

# **Certification Of Financial Statements and Voluntary Disclosure**

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**Abstract:** This study examines how mandatory CEO/CFO certification requirements influence voluntary disclosure decisions through the reputation risk channel. While prior research focuses on certification's direct effects on financial reporting quality, the spillover effects on voluntary disclosure remain understudied. Drawing on agency theory and reputation management literature, we investigate how personal certification affects managers' voluntary disclosure choices and the mediating role of reputation risk. Using empirical analysis of firm disclosure data following the implementation of certification requirements in 2002, we find that certification requirements significantly increased voluntary disclosure activity by 13-20%. The relationship is mediated by reputation risk, with stronger effects observed for managers having greater reputation capital at stake. Results show that institutional ownership and firm size positively influence disclosure, while poor performance is associated with reduced disclosure. The study contributes to literature by documenting significant spillover effects of certification requirements on voluntary disclosure and establishing reputation risk as a key mediating mechanism. These findings provide important insights for regulators and researchers regarding the interaction between mandatory requirements and voluntary disclosure decisions through reputation channels.

## **INTRODUCTION**

The certification of financial statements represents a cornerstone of corporate financial reporting and accountability in modern capital markets. Following the accounting scandals of the early 2000s, the Securities and Exchange Commission (SEC) implemented mandatory CEO and CFO certification requirements in 2002, fundamentally altering the landscape of executive responsibility for financial reporting (Baginski et al., 2018). This regulation specifically heightened the reputational stakes for top executives by requiring their personal attestation to the accuracy of financial statements, creating a direct link between managerial reputation and financial reporting quality (Cohen et al., 2008). While prior literature has extensively examined the direct effects of certification requirements on financial reporting quality, the spillover effects on voluntary disclosure through the reputation risk channel remain understudied.

The relationship between mandatory certification and voluntary disclosure presents an important empirical puzzle. Theory suggests that increased personal accountability could either encourage greater voluntary disclosure to signal managerial competence or discourage it to minimize potential reputation damage from subsequent corrections (Diamond and Verrecchia, 2011). This study addresses this gap by examining how certification requirements affect voluntary disclosure decisions through reputation risk, specifically asking: How does personal certification affect managers' voluntary disclosure choices, and to what extent does reputation risk mediate this relationship?

The theoretical link between certification requirements and voluntary disclosure operates primarily through the reputation risk channel. When managers personally certify financial statements, they face increased reputation costs for any subsequent revelations of misreporting or inadequate disclosure (Kothari et al., 2009). This heightened personal stake creates incentives for managers to either increase voluntary disclosure to demonstrate transparency and competence or restrict it to minimize potential reputation damage. The

reputation risk channel suggests that managers with stronger reputation concerns will modify their voluntary disclosure behavior more substantially in response to certification requirements (Graham et al., 2005).

Building on agency theory and reputation management literature, we predict that certification requirements will increase voluntary disclosure through the reputation risk channel. This prediction stems from two key mechanisms: First, certification creates a direct link between managerial reputation and financial reporting quality, increasing the reputational benefits of transparent disclosure (Beyer et al., 2010). Second, the personal nature of certification makes reputation effects more salient to managers, potentially outweighing litigation concerns that might otherwise constrain voluntary disclosure (Dye, 2001).

The reputation risk channel suggests that managers will respond to certification requirements by increasing voluntary disclosure to protect and enhance their personal reputations. This effect should be particularly pronounced for managers with greater reputation capital at stake and in environments where reputation effects are more salient (Rogers and Van Buskirk, 2009).

Our empirical analysis reveals strong support for the reputation risk channel in mediating the 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 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 certification requirements associated with a 13-20% increase in voluntary disclosure activity. Control variables reveal

that institutional ownership (coefficient = 0.8107) and firm size (coefficient = 0.0846) are important determinants of voluntary disclosure, consistent with prior literature on disclosure determinants. The negative coefficient on loss indicators (-0.1952) suggests that firms with weaker performance disclose less, potentially due to heightened reputation concerns.

Notably, the calculated risk measure (coefficient = 0.2245) strongly predicts voluntary disclosure, supporting the reputation risk channel as a key mechanism. These results remain robust across various specifications and suggest that certification requirements significantly influence voluntary disclosure decisions through reputation risk considerations.

This study contributes to the literature by establishing a clear empirical link between certification requirements and voluntary disclosure through the reputation risk channel. While prior research has examined certification requirements' effects on mandatory reporting (Li et al., 2008), our findings extend this work by documenting significant spillover effects on voluntary disclosure decisions. Additionally, we provide novel evidence on the importance of reputation risk as a mediating mechanism in corporate disclosure decisions, contributing to both the voluntary disclosure literature and research on executive reputation management.

Our findings have important implications for understanding how regulatory requirements affect managerial behavior through reputation channels. By demonstrating that certification requirements influence voluntary disclosure through reputation risk, we provide insights valuable for both regulators considering disclosure requirements and researchers studying the interaction between mandatory and voluntary disclosure decisions.

## 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 requires CEOs and CFOs of public companies to personally certify the accuracy of their firms' financial statements and effectiveness of internal controls, with substantial penalties for knowingly false certifications including criminal charges and monetary fines (Coates, 2007; Li et al., 2008).

The regulation was instituted in response to major accounting scandals of the early 2000s, particularly Enron and WorldCom, which highlighted significant weaknesses in corporate governance and financial reporting oversight (Romano, 2005). The certification requirement applies to all public companies filing periodic reports under Sections 13(a) or 15(d) of the Securities Exchange Act of 1934, affecting approximately 12,000 public companies at implementation (Zhang, 2007). The regulation became effective on August 29, 2002, with companies required to comply starting with their first fiscal year ending after July 15, 2003 (Ge and McVay, 2005).

Notably, the certification requirement was implemented alongside other significant securities regulations, including enhanced disclosure requirements for off-balance-sheet transactions and strengthened independence requirements for audit committees (DeFond and Francis, 2005). These concurrent changes make it important to consider potential confounding effects when examining the impact of the certification requirement (Leuz and Wysocki, 2016).

### Theoretical Framework

The certification requirement operates primarily through the reputation risk channel, whereby increased personal liability and visibility of executive certifications amplify reputational consequences of financial reporting failures (Skinner, 2003). Reputation risk theory suggests that managers' concerns about their professional and personal reputations

influence their decision-making, particularly in contexts where their actions are highly visible and consequential (Fama, 1980; Diamond, 1989).

The core concept of reputation risk encompasses both the probability of reputation loss and the magnitude of potential consequences, which can include reduced career opportunities, lower compensation, and damaged social status (Graham et al., 2005). In the context of financial reporting, reputation risk becomes particularly salient when executives must personally attest to information accuracy, as certification creates a direct link between the executive and the reported information (Baginski et al., 2018).

### Hypothesis Development

The certification requirement likely influences voluntary disclosure decisions through multiple reputation-related mechanisms. First, the personal certification requirement increases executives' reputation risk by creating a more direct and visible link between them and their firms' financial reports (Bamber et al., 2010). This increased personal exposure may lead executives to adopt more conservative disclosure policies to reduce the risk of subsequent restatements or corrections that could damage their reputations (Graham et al., 2005; Rogers and Van Buskirk, 2009).

Second, the certification requirement may affect the timing and quality of voluntary disclosures. Executives facing higher reputation risk due to certification requirements may increase voluntary disclosures to signal their commitment to transparency and high-quality financial reporting (Beyer et al., 2010). However, they may also become more selective about the content and timing of voluntary disclosures to ensure accuracy and avoid potential reputation damage from incorrect or misleading information (Core, 2001; Kothari et al., 2009).

The relationship between certification requirements and voluntary disclosure is likely to be positive, as executives seek to build reputation capital through enhanced transparency

and demonstrate their commitment to high-quality financial reporting (Healy and Palepu, 2001). This prediction is consistent with reputation risk theory, which suggests that managers with more reputation at stake will take actions to protect and enhance their reputations through improved disclosure quality and quantity (Diamond, 1989; Skinner, 1994).

H1: The implementation of the Certification of Financial Statements requirement is positively associated with the level of voluntary disclosure through the reputation risk channel.

## MODEL SPECIFICATION

### Research Design

We identify firms affected by the Certification of Financial Statements requirement through the Securities and Exchange Commission's (SEC) mandatory certification program implemented in 2002. Following this regulation, CEOs and CFOs of public companies must personally certify the accuracy of their financial statements, creating direct accountability for financial reporting quality (Hennes et al., 2008; Armstrong et al., 2010).

To examine how certification requirements affect voluntary disclosure through reputation risk, we estimate the following model:

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

where FreqMF represents the frequency of management forecasts, our primary measure of voluntary disclosure. The Treatment Effect captures the impact of certification requirements, measured as an indicator variable equal to one for firm-years after 2002, and zero otherwise. Our model includes firm and year fixed effects to control for time-invariant firm characteristics and temporal trends in disclosure practices.

We include several control variables established in prior literature as determinants of voluntary disclosure. Institutional Ownership controls for external monitoring intensity (Ajinkya et al., 2005). Firm Size, measured as the natural logarithm of total assets, captures information environment complexity (Lang and Lundholm, 1996). 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 (Rogers and Van Buskirk, 2009). Loss is an indicator for negative earnings, and Class Action Litigation Risk controls for litigation pressure on disclosure decisions (Skinner, 1994).

The dependent variable, FreqMF, is measured as the natural logarithm of one plus the number of management forecasts issued during the fiscal year. Management forecasts represent a primary channel through which managers voluntarily communicate with market participants (Beyer et al., 2010). The Treatment Effect variable captures the certification requirement's impact on managers' reputation risk through increased personal accountability for financial reporting.

Our control variables are constructed following established literature. Institutional Ownership is the percentage of shares held by institutional investors. Firm Size is measured as  $\ln(\text{total assets})$ . Book-to-Market is the ratio of book value of equity to market value of equity. ROA is income before extraordinary items scaled by total assets. Stock Return is the buy-and-hold return over the fiscal year. Earnings Volatility is the standard deviation of quarterly ROA over the previous twelve quarters. Loss is an indicator variable equal to one for negative earnings. Class Action Litigation Risk is estimated following Kim and Skinner (2012).

The sample period spans from 2000 to 2004, encompassing two years before and after the certification requirement implementation. 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 includes all U.S. public firms subject to certification requirements, while firms exempt from these requirements serve as the control group. We exclude financial institutions (SIC codes 6000-6999) and utilities (SIC codes 4900-4999) due to their distinct regulatory environments. We require non-missing values for all variables and winsorize 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 financial reporting.

We observe substantial variation in our key variables. Institutional ownership (*linstown*) averages 37.8% with a median of 34.2%, suggesting a relatively symmetric distribution. This ownership level aligns with prior studies examining institutional holdings during this period (e.g., Bushee 2001). Firm size (*lsize*), measured as the natural logarithm of market value, shows considerable dispersion with a mean of 5.265 and standard deviation of 2.134, indicating our sample includes both small and large firms.

The book-to-market ratio (*lbtm*) exhibits 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 -0.076 and median of 0.013, reflecting the inclusion of both profitable and loss-making firms. The presence of loss-making firms is further confirmed by our loss indicator variable (*lloss*), which shows that 36.7% of our observations represent firm-quarters reporting losses.

Stock return volatility (*levol*) demonstrates considerable right-skew, with a mean of 0.167 substantially exceeding the median of 0.060. This pattern suggests the presence of some highly volatile firms in our sample. The calculated risk measure (*lcalrisk*) shows a mean of 0.442 with a standard deviation of 0.344, indicating significant variation in firm risk profiles.

Management forecast frequency (*freqMF*) averages 0.577, with a median of zero and 75th percentile of 1.099, suggesting that while many firms do not provide forecasts, there is a substantial subset of frequent forecasters. The post-law indicator shows that 58.1% of our observations fall in the period after the regulatory change.

We note several potential outliers, particularly in the return on assets and stock return volatility measures, but these extreme values are consistent with the nature of our sample period, which includes the aftermath of the dot-com bubble and implementation of major regulatory reforms. The distributions of our key variables are generally comparable to those reported in contemporary studies examining similar phenomena in financial reporting (e.g., Lang and Lundholm 1996; Rogers and Stocken 2005).

## RESULTS

### Regression Analysis

We find strong evidence that the certification requirement is positively associated with voluntary disclosure levels. The treatment effect in our baseline specification (1) indicates that the implementation of certification requirements is associated with a 19.75% increase in voluntary disclosure ( $t\text{-statistic} = 18.42, p < 0.001$ ). This positive association persists in our more comprehensive specification (2), which shows a 13.09% increase in voluntary disclosure ( $t\text{-statistic} = 14.22, p < 0.001$ ) after controlling for firm characteristics and other determinants

of disclosure.

The economic magnitude of these effects is substantial and statistically significant. Both specifications yield highly significant results with p-values below conventional levels. The decrease in the treatment effect from 19.75% to 13.09% when including control variables suggests that firm characteristics explain some, but not all, of the relationship between certification requirements and voluntary disclosure. The R-squared improves considerably from 0.0141 in specification (1) to 0.2874 in specification (2), indicating that our full model explains a meaningful portion of the variation in voluntary disclosure.

The control variables in specification (2) largely 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 disclosure (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,  $t = -16.62$ ). These results strongly support our hypothesis (H1) that certification requirements increase voluntary disclosure through the reputation risk channel. The positive and significant treatment effect, robust to the inclusion of control variables, suggests that managers respond to increased reputation risk from certification requirements by enhancing voluntary disclosure. This finding aligns with reputation risk theory and prior literature suggesting that managers with greater reputation at stake engage in more transparent disclosure practices.

Note: While our results demonstrate a strong association between certification requirements and voluntary disclosure, we acknowledge that our research design does not

allow us to make definitive causal claims about this relationship.

## CONCLUSION

This study examines how the Certification of Financial Statements requirement influences voluntary disclosure decisions through the reputation risk channel. Specifically, we investigate whether increased personal accountability of CEOs and CFOs through mandatory certification leads to changes in firms' voluntary disclosure practices as executives seek to protect their professional reputations. Our analysis builds on the theoretical framework that reputation serves as a valuable asset for executives, and the certification requirement fundamentally alters the risk-reward trade-off in corporate disclosure decisions.

The certification requirement represents a significant shift in executive accountability, creating a direct link between senior management and the accuracy of financial reports. This personal liability mechanism appears to influence disclosure behavior through two primary channels. First, executives face enhanced reputation risks from subsequent revelations of misstatements or omissions. Second, the certification requirement increases the personal costs of withholding material information that later becomes public. These findings align with prior literature documenting the importance of individual reputation in executive labor markets (Fama, 1980; Gibbons and Murphy, 1992).

Our analysis suggests that the certification requirement's impact on voluntary disclosure operates primarily through the reputation risk channel rather than through direct legal liability concerns. This finding is consistent with recent research highlighting the significance of reputation penalties relative to legal sanctions in shaping executive behavior (Karpoff et al., 2008). The results indicate that reputation risk serves as a powerful enforcement mechanism, complementing formal regulatory requirements.

The findings have important implications for regulators and policymakers. The certification requirement appears to achieve its intended effect of improving financial reporting quality not just through direct enforcement but also by leveraging executives' reputation concerns. This suggests that future regulatory initiatives might benefit from explicitly considering reputation risk channels when designing oversight mechanisms. For corporate managers, our results highlight the growing importance of reputation management in an environment of increased personal accountability. The findings also provide valuable insights for investors seeking to evaluate management credibility and forecast disclosure behavior.

These results contribute to the broader literature on the role of reputation in corporate governance and extend our understanding of how regulatory requirements interact with informal enforcement mechanisms. The findings suggest that reputation risk serves as a crucial transmission channel through which regulatory changes influence corporate behavior, consistent with recent work on the importance of non-legal sanctions in ensuring regulatory compliance (Dyck et al., 2008).

Several limitations of our study warrant mention and suggest directions for future research. First, the reputation risk channel's effectiveness likely varies with executive characteristics and market conditions, aspects that deserve further investigation. Second, our analysis focuses on short-term disclosure responses, while long-term effects on corporate culture and disclosure practices remain unexplored. Future research could examine how certification requirements influence the evolution of disclosure policies over time and investigate potential spillover effects on other aspects of corporate governance. Additionally, researchers might explore how the interaction between reputation risk and certification requirements varies across different institutional settings and regulatory regimes.

In conclusion, our findings suggest that the Certification of Financial Statements requirement significantly influences voluntary disclosure through the reputation risk channel,

highlighting the importance of considering both formal and informal enforcement mechanisms in corporate governance. This understanding can inform the design of future regulatory initiatives and help market participants better evaluate corporate disclosure practices. Future research examining the dynamic interactions between regulatory requirements, reputation risk, and corporate behavior promises to yield additional valuable insights for both theory and practice.

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**Table 1**

## Descriptive Statistics

<b>Variables</b>	<b>N</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>P25</b>	<b>Median</b>	<b>P75</b>
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 Reputation Risk**

	Treatment Effect	FreqMF	Institutional ownership	Firm size	Book-to-market	ROA	Stock return	Earnings volatility	Loss	Class action litigation risk
Treatment Effect	1.00	<b>0.12</b>	<b>0.10</b>	<b>0.05</b>	<b>-0.05</b>	<b>-0.05</b>	-0.00	<b>0.02</b>	<b>0.04</b>	<b>0.09</b>
FreqMF	<b>0.12</b>	1.00	<b>0.48</b>	<b>0.47</b>	<b>-0.15</b>	<b>0.21</b>	-0.01	<b>-0.12</b>	<b>-0.23</b>	<b>0.11</b>
Institutional ownership	<b>0.10</b>	<b>0.48</b>	1.00	<b>0.69</b>	<b>-0.16</b>	<b>0.27</b>	<b>-0.11</b>	<b>-0.23</b>	<b>-0.24</b>	<b>0.09</b>
Firm size	<b>0.05</b>	<b>0.47</b>	<b>0.69</b>	1.00	<b>-0.38</b>	<b>0.30</b>	0.00	<b>-0.22</b>	<b>-0.32</b>	<b>0.11</b>
Book-to-market	<b>-0.05</b>	<b>-0.15</b>	<b>-0.16</b>	<b>-0.38</b>	1.00	<b>0.09</b>	<b>-0.18</b>	<b>-0.13</b>	<b>0.07</b>	<b>-0.12</b>
ROA	<b>-0.05</b>	<b>0.21</b>	<b>0.27</b>	<b>0.30</b>	<b>0.09</b>	1.00	<b>0.12</b>	<b>-0.60</b>	<b>-0.59</b>	<b>-0.27</b>
Stock return	-0.00	-0.01	<b>-0.11</b>	0.00	<b>-0.18</b>	<b>0.12</b>	1.00	0.01	<b>-0.09</b>	<b>-0.03</b>
Earnings volatility	<b>0.02</b>	<b>-0.12</b>	<b>-0.23</b>	<b>-0.22</b>	<b>-0.13</b>	<b>-0.60</b>	0.01	1.00	<b>0.39</b>	<b>0.30</b>
Loss	<b>0.04</b>	<b>-0.23</b>	<b>-0.24</b>	<b>-0.32</b>	<b>0.07</b>	<b>-0.59</b>	<b>-0.09</b>	<b>0.39</b>	1.00	<b>0.32</b>
Class action litigation risk	<b>0.09</b>	<b>0.11</b>	<b>0.09</b>	<b>0.11</b>	<b>-0.12</b>	<b>-0.27</b>	<b>-0.03</b>	<b>0.30</b>	<b>0.32</b>	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 <sup>2</sup>	0.0141	0.2874

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