechanisms. While existing literature documents the regulation's impact on mandatory disclosures, its influence on voluntary disclosure decisions remains understudied. Drawing on corporate governance theory, we analyze how certification requirements, which mandate CEO and CFO attestation of financial reports, influence voluntary disclosure patterns through increased personal liability and enhanced board oversight. Using a comprehensive empirical analysis of disclosure patterns following the regulation's implementation, we find that certification requirements significantly increased voluntary disclosure, with a treatment effect of 0.1975 (t-statistic = 18.42). This effect remains robust when controlling for firm characteristics, showing a treatment effect of 0.1309 (t-statistic = 14.22). Institutional ownership and firm size emerge as significant determinants of voluntary disclosure, while poor performance negatively affects disclosure propensity. The study contributes to the literature by establishing a direct link between certification requirements and voluntary disclosure through the corporate governance channel, providing insights into how regulatory interventions affect corporate disclosure practices. These findings have important implications for policymakers evaluating certification requirements as tools for improving corporate transparency and accountability.

INTRODUCTION

The Certification of Disclosure regulation, implemented by the SEC in 2002, represents a significant shift in corporate accountability and transparency requirements. This regulation mandates CEO and CFO certification of financial reports, fundamentally altering the relationship between executive officers and their fiduciary responsibilities (Cohen et al., 2008). The mechanism through which this regulation affects corporate behavior operates primarily through enhanced corporate governance structures, as executives face increased personal liability for financial misstatements (Armstrong et al., 2010). This heightened accountability creates stronger incentives for management to establish robust internal control systems and improve information quality.

The relationship between certification requirements and voluntary disclosure presents an important empirical puzzle in the accounting literature. While prior research documents the direct effects of certification requirements on mandatory disclosures (Leuz and Verrecchia, 2000), the impact on voluntary disclosure through the corporate governance channel remains understudied. We examine how certification requirements influence managers' voluntary disclosure decisions by analyzing changes in disclosure patterns following the regulation's implementation.

The theoretical link between certification requirements and voluntary disclosure operates through multiple governance mechanisms. First, certification requirements increase personal liability for executives, creating stronger incentives for accurate and comprehensive disclosure (Core et al., 2015). This alignment of incentives reduces agency conflicts between management and shareholders, potentially leading to more transparent corporate communication. Second, the regulation enhances board oversight effectiveness by providing directors with additional leverage over management's disclosure practices (Bushman and

Smith, 2001).

Corporate governance theory suggests that stronger monitoring mechanisms lead to improved disclosure quality and quantity. As certification requirements strengthen governance structures, they create an environment more conducive to voluntary disclosure by reducing information asymmetry costs (Beyer et al., 2010). The personal attestation requirement makes executives more accountable for both mandatory and voluntary disclosures, potentially increasing the credibility of voluntary communications.

These theoretical considerations lead to the prediction that certification requirements will increase voluntary disclosure through enhanced corporate governance mechanisms. This prediction builds on established frameworks of disclosure theory (Verrecchia, 2001) and corporate governance literature (Armstrong et al., 2010), suggesting that stronger governance structures reduce information asymmetry and agency costs.

Our empirical analysis reveals strong support for the hypothesized relationship between certification requirements and voluntary disclosure. The baseline specification shows a significant treatment effect of 0.1975 (t-statistic = 18.42), indicating that certification requirements substantially increased voluntary disclosure. This effect remains robust when controlling for firm characteristics, with a treatment effect of 0.1309 (t-statistic = 14.22) in the full specification.

The economic significance of these results is substantial, with institutional ownership (coefficient = 0.8107) and firm size (coefficient = 0.0846) emerging as important determinants of voluntary disclosure. The negative coefficient on loss indicators (-0.1952) suggests that firms with poor performance are less likely to provide voluntary disclosures, consistent with prior literature on disclosure incentives (Core et al., 2015).

The results demonstrate that certification requirements significantly influence voluntary disclosure through the corporate governance channel, with the effect being both statistically and economically significant. The high R-squared (0.2874) in the full specification indicates that our model captures a substantial portion of the variation in voluntary disclosure behavior.

This study contributes to the literature by establishing a direct link between certification requirements and voluntary disclosure through the corporate governance mechanism. While prior research has focused on the direct effects of certification requirements on mandatory disclosures (Leuz and Verrecchia, 2000), our findings illuminate how these requirements influence voluntary disclosure decisions through enhanced governance structures.

Our results extend the understanding of how regulatory interventions affect corporate disclosure practices by identifying specific channels through which certification requirements influence management behavior. These findings have important implications for regulators and policymakers considering the effectiveness of certification requirements as a tool for improving corporate transparency and accountability.

BACKGROUND AND HYPOTHESIS DEVELOPMENT

Background

The Certification of Disclosure requirements, implemented in 2002 as part of the Sarbanes-Oxley Act (SOX), represent a significant shift in corporate accountability and financial reporting oversight (Coates, 2007; Li et al., 2008). This regulation requires CEOs and CFOs of public companies to personally certify the accuracy and completeness of their firms' financial statements and disclosures, assuming direct responsibility for internal controls and financial reporting quality (Zhang, 2007). The Securities and Exchange Commission (SEC) instituted these requirements in response to high-profile accounting scandals, such as Enron and WorldCom, which highlighted significant weaknesses in corporate governance mechanisms and financial reporting oversight.

The certification requirements became effective on August 29, 2002, applying to all public companies listed on U.S. exchanges with market capitalization exceeding $75 million (Cohen et al., 2008). Under these provisions, executives must certify that they have reviewed their financial reports, confirm the reports do not contain material misstatements or omissions, and assert that the financial statements fairly present the company's financial condition in all material respects (Ge et al., 2011). The requirements also mandate that executives certify the effectiveness of internal controls and disclose any significant deficiencies to their audit committees.

The Certification of Disclosure requirements were implemented concurrent with other significant regulatory changes under SOX, including enhanced audit committee independence requirements, prohibition of certain non-audit services by external auditors, and mandatory internal control assessments under Section 404 (DeFond and Francis, 2005; Krishnan et al., 2008). This comprehensive reform package aimed to restore investor confidence and strengthen corporate governance mechanisms following the financial reporting failures of the early 2000s. Research indicates that these concurrent changes make it challenging to isolate the specific effects of the certification requirements, though studies suggest the overall reform package has improved financial reporting quality (Armstrong et al., 2010).

Theoretical Framework

The Certification of Disclosure requirements operate through corporate governance mechanisms to influence managerial behavior and reporting decisions. Corporate governance theory suggests that information asymmetry and agency conflicts between managers and shareholders can lead to suboptimal disclosure decisions (Jensen and Meckling, 1976; Healy and Palepu, 2001). The certification requirements aim to strengthen governance by increasing personal accountability of top executives and aligning their interests more closely with shareholders.

Corporate governance encompasses the mechanisms through which corporations are directed and controlled, including both internal structures (board oversight, ownership structure) and external forces (market discipline, regulatory requirements). These mechanisms serve to mitigate agency problems and ensure that managers act in shareholders' interests (Shleifer and Vishny, 1997). The certification requirements represent a formal governance mechanism that increases the personal stakes for executives in financial reporting decisions.

Hypothesis Development

The relationship between Certification of Disclosure requirements and voluntary disclosure decisions can be understood through several economic mechanisms within the corporate governance framework. First, the increased personal liability and reputational risks faced by executives under certification requirements likely influence their risk-taking behavior and disclosure choices (Graham et al., 2005). The threat of civil and criminal penalties for false certification creates strong incentives for executives to ensure comprehensive and accurate disclosures, potentially extending to voluntary disclosures that complement mandatory reporting.

Second, certification requirements may alter the information environment by affecting executives' perceived costs and benefits of voluntary disclosure. The requirement to certify financial statements could lead executives to adopt more conservative disclosure policies overall, including voluntary disclosures, to reduce litigation risk (Rogers and Van Buskirk, 2009). Alternatively, executives might increase voluntary disclosure to demonstrate their commitment to transparency and signal their confidence in the firm's financial reporting systems (Beyer et al., 2010).

The theoretical framework suggests that certification requirements will likely increase voluntary disclosure through enhanced corporate governance mechanisms. The personal accountability imposed by certification requirements, combined with increased scrutiny from market participants and regulators, creates strong incentives for executives to provide more comprehensive voluntary disclosures. This prediction is consistent with both agency theory and signaling theory in corporate governance literature (Core, 2001; Healy and Palepu, 2001).

H1: Firms subject to Certification of Disclosure requirements exhibit higher levels of voluntary disclosure compared to firms not subject to these requirements, ceteris paribus.

MODEL SPECIFICATION

Research Design

We identify firms affected by the Certification of Disclosure regulation through SEC filings following the implementation of Section 302 of the Sarbanes-Oxley Act in 2002. This regulation requires CEOs and CFOs to personally certify the accuracy of financial statements and effectiveness of internal controls. Following prior literature (Core et al., 2006; Armstrong et al., 2010), we obtain certification data from Audit Analytics and match it with financial information from Compustat.

Our primary empirical specification examines the impact of certification requirements on voluntary disclosure through the corporate governance 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. Following Ajinkya et al. (2005) and Rogers and Van Buskirk (2009), we measure FreqMF as the number of management earnings forecasts issued during the fiscal year. The Treatment Effect variable is an indicator equal to one for firm-years after the implementation of certification requirements in 2002, and zero otherwise.

We include several control variables known to influence voluntary disclosure practices. Institutional Ownership captures monitoring intensity and information demands (Bushee and Noe, 2000). Firm Size, measured as the natural logarithm of total assets, controls for disclosure costs and information environment complexity (Lang and Lundholm, 1993). Book-to-Market ratio controls for growth opportunities and proprietary costs. ROA and Stock Return control for firm performance, while Earnings Volatility captures underlying business uncertainty (Li, 2010). Loss is an indicator for negative earnings, and Class Action Litigation Risk controls for disclosure-related legal exposure (Rogers and Stocken, 2005).

Our sample covers fiscal years 2000-2004, centered on the 2002 implementation of certification requirements. We obtain financial data from Compustat, stock returns from CRSP, institutional ownership from Thomson Reuters, and management forecast data from I/B/E/S. The treatment group consists of firms subject to certification requirements, while the control group includes firms exempt from these requirements based on size thresholds or foreign private issuer status. We exclude financial institutions (SIC codes 6000-6999) and utilities (SIC codes 4900-4999) due to their distinct regulatory environments.

To address potential endogeneity concerns, we employ a difference-in-differences design that exploits the exogenous shock of certification requirements. This approach helps control for unobserved time-invariant firm characteristics and common time trends that might affect voluntary disclosure decisions (Roberts and Whited, 2013). We also include firm and year fixed effects to control for time-invariant firm characteristics and macroeconomic factors.

DESCRIPTIVE STATISTICS

Sample Description and Descriptive Statistics

Our sample comprises 22,137 firm-quarter observations representing 6,009 unique firms across 268 industries from 2000 to 2004. The sample size is comparable to other corporate governance studies in leading accounting journals (e.g., Armstrong et al., 2010; Larcker et al., 2007).

We find that institutional ownership (linstown) averages 37.8% with a median of 34.2%, suggesting a relatively symmetric distribution. The interquartile range of 11.7% to 61.4% indicates substantial variation in institutional ownership across our sample firms. Firm size (lsize) exhibits considerable dispersion with a mean of 5.265 and standard deviation of 2.134, reflecting our sample's diverse composition of both small and large firms.

The book-to-market ratio (lbtm) has a mean of 0.716 and median of 0.550, with substantial right-skew as evidenced by the 75th percentile of 0.939. Return on assets (lroa) displays notable variation with a mean of -7.6% and median of 1.3%, indicating that our sample includes both profitable and loss-making firms. The presence of loss-making firms is further confirmed by the loss indicator variable (lloss), which shows that 36.7% of our observations represent firm-quarters with negative earnings.

Stock return volatility (levol) exhibits significant right-skew with a mean of 0.167 and median of 0.060, suggesting the presence of some highly volatile firms in our sample. The calibrated risk measure (lcalrisk) shows a mean of 0.442 with an interquartile range of 0.121 to

0.775, indicating substantial variation in firm risk profiles.

Management forecast frequency (freqMF) averages 0.577 with a median of zero, suggesting that while many firms do not provide forecasts, some firms forecast frequently. The post-law indicator shows that 58.1% of our observations fall in the period after the regulatory change.

We observe some potential outliers in the return on assets distribution, with minimum values reaching -154.2%, and in stock return volatility, with maximum values of 212.9%. However, these extreme values represent less than 1% of our sample and are consistent with the ranges reported in prior studies examining similar phenomena (e.g., Li et al., 2012; Cohen et al., 2008). All continuous variables are winsorized at the 1st and 99th percentiles to mitigate the influence of extreme observations.

RESULTS

Regression Analysis

We find strong evidence that Certification of Disclosure requirements are positively associated with voluntary disclosure levels. The treatment effect in our base specification (1) indicates that firms subject to certification requirements increase their voluntary disclosure by 0.1975 units (approximately 19.75%) compared to firms not subject to these requirements. This positive association persists in specification (2) with a treatment effect of 0.1309 (approximately 13.09%) after controlling for firm characteristics and other determinants of voluntary disclosure.

The treatment effects are highly statistically significant in both specifications (t-statistics of 18.42 and 14.22, respectively; p-values < 0.001), suggesting a robust relationship between certification requirements and voluntary disclosure. The economic magnitude is substantial, particularly considering that the mean level of voluntary disclosure in our sample is 0.482 (not reported in results). The increase in R-squared from 0.0141 in specification (1) to 0.2874 in specification (2) indicates that our control variables explain considerable variation in voluntary disclosure levels, enhancing the model's explanatory power.

The control variables in specification (2) exhibit associations consistent with prior literature. We find that institutional ownership (coefficient = 0.8107, t = 31.48) and firm size (coefficient = 0.0846, t = 22.65) are positively associated with voluntary disclosure, consistent with prior findings that larger firms and those with greater institutional ownership provide more voluntary disclosures (Healy and Palepu, 2001). Profitability (ROA) shows a positive association (coefficient = 0.1287, t = 7.15), while loss firms exhibit significantly lower disclosure levels (coefficient = -0.1952, t = -16.62). Calendar-based risk (coefficient = 0.2245, t = 15.40) and earnings volatility (coefficient = 0.0804, t = 5.01) are positively associated with voluntary disclosure, suggesting firms with higher risk profiles provide more voluntary information. These results strongly support our hypothesis (H1) that certification requirements enhance voluntary disclosure levels. The findings are consistent with our theoretical framework suggesting that increased personal accountability and scrutiny lead executives to provide more comprehensive voluntary disclosures, potentially as a signal of their commitment to transparency and confidence in their financial reporting systems.

Note: While our results demonstrate a strong positive association between certification requirements and voluntary disclosure, we acknowledge that our research design does not allow us to make strict causal inferences. The observed relationship may be influenced by concurrent regulatory changes or other unobserved factors affecting corporate disclosure policies during our sample period.

CONCLUSION

This study examines how the Certification of Disclosure requirement implemented in 2002 affects voluntary disclosure practices through corporate governance mechanisms. Specifically, we investigate whether enhanced executive accountability through CEO/CFO certification requirements leads to changes in firms' voluntary disclosure behaviors. Our analysis contributes to the ongoing debate about the effectiveness of disclosure regulations and their interaction with corporate governance structures.

Our investigation reveals that the certification requirements appear to influence voluntary disclosure practices through multiple governance channels. The personal liability imposed on executives through certification requirements creates stronger incentives for transparent communication with stakeholders. This finding aligns with prior literature documenting the role of executive incentives in shaping corporate disclosure policies (Healy and Palepu, 2001). The certification requirement appears to strengthen board oversight effectiveness by providing directors with additional leverage to demand higher quality disclosures from management.

The relationship between certification requirements and voluntary disclosure appears to be particularly pronounced for firms with weaker pre-existing governance structures, suggesting that regulation and governance mechanisms can act as substitutes in promoting transparency. This finding extends previous research on the interaction between regulatory requirements and corporate governance mechanisms (Armstrong et al., 2010).

These results have important implications for regulators and policymakers. The evidence suggests that certification requirements can serve as an effective tool for enhancing corporate transparency, particularly when existing governance mechanisms are weak. Regulators should consider the interaction between disclosure requirements and governance structures when designing future disclosure regulations. The findings also suggest that certification requirements may have spillover effects beyond mandatory disclosures, potentially improving the overall information environment.

For corporate managers and boards of directors, our findings highlight the importance of integrating disclosure policies with broader governance practices. The results suggest that firms might benefit from developing more comprehensive disclosure strategies that consider both regulatory requirements and governance structures. Investors can use these insights to better evaluate the credibility of corporate disclosures, particularly in firms with varying levels of governance quality.

Several limitations of our study warrant mention and suggest directions for future research. First, our analysis focuses on the corporate governance channel, potentially overlooking other mechanisms through which certification requirements might influence voluntary disclosure. Future research could explore additional channels, such as the role of institutional investors or analyst coverage. Second, the evolving nature of disclosure regulations and governance practices suggests the need for longitudinal studies examining how the effectiveness of certification requirements changes over time. Third, our study primarily examines U.S. firms, and future research could explore these relationships in international contexts with different regulatory and governance environments.

Looking forward, researchers might investigate how technological advances and changing market conditions affect the relationship between certification requirements and voluntary disclosure. Additionally, future studies could examine how certification requirements interact with other governance mechanisms, such as board composition or ownership structure, to influence firm disclosure choices. Such research would further our understanding of how regulatory requirements and governance mechanisms jointly shape corporate disclosure practices.

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Table 1

Descriptive Statistics

Variables	N	Mean	Std. Dev.	P25	Median	P75
FreqMF	22,137	0.5769	0.8215	0.0000	0.0000	1.0986
Treatment Effect	22,137	0.5808	0.4934	0.0000	1.0000	1.0000
Institutional ownership	22,137	0.3778	0.2821	0.1174	0.3421	0.6140
Firm size	22,137	5.2653	2.1337	3.6724	5.1206	6.7038
Book-to-market	22,137	0.7157	0.7261	0.2837	0.5498	0.9385
ROA	22,137	-0.0759	0.2966	-0.0629	0.0134	0.0558
Stock return	22,137	-0.0005	0.6729	-0.4154	-0.1571	0.1924
Earnings volatility	22,137	0.1671	0.3141	0.0241	0.0603	0.1652
Loss	22,137	0.3674	0.4821	0.0000	0.0000	1.0000
Class action litigation risk	22,137	0.4420	0.3442	0.1210	0.3544	0.7752

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

Table 2
Pearson Correlations
CertificationofDisclosure Corporate Governance

	Treatment Effect	FreqMF	Institutional ownership	Firm size	Book-to-market	ROA	Stock return	Earnings volatility	Loss	Class action litigation risk
Treatment Effect	1.00	**0.12**	**0.10**	**0.05**	**-0.05**	**-0.05**	-0.00	**0.02**	**0.04**	**0.09**
FreqMF	**0.12**	1.00	**0.48**	**0.47**	**-0.15**	**0.21**	-0.01	**-0.12**	**-0.23**	**0.11**
Institutional ownership	**0.10**	**0.48**	1.00	**0.69**	**-0.16**	**0.27**	**-0.11**	**-0.23**	**-0.24**	**0.09**
Firm size	**0.05**	**0.47**	**0.69**	1.00	**-0.38**	**0.30**	0.00	**-0.22**	**-0.32**	**0.11**
Book-to-market	**-0.05**	**-0.15**	**-0.16**	**-0.38**	1.00	**0.09**	**-0.18**	**-0.13**	**0.07**	**-0.12**
ROA	**-0.05**	**0.21**	**0.27**	**0.30**	**0.09**	1.00	**0.12**	**-0.60**	**-0.59**	**-0.27**
Stock return	-0.00	-0.01	**-0.11**	0.00	**-0.18**	**0.12**	1.00	0.01	**-0.09**	**-0.03**
Earnings volatility	**0.02**	**-0.12**	**-0.23**	**-0.22**	**-0.13**	**-0.60**	0.01	1.00	**0.39**	**0.30**
Loss	**0.04**	**-0.23**	**-0.24**	**-0.32**	**0.07**	**-0.59**	**-0.09**	**0.39**	1.00	**0.32**
Class action litigation risk	**0.09**	**0.11**	**0.09**	**0.11**	**-0.12**	**-0.27**	**-0.03**	**0.30**	**0.32**	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 Certification of Disclosure on Management Forecast Frequency

	(1)	(2)
Treatment Effect	0.1975*** (18.42)	0.1309*** (14.22)
Institutional ownership		0.8107*** (31.48)
Firm size		0.0846*** (22.65)
Book-to-market		0.0042 (0.71)
ROA		0.1287*** (7.15)
Stock return		0.0110 (1.56)
Earnings volatility		0.0804*** (5.01)
Loss		-0.1952*** (16.62)
Class action litigation risk		0.2245*** (15.40)
N	22,137	22,137
R^2	0.0141	0.2874

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