Accounting Restatements and Auditor Accountability

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ABSTRACT

This study extends the literature on the consequences of restatements by examining auditor turnover around restatement announcements. Similar to prior research on executive turnover surrounding restatements, we document a higher likelihood of auditor turnover for restating firms than for matched non-restating firms. In contrast to prior research that documents significantly higher executive turnover for restatements involving accounting irregularities than for those related to errors, we show that the overall auditor turnover rates for error and irregularity restatements are surprisingly similar. Looking closer, however, we find that when a restatement occurs, small auditors not only tend to turn over at much higher rates than their Big 4 competitors, but these small auditors are incrementally more likely to turn over in cases where an accounting irregularity is involved. Lastly, in instances where the firm does choose to dismiss the auditor around a restatement, we find that the market responds positively to the auditor change announcement, which is consistent with investors approving of the firms' decision to dismiss underperforming auditors.

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I. INTRODUCTION

Boards of directors contract with agents on behalf of shareholders and, in their role as fiduciaries, periodically evaluate those agents' performance. This evaluation process often leads boards to terminate agents when performance is unacceptably poor (i.e., when the cost of retaining the agent exceeds the cost of replacement). The most widely studied example of this is CEO turnover following poor firm financial performance.[1] Restatements represent another type of negative performance indicator available to boards, and several studies document that boards frequently terminate executives involved in restatements (Arthaud-Day, Certo, Dalton, and Dalton 2006; Desai, Hogan, and Wilkins 2006; Hennes, Leone, and Miller 2008; Burks 2010). Restatements, however, represent a failure of not only the firm's management responsible for financial reporting but also of the external auditors charged with detecting material misstatements. As such, both managers and auditors should share the blame and the penalties for their respective roles in a restatement. In this study, we evaluate the conditions surrounding restatements that lead to auditor turnover.

In their role as monitors, auditors serve to reduce agency costs by mitigating the extent to which managers can exploit their information advantage over investors and report financial results in an opportunistic way (Jensen and Meckling 1976; Ng 1978; Watts and Zimmerman 1983). Investors' beliefs about audit quality will influence the expected benefits of the audit (Pittman and Fortin 2004), but investors have little information to gauge auditor performance beyond the auditor's reputation and the board's periodic decision to renew the auditor's contract. The board also generally has a limited ability to evaluate the audit quality (DeAngelo 1981; Healy and Lys 1986), but a restatement provides concrete evidence of audit failure to both the

[1]See, for example, Warner, Watts, and Wruck (1988); Parrino (1997); DeFond and Park (1999); Huson, Parrino, and Starks (2001); Engel, Hayes, and Wang (2003); Farrell and Whidbee (2003); Balsam and Miharjo (2007); Fischer, Gramlich, Miller, and White (2009).

board and investors. This public event puts considerable pressure on board to change auditors unless audit-switching costs are relatively high or the auditor can be exonerated from blame based on the circumstances of the restatement. We thus expect audit turnover rates to be higher around restatements but to vary with firms' switching costs and the nature of the restatements.

Although a restatement tarnishes the audit team's reputation and raises concerns about the auditors' ability to monitor future financial reporting, restatements do not necessarily increase auditor turnover uniformly. Investors' concerns will likely vary with the severity of the monitoring failure, and any inclination to replace the auditor will be weighed against the costs of such a change. Switching away from the incumbent auditor is costly in terms of incremental managerial time and startup fees paid to a new auditor for training and review or re-audit of prior years (Cohen Commission Report 1978; DeAngelo 1981; Beattie and Fearnley 1995). Further, just as executives possess various amounts of firm-specific human capital that make them more or less irreplaceable (Villalonga and Amit 2006; Leone and Liu 2010), auditors have firm-specific knowledge and experience. Hence, changing auditors also means sacrificing any firm-specific expertise and efficiency developed by the incumbent auditor (Myers, Myers, and Omer 2003). Given these switching costs, auditor turnover is not always the optimal solution, even in restatement situations.

We begin our analysis by comparing auditor turnover rates for 1,325 firms with a restatement between 1997 and 2006 with the auditor turnover rates for a matched sample of non-restating firms. Consistent with the observations of Wallace (2005) and Thompson and McCoy (2005) and the univariate results in Srinivasan (2005) and Agrawal and Cooper (2009), we find a significantly higher likelihood of auditor turnover for restating firms than for matched non-

restating firms in both univariate and multivariate analysis.[2] We find that 29.4% of auditors turn over in the restatement sample versus 8.6% in the control sample. Further, these results hold after controlling for performance and other factors that affect auditor changes. This suggests that accounting restatements significantly increase the probability that boards will replace their auditors, consistent with restatements causing a sharp increase in the reputational benefits from changing auditors relative to the auditor related switching costs.

We next consider whether switching costs or the nature of the restatement affect the probability of auditor turnover. Firms who select large auditors are more likely to have larger, more complex operations requiring more audit services (Healy and Lys 1986) and pay a quality premium for a Big 4 auditor capable of providing those services (Francis 1984; Palmrose 1986).[3] If the incumbent auditor is a Big 4 auditor, the firm faces larger potential startup costs to switch and has a limited choice of comparable Big 4 auditors. We hypothesize that switching costs will be higher and thus auditor turnover will be lower for firms with a Big 4 auditor. Consistent with this hypothesis, we find we find that the probability of auditor turnover is 33.5% higher (46.6% for restating firms compared to 13.4% for the control sample) for restating firms when the auditor is a non-Big4 auditor, compared to only 17.8% higher for Big 4 auditors. The impact of auditor size on the probability of turnover continues to hold after controlling for performance and other factors that affect auditor changes. Overall, the evidence is consistent with Non-Big 4 auditors being more likely than Big 4 auditors to turn over after a restatement.

We also examine whether the type of restatement affects the turnover rates for auditors. In the wake of restatement, firms are concerned with re-establishing credibility with the

[2] As discussed in greater detail later, prior research offers some observational and univariate evidence consistent with increased auditor turnover around restatements, but only Agrawal and Cooper (2009) investigate the association in a multivariate setting. With the exception of some weak results for restatements initiated by the company, their multivariate tests fail to document a relationship between auditor turnover and restatements.
[3] We use "Big 4" throughout the paper to designate Big 4, Big 5, or Big 6 audit firms, depending on the period.

marketplace (Farber 2005; Wilson 2008). However, the impact of restatement on a firm's reputation can vary depending on whether the restatement is due to relatively innocuous clerical errors or a multi-period fraud resulting in criminal prosecution, bankruptcy, etc. The more severe the restatement, the more concerned investors are about the reporting environment of the firm, and the more important it is for the firm to take actions to restore credibility. Consistent with this distinction, Hennes et al. (2008) document that restating firms experience much higher management turnover rates when restatements involve irregularities rather than errors.[4]

Whether the distinction between errors versus irregularities matters for auditor turnover is less clear. In contrast to CEOs, who can avoid blame when a restatement is caused by an error, auditors are responsible for detecting material accounting misstatements even if they are caused by errors. This suggests that even though restatements caused by errors are less damaging to the client, damage to the auditors' reputation for quality may still be sufficient to cause boards to replace the auditor. Therefore, although the evidence on executive turnover would suggest auditor turnover should be higher for restatements caused by accounting irregularities, a competing prediction is that from an audit quality perspective, both types of restatements are audit failures and have a similar impact on the probability of auditor turnover.

Consistent with boards viewing both errors and irregularities equally as audit failures indicative of poor auditor performance, we find very little difference in the overall auditor turnover rates for restatements caused by errors (29.4%) versus those caused by irregularities (29.3%). However, partitioning on auditor size, we do find that Non-Big 4 auditors face a much higher turnover rate for irregularity restatements (61.7%) than error restatements (43.7%). After controlling for performance and other factors that affect auditor changes, we find that auditor

[4] Hennes et al. (2008) find that CEOs (CFOs) of firms involved in a suspected irregularity turn over in 49% (64%) of the time compared to an 8% (12%) turnover rate in firms with errors.

turnover is more than three times more likely when there is an irregularity and an incumbent is a small auditor than when the restatement is related to an error and the incumbent auditor is one of the Big 4. This evidence of higher turnover for smaller audit firms is consistent with the benefits of re-establishing auditor credibility outweighing the lower switching costs for smaller auditors when there is an irregularity.

Finally, we examine the market's reaction to the auditor turnover announcement. Prior research investigating the market reaction to auditor turnover in general finds either significantly negative or insignificant reactions to auditor change announcements. In these studies, the expectation is that an auditor change potentially signals accounting problems or "opinion shopping," both of which would cause investors to discount earnings information and revise prices down. In our setting, however, the auditor's poor performance (i.e., audit failure) is revealed by its client's disclosure of a restatement. Thus, investors should respond positively to auditor turnover if they view it as appropriately terminating a poorly performing auditor.

Our univariate results provide no evidence of a significant market reaction around the auditor change announcement for the total sample. However, when we further partition our sample into auditor changes disclosed as dismissals versus auditor changes disclosed as resignations, we find that auditor resignations are associated with a significantly negative (-2.86%) market response and that auditor dismissals are associated with a significantly positive (1.04%) market response. The dismissal indicator remains significantly positively related to the market reaction in multivariate results, after controlling for the type of restatement, auditor size, and firm size. This positive market reaction is consistent with investors believing that the benefits of auditor dismissal outweigh the switching costs associated with finding a new auditor in cases where the existing auditor has failed to detect a material misstatement.

In summary, restatements provide conspicuous evidence of poor auditor performance, and auditors face consequence for these failures. Despite the potentially high costs associated with losing an auditor's firm-specific knowledge, auditors are more likely to turn over around restatements. This is consistent with prior evidence on the repercussions faced by executives of restating firms. However, unlike the substantially different managerial turnover associated with irregularities versus errors, we find no difference in the turnover rates for Big 4 auditors across different types of restatements. For Non-Big 4 auditors, we find that they not only turnover more frequently than their larger counterparts around all types of restatements, but that they also experience incrementally higher turnover rates around restatements involving an irregularity. Based on this evidence, we conclude that the switching costs for a firm that is audited by a Big 4 auditor often outweigh any potential reputational benefits of a change, even for restatements involving irregularities. In contrast, firms audited by smaller auditors are more likely to seek the benefits of obtaining a new auditor, especially around restatements involving irregularities. Finally, in instances where the firm does choose to dismiss the auditor around a restatement, we find that the market responds positively to the auditor change announcement.

II. BACKGROUND AND RESEARCH QUESTIONS

Our paper contributes to the stream of research focused on the consequences of accounting restatements as well as the research dealing with auditor changes. The existing literature on the consequences of accounting restatements includes examinations of: the market reaction to earnings restatements (Palmrose et al. 2004); restatements and the cost of capital (Hribar and Jenkins 2004); the information content of earnings after restatements (Wilson 2008); restatements and executive turnover (Arthaud-Day et al. 2006; Desai, Hogan, and Wilkins 2006; Hennes et al. 2008); executive compensation and incentives to restate earnings (Burns and Kedia

2006; Efendi, Srivastava, and Swanson 2007; Burks 2010) and audit committee consequences of restatements (Srinivasan 2005). We expand this literature by examining the impact of restatements on auditor turnover.[5]

Prior literature on auditor change examines voluntary auditor changes driven by gradually increasing misalignment between the client and auditor (Johnson and Lys 1990; Shu 2000; Boone and Raman 2001) as well as forced auditor switches after the demise of Arthur Andersen (Barton 2005; Blouin, Grein, and Rountree 2007; Chen and Zhou 2007). Similar to the forced executive turnover studies, restatements offer readily identifiable shocks to the auditor-client relationship that likely trigger a re-evaluation of that auditor-client relationship within a fairly narrow time period. However, in contrast to the post-Andersen setting that necessitated an audit change in all cases, restatements provide a setting with variation in the degree of audit and reporting failure and less than 100% turnover. A restatement also reflects directly on the local audit team and its office, unlike the indirect reputation effects felt by other non-Enron Andersen clients. Restatements thus allow us to explore auditor turnover in a setting where there is variation in the degree of agency concerns induced by the restatement but the audit failure by the audit team is unambiguous and revealed to the public.

We first examine whether the reputational benefits of finding a new auditor after a restatement outweigh the associated switching costs as prior research is not entirely conclusive on this issue. Although Srinivasan (2005) provides some univariate evidence that auditor turnover is higher for income-decreasing restatements than for a set of control firms, a concurrent working paper by Agrawal and Cooper (2009) finds no consistent multivariate evidence that auditor turnover is higher in restating firms, except weakly for restatements

[5] This paper focuses on the ex post consequences to auditors of restatements, but it is worth noting that a separate line of research uses auditor characteristics to predict fraudulent reporting ex ante (Carcello and Nagy 2004a, 2004b; Lennox and Pittman 2010).

initiated by the company.[6] Therefore, we begin our analysis by comparing turnover around restatement announcements to a matched set of firms that did not restate. Formally, our first research question is as follows:

R1: Do restatement firms have higher auditor turnover than non-restatement firms?

We next examine whether auditor size affects auditor turnover around restatements. As previously discussed, we expect switching costs to be higher for firms with a Big 4 auditor. Big 4 auditors tend to audit larger clients with relatively more complex organizational structures and operations, requiring a significant initial investment by both auditors and clients in the new auditor's first year. In addition, a client needing the services of a Big 4 auditor only has a few firms to choose from if it is considering a switch, making change potentially more difficult. Further, a Big 4 auditor could switch out the entire local audit team as a slightly less drastic way to regain credibility with the client, but a smaller audit firm is less likely to have sufficient depth to offer this option.[7] Based on these factors, our second research question is as follows:

R2: Is auditor turnover more likely for restatement firms with a small auditor then for firms with a Big 4 auditor?

We next examine whether auditor turnover is affected by whether the restatement involved an error or a suspected irregularity. Hennes et al. (2008) find that the nature of the restatement is an important predictor of CEO/CFO turnover, as restatements involving irregularities generally raise greater concerns about firms' reporting credibility. Replacing executives is necessary to restore financial reporting credibility when irregularities occur. In contrast, when restatements are caused by errors, the CEO/CFO turnover rates they report approximate the normal turnover

[6] Studies by Wallace (2005) and Thompson and McCoy (2005) also examine auditor turnover surrounding restatements, but their conclusions are primarily based on observational inferences.

[7] We thank a partner at one of the Big 4 for this comment.

rates documented in the literature. Boards do not appear to view restatements caused by errors to as being egregious enough to warrant replacing the CEO or CFO.

Whether the distinction between errors versus irregularities matters for auditor turnover is less clear. In contrast to CEOs, who can avoid blame when a restatement is caused by an error, auditors are responsible for detecting material accounting misstatements even if they are caused by errors. This suggests that even though restatements caused by errors are less damaging to the client, the damage to the auditors' reputation for quality may still be sufficient to cause board to replace the auditor. Ex ante, it is unclear whether the credibility of the auditor will be damaged more in the irregularity case or in the error case, so our third research question is as follows:

R3: Is auditor turnover more likely for restatements classified as irregularities than for restatements classified as errors?

Finally, we consider how the market responds to the auditor change announcement. Prior research investigating the market reaction to auditor turnover announcements either finds insignificant reactions (Schwartz and Soo 1995; Johnson and Lys 1990; Klock 1994) or finds that the reaction is negative (Fried and Schiff 1981; Eichenseher, Hagigi, and Shields 1989), particularly for auditor resignations (Wells and Louder 1997; Griffin and Lont 2010) or auditor changes with reportable events (Whisenant, Sankaraguruswamy, and Raghunandan 2003; Beneish, Hopkins, Jansen, and Martin 2005). This evidence is consistent with investors viewing audit changes signal of low earnings quality and discounting reported earnings in their valuation estimates. In our setting, however, the auditor's poor performance (i.e., audit failure) is revealed by its client's disclosure of a restatement. Thus, investors should respond positively to auditor turnover if they view it as the firm appropriately terminating a poorly performing auditor. This leads to the following research question.

R4: How does the market respond to auditor turnover around a restatement?

A positive market response to the announcement of a change of auditor would suggest that investors view the benefits of obtaining a new monitor as outweighing the switching costs associated with finding a new audit firm.

III. SAMPLE AND DESCRIPTIVE DATA

As summarized in Table 1, we begin with 2,705 restatements reported by the GAO (2003; 2006) that were announced between January 1997 and June 2006. We obtain details of each restatement from firms' SEC filings and Lexis-Nexis searches. We eliminate 208 observations that represent multiple announcements of the same restatement. We also find that some of the restatements announced are corrections of earnings announcements only, do not eventually result in a restatement, or are incorrectly included as misstatements (i.e., are legitimate pro forma restatements for mergers or discontinued operations), so we drop 119 observations that do not represent misstated 10-Q or 10-K filings.

In reading the nature of each restatement, we also find that some restatements reflect clear misapplication of existing GAAP whereas others relate to more ambiguous areas of shifting GAAP. For our primary analysis, we remove 240 restatements related to new clarifications of GAAP (e.g., restatements related to SAB 101, the SEC's 2005 letter to the AICPA regarding leases, new EITF guidance, etc.). We also eliminate 645 firms not covered by Compustat and 148 restatements occurring in 2001 or later where Arthur Andersen had audited the most recent fiscal year, as the incidence of auditor turnover for those clients is a forced 100%. This leaves a preliminary restatement sample of 1345 observations.

We construct a control sample by matching each restatement firm with a control firm that did not experience a restatement during the sample period. At the end of the last fiscal year preceding the restatement announcement, each restatement firm is matched one to one with a

non-restatement firm on year, two-digit SIC code, Big4/Non-Big4 auditor, and closest total assets. We could not get an appropriate unique match for 20 restatement firms, so the matched sample is reduced to 1325 restatement firms and 1325 control firms with available data for our univariate analyses.

IV. RESULTS

Turnover Announcement Timing

We first examine when the auditor turnover takes place in relation to the restatement announcement. Figure 1 shows that for both Big 4 and non-Big 4 auditors most of the turnover occurs close to the restatement announcement. Of further interest, Figure 1 provides some visual evidence that small auditors tend to turn over at a higher rate in the months leading up to the restatement announcement, whereas larger auditors tend to turn over at higher rates after the restatement. Figure 2 presents the distribution of turnover events partitioned by the type of restatement. Although turnover is higher for restatements classified as irregularities in the months immediately surrounding the restatement, there do not appear to be any significant differences in the timing of the turnovers for restatements classified as errors or irregularities. In summary, the figures provide some observable evidence of audit turnover clustered around restatement announcements, which is consistent with a relation between the restatement event and auditor turnover.

Univariate Analyses

We next examine the frequency of auditor turnover around restatement events. Panel A of Table 3 reports auditor turnover in 29.4% of restatement firms during the twelve months before and twelve months after a restatement, which is significantly higher than the turnover rate for the control sample. Panel A also reports differences in auditor turnover rates among restatement and

control firms by size of audit firm. Specifically, the turnover rate of 46.9% for restatement firms with Non-Big 4 auditors is significantly higher than the 25.0% turnover rate for restatement firms audited by a Big 4 auditor. The difference in auditor turnover between Big 4 and Non-Big 4 auditors in restatement firms is significantly higher than the differences between Big 4 and Non-Big 4 auditors in the control sample.

We next test whether auditor turnover rates are different for restatements caused by irregularities versus those caused by errors. In contrast to prior research that documents substantially higher executive turnover for irregularity restatements compared to error restatements, auditor turnover rates are virtually identical for the two restatement types. The turnover rate for the error sample is 29.4% versus 29.3% for the irregularity sample. Further, the 0.1% difference between the irregularity and error groups in the restatement sample is not significantly different from the difference of 0.5% observed in the control sample.

After restricting our analysis to firms that restated their financial statements, we examine the differential effects of errors and irregularities separately for Big 4 and Non-Big 4 audit clients. We find no statistical difference in audit turnover rates across errors and irregularities with Big 4 auditors, but Non-Big 4 audit turnover is substantially higher for irregularity restatements as compared to error restatements. Specifically, we find that the turnover rate for Non-Big 4 auditors when the restatement is classified as an irregularity is 61.7% as compared to a rate of 43.7% for error restatements. Further, the relative differences between irregularity and error restatements are larger for Non-Big 4 firms than for Big 4 firms.

Multivariate Analyses

The results in Table 3 support our predictions that auditor turnover is higher among Non-Big 4 auditors and around restatements. Switching to a multivariate analysis, we control for other

potentially confounding factors. To ensure that the results are not driven by firm distress, we control for *LEVERAGE* (debt to total assets), and we also add controls for *ROA* and *GROWTH* to control for potential correlations between auditor turnover and restatements and firm performance or growth. Finally, we include size quintiles based on firms' total assets as previous studies have shown that firm size affects the auditor client relationship (Reynolds and Francis 2000). We estimate the following conditional logistic regression for auditor turnover:

$$\begin{aligned} AUDITOR\_TO = {} & \alpha_0 + \alpha_1 RESTATE + \alpha_2 NONBIG4 + \alpha_3 LEVERAGE + \alpha_4 ROA + \\ & \alpha_5 GROWTH + \alpha_6 SIZE\ QUINTILE\ 1 + \alpha_7 SIZE\ QUINTILE\ 2 + \\ & \alpha_8 SIZE\ QUINTILE\ 4 + \alpha_9 SIZE\ QUINTILE\ 5 + \varepsilon \end{aligned} \quad (1)$$

where:

AUDITOR_TO	=	1 if the auditor turned over in the 12 months before or 12 months after the restatement, and 0 otherwise;
RESTATE	=	1 if the firm restated their financial statements, and 0 otherwise;
NONBIG4	=	1 if the firm was not a client of a Big N auditing firm at the time of the restatement, and 0 otherwise;
LEVERAGE	=	Debt (#9+#34)/Assets (#6). ROA is operating income before interest and taxes scaled by assets (Compustat #178/#6);
ROA	=	Operating income before interest and taxes scaled by assets (Compustat #178/#6);
GROWTH	=	Change in sales (Compustat #12) from t−2 to t−1 scaled by sales in t−2;
SIZE QUINTILE i	=	Indicator variable for size quintiles based on total assets.

The results from this conditional logistic regression are reported in Table 4. The first column shows that auditor turnover is significantly more likely for restatement firms than for control firms and that Non-Big 4 firms are more likely to have auditor turnover than their larger competitors. In Column 2, we add an interaction between *RESTATE* and *NONBIG4* to allow the odds ratios to differ across groups, and we find that both the main effects and the interaction term are significantly positive. This is consistent with the odds of turnover increasing incrementally for non-Big 4 auditors involved in a restatement.

The third column of Table 4 separates *RESTATE* into restatements classified as *ERROR* and *IRREGULARITIES*. We find that both *ERRORS* and *IRREGULARITIES* are significantly associated with higher auditor turnover, but there is no significant difference (untabulated) between the coefficients on *ERRORS* and *IRREGULARITIES*. In the final column, we interact *NONBIG4* with *ERRORS* and *IRREGULARITIES* and find that all the main effects and the interaction terms are significantly positive. This indicates that the odds of turnover increase incrementally for non-Big 4 auditors involved in irregularities.

We next examine auditor turnover within the restatement sample, which allows us to control for both factors included in Equation 1 as well as factors unique to the restatement sample. We include an indicator variable for whether the GAO classifies the restatement as auditor-initiated (*AUDITOR_INIT*) because prior literature (including Hribar and Jenkins 2004; Arthaud-Day et al. 2006; Desai et al. 2006; Agrawal and Cooper 2009) hypothesizes that the disclosed initiator of the restatement is related to the expected consequences of the restatement. We also control for whether the restatement involves an audited annual financial statement (*ANNUAL*) rather than a reviewed quarterly financial statement and for restatements involving merger and acquisition accounting (*M&A*) that may have involved multiple audit teams or audit firms. Finally, we also add controls for income-increasing restatements (*RESTATE_POS*) and restatements related to improper revenue recognition (*REV_REC*).[8] We estimate the following logistic regression for auditor turnover:

$$\begin{aligned} AUDITOR\_TO = {} & \alpha_0 + \alpha_1 IRREGULARITY + \alpha_2 NONBIG4 + \alpha_3 AUDITOR\_INT + \alpha_4 ANNUAL + \\ & \alpha_5 RESTATE\_POS + \alpha_6 M\&A + \alpha_7 REV\_REC + \alpha_8 LEVERAGE + \alpha_9 ROA + \\ & \alpha_{10} GROWTH + \alpha_{11} SIZE\ QUINTILE\ 1 + \alpha_{12} SIZE\ QUINTILE\ 2 + \\ & \alpha_{13} SIZE\ QUINTILE\ 4 + \alpha_{14} SIZE\ QUINTILE\ 5 + \varepsilon \end{aligned} \quad (2)$$

[8] In untabulated results, we also control for the firm's cumulative abnormal returns around the restatement announcement ($CAR_{(-7, +7)}$) as an additional measure of restatement severity, and inferences are unchanged. We exclude this control from our primary analyses because the lack of data availability on CRSP reduces our restatement sample by several hundred firms.

where,

AUDITOR_TO	=	1 if the auditor turned over in the 12 months before or 12 months after the restatement, and 0 otherwise;
IRREGULARITY	=	1 if the restatement is classified as an irregularity by Hennes et al. (2008), and 0 otherwise;
NONBIG4	=	1 if the firm was not a client of a Big N auditing firm at the time of the restatement, and 0 otherwise;
AUDITOR_INIT	=	1 if the GAO classifies the restatement as being auditor-initiated, and 0 otherwise;
ANNUAL	=	1 if the restatement amends a 10-K filing, and 0 otherwise;
RESTATE_POS	=	1 if the restatement is income-increasing, and 0 otherwise;[9]
M&A	=	1 if the GAO classifies any part of the restatement as being related to improper acquisition or merger accounting, and 0 otherwise;
REV_REC	=	1 if the GAO classifies any part of the restatement as being related to revenue recognition, and 0 otherwise;
LEVERAGE	=	Debt (#9+#34)/Assets (#6). ROA is operating income before interest and taxes scaled by assets (Compustat #178/#6);
ROA	=	Operating income before interest and taxes scaled by assets (Compustat #178/#6);
GROWTH	=	Change in sales (Compustat #12) from t−2 to t−1 scaled by sales in t−2;
SIZE QUINTILE i	=	Indicator variable for size quintiles based on total assets.

Column 1 of Table 5 reports the logistic regression results for Equation 2. We find significant evidence that auditor turnover is more likely to occur when the restatement firm has a Non-Big 4 auditor, but we find no statistically significant evidence of a higher probability of turnover for irregularity restatements. We interpret this as evidence that boards hold auditors equally responsible for restatements caused by errors (e.g., misapplications of GAAP) as they do for intentional violations perpetrated by management. We also find evidence that restatements initiated by the auditor are more likely to be associated with audit turnover. This is consistent with the evidence in Hribar and Jenkins (2004) and Desai et al. (2006) that auditor-initiated restatements have more severe repercussions than those initiated by other parties. Among the other control variables, only firm growth is significantly related to audit turnover.

[9] We obtain data regarding the income statement effect of the restatement from Gennaro Bernile.

The second column in Table 5 reports the results for Equation 2 after adding an interaction between *IRREGULARITY* and *NONBIG4* to allow the odds ratios to differ. The results for the main effects of *IRREGULARITY* and *NONBIG4* remain comparable to those in Column 1, but we also find a significant coefficient on the interaction between *IRREGULARITY* and *NONBIG4*. This indicates that the odds of turnover increase incrementally for Non-Big 4 auditors when the restatement is due to an irregularity versus an error. Based on the coefficients in Column 2, turnover is over three times more likely when an irregularity related restatement is associated with a small firm than when a restatement related to an error is associated with a Big 4 auditing firm.[10]

Table 6 explores the market's reaction to the auditor turnover announcement. For this analysis, we exclude observations if the restatement announcement occurs within seven days of the audit change announcement to eliminate the confounding market impact of the restatement. In univariate results in Panel A, we find no evidence of a significant market reaction around the auditor change announcement for the overall restatement and control samples, which is consistent with results reported in many other auditor change studies. Since we are primarily interested in measuring the reaction to audit firms dismissed for poor performance, we follow (DeFond, Ettredge, and Smith 2001) and partition the sample into auditor resignations and auditor dismissals based on our review of each 8-K Disclosure Item titled "Changes in Registrant's Certifying Accountants."[11]

[10] Evaluated at the mean for each coefficient, the predicted probability of audit turnover when there is an irregularity associated with a small audit firm is 70.6% compared to a predicted probability of only 21.9% when there is an error associated with a Big 4 firm.

[11] For example, American Physicians Services Group made the following disclosure "On July 8, 2002, we terminated the appointment of KPMG LLP..." which would be classified as a dismissal. The auditor change announcements are generally clearly indicative of either a firm-initiated dismissal or an auditor-initiated resignation, but it is important to note that there is potential for considerable noise in this classification if the press release language is negotiated between the firm and the departing auditor.

DeFond et al. (2001) find an insignificant market response to auditor dismissal announcements but a negative market response to auditor resignation announcements. In our restatement sample, we find similar evidence that auditor resignations are associated with a significantly negative (-2.86%) market response. However, in contrast to the findings in Defond et al. (2001), we find that auditor dismissals are associated with a significantly positive (1.04%) market response. We find no similar evidence in the control sample. This evidence of a positive market reaction in our setting is consistent with restatements being an extreme case of poor auditor performance where the benefits of auditor dismissal outweigh the switching costs.

We next examine the market response to the audit turnover announcement for restatement firms after controlling for other factors that might affect the returns. Specifically, we control for: the type of restatement (*IRREGULARITY*); whether the auditor was dismissed or resigned (*DISMISSED*), auditor size (*NONBIG4*); and firm size (*ASSETS*). We estimate the following OLS regression for the market reaction to the auditor turnover:

$$CAR_{(-2,+2)} = \alpha_0 + \alpha_1 IRREGULARITY + \alpha_2 DISSMISSED + \alpha_3 NONBIG4 + \alpha_4 ASSETS + \varepsilon \qquad (3)$$

where,

$CAR_{(-2, +2)}$	=	Firm's cumulative abnormal returns from two trading days prior to the turnover announcement through two trading days after the announcement, where expected returns are the CRSP value-weighted returns inclusive of dividends
IRREGULARITY	=	1 if the restatement is classified as an irregularity by Hennes et al. (2008), and 0 otherwise;
DISMISSED	=	1 if 8-K disclosure item titled "Changes in Registrant's Certifying Accountants" indicates the auditor was dismissed, and 0 otherwise;
NONBIG4	=	1 if the firm was not a client of a Big N auditing firm at the time of the restatement, and 0 otherwise;
ASSETS	=	Total Assets of the firm (Compustat #6)

Table 6 Panel B provides the multivariate results from Equation 3. Among restatement firms with an auditor change, we find that *DISMISSED* is significantly positively related to the market

reaction, suggesting that after controlling for other factors, the market views these auditor dismissals favorably.

Auditor Turnover By Time Period

It is possible that the passage of Sarbanes-Oxley along with the Enron and Worldcom scandals could increase the pressure to replace an auditor when a restatement takes place. As such, we examine the auditor turnover rates by year in Table 7. We find a slight, but insignificant, increase in the auditor turnover rates between 1997-2000 and 2003-2006. Consistent with the expanded responsibilities to plan and perform an audit in a manner that would detect intentional misstatements brought on by the 2002 passage of SAS 99, we also examine whether the consequences to auditors associated with irregularities could increase in the later period. Differences in auditor turnover across time between error and irregularities restatements are reported in Panels A and B of Table 7. We fail to find any evidence consistent with this conjecture.

Ghosh and Pawlewicz (2008) suggest that the reduction in audit firms and the increased workload of Sarbanes Oxley could affect the turnover of large auditors around restatements. With time-consuming demands from Sarbanes-Oxley and as more Andersen clients were absorbed by the remaining four large audit firms, the Big 4 likely became more selective in the latter years of the sample. Increased standards for clients could suggest reduced auditor dismissals around restatements as it became more difficult to engage a suitable replacement auditor. We examine this question in Panels C and D of Table 7, but we find little difference in the overall turnover rates or the turnover rates of Big 4 auditors. Overall, the results from Table 7 provide little evidence of any variation in auditor turnover across our sample time period, suggesting that the results documented in this paper are not period specific.

V. CONCLUSION

The literature investigating the consequences of restatements has grown substantially over the past several years. There is considerable evidence on the employment-related penalties that executives face for misreporting but limited evidence on the relation between auditor turnover around restatements. We document a higher likelihood of auditor turnover for restating firms than for matched non-restating firms in both univariate and multivariate tests. This is consistent with both executives and the auditor facing substantial consequences around restatements. However, in sharp contrast to the executive turnover literature where the executive turnover is dramatically more likely in cases involving an irregularity, we find that the overall audit turnover rates for restatements involving errors and irregularities are quite similar. This is consistent with firms holding auditors equally accountable for audit failures involving both deliberate and accidental misstatements.

Looking more closely at the auditor type, we also find that small auditors tend to turn over at much higher rates than their Big 4 competitors. Further, small auditors are also incrementally more likely to turn over around restatements where an accounting irregularity is involved rather than an error. These findings are consistent with firms being most likely to change auditors to regain credibility when the financial statement failure involved intentional malfeasance and the auditor involved is smaller.

Finally, despite substantial switching costs associated with moving to a new auditor, we show that the market responds positively to auditor dismissals by restatement firms. This positive market response is unique in the audit turnover literature, which generally shows a negative or insignificant reaction to audit turnover. We contend that the positive market reaction documented in our setting is due to restatements being an extreme case of visible poor auditor performance

where the benefits of auditor dismissal outweigh the switching costs. Overall, our evidence is consistent with auditors being held accountable for failure to detect both errors and irregularities, and investors approving of the firms' decision to dismiss these underperforming auditors.

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TABLE 1 – Sample Selection

		Observations
Combined GAO Database		2705
Less duplicate announcements for one restatement	-208	2497
Less restatements not involving a 10-Q/10-K misstatement	-119	2378
Less restatements related to clarifications of GAAP	-240	2138
Less firms not covered by Compustat	-645	1493
Less firms audited by Arthur Andersen after 2000	-148	1345
Less firms without adequate match	-20	1325
Total Restatement Sample		1325
Plus Control Sample		1325
Total Sample		2650

Notes: We construct a control sample by matching each restatement firm with a control firm that did not experience a restatement during the sample period. At the end of the last fiscal year preceding the restatement announcement, each restatement firm is matched one to one with a non-restatement firm on year, two-digit SIC code, Big4/Non-Big4 auditor, and closest total assets. The sample selection procedures are discussed further in Section III.

TABLE 2 – Descriptive Statistics

	Restatement Sample				Control Sample			
	N	Mean	Median	Std	N	Mean	Median	Std
SALES	1325	1,790	139	5,891	1325	1,562	162	5,216
GROWTH	1325	34.5%	10.0%	127.1%	1325	44.2% **	10.7%	160.8%
ASSETS	1325	3,469	219	13,856	1325	3,336	210	14,072
ROA	1325	-13.4%	0.4%	42.2%	1325	-8.0% ***	1.6% ###	36.1%
NONBIG4	1325	19.8%	0.0%	39.8%	1325	22.5% **	0.0% ##	41.8%
LEVERAGE	1325	27.1%	20.4%	27.3%	1325	26.4%	19.8%	27.2%
Restatement Characteristics								
AUDITOR_INIT	1325	10.5%						
M&A	1325	6.0%						
RESTATE_POS	1325	26.2%						
REV_REC	1325	30.3%						
ANNUAL	1325	71.2%						

Notes: Details of the sample selection procedure for restatement firms and control firms are provided in Table 1. Variables listed above are generally those reported in the year prior to the restatement (not restated). *SALES* is Compustat #12. *GROWTH* is the change in sales from t−2 to t−1 scaled by sales in t−2. *ASSETS* is Compustat #6. ROA is Compustat #172/#6. *NONBIG4* is an indicator variable equal to 1 if the firm was not a client of a Big 4 (Big 4, Big 5, or Big 6 depending on the period) auditing firm. *LEVERAGE* is Debt /Assets (Compustat (#9+#34) / #6). ***, **, * indicate t-tests of mean differences between restatement and control groups significant at $p < 0.01$, 0.05, and 0.10, respectively. ###, ##, # indicate Wilcoxin signed-rank tests across groups significant at $p < 0.01$, 0.05, and 0.10, respectively.

Restatement characteristics are only available for firms in the restatement sample. *AUDITOR_INIT* is an indicator variable that is equal to 1 if the restatement is auditor initiated, and 0 otherwise. *M&A* is an indicator variable that is equal to 1 if the restatement involved improper acquisition or merger accounting, and 0 otherwise. *RESTATE_POS* is an indicator variable that is equal to one if the restatement was income increasing, and 0 otherwise. *REV_REC* is an indicator variable equal to 1 if the GAO classifies any part of the restatement as being related to revenue recognition, and 0 otherwise. *ANNUAL* is one if the firm restated a 10-K and 0 if the firm restated only 10-Qs.

As mentioned above, variables are generally those reported in the year prior to the restatement (not restated). Whether or not the Compustat values are the initially reported amounts or the restated amounts depends on the timing of the restatements. If, for example, a firm with fiscal-year end of December 31, 2005 files a 10-K in March 2006 but later amends that filing prior to Compustat's next "cut" of the database, say November 2006, then Compustat uses the November 2006 data and ignores the original filing (in March 2006). In these cases, the data reported in this table are the restated figures. If, on the other hand, a company amends a prior year after Compustat's next "cut" of the data, the restated information will appear in Compustat's special restatement variables. In these cases, our descriptive statistics will not include the restated amounts.

TABLE 3 – Turnover Frequency

Panel A – Big 4 versus Non-Big 4 and Restatement Firms versus Control Firms

	Total		Big 4		Non-Big 4		
	N	Turnover %	N	Turnover %	N	Turnover %	Differences
Restatement	1325	29.4	1063	25.0	262	46.9	-21.9***
Control Sample	1325	8.6	1027	7.2	298	13.4	-6.2***
Differences	2650	20.8***	2090	17.8***	560	33.5***	-15.7***

Panel B – Errors versus Irregularities and Restatement Firms versus Control Firms

	Total		Errors		Irregularities		
	N	Turnover %	N	Turnover %	N	Turnover %	Differences
Restatement	1325	29.4	946	29.4	379	29.3	0.1
Control Sample	1325	8.6	946	8.5	379	9.0	-0.5
Differences	2650	20.8***	1892	20.9***	758	20.3***	0.6

Panel C – Errors versus Irregularities and Big 4 versus Non-Big 4 within Restatements

	Total		Errors		Irregularities		
	N	Turnover %	N	Turnover %	N	Turnover %	Differences
Big 4	1063	25.0	731	25.2	332	24.7	0.5
Non-Big 4	262	46.9	215	43.7	47	61.7	-18.0**
Differences	1325	-21.9***	946	-18.5***	379	-37.0***	18.5***

Notes: Auditor turnover frequencies for various subsamples are presented above. Details of the sample selection procedure for restatement firms and control firms are provided in Table 1. This table provides audit turnover rates where turnover is calculated over the twelve months before or twelve months after the restatement. Big 4 (Non-Big4) indicates firms that were (not) a client of a Big 4 (Big 4, Big 5, or Big 6 depending on the period) auditing firm at the time of the restatement. Restatement and control firms were matched based on the auditor of record on the last 10-K filed before the restatement. Irregularities and errors are based on the classification scheme in Hennes, Leone, Miller (2008). *** and ** indicate p-values of less than 1% or 5%, respectively, for t-tests of difference in turnover means.

TABLE 4 – Logistic Regression: Restatements versus Control Sample

	Pred. Sign	Model 1	Model 2	Model 3	Model 4
RESTATE	+	1.71***	1.39***		
		(116.19)	(62.47)		
ERROR	+			1.72***	1.42***
				(89.78)	(49.38)
IRREGULARITY	+			1.68***	1.34***
				(37.73)	(21.24)
NONBIG4	+	1.18***	0.80***	1.18***	0.81***
		(14.98)	(5.82)	(14.96)	(5.92)
RESTATE*NONBIG4	+		1.55***		
			(8.88)		
ERROR*NONBIG4	+				1.40***
					(5.84)
IRREGULARITY*NONBIG4	+				1.98**
					(3.37)
LEVERAGE	+	0.36	0.56	0.36	0.55
		(0.81)	(1.59)	(0.80)	(1.59)
ROA	-	0.00	0.19	0.00	0.19
		(0.00)	(0.33)	(0.00)	(0.31)
GROWTH	?	0.02	0.03	0.02	0.03
		(0.18)	(0.27)	(0.17)	(0.25)
Size Quintile 1	+	-0.17	0.69	-0.20	0.67
		(0.01)	(0.11)	(0.01)	(0.10)
Size Quintile 2	+	-0.75	-0.35	-0.77	-0.40
		(0.26)	(0.05)	(0.26)	(0.07)
Size Quintile 4	-	15.63	15.46	15.64	15.48
		(0.00)	(0.00)	(0.00)	(0.00)
Size Quintile 5	-	15.42	15.42	15.43	15.44
		(0.00)	(0.00)	(0.00)	(0.00)
Psuedo-R2 (%)		38.35%	40.72%	38.36%	40.77%
Log Likelihood		186.11	198.03	186.13	198.28
N		2650	2650	2650	2650

Notes: Logistic regressions of variations of Equation 1 are reported above with Chi-square statistics reported in parentheses below each coefficient. Sample selection information is detailed in Table 1. Pseudo-R^2 is the Nagelkerke (1991) Pseudo-R^2. The dependent variable, *AUDITOR_TO*, is one if the auditor turned over in the twelve months before or twelve months after the restatement, and zero otherwise. *RESTATE* is equal one if firm restated their financial statements (treatment group), and zero otherwise (control group). *IRREGULARITY* is equal to 1 if the restatement is classified as an irregularity using the classification scheme in Hennes, Leone, Miller (2008), and 0 otherwise. *ERROR* is equal to 1 if the restatement is classified as an error using the classification scheme in Hennes, Leone, Miller (2008), and 0 otherwise. *NONBIG4* is one if the firm was not a client of a Big 4 (Big 4, Big 5, or Big 6 depending on the period) auditing firm at the time of the restatement, and 0 otherwise. *LEVERAGE* is Debt (#9+#34)/Assets (#6). *ROA* is operating income before interest and taxes scaled by assets (Compustat #178/#6). *GROWTH* is the change in sales (Compustat #12) from t−2 to t−1 scaled by sales in t−2. *SIZE QUINTILES* are indicator variables for size based on total assets. ***, **, * indicate p-values less than 1%, 5%, and 10%, respectively (p-values are reported as one-tailed when the sign is predicted).

TABLE 5 – Logistic Regression: Restatements Only

	Pred. Sign	Model 1	Model 2
INTERCEPT		-1.61 ***	-1.57 ***
		(59.08)	(55.91)
IRREGULARITY	+	0.16	0.00
		(1.04)	(0.00)
NONBIG4	+	0.53 ***	0.37 **
		(9.15)	(3.69)
IRREGULARITY*NONBIG4	+		0.78 **
			(4.32)
AUDITOR_INIT	+	0.69 ***	0.70 ***
		(12.35)	(12.72)
ANNUAL	+	0.16	0.18
		(1.17)	(1.36)
RESTATE_POS	-	0.03	0.02
		(0.04)	(0.03)
M&A	-	0.14	0.14
		(0.26)	(0.28)
REV_REC	?	-0.12	-0.12
		(0.68)	(0.63)
LEVERAGE	-	0.26	0.26
		(1.08)	(1.09)
ROA	-	-0.15	-0.14
		(0.83)	(0.79)
GROWTH	?	0.12 ***	0.12 ***
		(5.81)	(5.54)
Include Size Controls?		Y	Y
Pseudo-R2 (%)		9.88%	10.33%
Log Likelihood		92.00	96.37
N		1325	1325

Notes: Logistic regressions of variations of Equation 2 are reported above with Chi-square statistics reported in parentheses below each coefficient. Sample selection information is detailed in Table 1. Pseudo-R^2 is the Nagelkerke (1991) Pseudo-R^2. The dependent variable, *AUDITOR_TO*, is one if the auditor turned over in the twelve months before or twelve months after the restatement, and zero otherwise. *RESTATE* is one if firm restated their financial statements (treatment group), and zero otherwise (control group). *IRREGULARITY* is one if the restatement is classified as an irregularity using the classification scheme in Hennes, Leone, Miller (2008), and 0 otherwise. *NONBIG4* is one if the firm was not a client of a Big 4 (Big 4, Big 5, or Big 6 depending on the period) auditing firm at the time of the restatement, and 0 otherwise. *AUDITOR_INIT* is one if the restatement was disclosed as auditor-initiated, and 0 otherwise. *ANNUAL* is one if the restatement amends a 10-K filing, and 0 otherwise. *RESTATE_POS* is one if the restatement is income-increasing, and 0 otherwise. *M&A* is one if any part of the restatement is due to improper acquisition or merger accounting, and 0 otherwise. *REV_REC* is one if any part of the restatement is related to revenue recognition, and 0 otherwise. *LEVERAGE* is Debt (#9+#34)/Assets (#6). *ROA* is operating income before interest and taxes scaled by assets (Compustat #178/#6). *GROWTH* is the change in sales (Compustat #12) from t−2 to t−1 scaled by sales in t−2. *SIZE QUINTILES* are indicator variables for size based on total assets. ***, **, * represent p-values less than 1%, 5%, and 10%, respectively (p-values are reported as one-tailed when the sign is predicted).

Table 6 – Analysis of Returns

Panel A – Univariate Results

	Restatement Sample		Control Sample	
	N	Mean	N	Mean
Combined	296	–0.18	86	0.30
Auditor Resigned	109	–2.86**	24	0.10
Auditor Dismissed	187	1.04**	61	0.00

Panel B – Cross Sectional Regression

	Restatement Sample Only
INTERCEPT	–0.036***
	(–2.82)
IRREGULARITY	0.011
	(0.48)
DISMISSED	0.044***
	(3.10)
NONBIG4	0.016
	(1.04)
ASSETS	0.000
	(0.08)
Adj-R2	1.51%
N	296

Notes: Auditor turnover occurred 503 times in our sample, with 392 auditor changes in the restatement sample and 111 in the control sample. We eliminate observations where returns data was unavailable or where the auditor turnover was announced within seven days of the restatement announcement. After these cuts, data were available for 296 of the 392 turnover events in the restatements sample and 86 of the 111 events in the control sample. Abnormal return, $CAR_{(-2, +2)}$, is the firm's cumulative abnormal return from two trading days prior to the turnover announcement through two trading days after the announcement, where expected returns are the CRSP value-weighted returns inclusive of dividends. *IRREGULARITY* is one if the restatement is classified as an irregularity using the classification scheme in Hennes, Leone, Miller (2008), and 0 otherwise. *DISMISSED* is one if 8-K disclosure item titled "Changes in Registrant's Certifying Accountants" indicates the auditor was dismissed, and 0 otherwise. NONBIG4 is one if the firm was not a client of a Big 4 (Big 4, Big 5, or Big 6 depending on the period) auditing firm at the time of the restatement, and 0 otherwise. ASSETS is Compustat #6.

Table 7 – Restatements and Turnover over Time

Panel A – Auditor Turnover Year-by-Year: Errors Versus Irregularities

	Errors		Irregularities		Total	
Year	N	Turnover	N	Turnover %	N	Turnover %
1997	43	16.3%	32	34.4%	75	24.0%
1998	43	25.6%	36	27.8%	79	26.6%
1999	71	16.9%	27	33.3%	98	21.4%
2000	68	30.9%	46	19.6%	114	26.3%
2001	53	22.6%	31	19.4%	84	21.4%
2002	75	24.0%	37	16.2%	112	21.4%
2003	95	25.3%	36	25.0%	131	25.2%
2004	161	27.3%	49	20.4%	210	25.7%
2005	229	26.2%	59	25.4%	288	26.0%
2006	108	31.5%	26	38.5%	134	32.8%
Total	946	25.7%	379	25.1%	1325	25.5%

Panel B – Sub-Period Analysis of Auditor Turnover: Errors versus Irregularities

	Errors		Irregularities		Total	
Year	N	Turnover	N	Turnover %	N	Turnover %
1997-2000	225	22.7%	141	28%	366	24.6%
2003-2006	593	27.3%	170	26%	763	27.0%

Panel C – Auditor Turnover Year-by-Year: Big 4 versus Non-Big 4

	Big 4		Non-Big 4		Total	
Year	N	Turnover	N	Turnover %	N	Turnover %
1997	56	19.6%	19	36.8%	75	24.0%
1998	68	22.1%	11	54.5%	79	26.6%
1999	86	20.9%	12	25.0%	98	21.4%
2000	95	18.9%	19	63.2%	114	26.3%
2001	74	18.9%	10	40.0%	84	21.4%
2002	96	15.6%	16	56.3%	112	21.4%
2003	112	20.5%	19	52.6%	131	25.2%
2004	169	21.9%	41	41.5%	210	25.7%
2005	212	21.7%	76	38.2%	288	26.0%
2006	95	31.6%	39	35.9%	134	32.8%
Total	1063	21.4%	262	42.4%	1325	25.5%

Panel D – Sub-Period Analysis of Auditor Turnover: Big 4 versus Non-Big 4

	Big 4		Non-Big4		Total	
Year	N	Turnover	N	Turnover %	N	Turnover %
1997-2000	305	20.3%	61	46%	366	24.6%
2003-2006	588	23.1%	175	40%	763	27.0%

Notes: This table provides audit turnover rates for restatement firms by year based on the date the restatement was announced. Irregularities and errors are based on the classification scheme in Hennes, Leone, Miller (2008). Big 4 (Non-Big 4) includes firms that were (not) a client of a Big 4 (Big 4, Big 5, or Big 6 depending on the period) auditing firm at the tie of the restatement.

FIGURE 1 – Distribution of the Timing of Auditor Turnover for Big 4 versus Non-Big 4

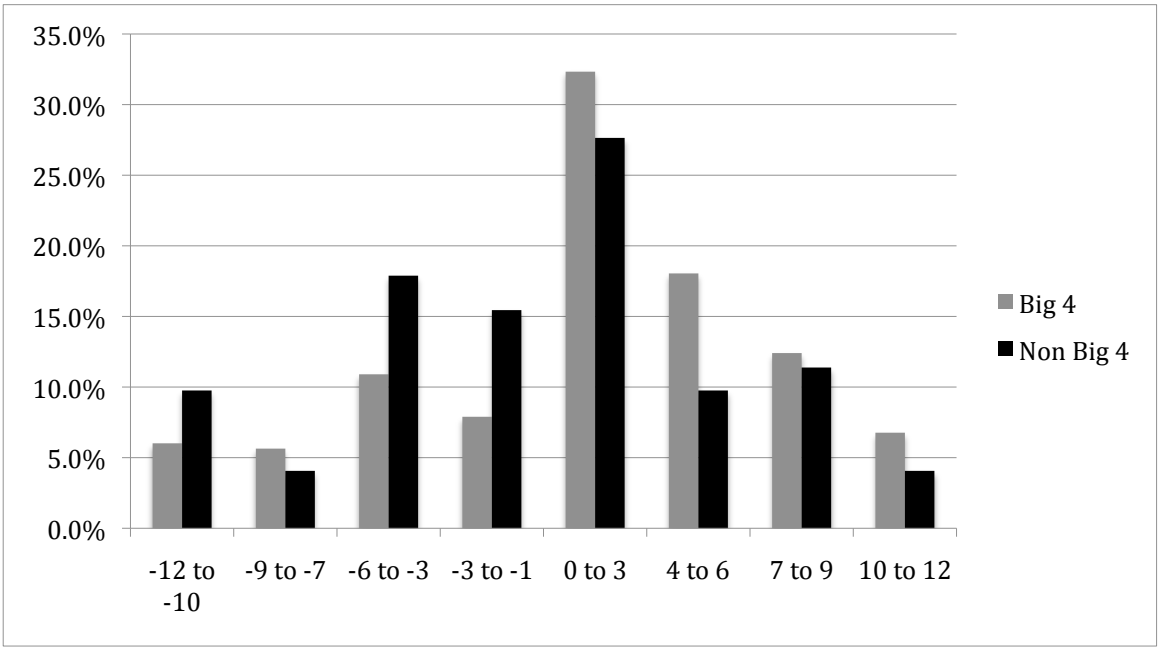
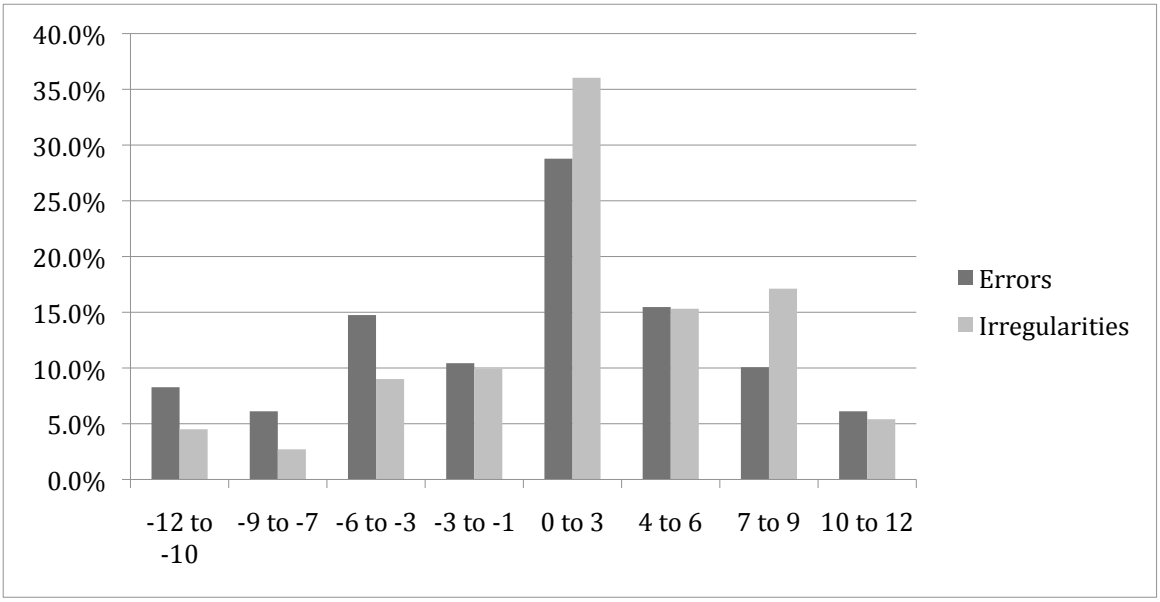


FIGURE 2 – Distribution of the Timing of Auditor Turnover for Errors versus Irregularities



Notes: For restatement firms with auditor turnover, these figures show the timing of these turnovers relative to the restatement announcement. Irregularities and errors are based on the classification scheme in Hennes, Leone, Miller (2008). Big 4 (Non-Big4) includes firms that were (not) a client of a Big 4 (Big 4, Big 5, or Big 6 depending on the period) auditing firm at the time of the restatement. Each bin represents the months relative to the restatement month. For example, -12 to -10 represents the percentage of total auditor turnover that occurred from twelve months through ten months prior to the restatement. Note that all bins contain three months except for bin 0-3, which contains the percentage of auditor turnover that occurred in the month of the restatement through three months after the restatement.