

Financial Restatements, Audit Fees, and the Moderating Effect of CFO Turnover

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SUMMARY: We examine post-restatement audit fees and executive turnover for a sample of firms that restated their 2003 financial statements. We investigate and find evidence that audit fees are higher for restatement firms compared with a matched-pair control group of non-restatement firms. We propose that the higher audit fees reflect a cost of both an increase in perceived audit risk and a loss of organizational legitimacy. Prior literature suggests that changing top management is a response to a legitimacy crisis; thus we expect to find that executive turnover moderates the positive relationship between restatement and audit fees. Our results indicate that a change in CFO for a restatement firm moderates the increased audit fee, but a change in CEO does not.

Keywords: audit fees; financial restatements; executive turnover.

Data Availability: Performance and financial data are available from Compustat. Restatement and CEO/CFO turnover were hand-collected from public sources identified in the manuscript.

INTRODUCTION

The purpose of this paper is to investigate whether audit fees are higher for companies following a financial reporting failure and to determine whether subsequent remedial actions moderate the increase in audit fees. Following earlier research, we use restatement of previously issued financial statements as a financial reporting failure (Kinney et al. 2004; Srinivasan 2005; Desai et al. 2006). We propose that following a financial misstatement, an auditor is likely to assess a company as having higher audit risk relative to companies with no financial reporting problems. Because a positive relationship between risk and audit fees is well established in the literature (see Hay et al. 2006 for a review), we hypothesize and find evidence that companies with financial restatements incur relatively

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higher audit fees subsequent to the restatement than a control sample of non-restatement firms.

Earlier studies observe higher management turnover following restatements (Arthaud-Day et al. 2006; Desai et al. 2006), higher board turnover following restatements (Srinivasan 2005) and fraudulent financial reporting (Farber 2005), and higher management turnover following auditor resignations (Menon and Williams 2008). Arthaud-Day et al. (2006) argue that a financial restatement leads to damaged organizational legitimacy, and they suggest that executive turnover is an organization's attempt to defend its legitimacy by distancing itself from the management team associated with the restatement. Similarly, Menon and Williams (2008) argue that top management turnover "signals investors of the directors' intention to restore reporting credibility" following an auditor resignation. We propose that if turnover is an effective means to repair legitimacy and restore confidence in the financial reporting process, it should moderate the expected post-restatement increase in audit fees. By attempting to repair its legitimacy, the company is indicating a desire to improve; thus its auditor may perceive it as less risky than restatement companies with no changes in management. In our sample, we see higher executive turnover after financial restatement relative to a control sample, consistent with prior literature (Arthaud-Day et al. 2006; Desai et al. 2006). In addition, our results indicate that a change in leadership, specifically a change in CFO, is effective at mitigating the higher audit fees typically associated with restatement firms.

Studying the effects of financial restatements is increasingly important because of their rising numbers. Specifically, in 2006 there were 1,876 financial restatements, compared with only 452 in 2001 (Reilly 2007). Understanding the costs associated with financial reporting problems and the benefits of remedial action may help companies respond to such events more effectively.

We use a financial restatement as an event that threatens organizational legitimacy, implying that the costs associated with restatements are associated with damaged legitimacy. Prior research has shown that financial costs are imposed on restatement firms in the form of stock price declines (Palmrose et al. 2004), higher cost of capital (Hribar and Jenkins 2004), and increased likelihood of litigation (Palmrose and Scholz 2004). We test whether higher audit fees are another cost levied on firms that restate their annual financial results.

After an event that compromises a company's legitimacy, management should take steps to repair the damage. A common strategy is to disassociate the firm from its senior executives (Suchman 1995). A new leader serves as a signal to external constituents that organizational changes have occurred that address the firm's deficiencies. We test whether audit fees for restatement firms with new management differ from other firms to assess whether a management change might be an effective method to reduce the cost of damaged legitimacy.

Our study extends the literature on the costs of financial restatement to audit fees. We propose that the higher fee relates to both an increase in perceived financial reporting risk and a loss of organizational legitimacy. By testing whether legitimizing actions are effective at reducing audit fees, we are addressing a need for research on "the use and effectiveness of various legitimacy management strategies" (Suchman 1995, 602). We use financial restatement as the event that increases risk and impairs legitimacy, audit fees to measure the cost of the impaired legitimacy, and executive turnover as the strategy to repair legitimacy. Arthaud-Day et al. (2006) suggest that future research can test whether removing the management team is an effective strategy for a restatement firm.

Our study also addresses calls in the literature (e.g., Richardson 2005) to reexamine previous research findings that are based on data from before the passage of the Sarbanes-Oxley Act of 2002 (SOX; U.S. House of Representatives 2002) observations. Our data capture the financial reporting environment that existed after the significant regulatory changes that SOX brought to bear. In summary, we first confirm that restatement firms have higher CFO and CEO turnover compared with non-restatement firms. Second, we model audit fees to determine whether fees are higher for firms that restated their financial statements. We find significantly higher audit fees for restatement firms compared with control firms. Our audit model also shows that for restatement firms, CFO turnover moderates the positive relationship between audit fees and financial restatement.

The remainder of the paper proceeds as follows. We review prior literature on audit fees, financial restatements, and organizational legitimacy as a means of establishing the study's research hypotheses. We then describe the research method and present the results. In the final section, we summarize our findings and draw conclusions.

PRIOR LITERATURE AND RESEARCH HYPOTHESES

Audit Fees and Financial Restatements

Statement on Auditing Standards (SAS) No.107 requires that auditors assess the risk of material misstatement and adjust their audit plan accordingly (AICPA 2006a). If auditors determine that a significant audit risk exists, they must adjust audit procedures to obtain additional evidence, thus increasing their planned audit hours. The higher audit costs are passed along to the client as higher fees. The higher fee may also compensate the auditor for potential litigation¹ and/or damage to its reputation if misstatements are subsequently discovered (Simunic and Stein 1996).

Professional guidance indicates that a financial restatement is likely to increase an auditor's assessment of a client's audit risk. Specifically, Appendix C of SAS No. 109 (AICPA 2006b) identifies "past misstatements, history of errors, or a significant amount of adjustments at period end" as conditions indicating a risk of material misstatement. A recent reporting error may lower the auditor's perception of the client's trustworthiness, credibility, and competence. The less credible firm represents a higher risk to its auditors, since the reliability of its financial reporting system is questionable.

Consistent with professional guidance, empirical studies of audit fees document that higher audit fees are associated with higher-risk clients (*c.f.*, Hay et al. 2006). For example, one study finds that client misconduct, defined as paying bribes in developing countries, is associated with higher audit fees (Lyon and Maher 2005). Another finds a positive relationship to business risk (Bell et al. 2001). Bedard and Johnstone (2004) demonstrate that increased audit effort is planned when earnings manipulation risk is high and the presence of corporate governance risk further increases the planned audit effort. In addition, the authors find that auditors increase their billing rates when assessed risk is high. Others find that higher audit fees are associated with firms that disclose a material weakness in their internal controls, a problem often associated with restatements of annual reports (Raghunandan and Rama 2006; Bedard et al. 2007; Hogan and Wilkins 2008).

We propose that financial restatements increase the auditor's assessment of risk and therefore lead to higher audit fees. Overall, the evidence from prior literature suggests that

¹ Research indicates that litigation risk is higher for companies that restate core accounts (Palmrose and Scholz 2004). If audited annual results are subsequently restated, the auditors may be included in the litigation since they did not discover the financial error when conducting the audit.

auditors will consider restatement firms to be higher-risk clients than non-restatement firms, and thus the audit fees will be higher by comparison.

H1: Audit fees are higher for restatement companies relative to their control match-mates following restatement.

Financial Restatements and Executive Turnover

Financial restatements are public admissions that previously issued financial statements contained material errors (Abbott et al. 2004). Deliberate managerial action, such as fraud or aggressive accounting procedures, may be the cause of such errors, or the errors may be due to managerial incompetence in providing proper oversight of the financial reporting process (Eilifsen and Messier 2000). SOX explicitly requires that the CEO and CFO accept responsibility for the financial reporting process (Geiger and Taylor 2003; Marden et al. 2003). Whether the error leading to financial restatement resulted from inadequate controls or from aggressive accounting practices,² top management can be held responsible.

Once a company discovers a financial reporting problem, it must identify the underlying conditions that allowed the misstatement to occur, and take corrective action. Removing top management is one possible action the board can take in the wake of a financial restatement. While two earlier studies did not find increased CEO turnover following instances of GAAP violations and fraudulent financial reporting (Agrawal et al. 1999; Beneish 1999), recent evidence documents that both board and management turnover increases following financial reporting problems. For example, Desai et al. (2006) find that top management, specifically the CEO, president, and chairman positions, have high turnover following restatements, and Srinivasan's (2005) results show higher turnover for board members, especially audit committee members, following restatements. Similarly, following restatements, high turnover rates are found for CEOs, CFOs, outside directors and audit committee members in Arthaud-Day et al. (2006), and higher turnover of CEOs, top management and CFOs is found in Agrawal and Cooper (2007). Studies conducted with post-SOX data also show higher turnover for CFOs (Burks 2007; Collins et al. 2008).

The supposition that executive turnover will be higher following financial reporting problems seems uncontroversial (Richardson 2005) and is well supported by recent literature; therefore, we do not present a formal hypothesis. However, we test in our sample of firms whether CEO and CFO turnover is higher for public companies that restate their annual financial statements relative to non-restatement companies in the post-SOX environment.

Financial Restatements and Organizational Legitimacy

As noted earlier, prior literature suggests that executive turnover is a strategy companies use to rebuild legitimacy. Organizational legitimacy theory has been used to explain why executive turnover, both CEO and CFO, often follows financial restatements (Arthaud-Day et al. 2006). Legitimacy has been defined as "a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman 1995, 574). Institutional theory describes a process by which companies adopt policies, some substantive and some symbolic, that are widely acknowledged as "proper" in the given environment and thus gain legitimacy (Meyer and Rowan 1977; DiMaggio and Powell 1983).

² A long stream of agency literature documents the incentives for management to manipulate reported earnings. Geiger and North (2006) provide a brief review of earnings management literature.

Institutional theory suggests that company management should adopt strategies that help them establish, maintain or defend their organization's legitimacy (Ashforth and Gibbs 1990; Zimmerman and Zeitz 2002). Legitimacy increases a company's access to important resources, such as financial capital, experienced managers, highly qualified employees, government support, and technology (Lounsbury and Glynn 2001; Zimmerman and Zeitz 2002), and is therefore critical to a company's success. A stream of research has used initial public offerings (IPOs) to show the positive financial implications of enhanced organizational legitimacy (Certo et al. 2001; Certo 2003; Cohen and Dean 2005; Lester et al. 2006).

Once a company establishes itself, events can occur that threaten its legitimacy. This may cause external constituents' support to wane and access to resources to decline (Sutton and Callahan 1987; Suchman 1995), increasing the probability of organizational failure (Meyer and Rowan 1977; Singh et al. 1986). Suchman (1995, 598) states that one approach to repairing legitimacy is to have "the organization ... *selectively* confess that limited aspects of its operations were flawed and ... then act decisively and visibly to remedy those specific faults (*c.f.*, Perrow 1981, 1984)." Similarly, Marcus and Goodman (1991) find that an apology and a visible organizational change are the most effective strategy when dealing with scandals.

A restatement damages the public's perception of the reliability of a company's financial reporting system. Reilly (2007) likens a restatement to a product recall, stating that investors cannot rely on the company's prior financial reports. Once the company acknowledges the need for a restatement, it must try to improve not only its internal problems, but also the external view of its legitimacy. This is important as a signal that it is taking steps to mitigate its internal problems, thereby indicating a sincere desire to change. Since culpability for financial restatements rests with senior management, changes in the executive team can serve as a symbolic restructuring. Hiring new executives implicitly links the financial reporting failure to the prior management team and thus distances the organization from the event that resulted in compromised legitimacy. A change in upper-level management is a highly visible event that outsiders may view as a sign that the company is taking steps to regain its legitimacy.

If this strategy is successful, then restatement firms with new CEOs and CFOs should incur lower costs relative to those that do not institute a change in management. In other words, if a firm fails to replace executives who were overseeing the financial reporting process at the time of the misstatement, outsiders may perceive the *absence* of turnover as a weakness. If a new manager is viewed as a signal that legitimacy is being rebuilt, then auditors may adjust their audit risk downward for restatement firms with turnover, but not for restatement firms with their former management team still in place. We propose that the presence of a new CEO or CFO will moderate the higher audit fees for restatement companies.

H2a: Audit fees are lower for restatement firms with new CEOs relative to restatement firms that do not change CEOs.

H2b: Audit fees are lower for restatement firms with new CFOs relative to restatement firms that do not change CFOs.

RESEARCH METHOD

Selection of Restatement Firms and Control Firms

We used the EDGAR Online database to identify firms that restated their financial statements for fiscal year 2003. We searched the period from January 1, 2004, through

March 31, 2005, using key words such as restate, revise, correct, error, and amend, and we selected firms that restated their fiscal year-end 2003 financial statements. We identified 292 firms that restated their 2003 financial results during the 15-month search period.³

To conduct our analysis, we required that each restatement firm had financial information available on the Compustat database; we eliminated 45 firms not available on Compustat. Using Compustat, we identified a non-restatement firm that matched each sample firm with respect to size, industry, Big 4 auditor, and SOX Section 404 filing status. Sixty-nine firms were lost because no suitable match was located. Finally, we eliminated 64 firms that did not have proxy statements available for each of the years 2002–2005; proxies were needed to collect turnover data.⁴ Panel A of Table 1 summarizes the sample selection.

TABLE 1
Sample Details

Panel A: Description of Sample Selection

Financial restatements for 2003 filed (1/1/04–3/31/05)	292
Less: (i) Firms not included in Compustat active file	(45)
(ii) Firms for which no control firm identified	(69)
(iii) Firms with at least one missing proxy for FYs 2002–2005	(64)
Number of 10-K financial restatement firms in analysis	114
Number of firms matched on size, industry, auditor, and filing status	114
Total Number of firms	<u>228</u>

Panel B: Industries Represented

<u>Industry</u>	<u>Number of Matched Pairs</u>
Energy	4
Materials	5
Industrials (commercial services/supplies)	17
Retailing	22
Health care equipment & services	18
Real estate	9
Information technology (software/hardware)	34
Utilities	5
Total Number of Matched Pairs	<u>114</u>

Panel C: Sample Firms' Auditors

<u>Auditor</u>	<u>Number of Matched Pairs</u>
Deloitte and Touche	28
Ernst and Young	25
KPMG	20
PricewaterhouseCoopers	41
Total Number of Matched Pairs	<u>114</u>

³ Since using EDGAR Online to identify restatement firms, we have verified the completeness of our sample using Audit Analytics.

⁴ Our sample period includes 2003 through 2005, but a 2002 proxy report was needed to determine whether turnover occurred in 2003.

We present our restatement firms categorized by industry in Panel B of Table 1. The classification is based on the Morgan Stanley/Standard & Poor's Global Industry Classification Standard (GICS). Panel C shows the distribution of auditors for our sample firms in the restated year.

For each restatement firm, we identified a control firm that had not restated its financial statements for error or fraud before or after 2003. We verified that no restatements were made prior to 2003, going back as long as financial reports were available on EDGAR. Having control firms with no restatements in recent years is critical for our study since we are unsure how long a prior restatement might influence audit fees. The matching was based on size, measured as total assets (as restated in 2003 for the test sample); industry classification using GICS; auditor; and SOX filing status. Each control firm's total assets are within 30 percent of its match-mate's size. All restatement firms had Big 4 auditors in 2003; each control firm had the same auditor as its match-mate. Finally, each control firm has the same filing status⁵ as its match-mate.

Executive Turnover

We measure post-restatement turnover as the cumulative number of changes that occurred starting with the restated year (2003) and extending for two subsequent years (2004–2005). Including the restated year in the analysis captures situations where the CEO or CFO exits before the need for financial restatement is disclosed. As the senior executives, the CEO and CFO likely know if the company has applied aggressive accounting policies that might ultimately result in a financial restatement. If so, the executives may choose to leave the firm, reducing the risk of being stigmatized by a future financial restatement.⁶ Alternatively, the company may replace the executives as preliminary evidence of reporting problems comes to light. Either way, we consider the leadership change in the restated year and the financial reporting problems to be related events; therefore we include turnover in the restated year in our post-restatement turnover measure.

To confirm that our sample demonstrates the association between restatements and executive turnover found in prior literature, we conduct two univariate analyses. First, we perform t-tests on post-restatement CEO and CFO turnover, to determine if turnover is higher for restatement firms than for the control firms. Second, we test whether there are significant differences between pre-restatement and post-restatement turnover for CEOs and CFOs in restatement companies and control firms. For this comparison, we identify companies that experienced CEO or CFO turnover in the three-year period prior to the restatement year, from 2000 through 2002.

⁵ Under Section 404 of SOX, accelerated and large accelerated filers for fiscal years ending on or after November 15, 2004, must include in their annual report: (1) a management's report on internal control over financial reporting assessing the company's internal controls; and (2) an auditor's attestation report—which is completed by the registered public accounting firm that prepares or issues an accountant's report and which is included in the company's annual report—attesting to the effectiveness of management's internal control (I/C) assessment. Under SEC rules revised December 15, 2006, nonaccelerated filers will not be required to provide (1) a management's report on the effectiveness of I/C over financial reporting until the annual report for the first fiscal year ending on or after December 15, 2007, and (2) the auditor's attestation report on I/C over financial reporting until the annual report for the first fiscal year ending on or after December 15, 2008. Given the different requirements, audit fees could be affected by filing status.

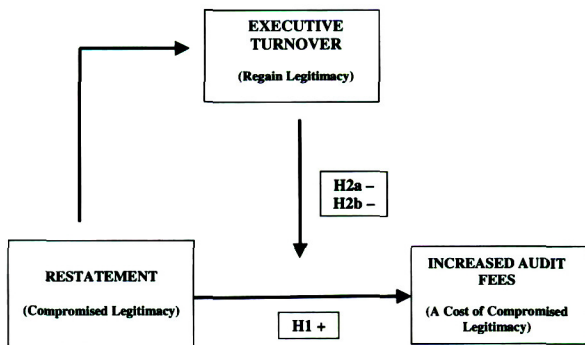
⁶ Prior research on stigma demonstrates that executives of bankrupt firms can avoid subsequent devaluations in the labor market, but only if they leave prior to the bankruptcy announcement (Sutton and Callahan 1987).

Research Design for Tests of Audit Fees

Hypothesis 1 predicts that restatement firms will have higher audit fees relative to control firms following restatement. We present a model to estimate the change in audit fees from 2003 to 2005 to determine if there is a positive relationship between restatement and change in audit fees. The model allows us to control for many other variables that are likely to affect fees. Hypotheses 2a and 2b seek to determine whether executive turnover moderates the relationship between restatement and audit fees. We expect an interactive relationship between executive turnover and restatements with respect to audit fees. Thus, our audit fee model includes the interaction between CEO turnover and restatement, to test H2a, and the interaction between CFO and restatement, to test H2b. Figure 1 summarizes our research hypotheses.

We identified several control variables for our audit fee model from a review of prior literature (e.g., Carcello et al. 2002; Abbott et al. 2003). Since we are modeling the change in audit fees, we use the change in the value of most control variables similar to prior research (Bedard et al. 2007). We measure size as the natural log of total assets, and we use the difference between total assets in 2003 and 2005 in our model. We control for changes in complexity by including the changes between 2003 and 2005 in (1) the number of segments, (2) the square root of the number of consolidated subsidiaries, and (3) the proportion of foreign sales to total sales. Other control variables include changes in accounts receivable as a percent of total assets and changes in inventory as a percent of total assets, again measured from 2003 to 2005. The model has an indicator variable for SOX Section 404 filing status (accelerated versus nonaccelerated) since firms classified as accelerated filers under SOX will likely have higher audit fees than nonaccelerated filers (Bedard et al. 2007). Finally, we include an indicator variable for reported internal control deficiencies in 2004, since changes in audit fees may relate to a weak control environment (Raghunandan and Rama 2006; Hogan and Wilkins 2008).

FIGURE 1
Summary of Hypotheses



Many companies in our sample, particularly in the restatement sample, changed auditors between 2003 and 2005. Most of the changes were from Big 4 audit firms to non-Big 4 firms. Price differences between Big 4 and non-Big 4 firms are well documented in the literature (Palmrose 1986); thus we include a dichotomous variable for an auditor change to control for any effect it may have on audit fees. Our experimental variables include restatement, the interaction of CEO turnover and restatement, and the interaction of CFO turnover and restatement. The dependent variable is the natural log of the 2005 audit fees minus the natural log of the 2003 audit fees. Our multivariate regression model of audit fees is as follows:

$$\begin{aligned}
 \text{Change in Audit Fee} = & \beta_0 + \beta_1 \text{Restate} + \beta_2 \text{Auditor Change} \\
 & + \beta_3 \Delta \text{Subsidiaries} + \beta_4 \Delta \text{Foreign} + \beta_5 \Delta \text{Segments} \\
 & + \beta_6 \Delta \text{Accounts Receivable\%} + \beta_7 \Delta \text{Inventory\%} \\
 & + \beta_8 \text{Accelerated Filer} + \beta_9 \text{IC Deficiency} \\
 & + \beta_{10} \Delta \text{Log Total Assets} + \beta_{11} \text{CEO Turnover} \\
 & + \beta_{12} \text{Restate} * \text{CEO Turnover} + \beta_{13} \text{CFO Turnover} \\
 & + \beta_{14} \text{Restate} * \text{CFO Turnover} + \epsilon.
 \end{aligned} \tag{1}$$

Variable definitions are provided in Table 2.

TABLE 2
Variable Definitions for Audit Fee Model

Variable Name	Definition
<i>Change in Audit Fee</i>	difference between the natural log of the sum of audit and audit related fees in 2005 and in 2003;
<i>Restate</i>	dichotomous variable coded 1 for restatement firms, and 0 otherwise;
<i>Auditor Change</i>	dichotomous variable coded 1 if there is an auditor change, and 0 otherwise;
Δ <i>Subsidiaries</i>	difference between the square root of the number of subsidiaries in 2005 and 2003;
Δ <i>Foreign</i>	difference between the ratio of foreign sales to total sales in 2005 and 2003;
Δ <i>Segments</i>	difference between the number of segments in 2005 and 2003;
Δ <i>Accounts Receivable%</i>	difference between the ratio of accounts receivable to total assets in 2005 and 2003;
Δ <i>Inventory%</i>	difference between the ratio of inventory to total assets in 2005 and 2003;
Δ <i>Log Total Assets</i>	difference between the natural log of total assets in 2005 and 2003;
<i>Accelerated Filer</i>	variable coded 1 if the company is an accelerated filer, and 0 otherwise;
<i>IC Deficiency</i>	dichotomous variable coded 1 if the company reported an internal control deficiency in 2004, and 0 otherwise;
<i>CEO Turnover</i>	cumulative number of changes in the CEO from 2003 through 2005; and
<i>CFO Turnover</i>	cumulative number of changes in the CFO from 2003 through 2005.

RESULTS

Restatement and Executive Turnover

Panel A of Table 3 presents statistical tests to identify differences in executive turnover for restatement versus control companies following the restatement. As expected, restatement companies experience significantly more CEO and CFO turnover than the control firms. This confirms that our 114 matched pairs, from a post-SOX time period, exhibit the same association between restatement and higher turnover as demonstrated in prior literature (e.g., Arthaud-Day et al. 2006; Desai et al. 2006; Burks 2007).

Further evidence of increased turnover appears in Table 3, Panel B. We compare CEO and CFO turnover for the three years preceding the restatement to the three-year post-restatement turnover for restatement companies and control firms. The results show significantly higher post-restatement turnover for the restatement companies for both CEOs and CFOs relative to the pre-restatement turnover. We do not find a similar difference in turnover for the control firms.

TABLE 3
Executive Turnover for Restatement and for Control Firms
(n = 228)

Panel A: Comparison of Post-Restatement Turnover between Restatement and Control Firms

Variables*	Mean (Standard Deviation)		Two-sample t-statistic
	Restates (n = 114)	Controls (n = 114)	
CEO Turnover	0.47	0.25	3.20***
Post-Restatement	(0.61)	(0.45)	
CFO Turnover	0.62	0.34	3.47***
Post-Restatement	(0.66)	(0.56)	

Panel B: Comparison of Pre-Restatement Turnover to Post-Restatement Turnover

	Mean (Standard Deviation)		Matched-Pair t-statistic
	Pre-Restatement (n = 114)	Post-Restatement (n = 114)	
Restates with CEO Turnover	0.25 (0.44)	0.42 (0.50)	-2.79***
Controls with CEO Turnover	0.23 (0.42)	0.24 (0.43)	-0.16
Restates with CFO Turnover	0.38 (0.49)	0.54 (0.50)	-2.46**
Controls with CFO Turnover	0.35 (0.48)	0.30 (0.46)	0.85

** , *** p < 0.01 and p < 0.00, respectively.

* Variable definitions are the same as in Table 2 except that Panel B measures turnover as a dichotomous variable (1 for firms with turnovers and 0 for firms without turnover during the three-year period).

Restatement, CFO Turnover and Audit Fees

Descriptive Statistics

Table 4 presents descriptive statistics and a correlation matrix for the independent variables in the audit fee model. There is high correlation between the indicator variable for internal control deficiencies and the restatement variable (Pearson = 0.48). Because this correlation raises an issue with multicollinearity between the independent variables, we analyze alternative specifications of the model, without the internal control deficiency indicator, and summarize the results below in the "Additional Analysis" section.

Multivariate Tests of Hypotheses 1 and 2

Table 5 summarizes the ordinary least square regression results for the multivariate tests of H1, H2a, and H2b. The evidence presented in Model 1a of Table 5 supports H1. Specifically, with an overall F-statistic of 6.72, the regression model is highly significant ($p < 0.001$) and returns an adjusted R^2 of 20.1 percent. The *Restate* variable is significant and positive, indicating that audit fees are higher for restatement companies.

Model 1b presented in Table 5 provides evidence supporting H2b. Specifically, Model 1b has an overall F-statistic of 5.40 and is highly significant ($p < 0.001$). The variables of interest are the two interaction terms. The *Restate* and *CEO Turnover* interaction is not significant; therefore it does not support H2a. However, the interaction between *Restate* and *CFO Turnover* is negative and highly significant ($p < 0.01$). The negative sign indicates that audit fees are lower for restatement companies with CFO turnover relative to other restatement companies. In the next section, we provide additional analysis and discussion of this finding.

As expected, audit fees in 2005 are inversely related to auditor change ($p < 0.01$), indicating that companies that changed auditors (generally from Big 4 to non-Big 4 auditors) paid lower audit fees. Other significant control variables include the ratio of inventory to total assets, accelerated filer status, and change in total assets.⁷ The remaining variables are not significant at conventional levels.

Additional Analysis

Multivariate Model of CEO and CFO Turnover

To further confirm the results of the univariate tests presented in Table 3, we use a multivariate model of restatement firms that includes 11 control variables identified from the restatement literature.⁸ The logistic regression model is of the following form:

⁷ The negative relationship we observe between change in inventory as a percent of total assets and change in auditor fee is contrary to expectations. A closer examination reveals that 35 of our sample firms (e.g., software service companies) have no inventory, and therefore the change in inventory as a percent of total assets is zero. We believe that this factor contributes to the negative sign observed for the change in inventory control variable.

⁸ Earlier work shows numerous factors to be associated with financial reporting problems, including restatements. Following prior corporate governance literature (Beasley 1996; Dechow et al. 1996; Beasley et al. 2000; Abbott et al. 2004; Farber 2005), we control for the size of audit committees, the number of audit committee meetings, the percentage of outsiders on the board, and CEO duality. Other research suggested the need for the following control variables: a measure of financing needs (Dechow et al. 1996); earnings growth (DeFond and Jiambalvo 1991); merger and acquisition activity (Kinney et al. 2004); audit committee turnover; (Srinivasan 2005; Arthaud-Day et al. 2006); and profitability, leverage, and size (Kinney and McDaniel 1989).

TABLE 4
Descriptive Statistics and Pearson Correlation Matrix
For Independent Variables in Model 2
 (n = 228)

Variables ^a	Mean ^b	s.d. ^b	1	2	3	4	5	6	7	8	9	10	11
1 Restatement	0.50	0.50	1.00										
2 Auditor Change	0.20	0.40	0.13	1.00									
3 Δ Account Receivable%	0.14	0.12	0.08	-0.03	1.00								
4 Δ Inventory%	0.09	0.13	0.03	-0.10	0.25	1.00							
5 Δ Foreign	0.47	3.31	-0.09	0.05	-0.13	-0.14	1.00						
6 CEO Turnover	0.36	0.55	0.21	-0.03	0.05	-0.04	-0.04	1.00					
7 CFO Turnover	0.48	0.63	0.22	0.15	0.00	0.01	-0.02	0.27	1.00				
8 Δ Segments	2.23	1.54	-0.12	-0.13	0.03	0.03	0.03	-0.12	-0.18	1.00			
9 Δ Subsidiaries	22.29	35.82	-0.08	-0.07	0.05	0.01	-0.02	0.00	-0.10	0.11	1.00		
10 Δ Log Total Assets	1,337.30	3,269.40	-0.23	-0.10	-0.13	-0.10	0.00	-0.16	-0.15	0.19	0.20	1.00	
11 Accelerated Filer	0.84	0.37	0.00	-0.20	0.12	0.00	-0.04	0.04	0.05	-0.01	0.08	-0.04	1.00
12 IC Deficiency	0.23	0.42	0.48	0.27	0.02	-0.01	0.05	0.14	0.22	-0.05	-0.08	-0.21	0.01

^a Variables are defined in Table 2.

^b The descriptive statistics (means and standard deviations) are presented without transformations, and for the change variables (Δ) the numbers presented are the 2005 levels, not the change between 2003 and 2005. Assets and audit fees are in millions of dollars. Correlations are calculated using transformations (square root of subsidiaries and natural logs of assets and audit fees) and changes between 2003 and 2005 for the Δ variables, since the model uses the variables in that form.

TABLE 5
OLS Regression Results for Multivariate Tests of Audit Fee Model

$$\begin{aligned}
 \text{Change in Audit Fee} = & \beta_0 + \beta_1 \text{Restate} + \beta_2 \text{Auditor Change} + \beta_3 \Delta \text{Subsidiaries} \\
 & + \beta_4 \Delta \text{Foreign} + \beta_5 \Delta \text{Segments} + \beta_6 \Delta \text{Accounts Receivable\%} \\
 & + \beta_7 \Delta \text{Inventory\%} + \beta_8 \text{Accelerated Filer} + \beta_9 \text{IC Deficiency} \\
 & + \beta_{10} \Delta \text{Log Total Assets} + \beta_{11} \text{CEO Turnover} \\
 & + \beta_{12} \text{Restate} * \text{CEO Turnover} + \beta_{13} \text{CFO Turnover} \\
 & + \beta_{14} \text{Restate} * \text{CFO Turnover} + \varepsilon.
 \end{aligned}$$

Variables ^a		Expected Sign	Model 1a	Model 1b
			Standardized Beta	Standardized Beta
			t-statistic	t-statistic
β_0	Constant	?	—	—
			3.34***	2.98***
β_1	Restate	+	0.17	0.25
			2.51**	2.86**
β_2	Auditor Change	-	-0.16	-0.16
			-2.49**	-2.42**
β_3	Δ Subsidiaries	+	-0.06	-0.07
			-0.99	-1.09
β_4	Δ Foreign	+	-0.09	-0.09
			-1.52	-1.51
β_5	Δ Segments	+	0.08	0.06
			1.29	0.89
β_6	Δ Accounts Receivable%	+	0.03	0.05
			0.49	0.75
β_7	Δ Inventory%	+	-0.21	-0.20
			-3.35***	-3.24***
β_8	Accelerated Filer	+	0.28	0.29
			4.58***	4.66***
β_9	IC Deficiency	+	-0.01	0.02
			-0.09	0.28
β_{10}	Δ Log Total Assets	+	0.21	0.20
			3.31***	3.11**
β_{11}	CEO Turnover	?		-0.09
				-0.82
β_{12}	Restate * CEO Turnover	-		0.12
				0.97
β_{13}	CFO Turnover	?		0.15
				1.55
β_{14}	Restate * CFO Turnover	-		-0.30
				-2.56**
	F-statistic		6.72	5.40
	(Significance)		(< 0.001)	(< 0.001)
	Adjusted R ²		20.1%	21.3%

** , *** p < 0.01 and p < 0.001, respectively. One-tailed for directional expectations, two-tailed for others.

^a Variables are defined in Table 2.

$$\begin{aligned}
 \text{Restate} = & \beta_0 + \beta_1 \text{CFO Turnover} + \beta_2 \text{AC Meetings} + \beta_3 \text{AC Members} \\
 & + \beta_4 \text{Percent Outsiders} + \beta_5 \text{Finance} + \beta_6 \text{Chairman} \\
 & + \beta_7 \text{Return on Assets} + \beta_8 \text{Mergers} + \beta_9 \text{AC Turnover} \\
 & + \beta_{10} \text{CEO Turnover} + \beta_{11} \text{Earnings Growth} + \beta_{12} \text{Leverage} \\
 & + \beta_{13} \text{Log Total Assets} + \epsilon.
 \end{aligned} \tag{2}$$

With an overall model Chi-square of 24.29, the logistic regression is significant at the 0.029 level. The model also provides a pseudo-R² of 13.5 percent and 60.5 percent classification accuracy. The variables for CEO turnover and CFO turnover are highly significant ($p < 0.01$), providing further support that our findings with respect to post-restatement turnover are robust.

Audit Fee Model Excluding Highly Correlated Variables

As shown in Table 4, there is a significant correlation between the restatement variable and the indicator variable for internal control deficiency. When we exclude internal control deficiency from the audit fee model, our results are similar. Excluding this variable from the model changed the adjusted R² from 21.3 percent to 21.7 percent, and the main findings for the *Restate* variable and for the interaction of *CFO Turnover* and *Restate* remained unchanged.

Alternative Specification of the Audit Fee Model

As an alternative test of our finding for H1, H2a, and H2b, we use the more typical audit fee model common in the literature (Abbott et al. 2003), using 2005 audit fees as the dependent variable, rather than the change in fees. In this specification, we use 2003 audit fees as an independent variable. The model is as follows:

$$\begin{aligned}
 \text{2005 Audit Fee} = & \beta_0 + \beta_1 \text{Restate} + \beta_2 \text{2003 Audit Fee} + \beta_3 \text{Auditor Change} \\
 & + \beta_4 \text{Subsidiaries} + \beta_5 \text{Foreign} + \beta_6 \text{Segments} \\
 & + \beta_7 \text{Accounts Receivable\%} + \beta_8 \text{Inventory\%} \\
 & + \beta_9 \text{Accelerated Filer} + \beta_{10} \text{CEO Turnover} \\
 & + \beta_{11} \text{Restate*CEO Turnover} + \beta_{12} \text{CFO Turnover} \\
 & + \beta_{13} \text{Restate*CFO Turnover} + \epsilon.
 \end{aligned} \tag{3}$$

The results of this multivariate model are highly significant with a model F-statistic of 77.86 ($p < 0.001$) and an adjusted R² of 81.5 percent. The coefficient for *Restate* is positive and significant ($p < 0.001$), and the coefficient for the interaction of *CFO Turnover* and *Restate* is negative and significant ($p < 0.01$), thus providing further support for H1 and H2b. The interaction between *CEO Turnover* and *Restate* is not significant, again confirming the results of the change model presented in Table 5.

Additional Analysis of H2b

As Table 5 shows, we find a relationship between audit fees and the interaction of restatement and CFO turnover. To explore this relationship further, we present univariate tests of the percentage change in the audit fees from 2003 (the restated year) to 2005. In this analysis, we exclude companies that changed auditors between 2003 and 2005 because

we cannot control for the significant negative relationship between audit fees and auditor changes in the univariate test. As reported in Table 6 and illustrated in Figure 2, the restatement/no CFO turnover firms experienced the highest change in their audit fees (168 percent) between 2003–2005. This change is significantly greater than that of restatement companies that had CFO turnover (113 percent) and non-restatement companies that had no CFO turnover (113 percent).

CONCLUSIONS

A significant finding in our study is that firms with a financial restatement tend to have significantly higher audit fees than control firms subsequent to the restatement. Auditors likely assign a higher audit risk to clients with financial reporting errors, thus leading to increases in audit effort. Prior literature has demonstrated a positive relationship between assessed risk and audit fees, suggesting that audit firms pass along their higher costs to their clients. Based on the argument presented in Arthaud-Day et al. (2006), restatement firms suffer a loss of organizational legitimacy. We propose that the higher audit fees we observe for restatement firms may reflect an additional cost that firms bear when their legitimacy is compromised.

In addition, our results indicate that the combination of a restatement and CFO turnover is negatively related to audit fees. This finding suggests that when a restatement firm has a change in CFO, outside stakeholders, such as auditors, view the change in management as an improvement. Having a new CFO, one who was not responsible for financial reporting at the time of the error, implicitly signals that the restatement firm has identified its problem and is addressing its weakness. Thus, a change in leadership may help restore legitimacy and lower the auditor's assessment of risk. Thus, costs associated with damaged legitimacy and outsiders' perception of risk are reduced. This link between audit risk and organizational legitimacy merits additional investigation in the future.

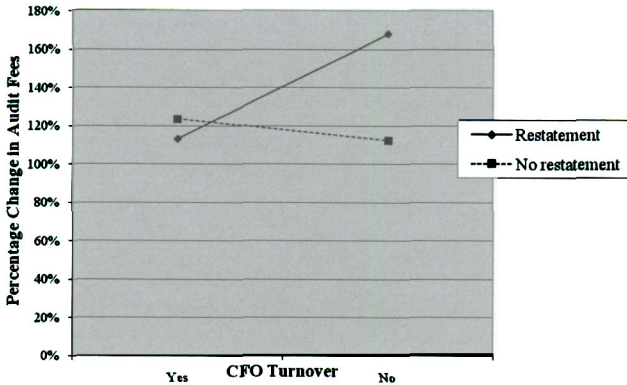
The findings of this study should be interpreted while considering a number of limitations. First, our sample size is limited, in part, by the requirement that appropriate matches could be identified that have proxy statements and 10-K filings available in published databases. Second, our findings are dependent on the accuracy and completeness of firms' public disclosures in their proxy statements and 10-K filings. To the extent that these disclosures contain error, our results should be interpreted cautiously. Finally, while we

TABLE 6
Percentage Change in Audit Fees by Restatement and CFO Turnover* Mean
(Standard Deviation)

	<u>Restatement</u>	<u>Non-Restatement</u>	<u>t-statistic</u> <u>(Significance)</u>
CFO Turnover	113.10% (90.23%) n = 43	123.40% (86.14%) n = 28	0.48 (0.63)
No CFO Turnover	168.02% (130.15%) n = 42	112.54% (94.78%) n = 69	2.40 (0.02)
t-statistic (Significance)	-2.26 (0.03)	0.55 (0.59)	

* This analysis includes only companies that did not have an auditor change between 2003 and 2005.

FIGURE 2
Percentage Change in Audit Fees by CFO Turnover and Restatement



made every effort to ensure that all control firms in our sample were free from financial restatement to correct a material departure from GAAP, we cannot be certain that such firms will remain restatement-free in the future. This point indicates that longer time horizons may be needed to provide additional assurance about the propriety of the control firms included in the sample. In addition, an investigation of CFO turnover and audit fees in restatement firms over a longer post-SOX period would provide additional evidence to test our hypotheses.

Despite the noted limitations, our evidence clearly suggests that increased audit fees may represent an additional cost that firms bear when their legitimacy is compromised through financial restatement. In addition, our results suggest that a new CFO in restatement companies may signal outsiders that the organization is moving to repair its tarnished reputation. Future research can further extend this line of inquiry, testing whether audit fees respond to other actions that firms take to establish or repair legitimacy.

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