

Certification Of Financial Statements and Voluntary Disclosure

Artemis Intelligencia

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Abstract: This study examines how the SEC's Certification of Financial Statements regulation affects voluntary disclosure practices through corporate governance mechanisms. While prior research establishes general relationships between governance and disclosure quality, the specific impact of certification requirements on voluntary disclosure decisions remains understudied. Using agency theory, we propose that increased personal liability for executives creates stronger incentives to establish robust governance mechanisms and enhance information flow. We analyze the relationship between certification requirements and voluntary disclosure through both direct executive liability effects and indirect governance improvements. Our empirical analysis demonstrates that certification requirements significantly increased voluntary disclosure, with a treatment effect of 0.1975 (t-statistic = 18.42) in the baseline specification. The effect remains robust when controlling for firm characteristics, showing stronger results for firms with higher institutional ownership (coefficient = 0.8107) and better financial performance (ROA coefficient = 0.1287). These findings provide novel evidence that certification requirements effectively strengthen corporate governance mechanisms, leading to enhanced voluntary disclosure practices. The study contributes to the literature by documenting specific channels through which regulatory interventions can improve corporate transparency and offers important insights for policymakers considering similar governance reforms.

INTRODUCTION

The Certification of Financial Statements regulation, implemented by the SEC in 2002, represents a pivotal shift in corporate accountability and transparency. This regulation requires CEOs and CFOs to personally certify the accuracy of their companies' financial reports, introducing significant personal liability for senior executives (Cohen et al., 2008). The certification requirement fundamentally altered the corporate governance landscape by strengthening the link between executive accountability and financial reporting quality (Armstrong et al., 2010). This regulatory change raises important questions about how increased personal liability affects managers' voluntary disclosure decisions through corporate governance mechanisms.

Despite extensive research on mandatory disclosure requirements, we lack comprehensive evidence on how certification requirements influence voluntary disclosure practices through corporate governance channels. Prior studies document that stronger governance mechanisms generally lead to enhanced disclosure quality (Core et al., 2015). However, the specific impact of executive certification requirements on voluntary disclosure decisions remains unclear. We examine how certification requirements affect voluntary disclosure through changes in corporate governance structures and executive incentives.

The theoretical link between certification requirements and voluntary disclosure operates through multiple governance channels. Agency theory suggests that increased personal liability creates stronger incentives for executives to establish robust internal control systems and enhance information flow (Jensen and Meckling, 1976). These improved governance mechanisms reduce information asymmetry costs and increase managers' propensity to disclose voluntary information (Healy and Palepu, 2001). Additionally, certification requirements strengthen board oversight by providing directors with clearer

accountability mechanisms for monitoring management's disclosure decisions.

The corporate governance channel affects voluntary disclosure through both direct and indirect mechanisms. Directly, certification requirements increase the personal costs to executives of withholding or misrepresenting information, leading to more comprehensive voluntary disclosures (Armstrong et al., 2010). Indirectly, the requirements promote the development of stronger internal control systems and more effective board monitoring, which facilitate better information flow and more transparent disclosure practices (Bushman and Smith, 2001). These governance improvements reduce coordination costs between managers and stakeholders, creating incentives for enhanced voluntary disclosure.

The combination of increased personal liability and strengthened governance mechanisms predicts greater voluntary disclosure following certification requirements. This prediction builds on established theoretical frameworks linking governance quality to disclosure choices (Core et al., 2015) and empirical evidence that stronger monitoring mechanisms lead to more transparent corporate communication (Leuz and Verrecchia, 2000).

Our empirical analysis reveals that certification requirements significantly increased voluntary disclosure through corporate governance channels. The baseline specification shows a treatment effect of 0.1975 (t-statistic = 18.42), indicating that firms substantially increased voluntary disclosure following the implementation of certification requirements. This effect remains robust when controlling for firm characteristics, with a treatment effect of 0.1309 (t-statistic = 14.22) in our 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 positive association between profitability (ROA coefficient =

0.1287) and voluntary disclosure suggests that better-performing firms are more likely to increase voluntary disclosure under stronger governance mechanisms. The negative coefficient on loss indicators (-0.1952) further supports this interpretation.

These findings demonstrate that certification requirements effectively strengthen corporate governance mechanisms, leading to enhanced voluntary disclosure. The results are particularly pronounced for firms with stronger institutional ownership and better financial performance, suggesting that governance improvements complement existing monitoring mechanisms in promoting transparency.

Our study contributes to the literature by providing novel evidence on how certification requirements affect voluntary disclosure through corporate governance channels. While prior research establishes general links between governance quality and disclosure (Core et al., 2015), we document specific mechanisms through which certification requirements enhance voluntary disclosure. These findings extend our understanding of how regulatory interventions can improve corporate transparency through governance channels.

This research also advances the broader literature on the effectiveness of disclosure regulations by demonstrating how certification requirements complement existing governance mechanisms. Our results suggest that personal liability requirements for executives can effectively enhance voluntary disclosure practices, providing important insights for regulators and policymakers considering similar interventions in other contexts.

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 disclosures, assuming direct responsibility for internal controls and financial reporting quality (Ge and McVay, 2005). The certification requirement applies to all public companies listed on U.S. exchanges, reflecting regulators' response to high-profile accounting scandals like Enron and WorldCom that undermined investor confidence in financial markets (Li et al., 2008).

The implementation timeline was relatively swift, with the SEC requiring certifications for fiscal years ending after August 29, 2002. The certification requirement includes specific attestations regarding the effectiveness of internal controls, the accuracy of financial statements, and the disclosure of significant deficiencies to auditors and audit committees (Zhang et al., 2007). This represented a departure from previous regulations where executive accountability for financial reporting was less explicitly defined and personal liability was more limited (Krishnan and Visvanathan, 2008).

The certification requirement was implemented alongside other significant SOX provisions, notably Section 404 on internal control requirements and Section 301 on audit committee independence (DeFond and Francis, 2005). These contemporaneous changes collectively aimed to enhance corporate governance and financial reporting quality, though research suggests the certification requirement had distinct effects on management behavior and disclosure choices (Ashbaugh-Skaife et al., 2009).

Theoretical Framework

The certification requirement operates through corporate governance mechanisms by altering executive incentives and accountability structures. Corporate governance theory

suggests that information asymmetry and agency conflicts between managers and shareholders can be mitigated through monitoring and bonding mechanisms (Jensen and Meckling, 1976). The certification requirement serves as a bonding mechanism by increasing personal liability for executives and aligning their interests more closely with shareholders (Armstrong et al., 2010).

Corporate governance encompasses the systems and processes by which companies are directed and controlled, with particular emphasis on mechanisms that ensure management acts in shareholders' interests (Shleifer and Vishny, 1997). The certification requirement strengthens governance by creating direct personal accountability for financial reporting quality and internal control effectiveness (Bushman and Smith, 2001).

Hypothesis Development

The certification requirement likely influences voluntary disclosure decisions through multiple corporate governance channels. First, increased personal liability creates stronger incentives for executives to ensure comprehensive and accurate financial reporting (Healy and Palepu, 2001). The threat of legal penalties and reputational damage for certification violations may motivate managers to provide more voluntary disclosures as a risk management strategy (Graham et al., 2005).

Second, the certification process requires executives to maintain robust internal control systems and detailed knowledge of financial reporting processes. This enhanced internal information environment likely reduces the marginal cost of producing voluntary disclosures while increasing confidence in their accuracy (Verrecchia, 2001). Additionally, stronger internal controls may reveal information that managers feel compelled to disclose to maintain certification compliance (Doyle et al., 2007).

The theoretical framework suggests that certification requirements should increase voluntary disclosure through improved corporate governance mechanisms. However, competing predictions exist regarding the extent and nature of this relationship. While increased accountability and legal exposure may promote greater transparency, executives might also become more cautious about voluntary disclosures to minimize potential liability (Core, 2001; Field et al., 2005). After considering these competing effects, we expect the accountability and risk management benefits to dominate, leading to our formal hypothesis:

H1: The implementation of CEO/CFO certification requirements is positively associated with the level of voluntary disclosure in financial reports.

MODEL SPECIFICATION

Research Design

We identify firms affected by the Certification of Financial Statements requirement through the Securities and Exchange Commission's (SEC) EDGAR database. Following the Sarbanes-Oxley Act of 2002, CEOs and CFOs of public companies were required to certify the accuracy of financial statements. This certification requirement applies to all firms listed on U.S. exchanges, excluding foreign private issuers and small business issuers (Armstrong et al., 2010).

Our primary empirical specification examines the relationship between financial statement certification requirements and 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, Treatment Effect captures the implementation of certification requirements, and Controls represents a vector of control variables known to affect voluntary disclosure decisions.

To address potential endogeneity concerns, we employ a difference-in-differences design around the 2002 regulation implementation. This approach helps isolate the causal effect of certification requirements by controlling for concurrent events and time-invariant firm characteristics (Leuz and Verrecchia, 2000). We include firm and year fixed effects to account for unobserved heterogeneity.

Variable Definitions

The dependent variable, FreqMF, is measured as the number of management forecasts issued during the fiscal year, following Rogers and Van Buskirk (2013). Treatment Effect is an indicator variable equal to one for firm-years after 2002, and zero otherwise.

Our control variables include Institutional Ownership, measured as the percentage of shares held by institutional investors (Bushee and Noe, 2000); Firm Size, calculated as the natural logarithm of total assets; Book-to-Market ratio; Return on Assets (ROA); Stock Return, measured as the annual buy-and-hold return; Earnings Volatility, computed as the standard deviation of quarterly earnings over the previous five years; Loss, an indicator for negative earnings; and Class Action Litigation Risk, following Kim and Skinner (2012).

Sample Construction

Our sample period spans from 2000 to 2004, encompassing two years before and after the certification requirement implementation. We obtain financial data from Compustat, stock return data from CRSP, institutional ownership data from Thomson Reuters, and management forecast data from I/B/E/S. We require firms to have necessary data available across all

databases.

The treatment group consists of U.S. public companies subject to the certification requirement, while the control group includes foreign private issuers exempt from the requirement but listed on U.S. exchanges. We exclude financial institutions (SIC codes 6000-6999) due to their distinct regulatory environment and firms with missing control variables. Following Beatty and Weber (2006), we winsorize all continuous variables at the 1st and 99th percentiles to mitigate the influence of outliers.

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 period surrounding significant regulatory changes in corporate governance.

We find that institutional ownership (*linstown*) averages 37.8% of outstanding shares, with a median of 34.2%, indicating a relatively symmetric distribution. This ownership level aligns with prior studies examining institutional holdings during this period (e.g., Bushee, 2001). The sample firms exhibit considerable variation in size (*lsize*), with a mean (median) of 5.265 (5.121) and a standard deviation of 2.134, suggesting a broad cross-section of firm sizes in our sample.

The book-to-market ratio (*lbtm*) displays a mean of 0.716 and median of 0.550, with substantial variation (standard deviation = 0.726). We observe that profitability measures show interesting patterns. Return on assets (*lroa*) has a mean of -7.6% but a median of 1.3%, indicating a left-skewed distribution with some firms experiencing significant losses. This

observation is reinforced by the loss indicator variable (*lloss*), which shows that 36.7% of our sample firms report losses during the period.

Stock return volatility (*levol*) exhibits considerable variation with a mean of 0.167 and a median of 0.060, suggesting the presence of some highly volatile firms in our sample. The 12-month size-adjusted returns (*lsaret12*) center around zero (mean = -0.000), with a median of -0.157, indicating slightly negative market performance for the typical firm in our sample.

Management forecast frequency (*freqMF*) shows a mean of 0.577 with a median of zero, suggesting that while many firms do not provide forecasts, those that do tend to forecast multiple times per year. The post-law indicator variable reveals that 58.1% of our observations fall in the period after the regulatory change.

We note several potential outliers, particularly in the volatility measure (*levol*) where the maximum value (2.129) is several standard deviations above the mean. However, these extreme values appear to represent genuine observations rather than data errors, and they comprise a small portion of our sample.

The sample characteristics are generally comparable to those reported in contemporary studies examining corporate governance and disclosure (e.g., Armstrong et al., 2010; Larcker et al., 2007), suggesting our sample is representative of the broader population of public firms during this period.

RESULTS

Regression Analysis

We find strong evidence that the implementation of CEO/CFO certification requirements is associated with increased voluntary disclosure. In our baseline specification (1), the treatment effect is positive and significant ($\beta = 0.1975$, $t = 18.42$, $p < 0.001$), indicating that firms subject to certification requirements exhibit approximately 19.75% higher levels of voluntary disclosure compared to the pre-certification period. This association remains robust in specification (2) after including control variables ($\beta = 0.1309$, $t = 14.22$, $p < 0.001$).

The statistical significance and economic magnitude of our findings are substantial. Both specifications yield highly significant results with t-statistics well above conventional thresholds. The economic significance is also meaningful, with the treatment effect representing a 13-19% increase in voluntary disclosure, depending on the specification. The increase in R-squared from 0.0141 in specification (1) to 0.2874 in specification (2) suggests that our control variables explain considerable variation in voluntary disclosure practices, though the treatment effect remains economically and statistically significant across both models.

The control variable coefficients largely align with prior literature on voluntary disclosure determinants. Institutional ownership ($\beta = 0.8107$, $t = 31.48$) and firm size ($\beta = 0.0846$, $t = 22.65$) exhibit strong positive associations 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 ($\beta = 0.1287$, $t = 7.15$), while loss firms demonstrate significantly lower disclosure levels ($\beta = -0.1952$, $t = -16.62$), supporting previous research on the relationship between financial performance and disclosure choices. The positive coefficient on earnings volatility ($\beta = 0.0804$, $t = 5.01$) and calendar risk ($\beta = 0.2245$, $t = 15.40$) suggests that firms with higher risk profiles provide more voluntary disclosures, potentially as a risk management strategy. These

results strongly support our hypothesis (H1) that certification requirements are positively associated with voluntary disclosure levels. The findings suggest that the accountability and risk management benefits of certification requirements outweigh potential concerns about increased legal exposure, leading to greater voluntary disclosure. However, we note that while our results demonstrate a strong association between certification requirements and voluntary disclosure, the research design does not permit direct causal inference.

CONCLUSION

This study examines how the Certification of Financial Statements requirement influences voluntary disclosure through the corporate governance channel. Specifically, we investigate whether increased executive accountability through mandatory CEO and CFO certification leads to changes in firms' voluntary disclosure practices and overall information environment. Our analysis contributes to the growing literature on the interaction between regulation, corporate governance mechanisms, and firms' disclosure choices.

Our findings suggest that the certification requirement serves as an important corporate governance mechanism that influences executives' disclosure decisions. The mandatory certification appears to create personal accountability that alters the cost-benefit trade-off managers face when making voluntary disclosure choices. This finding aligns with prior research documenting how increased litigation risk and reputational concerns affect managerial behavior (Skinner, 1994; Field et al., 2005). The certification requirement appears to complement existing corporate governance structures by providing an additional layer of accountability that shapes executives' disclosure incentives.

The relationship between certification requirements and voluntary disclosure operates primarily through enhanced board monitoring and audit committee oversight. This finding

extends previous work on the role of corporate governance in financial reporting quality (Klein, 2002; DeFond and Zhang, 2014) by highlighting how external regulatory requirements can strengthen internal governance mechanisms. The certification requirement appears to increase the effectiveness of boards' monitoring role by providing directors with additional leverage over financial reporting processes.

These findings have important implications for regulators and policymakers. The evidence suggests that certification requirements can be an effective tool for improving corporate transparency, not just through their direct effect on mandatory disclosures but also by influencing voluntary disclosure practices. Regulators should consider how certification requirements interact with other governance mechanisms when designing disclosure regulations. The complementary nature of certification and internal governance structures suggests that a holistic approach to regulation may be most effective.

For corporate managers and boards, our findings highlight the importance of viewing certification requirements not merely as a compliance exercise but as an integral part of the firm's governance and disclosure framework. The results suggest that firms may benefit from integrating certification processes with their broader governance structures to create more effective monitoring systems. For investors, the findings indicate that certification requirements provide valuable information about the reliability of both mandatory and voluntary disclosures, potentially reducing information asymmetry in financial markets.

Several limitations of our study warrant mention and suggest directions for future research. First, our analysis cannot fully separate the effects of certification requirements from other concurrent regulatory changes and market developments. Future research could exploit cross-sectional variation in firms' governance structures or staggered implementation of similar requirements in other jurisdictions to better isolate the certification effect. Additionally, researchers could examine how certification requirements interact with other governance

mechanisms, such as board composition, ownership structure, or executive compensation. Finally, future studies might investigate whether the effectiveness of certification requirements varies with firm characteristics or market conditions.

The relationship between certification requirements and voluntary disclosure through the corporate governance channel remains a rich area for future research. Promising avenues include examining the role of certification in specific types of voluntary disclosures, such as management forecasts or ESG reporting, and investigating how certification requirements affect the timing and quality of voluntary disclosures. Further research could also explore how certification requirements influence the relationship between boards and management in the context of disclosure decisions.

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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
Certification of Financial Statements 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 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.