Certification Of Financial Statements and Voluntary Disclosure

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Abstract: This study examines how mandatory certification requirements influence managers' voluntary disclosure decisions through the unsophisticated investor channel. Following the SEC's 2002 mandate requiring CEO and CFO certification of financial reports, questions emerged about how increased executive accountability affects voluntary disclosure practices, particularly concerning unsophisticated investors who lack resources to independently verify financial information. Using information economics theory, we predict that certification requirements lead to increased voluntary disclosure as managers attempt to bridge the information asymmetry gap faced by unsophisticated investors. Our empirical analysis of firm-level data demonstrates that certification requirements significantly increase voluntary disclosure, with a baseline treatment effect of 0.1975 (t-statistic = 18.42) that remains robust after controlling for firm characteristics. The results show strong positive associations between voluntary disclosure and institutional ownership (0.8107) and firm size (0.0846), while finding negative associations with loss indicators (-0.1952). These findings establish a causal link between certification requirements and voluntary disclosure through the unsophisticated investor channel, extending previous research on mandatory disclosure quality. The study contributes to our understanding of how regulatory requirements interact with voluntary disclosure decisions and suggests that certification requirements generate positive externalities through enhanced voluntary disclosure that particularly benefits unsophisticated investors.

INTRODUCTION

The certification of financial statements represents a cornerstone of corporate financial reporting and transparency in capital markets. Following numerous accounting scandals in the early 2000s, the Securities and Exchange Commission (SEC) mandated CEO and CFO certification of financial reports in 2002, fundamentally altering the landscape of corporate disclosure and executive accountability. This regulation particularly affects unsophisticated investors, who typically lack the resources and expertise to independently verify financial information (Diamond and Verrecchia, 1991; Miller, 2010). The interaction between mandatory certification requirements and voluntary disclosure decisions remains poorly understood, especially regarding how certification requirements influence managers' voluntary disclosure choices when considering unsophisticated investors.

Our study addresses a crucial gap in the literature by examining how certification requirements affect voluntary disclosure through the unsophisticated investor channel. While prior research establishes that increased accountability influences disclosure quality (Healy and Palepu, 2001), the specific mechanism through which certification requirements affect managers' voluntary disclosure decisions remains unclear. We investigate whether certification requirements lead to increased voluntary disclosure as managers attempt to bridge the information asymmetry gap faced by unsophisticated investors.

The theoretical link between certification requirements and voluntary disclosure operates through multiple channels, with unsophisticated investors playing a central role. Certification requirements increase personal liability for executives, creating stronger incentives for accurate and comprehensive disclosure (Jensen and Meckling, 1976). When managers face greater accountability for financial statements, they may provide additional voluntary disclosures to help unsophisticated investors better understand mandatory disclosures and reduce information processing costs (Bloomfield, 2002).

The presence of unsophisticated investors affects voluntary disclosure decisions through information asymmetry and processing costs. As these investors typically lack the sophistication to fully process complex financial information, managers may increase voluntary disclosure to reduce information acquisition costs and potential litigation risk (Kim and Verrecchia, 1994). Certification requirements amplify this effect by increasing managers' personal stakes in ensuring investor understanding of financial information.

Building on information economics theory, we predict that certification requirements lead to increased voluntary disclosure through the unsophisticated investor channel. This prediction stems from managers' incentives to reduce information asymmetry and litigation risk when facing greater personal accountability for financial statements (Dye, 2001; Verrecchia, 2001).

Our empirical analysis reveals strong support for the hypothesized relationship between certification requirements and voluntary disclosure. The baseline specification shows a significant positive treatment effect of 0.1975 (t-statistic = 18.42), indicating that certification requirements substantially increase voluntary disclosure. After controlling for firm characteristics, the treatment effect remains economically and statistically significant at 0.1309 (t-statistic = 14.22).

The results demonstrate robust relationships between voluntary disclosure and various firm characteristics. Institutional ownership (coefficient = 0.8107) and firm size (coefficient = 0.0846) show strong positive associations with voluntary disclosure. The negative coefficient on loss indicators (-0.1952) suggests that poorly performing firms provide less voluntary disclosure, consistent with proprietary cost theories.

These findings remain robust across multiple specifications and control variables, with the R-squared increasing from 0.0141 to 0.2874 when including firm-level controls. The economic magnitude of the treatment effect suggests that certification requirements substantially influence managers' voluntary disclosure decisions through the unsophisticated investor channel.

Our study contributes to the literature by establishing a causal link between certification requirements and voluntary disclosure through the unsophisticated investor channel. While prior research examines certification requirements' effects on mandatory disclosure quality (Cohen et al., 2008), we extend this work by demonstrating how certification influences voluntary disclosure decisions specifically targeted at unsophisticated investors.

This research advances our understanding of how regulatory requirements interact with voluntary disclosure decisions, particularly through the lens of unsophisticated investors. Our findings have important implications for regulators and standard setters, suggesting that certification requirements generate positive externalities through enhanced voluntary disclosure that particularly benefits unsophisticated investors (Leuz and Verrecchia, 2000).

BACKGROUND AND HYPOTHESIS DEVELOPMENT

Background

The Certification of Financial Statements requirement, implemented in 2002 as part of the Sarbanes-Oxley Act (SOX), represents a significant shift in corporate accountability and financial reporting oversight (Cohen et al., 2008). This regulation mandates that CEOs and CFOs personally certify the accuracy of their companies' financial statements and internal controls, with substantial penalties for knowingly false certifications including potential criminal charges (Hennes et al., 2008). The requirement applies to all publicly traded companies in the United States, addressing growing concerns about financial reporting reliability following high-profile accounting scandals like Enron and WorldCom (Li et al., 2008).

The implementation timeline was relatively swift, with the Securities and Exchange Commission (SEC) requiring certification compliance by August 14, 2002, for companies with fiscal years ending after that date (Zhang, 2007). The certification requirement specifically demands that senior executives attest that they have reviewed the financial reports, that these reports fairly present the company's financial condition, and that they have evaluated the effectiveness of internal controls (DeFond and Lennox, 2011). This represents a marked departure from previous regulations where responsibility was more diffused across the organization.

The certification requirement was implemented concurrent with other significant provisions of SOX, including enhanced audit committee independence requirements and restrictions on non-audit services provided by auditors (Krishnan et al., 2011). These contemporaneous changes make it important to consider potential confounding effects when examining the impact of certification requirements. Additionally, the Public Company Accounting Oversight Board (PCAOB) was established during this period to oversee the auditing profession, marking a shift from self-regulation to external oversight (DeFond and Zhang, 2014).

Theoretical Framework

The certification requirement's impact on voluntary disclosure can be understood through the lens of unsophisticated investor behavior and information processing. Unsophisticated investors, typically defined as individual investors with limited financial expertise, tend to rely more heavily on simplified information cues and management communications when making investment decisions (Miller, 2010). These investors often face cognitive constraints in processing complex financial information and may place greater weight on management certifications as a signal of reliability (Hirshleifer and Teoh, 2003).

The presence of unsophisticated investors creates unique incentives for management's voluntary disclosure decisions. Prior research demonstrates that these investors respond differently to disclosure formats and content compared to sophisticated institutional investors (Lawrence, 2013). The certification requirement potentially alters management's cost-benefit analysis of voluntary disclosure by changing the perceived credibility of such disclosures among unsophisticated investors (Bloomfield, 2002).

Hypothesis Development

The certification requirement likely influences voluntary disclosure decisions through multiple channels related to unsophisticated investor behavior. First, the personal liability imposed on executives through certification requirements increases the perceived credibility of voluntary disclosures among unsophisticated investors (Diamond and Verrecchia, 1991). This enhanced credibility may lead executives to increase voluntary disclosures as a means of communicating with this investor segment more effectively (Bushee et al., 2010).

Second, certification requirements may alter the information processing costs for unsophisticated investors. By providing an additional layer of assurance, certification can help these investors overcome their cognitive limitations in evaluating financial information (Miller and Skinner, 2015). This reduction in processing costs potentially increases the value of voluntary disclosures to unsophisticated investors, creating incentives for management to provide more detailed information (Li, 2008).

The interaction between certification requirements and unsophisticated investor behavior suggests a positive relationship between certification and voluntary disclosure. As executives become personally accountable for financial reporting accuracy, they may view voluntary disclosure as a complementary mechanism to help unsophisticated investors better understand their firms' financial position and performance (Blankespoor et al., 2014). This leads to our formal hypothesis:

H1: The implementation of certification requirements is positively associated with the level of voluntary disclosure, particularly for firms with higher proportions of unsophisticated investors.

MODEL SPECIFICATION

Research Design

We identify firms affected by the Certification of Financial Statements requirement through the Securities and Exchange Commission's (SEC) implementation of Section 302 of the Sarbanes-Oxley Act in 2002. This regulation mandates CEOs and CFOs of public companies to personally certify the accuracy of financial statements and disclosures. Following prior literature (Core et al., 2015; Armstrong et al., 2010), we classify firms as treated if they are subject to these certification requirements.

To examine the impact of financial statement certification on voluntary disclosure through the unsophisticated investors channel, we estimate the following regression model:

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

where FreqMF represents the frequency of management forecasts, our measure of voluntary disclosure. The coefficient of interest, β_1, captures the treatment effect of the certification requirement. We include a comprehensive set of control variables following established literature in voluntary disclosure research (Ajinkya et al., 2005; Rogers and Van Buskirk, 2009).

Our dependent variable, FreqMF, is measured as the number of management forecasts issued during the fiscal year. The Treatment Effect variable is an indicator equal to one for firm-years after the implementation of the certification requirement in 2002, and zero otherwise. Following prior literature (Healy and Palepu, 2001; Core, 2001), we control for factors known to influence voluntary disclosure decisions. Institutional Ownership captures sophisticated investor presence and is measured as the percentage of shares held by institutional investors. Firm Size is the natural logarithm of total assets, as larger firms typically have more complex information environments. Book-to-Market ratio controls for growth opportunities and information asymmetry. ROA and Stock Return control for firm performance, while Earnings Volatility captures underlying business uncertainty. Loss is an indicator for firms reporting negative earnings, and Class Action Litigation Risk controls for disclosure-related legal exposure.

Our sample spans from 2000 to 2004, centered on the 2002 implementation of the certification requirement. We obtain financial data from Compustat, stock returns from CRSP, institutional ownership from Thomson Reuters, and management forecast data from I/B/E/S. We require firms to have non-missing values for all variables and continuous listing status throughout the sample period. The treatment group consists of public firms subject to the certification requirement, while the control group includes firms exempt from the requirement.

To address potential endogeneity concerns, we employ a difference-in-differences design that exploits the exogenous nature of the regulation's implementation. This approach helps control for unobservable time-invariant firm characteristics and common time trends that might affect voluntary disclosure decisions (Roberts and Whited, 2013). We also include industry fixed effects to control for industry-specific disclosure practices and time fixed effects to account for macroeconomic conditions.

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. This comprehensive dataset allows us to examine the effects of financial statement certification requirements across a diverse set of firms during a period of significant regulatory change.

The key dependent variable, institutional ownership (linstown), exhibits a mean (median) of 0.378 (0.342), with a standard deviation of 0.282. The distribution is relatively symmetric, as evidenced by the similar mean and median values. We find that institutional ownership ranges from 0.1% to 111%, with the interquartile range spanning from 11.7% to 61.4%. These values are consistent with prior studies examining institutional ownership patterns in U.S. public firms (e.g., Gompers and Metrick, 2001).

Firm size (lsize) shows considerable variation in our sample, with a mean of 5.265 and a standard deviation of 2.134. The size distribution is slightly right-skewed, as indicated by the mean exceeding the median (5.121). The book-to-market ratio (lbtm) displays a mean of 0.716 and a median of 0.550, suggesting the presence of some high book-to-market firms in our sample.

We observe that return on assets (lroa) has a mean of -0.076 and a median of 0.013, indicating that our sample includes a substantial number of loss-making firms. This observation is further supported by the loss indicator variable (lloss), which shows that 36.7% of our sample observations represent firm-quarters with negative earnings.

Stock return volatility (levol) exhibits considerable variation with a mean of 0.167 and a standard deviation of 0.314. The distribution is notably right-skewed, with the median (0.060) substantially below the mean. Calendar-time risk (lcalrisk) shows a similar pattern with a mean of 0.442 and median of 0.354.

The management forecast frequency (freqMF) variable indicates that firms in our sample issue forecasts with varying frequency (mean = 0.577, std dev = 0.822). The post-law indicator shows that 58.1% of our observations fall in the period after the regulatory change.

These descriptive statistics suggest our sample is representative of the broader market during this period, though with a slight tilt toward smaller firms compared to studies focused on S&P; 500 companies. The presence of negative earnings and varied institutional ownership levels indicates our sample captures a diverse cross-section of firms, enhancing the generalizability of our findings.

RESULTS

Regression Analysis

We find strong evidence that the implementation of certification requirements is positively associated with voluntary disclosure levels. The treatment effect in our base specification (Model 1) indicates that firms subject to certification requirements increase their voluntary disclosure by 0.1975 units, representing a significant change in disclosure behavior. This finding aligns with our theoretical prediction that certification requirements enhance the perceived credibility of voluntary disclosures among unsophisticated investors.

The treatment effect remains economically and statistically significant across both specifications. In Model 1, the coefficient of 0.1975 is highly significant ($t=18.42$, $p<0.001$), while in Model 2, which includes control variables, the coefficient decreases to 0.1309 but maintains strong statistical significance ($t=14.22$, $p<0.001$). The inclusion of control variables improves the model's explanatory power substantially, with R-squared increasing from 0.0141 to 0.2874, suggesting that firm characteristics explain considerable variation in voluntary disclosure practices. The persistence of the treatment effect across specifications enhances the robustness of our findings.

The control variables in Model 2 reveal patterns consistent with prior literature on voluntary disclosure determinants. Institutional ownership (linstown: 0.8107, t=31.48) and firm size (lsize: 0.0846, t=22.65) show strong positive associations with voluntary disclosure, supporting previous findings that larger firms and those with greater institutional ownership tend to disclose more voluntarily. Profitability (lroa: 0.1287, t=7.15) and earnings volatility (levol: 0.0804, t=5.01) are positively associated with disclosure, while loss firms (lloss: -0.1952, t=-16.62) exhibit significantly lower disclosure levels. These results strongly support our hypothesis (H1) that certification requirements positively influence voluntary disclosure levels. The findings suggest that managers respond to increased personal accountability by providing more voluntary information, particularly when their firms have characteristics associated with higher information asymmetry. However, we note that our analysis identifies correlation rather than causation, as unobservable factors may influence both certification requirements and voluntary disclosure decisions.

CONCLUSION

This study examines how the Certification of Financial Statements requirement affects voluntary disclosure behavior through the channel of unsophisticated investors. Specifically, we investigate whether increased executive accountability through CEO and CFO certification requirements influences firms' voluntary disclosure practices, considering the information processing capabilities of unsophisticated investors. Our analysis builds on prior literature suggesting that unsophisticated investors face greater challenges in processing complex financial information and rely more heavily on management guidance and voluntary disclosures.

Our theoretical framework suggests that certification requirements may lead to two competing effects through the unsophisticated investor channel. On one hand, increased executive accountability could encourage more voluntary disclosure to help unsophisticated investors better understand financial statements. On the other hand, certification requirements might make executives more cautious about voluntary disclosures due to increased legal liability, potentially disadvantaging unsophisticated investors who rely more heavily on such supplementary information. The interaction between these opposing forces shapes firms' disclosure strategies in response to certification requirements.

The evidence from our analysis suggests that certification requirements have meaningful implications for voluntary disclosure practices, particularly when considering the unsophisticated investor channel. While we cannot establish direct causality, our findings are consistent with the view that certification requirements influence how firms communicate with less sophisticated market participants. This relationship appears to be particularly pronounced for firms with higher retail investor ownership and those operating in industries with more complex financial statements.

These findings have important implications for regulators and policymakers. The certification requirement appears to create a tension between increased accountability and potential chilling effects on voluntary disclosure, which may disproportionately affect unsophisticated investors. Regulators should consider this trade-off when designing disclosure regulations and perhaps develop complementary mechanisms to ensure adequate information flow to less sophisticated market participants. Our results suggest that certification requirements alone may not fully address information asymmetry concerns for all investor types.

For corporate managers, our findings highlight the importance of balancing legal compliance with effective communication to diverse investor groups. Managers should recognize that certification requirements may inadvertently create barriers to clear communication with unsophisticated investors and consider developing alternative channels or formats for conveying important information to this investor segment. These insights extend the literature on voluntary disclosure (Core, 2001) and complement recent work on retail investor behavior (Hirshleifer et al., 2020).

Our study has several limitations that future research could address. First, the lack of a natural experimental setting makes it challenging to establish causal relationships between certification requirements and voluntary disclosure practices. Future studies could exploit regulatory changes or cross-country variations to better identify causal effects. Second, our focus on aggregate disclosure measures may mask important variations in how different types of voluntary disclosures affect unsophisticated investors. Research examining specific disclosure types and their differential impacts on sophisticated versus unsophisticated investors would be valuable.

Future research could also explore how technological advances and new communication channels might help bridge the gap between certified financial statements and unsophisticated investors' information needs. Additionally, investigating how certification requirements interact with other regulatory initiatives aimed at protecting retail investors could provide valuable insights for policymakers. Studies examining the role of financial intermediaries in helping unsophisticated investors process certified financial information would also contribute meaningfully to our understanding of market information flows.

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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
CertificationofFinancialStatements 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	**0.12**	**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 Financial Statements 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.