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Bringing Darkness to Light: The Influence of Auditor Quality and Audit Committee Expertise on the Timeliness of Financial Statement Restatement Disclosures

Jaime Schmidt and Michael S. Wilkins

SUMMARY: This study investigates whether auditor quality and audit committee expertise are associated with improved financial reporting timeliness as measured by the duration of a financial statement restatement's "dark period." The restatement dark period represents the length of time between a company's discovery that it will need to restate financial data and the subsequent disclosure of the restatement's effect on earnings. For a sample of dark restatements disclosed between 2004 and 2009, we find that companies that engage Big 4 auditors have shorter dark periods than companies that do not engage Big 4 auditors. We also find that companies with more financial experts on the audit committee have shorter dark periods, but only when such financial expertise relates specifically to accounting. Finally, companies with audit committee chairs that have accounting financial expertise provide the most timely disclosures, as the dark periods for these firms are reduced by approximately 38 percent. Our results suggest that both auditor and audit committee expertise are associated with the timely disclosure of restatement details.

Keywords: financial reporting timeliness; financial statement restatements; audit quality; audit committees; financial expertise; accounting expertise.

Data Availability: All data are publicly available from sources identified in the paper.

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INTRODUCTION

Several recent regulatory actions suggest that the timely reporting of financial data is a top priority of investors and regulators (SEC 2002, 2004). One such action is the requirement that firms disclose a pending restatement within four business days of management's initial non-reliance judgment (SEC 2004). While a vast majority of firms is in compliance with the "four-day rule," many of these initial filings fail to provide investors with the quantitative information needed to properly evaluate the severity of the restatement. In addition, subsequent filings often are delayed, such that lengthy informational "dark periods" exist between the initial restatement announcement and the eventual disclosure of quantitative restatement details. In sum, the delays created by dark periods make it difficult for investors to value companies and also may result in costly loan defaults or stock delistings for the restating companies themselves (ACIFR 2008). As Greg Jonas, a member of the Advisory Committee on Improvements to Financial Reporting (ACIFR) and managing director at Moody's Investors Services, states, "the dark period is bad for [financial statement] users" (Leone 2008).

In this paper, we use the dark restatement setting to address the fundamental question of whether better governance helps companies resolve financial reporting problems. Previous research shows that companies with better governance—as proxied by various characteristics related to boards of directors and audit committees—are better able to prevent financial reporting problems such as accounting restatements, financial fraud, and internal control weaknesses (e.g., Beasley 1996; Abbott et al. 2004; Hoitash et al. 2009). Our paper differs in that it examines how better governance helps companies respond to problems when they do arise. Similar to Goh (2009) who investigates whether better governance helps firms remediate material weaknesses (MWs) in internal controls more quickly, we examine whether auditor quality and audit committee (AC) expertise are associated with more timely remediation of misstatements and the subsequent provision of restatement details.

We examine auditors and audit committees because these two participants in the governance process are responsible for financial reporting oversight and should be best equipped to address the complicated accounting issues that often are associated with restatements.¹ Prior research that examines the association between auditor quality and the timeliness of annual accounting disclosures finds that clients of Big N auditors have shorter audit reporting lags, measured as the number of days between a client's fiscal year-end and the audit report date (Leventis et al. 2005). However, little is known about the auditor's involvement in the financial reporting process outside of the standard year-end audit. In addition, although prior research shows that AC financial expertise is associated with higher quality financial reporting (Krishnan and Visvanathan 2008; Abbott et al. 2004; Bedard et al., 2004; Carcello et al. 2009), little is known about the AC's involvement in the remediation of financial reporting problems.

Our paper is largely an extension of Badertscher and Burks (2011) who investigate disclosure lags for a broad sample of restatements (a majority of which are not "dark") announced between 1997 and 2005. Badertscher and Burks (2011, 609) conclude that dark restatements result primarily from a need for investigation into cases of fraud or multiple, longstanding, or large errors and state that "long lags appear to be caused by inherent constraints on producing reliable information." Badertscher and Burks (2011) do not document a significant relationship between disclosure lags and auditor quality nor do they investigate how governance might influence the timely provision of restatement details. By restricting our analysis to (1) companies with initial restatement disclosures

¹ The primary role of the auditor and the audit committee in the oversight process is to provide assurance, *ex ante*, that material financial statement misstatements do not occur. However, Francis and Yu (2011) document a restatement frequency rate of roughly 20 percent among Big 4 clients.

that do not provide specific quantitative details, and (2) disclosures occurring after the effective date of the four-day rule, we hope to shed light on the relationships that may exist between auditors, audit committees, and disclosure timeliness for the subset of restating firms with “inherent constraints.”

After controlling for a variety of factors including firm size, auditor changes, the magnitude and direction of the restatement, and the presence of fraud, we find that Big 4 clients disclose quantitative restatement details significantly more quickly than non-Big 4 clients do. We also find that restatement disclosures are timelier when clients have ACs with more financial expertise, but only when such expertise relates specifically to accounting. Finally, we find that dark periods are reduced most dramatically (by approximately 38 percent, on average) when the AC chair is an accounting financial expert. Overall, our results suggest that the expertise of both auditors and audit committees contributes to the remediation of financial reporting problems by enabling clients to disclose dark restatement details more quickly.

Our study should be of interest to policymakers, boards of directors, and investors concerned with corporate governance. Our findings suggest that governance participants contribute to the dark restatement remediation process and, therefore, are important to the financial reporting process beyond the review of annual/quarterly financial statements. In addition, while prior research does not provide evidence that the presence of a Big N auditor is associated with restatement disclosure lags, our analysis suggests that in cases where companies are unable to provide quantitative restatement details in initial filings, Big 4 auditors do improve the timeliness of subsequent disclosures.

The remainder of the paper is organized as follows. The second section presents background information and develops our hypotheses. The third section describes our research design. The fourth section discusses the sample selection and presents descriptive statistics. The fifth section presents our multivariate results and additional tests. Concluding remarks are provided in the sixth section.

BACKGROUND AND HYPOTHESIS DEVELOPMENT

The Importance of Timely Disclosures

The FASB/IASB *Conceptual Framework for Financial Reporting* defines timeliness as “having information available to decision makers in time to be capable of influencing their decisions” (FASB 2010). Recently passed legislation indicates that lawmakers and regulators desire timelier financial reporting. For example, in 2002 the SEC initiated a three-year phase-in period that shortened mandatory 10-K filing deadlines for large (small) accelerated filers from 90 days to 60 days (75 days).² Section 409 of the Sarbanes-Oxley Act of 2002 (SOX) also requires that companies disclose, “on a rapid and current basis . . . information concerning material changes in the financial condition or operations of the issuer” (U.S. House of Representatives 2002).

In order to implement SOX Section 409, the SEC issued a new rule in 2004 that requires companies to disclose a forthcoming restatement within four business days following management’s non-reliance judgment, even if the precise impact of the restatement on the company’s earnings is not yet known (SEC 2004). One of the intents of the four-day rule was to provide investors with more timely disclosure about accounting restatements. However, the requirement to provide timely notification of a *need* to restate does not necessarily result in timely disclosure of the restatement’s quantitative impact on earnings. Unfortunately, company investigations related to restatements can be extensive—lasting several months or even beyond a year in some cases—and earnings-related regulatory filings often are absent during this time period. In its 2008 report, the ACIFR stated that there are “many circumstances [where] investors could benefit from improvements in the nature and timeliness of disclosure in the [dark] period” (ACIFR

² Non-accelerated filers continue to have 90-day filing deadlines.

2008, 80). We investigate whether disclosures are timelier in the presence of higher quality auditors and audit committees.

In a study that is related to ours, [Badertscher and Burks \(2011; hereafter BB\)](#) investigate the causes and consequences of a number of different types of disclosure lags for restating firms having data available between 1997 and 2005. They find that in their broad sample of restatements, long disclosure lags are uncommon and are largely due to board, regulatory, or fraud investigations. However, BB do not document a significant relationship between disclosure lags and auditor quality and do not investigate the potential effects of corporate governance. [Badertscher and Burks \(2011\)](#) ultimately conclude that additional regulation mandating the timely disclosure of restatement data would not be likely to reduce disclosure lags because the majority of firms with significant delays seem unable to provide disclosure information on a timely basis. We extend BB by focusing exclusively on dark restatements and limiting our analysis to restatements that were announced after the introduction of the four-day rule. Our purpose is to evaluate the subset of restatement firms for which disclosure problems *do exist* and to investigate whether disclosure timeliness is associated with certain characteristics of auditors and audit committees.³

Costs of Delayed Disclosures

Dark periods can impose significant costs on both investors and restating companies. According to one analyst, “investors count on restatements to get a true sense of a company’s financial health, notice trends, and create realistic projections of earnings and cash flows” ([Johnson 2008](#)). A lengthy remediation process coupled with minimal regulatory filings and other disclosures may make investors uncertain as to how to assess future cash flows and thereby accurately value a company. As a result, stock prices typically decline following restatement announcements, particularly those restatement announcements that fail to disclose the restatement’s impact on earnings ([Leone 2008](#)). Additional costs exist as well, in that the failure to submit timely financial reports during a dark period frequently is associated with SEC sanctions, penalties, and suspended stock trading. Thus, it is in a company’s best interests to disclose remediated data as quickly as possible in order to minimize the explicit costs of the restatement and to restore investors’ confidence in the firm’s operations and financial reports. In fact, the timeliness of restatement disclosures may be more important to investors than the timeliness of 10-Ks, given that the latter often are supplemented with readily available alternative sources of financial information (e.g., analyst forecasts and earnings announcements) between the end of a fiscal period and the annual filing date.

Hypotheses

The popular press suggests, “internal accountants and auditors pore over mistakes” during the dark period to understand and quantify the accounting errors that exist ([Johnson 2008](#)). As such, the length of the dark period is likely to be related to the investigative capabilities and familiarity of these parties with the client’s underlying accounting systems and processes. An external auditor’s accounting expertise may also help a client address problems related to restatements more quickly. At a minimum, such experience and expertise could decrease the time that it takes the audit firm to become comfortable with and willing to sign off on an estimate of the error that is being corrected. Prior research finds that Big N auditors are associated with shorter audit reporting lags, measured as

³ Auditor involvement is likely to have increased after 2004 because firms were under no specific regulatory time pressure to provide restatement announcements or quantitative details before the effective date of the four-day rule. Audit committee involvement is likely to have increased after 2004 because while SOX AC requirements were effective in July of 2003, the SEC did not require the stock exchanges to demand compliance until 2004 (large issuers) or 2005 (small/foreign issuers).

the number of days between a client's fiscal year-end and the audit report date (Leventis et al. 2005), and greater financial reporting quality in general.⁴ Large audit firms have greater resources available to devote to staff training, more extensive ongoing contact with SEC personnel and registrants, and a greater incentive to resolve problems satisfactorily in order to avoid potential litigation costs. For all of these reasons, we believe that clients of Big 4 auditors should have shorter dark periods. Thus, our first hypothesis is as follows:

H1: Restatement dark periods are shorter for clients of Big 4 auditors.

Audit committees are responsible for financial reporting quality and oversight of the financial reporting process (BRC 1999; U.S. House of Representatives 2002; NYSE 2004). Like the auditor, the AC is not involved in developing the quantification of errors related to restatements. However, the AC typically does oversee the investigation, which significantly influences the thoroughness and integrity of the process.⁵ The AC also approves the restatement disclosure.

When misstatements occur, both companies and ACs are likely to be motivated to pursue a prompt resolution for a number of reasons. First, a timely release of the restatement details should reduce the information asymmetry faced by investors and thereby decrease the company's cost of capital (Diamond and Verrecchia 1991). Second, similar to the management earnings forecast literature (Skinner 1994; Field et al. 2005), litigation risk may increase if investors believe that the company was not forthcoming with its disclosure or that the AC did not promptly address the issue. Audit committees in particular have recently been criticized in several high-profile business failures (e.g., Lehman Brothers and AIG) and have been sued in restatement-related cases for failing to provide effective and timely financial reporting oversight.⁶ In addition, restatements can impair the reputation of individual AC members. Prior research finds that AC members serving on boards of restating companies experience greater turnover than AC members serving on boards of non-restating companies (Srinivasan 2005). Thus, the increased threat of litigation and potential loss of directorship may motivate an AC to seek the timely correction of misstatements.

Recent legislation indicates that regulators believe in the value of financial expertise on the AC. Section 407 of the Sarbanes Oxley Act of 2002 requires disclosure of designated financial experts in an effort to "enhance investor confidence in the fairness and integrity" of financial reporting (U.S. House of Representatives 2002). In response, the major stock exchanges included audit committee expertise as a requirement for listed companies (NYSE 2004; NASDAQ 2009). A growing body of research shows that the presence of significant financial expertise on ACs improves their financial reporting oversight. For example, firms with greater AC financial expertise experience greater accounting conservatism (Krishnan and Visvanathan 2008), decreased earnings management (Bédard et al. 2004; Carcello et al. 2009), fewer restatements (Abbott et al. 2004), and fewer material internal control weaknesses (Krishnan 2005; Zhang et al. 2007; Hoitash et al. 2009). Further, McDaniel et al. (2002) suggest that AC members with financial expertise are better able to evaluate financial reporting quality

⁴ Although Lawrence et al. (2011) challenge this assumption, evidence from prior studies indicates that clients of Big N auditors report more conservative accruals (Becker et al. 1998; Francis and Krishnan 1999; and Myers et al. 2003), are less likely to commit fraud (Farber 2005), are more likely to comply with generally accepted accounting principles (Krishnan and Shauer 2000), and bear a lower cost of capital (Beatty 1989; Khurana and Raman 2004; Pittman and Fortin 2004; Cassell et al. 2010). In addition, Blokdiijk et al. (2006) find that Big N audit firms allocate audit hours more effectively, resulting in audits that are deemed to be of higher quality.

⁵ For example, when Dell Corporation announced its need to restate fiscal years 2003–2006, it specifically stated that its AC performed an independent investigation into its accounting and financial reporting matters and determined the need for restatement.

⁶ For example, shareholders of Lernout & Hauspie Speech Products sued its AC after the company restated three years of revenue. In this case, the judge concluded that "The audit committee had a duty to oversee the auditors, that is, to guard the guardians . . . The audit committee was reckless in performing this role until the horse was out of the barn" (Stuart 2004).

and are more likely to express concern about less prominent, but recurring accounting issues. In our context, an AC with greater financial expertise may be better able to assist internal accountants and management as they investigate the accounting problems giving rise to the dark restatement.

Finally, the presence of significant financial expertise on an AC may enable AC members to allocate their own time and resources more efficiently such that the misstatement is corrected in a timely fashion. Although firms do not tend to provide specific details about AC activities in their SEC filings, numerous companies refer to AC involvement in the misstatement investigation and remediation process.⁷ Financial experts should be considerably more efficient at interacting with management and the other parties involved in the restatement process. For all of these reasons, we expect that disclosure timeliness will be enhanced by the presence of financial experts on the AC. Thus, H2a is as follows:

H2a: Restatement dark periods are shorter when the audit committee contains a larger proportion of financial experts.

H2b follows directly from H2a, but tightens our definition of financial expertise. A number of recent studies use financial expertise measures that are more refined than the SOX Section 407 definition. The studies most relevant to our work are [Hoitash et al. \(2009\)](#) and [Goh \(2009\)](#).⁸ [Hoitash et al. \(2009\)](#) identify three types of financial experts: accounting financial experts (e.g., CPAs and CFOs), supervisory financial experts (e.g., CEOs, board chairs), and user financial experts (e.g., financial analysts, investment bankers). They find that while the presence of both accounting financial experts (AFEs) and supervisory financial experts (SFEs) decreases the likelihood of Section 404 MW disclosure, only AFEs are associated with decreased MWs that are account-specific and only SFEs are associated with decreased MWs that are management oriented. Thus, the reduction in specific types of MWs is related to the specific expertise of AC members. [Goh \(2009\)](#) adopts a similar approach in his investigation of the remediation of Section 302 MWs. His analysis shows that while the general Section 407 “financial expert” designation significantly reduces the time it takes for firms to remediate their MWs, this association is driven by non-accounting (i.e., supervisory) experts. [Goh \(2009\)](#) does not test for specific associations between MW categories and different types of financial experts, so direct comparisons between his work and [Hoitash et al. \(2009\)](#) are difficult. Such comparisons are further complicated by the fact that [Hoitash et al. \(2009\)](#) note that the AFE and SFE relationships they document for Section 404 MWs typically do not exist for Section 302 MWs.

We expect that the accounting expertise of AC members should be important in the context of dark restatement disclosures. Specifically, while the interactions that take place between AC members and the restating company should be comparable to those that would be associated with MW remediation—e.g., reviewing procedures with staff, interacting with internal and external auditors, following up on recommendations, and monitoring progress ([Goh 2009](#))—we believe that interactions with accounting financial experts will be particularly important in the restatement setting because all restatements, by definition, involve problems that are specifically related to accounting.⁹ Thus, H2b is as follows:

⁷ For example, following its restatement in 2006, Dell Corporation disclosed in an 8-K that “The Audit Committee has directed management to develop a detailed plan and timetable” for remediation of its restatement-related problems and “will monitor their implementation.”

⁸ Other studies also suggest that AC members with professional accounting or auditing experience contribute to AC effectiveness more so than AC members without similar experience ([Knapp 1987](#); [DeZoort and Salterio 2001](#); [Naiker and Sharma 2009](#)).

⁹ For example, Jabil Circuit’s May 15, 2007 10-K filing notes that the audit committee, assisted by independent legal counsel, reviewed historical revenue recognition transactions with two customers and concluded that there was insufficient evidence to support the recognition of \$6 million of revenue in a previous year. In this case, the committee’s involvement is rather direct, and it would seem that the evaluation of the propriety of revenue recognition transactions should be more efficient if an AFE is present.

H2b: Restatement dark periods are shorter when the audit committee contains a larger proportion of accounting financial experts.

Our final hypothesis involves the audit committee chair (ACC). The ACC, as the “CEO of the audit committee” (Ernst & Young 2011) and the “focal point for the committee’s relations with the board, the CFO, and the internal and external auditors” (PricewaterhouseCoopers 2003), is the member of the AC that essentially determines its effectiveness (Bromilow 2010). The ACC is the committee member who has the greatest responsibility for overseeing financial reporting and who also is more likely than other AC members to be held accountable for financial reporting failures. For example, Glass, Lewis & Company, a proxy research provider, notes that the ACC will be the AC member to receive an unfavorable proxy voting recommendation if the AC as a whole lacks diligence or expertise (Glass, Lewis & Company 2010; emphasis added). As a result, we expect the ACC to be the AC member most responsible for and influential in a company’s misstatement remediation efforts. Building from H2b, we expect that AC accounting financial expertise will be most valuable when it is provided by the ACC. H3 is as follows:

H3: Restatement dark periods are shorter when the audit committee chair has accounting financial expertise.

RESEARCH DESIGN

In this section, we develop the multivariate model that we use to investigate the determinants of the length of restatement dark periods. We use a negative binomial regression model because our dependent variable is a count variable and our data are over dispersed (i.e., the dependent variable cannot be negative and its mean is greater than its median).¹⁰ All of the variables in Equation (1) are described in Appendix A:

$$\begin{aligned} TIMEPASSED = & \beta_0 + \beta_1 \log(\text{ASSETS}) + \beta_2 \text{ROA} + \beta_3 \text{LTDAR} + \beta_4 \text{FOR_SEG} + \beta_5 \text{BUS_SEG} \\ & + \beta_6 \text{OUTSIDEBLK} + \beta_7 \text{DIROFFSHR} + \beta_8 \text{LENGTH} + \beta_9 \text{PROXIMITY} \\ & + \beta_{10} \text{DURING_AUDIT} + \beta_{11} \text{FRAUD} + \beta_{12} \text{MULT_ISSUES} \\ & + \beta_{13} \text{RESTEFFECT} + \beta_{14} \text{POS_EARN} + \beta_{15} \text{AUD_SPEC} + \beta_{16} \text{AUDCHG} \\ & + \beta_{17} \text{BIG4} + \beta_{18} \text{AC_EXPERTISE} + \varepsilon. \end{aligned} \quad (1)$$

Our dependent variable, *TIMEPASSED*, measures the length of the dark period. We define *TIMEPASSED* as the number of days that pass between the date on which the company states, in its initial 8-K filing, that it discovered the need for a restatement and the date on which restatement details are released either in an amended or regularly scheduled 10-Q or 10-K.¹¹ Our basic financial control measures are $\log(\text{ASSETS})$, *ROA*, and *LTDAR*, defined as the natural logarithm of total assets, net income divided by total assets, and long-term debt divided by total assets, respectively. Although we do not make directional predictions for these variables, we include them as controls because a firm’s reporting environment is likely to be influenced by its size, and because firm performance and capital structure may influence disclosure behavior

¹⁰ The negative binomial model adds a parameter to the Poisson model that adjusts for heterogeneity.

¹¹ The disclosure lag variables used by BB equal the number of days between the initial restatement announcement and either the definitive disclosure of the restatement’s earnings impact (*TO_NUMBERS*), or the filing of restated financial statements (*TO_FILING*). Our *TIMEPASSED* measure is comparable to both of BB’s variables, as all of our restatement details were revealed in amended or regular 10-Q or 10-K filings. We begin the calculation of *TIMEPASSED* with the date that the firm states that it discovered the need for a restatement (rather than the initial disclosure date, as in BB), but our results are not sensitive to this specification.

(Myers et al. 2011). We also control for complexity that might not be captured entirely by firm size by including the number of foreign segments (*FOR_SEG*) and the number of business segments (*BUS_SEG*). We do not make directional predictions for these coefficients for the same reason that we do not offer a predicted relationship for firm size. Specifically, large firms may be more complex, but they also may have more resources at their disposal that would allow them to efficiently address problems that arise.

The next two control variables are governance measures that are related to common stock ownership. We expect to observe a negative coefficient on both *OUTSIDEBLK* (the percentage of shares owned by 5 percent and greater outside blockholders) and *DIROFFSHR* (the percentage of shares owned by directors and officers as a group), because financial reporting quality should be higher in the presence of better shareholder monitoring (e.g., Bamber et al. 1993; Bushee and Noe 2000). We expect a positive coefficient on *LENGTH*—defined as the length, in years, of the restated time period—because restatements that involve multiple quarters or years may be more complex and, hence, may take longer to resolve. For a similar reason, we also expect a positive coefficient on *PROXIMITY*, which measures the timespan between the end of the restated time period and the discovery of a need for restatement. Specifically, we expect that it would be more difficult to resolve misstatements the more distant they are from the discovery date. In contrast, we expect a negative coefficient on *DURING_AUDIT*—a binary variable defining companies with restatements that were identified within 90 days after fiscal year-end—because auditor involvement in the restatement likely would be higher during the period in which most of the company's annual audit is being conducted.

The final six control variables are *FRAUD*, *MULT_ISSUES*, *RESTEFFECT*, *POS_EARN*, *AUD_SPEC*, and *AUDCHG*. We use these measures to control for issues related to (1) fraud; (2) the complexity, severity, and direction of the restatement; and (3) the auditor effects that are not tied to our hypotheses. *FRAUD* is set equal to 1 for restatements that identify—according to Audit Analytics—financial fraud, irregularities, and misrepresentations, or SEC or other regulatory investigations. As in BB, we expect the coefficient on *FRAUD* to be positive. *MULT_ISSUES* is a binary variable that is set equal to 1 in cases where the restatement involves more than one accounting rule (GAAP/FASB) application failure. Assuming the existence of multiple accounting problems is indicative of incremental complexities that would complicate the remediation process, we expect the coefficient on *MULT_ISSUES* to be positive. The next variable, *RESTEFFECT*, is defined as the decile ranking of the absolute value of the restatement's cumulative impact on net income scaled by total assets. Because the remediation process is likely to be more complicated for restatements that are more material, we expect a positive coefficient on *RESTEFFECT*. We define *POS_EARN* as a binary variable that identifies companies having restatements with adjustments that ultimately increase earnings. To the extent that increasing earnings provides a disclosure incentive for firms, the coefficient on *POS_EARN* should be negative.

Regarding auditor controls, *AUD_SPEC* identifies companies that have industry specialist auditors at the discovery date and *AUDCHG* identifies companies that changed auditors during the period beginning one year prior to the discovery date and ending with the provision of restatement details (i.e., the end of the dark period).¹² Although we anticipate that the largest auditor-based influence on the timeliness of dark restatement disclosures should come from the presence of a Big 4 (relative to non-Big 4) auditor, as noted in H1, it is conceivable that industry specialist auditors may further reduce dark periods. If that is the case, the coefficient for *AUD_SPEC* should be negative. In contrast, we expect that sorting out restatement problems will take longer when an

¹² We define industry specialists as audit firms having at least 30 percent national market share within a given two-digit SIC code. As an alternative, we define industry specialists as audit firms that are the national market leaders within a given two-digit SIC code. Our results are not sensitive to these specifications.

auditor change exists because new auditors will be less familiar with the restating company and will therefore need more time, all else equal, to become comfortable with signing off on the restated figures. Thus, we expect a positive coefficient on *AUDCHG*.

We use the remaining variables to test H1–H3. *BIG4* is a binary variable that identifies companies that are Big 4 audit clients at the time the dark restatement is announced. A negative coefficient on *BIG4* would support our prediction in H1 that clients of Big 4 auditors have shorter dark periods. The next variable, *AC_EXPERTISE*, is defined in three different ways, corresponding to H2a, H2b, and H3. In our test of H2a, we define *AC_EXPERTISE* as *AC_EXP%*—the proportion of financial experts, measured as the number of AC members that are designated as financial experts under Section 407 of SOX divided by the total number of AC members. If, as predicted by H2a, greater AC financial expertise is associated with shorter dark periods, then the coefficient on *AC_EXP%* should be negative.

To test H2b, we partition *AC_EXP%* into *AFE_EXP%* and *NONAFE_EXP%*. As in [Hoitash et al. \(2009\)](#), we define accounting financial expertise as having previous experience as CPA, CFO, principal financial officer, chief accounting officer, principal accounting officer, treasurer, auditor, or vice president-finance. *AFE_EXP%* measures the percentage of AC financial experts that are AFEs and *NONAFE_EXP%* measures the percentage of AC financial experts that have no previous significant accounting experience. If H2b is correct, the coefficient on *AFE_EXP%* should be negative. Because H2b does not address financial experts who are not AFEs, we make no prediction for the coefficient on *NONAFE_EXP%*.

Finally, H3 predicts that dark periods will be shorter when the company's ACC is an AFE. To test this hypothesis, we define *AC_EXP%* with two binary variables—*NONACC_AFE* and *ACC_AFE*—to partition the incremental AFE effects that may exist depending on the specific accounting expertise of the ACC. In this specification, *NONACC_AFE* identifies companies that do have an AFE on their AC, but the AFE is not the ACC. The second variable, *ACC_AFE*, identifies companies that have an ACC who is an AFE. If H3 is correct, the coefficient for *ACC_AFE* should be negative. We make no specific prediction for the coefficient on *NONACC_AFE*.

SAMPLE AND DESCRIPTIVE STATISTICS

Sample Selection

We identified our sample of dark restatements by first searching 8-K item 4.02 disclosures entitled “Non-Reliance on Previously Issued Financial Statements,” from 2004 to 2009, for variants of the phrase “as soon as practicable.” These are the keywords that often are associated with dark restatements. We then added the restatement observations used by [Myers et al. \(2011\)](#) that did not provide quantitative details in their initial 8-K filings. Our initial sample of potential dark restatements includes 512 observations. We examined each disclosure to ensure that specific information regarding the quantitative impact of the restatement was not provided. We eliminated 286 observations that either (1) involved repeat disclosures; (2) were made prior to the effective date of the four-day rule (August 23, 2004); or (3) provided specific information regarding the quantitative impact of the restatement. We eliminated an additional 67 observations that did not have sufficient data in either SEC filings or Compustat to be included in our multivariate models. Finally, we removed five observations where restatement details were provided within three days of the date on which the company discovered the need for a restatement. Our final sample consists of 154 firms, 131 of which provided no information at all about the quantitative impact of the restatement in their initial filings and 23 of which only provided vague information.¹³ Of the 154

¹³ We discuss sensitivity tests involving these 23 companies later in the paper.

firms announcing dark restatements between 2004 and 2009, the greatest concentration (137 observations) occurs during the 2005–2007 period. For the remaining 17 observations, four occur in 2004, ten occur in 2008, and three occur in 2009.¹⁴

Table 1 provides a breakdown of the different types of restatements occurring across our sample of firms, as classified by Audit Analytics. We divide the restatement types into 12 separate categories. Some of these categories span two or three Audit Analytics restatement codes and it is also important to note that the incidents presented in Table 1 do not reflect unique firm observations. For example, the 73 restatements that we categorize as “stock-based compensation/options backdating” represent 43 unique firms that have restatements classified in Audit Analytics categories #17 (deferred, stock-based, and/or executive compensation issues) and/or #48 (deferred, stock-based options backdating only). There are a total of 419 restatement problems cited across our 154 sample firms, for an average of 2.72 per firm. The most common problems involve options and stock-based compensation, mergers and consolidations, leases, long-term assets, and revenue and expense recognition. The largest values of *TIMEPASSED* (greater than three months) correspond to restatements related to options and stock-based compensation, revenue and expense recognition, foreign/related party/affiliated/subsidiary issues, and receivables/investments/cash. The smallest values of *TIMEPASSED* (less than two months) occur with restatements related to leases and long-term assets.

Table 1 does not reveal many particularly noteworthy trends associated with Big 4 auditors. Big 4 firms audit approximately 90 percent of clients in two of the restatement categories that have the longest dark periods and also in both of the restatement categories that have the shortest dark periods. Big 4 representation among revenue recognition restatements is only 58 percent, however, and is only around 50 percent for restatements related primarily to debt, inventory, and receivables. We describe sensitivity tests related to modeling all of these categories later in the paper.

Descriptive Statistics

Table 2 presents selected descriptive statistics. All of the variables are defined in Appendix A and all balance sheet and income statement data are taken from the annual filings preceding the date on which the company discovered a need for restatement. The first variable in Table 2 is *FILINGDELAY*, which measures the passage of time between the date on which the firm stated that it discovered the need for a restatement (i.e., the date of management’s non-reliance judgment) and the date of the 8-K filing providing this disclosure. The mean value of *FILINGDELAY* is 3.45 calendar days, and further investigation reveals that 94 percent of our companies filed their initial 8-K within six calendar days. Therefore, a vast majority of dark restaters do seem to be in compliance with the four (business)-day rule. However, Table 2 also shows that the average value for *TIMEPASSED* across the 154 sample firms is approximately 92 days, with a median value of 52.50 days.¹⁵ Thus, a significant delay in the disclosure of the restatement’s quantitative impact on earnings does exist for these firms.

Table 2 also reveals that firms having dark restatements tend to be relatively small, with a median value of total assets (*ASSETS*) of \$446 million. For purposes of comparison, the median total assets reported by Myers et al. (2011) for their sample of companies restating between 2002 and 2008 is \$503 million. Companies in our sample are not highly leveraged, as the mean

¹⁴ Twenty-nine percent of the surviving announcements occurred in the first quarter of the announcement year, 21 percent occurred in the second quarter, 21 percent occurred in the third quarter, and 29 percent occurred in the fourth quarter.

¹⁵ For the seven companies that never disclosed restatement details, we set *TIMEPASSED* equal to 365 days. Only two companies that did ultimately provide restatement details had a value of *TIMEPASSED* in excess of 365 days.

TABLE 1
Distribution of Restatement Types

Category	Number Incidents	Average <i>TIMEPASSED</i>	<i>%BIG4</i>
Stock-based compensation/Options backdating	73	115.70	0.88
Consolidations/Mergers and acquisitions	43	81.59	0.62
Lease/leasehold issues	40	40.55	0.91
Property, plant, and equipment/Intangibles	37	52.90	0.87
Revenue recognition	31	107.00	0.58
Expense recognition/Capitalization of expenditures	30	91.55	0.72
Tax expense/benefit/deferral/other (FAS 109) issues	24	73.35	0.83
Debt, quasi-debt, warrants, and equity	22	87.50	0.45
Foreign, related party, affiliated, or subsidiary issues	20	115.50	0.92
Liabilities, payables, reserves, and accrual estimate failures	15	72.07	0.67
Inventory, vendor, and/or cost of sales issues	13	80.54	0.53
Accounts/loans receivable, investments, and cash issues	11	127.70	0.55
Other	60	97.47	0.60
Representation of Restatement Categories across the 154 Sample Firms	419		

This table presents the number of incidents across all sample firms, not the number of unique sample firms affected by each incident. For example, 43 unique sample firms are represented in the 73 incidents involving stock-based compensation, and/or options backdating. However, the average *TIMEPASSED* values, and the *%BIG4* values are calculated based on unique firms (e.g., 43 firms for the stock-based compensation, and/or options backdating category) such that multiple incidents within a restatement category per firm are not included more than once.

proportion of long-term debt to total assets (*LTDAR*) is 0.18. Mean *ROA* is negative (−0.08), but median *ROA* is positive (0.01). The absolute value of the restatement's effect on earnings (*RELATIVE_RESTATEMENT_EFFECT*) is larger than that which has been documented in comparable studies. For example, the median value of 1.4 percent of assets is higher than the median of 0.8 percent found in [Badertscher and Burks \(2011\)](#).¹⁶ Because our firms tend to have restatements that are more material than those of similar studies, it is reasonable to conclude that the magnitude or materiality of a given restatement increases the likelihood that financial statement users will be “left in the dark” for some period of time.

With regard to stock ownership, the mean values for the percentage of shares held by 5 percent and greater outside blockholders (*OUTSIDEBLK*) and by all directors and officers as a group (*DIROFFSHR*), are 26 percent and 20 percent, respectively. The average length of the restated time period (*LENGTH*) is 3.26 years and 32 percent of our companies discovered the need for restatement within 90 days after their fiscal year-end (*DURING_AUDIT*). Twenty-five percent of the dark restatements were associated with disclosed fraud, irregularities, misrepresentations, or regulatory investigations (*FRAUD*), 76 percent had problems across multiple restatement categories (*MULT_ISSUES*), and 18 percent had restatement adjustments that ultimately increased earnings (*POS_EARN*). With regard to auditors, 71 percent of companies had Big 4 auditors (*BIG4*) when the restatement was announced, 23 percent of the auditors were industry specialists (*AUD_SPEC*), and 14 percent of companies had a change in auditor (*AUDCHG*) during the period beginning one year before the revelation of a need for restatement and ending at the date on which details were provided.

¹⁶ When we define *RELATIVE_RESTATEMENT_EFFECT* as the absolute value of the cumulative earnings effect scaled by income, the median value is 28.4 percent.

TABLE 2
Descriptive Statistics for Sample of 154 Dark Restatements

Panel A: Summary Statistics

Variable	Mean	Median	25%	75%
<i>FILINGDELAY</i>	3.45	2	1	5
<i>TIMEPASSED</i>	92.36	52.50	24	114
<i>ASSETS</i>	7275.68	446.43	92.37	1043.78
<i>NI</i>	69.08	4.85	-3.19	33.67
<i>RESTATEMENT_EFFECT</i>	-33.96	-3.52	-18.41	-0.49
<i>RELATIVE_RESTATEMENT_EFFECT</i>	0.12	0.014	0.004	0.06
<i>ROA</i>	-0.08	0.01	-0.02	0.06
<i>LTDAR</i>	0.18	0.08	0.01	0.30
<i>OUTSIDEBLK</i>	0.26	0.25	0.25	0.37
<i>DIROFFSHR</i>	0.20	0.12	0.05	0.30
<i>LENGTH</i>	3.26	2.75	1.50	4.25
<i>DURING_AUDIT</i>	0.32	0	0	1
<i>FRAUD</i>	0.25	0	0	1
<i>MULT_ISSUES</i>	0.76	1	0	1
<i>POS_EARN</i>	0.18	0	0	0
<i>FOR_SEG</i>	1.49	0	0	2
<i>BUS_SEG</i>	1.86	1	1	3
<i>PROXIMITY</i>	0.44	0.38	0.33	0.48
<i>AUD_SPEC</i>	0.23	0	0	1
<i>AUDCHG</i>	0.14	0	0	0
<i>BIG4</i>	0.71	1	0	1
<i>AC_SIZE</i>	3.34	3	3	4
<i>AC_EXPERTS</i>	1.45	1	1	2
<i>AC_EXP%</i>	0.43	0.33	0.33	0.50
<i>AFE_EXPERTS</i>	0.77	1	0	1
<i>AFE_EXP%</i>	0.24	0.25	0	0.33
<i>NONAFE_EXP%</i>	0.19	0	0	0.33
<i>ACC_AFE</i>	0.60	1	0	1
<i>NONACC_AFE</i>	0.09	0	0	0

(continued on next page)

The remaining summary measures are related to AC characteristics. The median number of AC members (*AC_SIZE*) for the firms in our sample is three, which is identical to that of [Hoitash et al. \(2009\)](#). The average number of SOX Section 407 financial experts (*AC_EXPERTS*) per AC is 1.45 and the average ratio of financial experts to AC size (*AC_EXP%*) is 43 percent, which is within the range previously documented by [Krishnan and Visvanathan \(2008\)](#). In our sample, this 43 percent is distributed as 24 percent having accounting financial expertise (*AFE_EXP%*) and 19 percent having financial expertise in either a supervisory or user capacity (*NONAFE_EXP%*). While our AFE proportion is comparable to the 22 percent documented by [Hoitash et al. \(2009\)](#), our proportion for non-accounting financial expertise is smaller than the 41 percent that they document for supervisory financial expertise. It is possible that this discrepancy is due to the fact that our classification of accounting and non-accounting financial experts is limited to AC members that specifically are designated by the restating firms as financial experts, while the classification of [Hoitash et al. \(2009\)](#) extends to all AC members. Finally, 60 percent of the companies in our sample have an ACC who is an AFE (*ACC_AFE*)

TABLE 2 (continued)

Panel B: Distribution of AC Experts and AC Financial Experts

Number Firms	AC_SIZE	Number AC Experts (Number AC Accounting Financial Experts)					
		0	1	2	3	4	5
3	0	3 (3)	—	—	—	—	—
6	2	—	5 (6)	1 (0)	—	—	—
92	3	3 (30)	70 (54)	10 (7)	9 (1)	—	—
40	4	1 (11)	24 (27)	4 (2)	5 (0)	6 (0)	—
11	5	0 (4)	6 (7)	2 (0)	1 (0)	—	2 (0)
2	6	—	—	1 (2)	1 (0)	—	—
154	Total	7 (48)	105 (94)	18 (11)	16 (1)	6 (0)	2 (0)

Panel C: Mean *TIMEPASSED* Values for Selected Binary Partitions

Variable	Number		Mean <i>TIMEPASSED</i>		t-statistic	p-value
	Yes	No	Yes	No		
<i>DURING_AUDIT</i>	49	105	65.37	105.00	2.72	0.007
<i>FRAUD</i>	38	116	144.30	75.33	3.49	0.001
<i>MULT_ISSUES</i>	117	37	95.83	81.38	0.78	0.439
<i>POS_EARN</i>	27	127	47.81	101.80	4.28	0.001
<i>AUD_SPEC</i>	35	119	70.26	98.86	2.12	0.036
<i>AUDCHG</i>	21	133	137.60	85.22	2.29	0.023
<i>BIG4</i>	109	45	83.13	114.70	1.82	0.070
<i>ACC_AFE</i>	92	62	81.41	108.60	1.69	0.093
<i>NONACC_AFE</i>	14	140	98.50	91.74	0.19	0.855

and only 9 percent of companies with AFEs have ACCs who are not AFEs (*NONACC_AFE*). Stated differently, among our 154 sample firms, 48 (31 percent) do not have an AFE on their audit committee at all, 92 (60 percent) have an ACC who is an AFE, and 14 (9 percent) only have non-ACC AFEs.

Panel B of Table 2 provides a frequency distribution that shows how AC expertise maps into AC size. Panel B reveals that 132 of our 154 firms (86 percent) have either three or four members on their ACs. Most of the committees (92) have three members, and the most common number of Section 407 financial experts among three-member ACs is one. It is also interesting to note, however, that among the 92 firms that have ACs with three members, 30 of these committees do not have an AFE at all. Forty of our sample firms have four-member ACs, with 24 (27) of these having one Section 407 financial expert (AFE). Across three- and four-member committees, 95 percent of firms have at least one Section 407 financial expert and 59 percent have at least one AFE.

In Panel C of Table 2, we present mean *TIMEPASSED* values for all of the binary partitions that can be made from our set of independent variables. Panel C shows that dark periods are significantly longer when the restatements involve fraud and when there is an auditor change. Dark

periods are significantly shorter when the need for restatement is discovered during the period that presumably includes the year-end audit, when the restatement earnings adjustments are positive, when an industry specialist or Big 4 auditor is involved, and when the ACC is an AFE. While all of these relationships are consistent with our expectations, we defer further discussion to the section of the paper that presents our multivariate analysis.

In Table 3, we present pairwise correlations for the variables that are included in our multivariate models. Pearson correlations are above the diagonal, Spearman correlations are below the diagonal, and significant ($p < 0.10$) correlations are shown in bold type. Table 3 reveals that large firms are more likely to have higher ROA, more debt, less inside ownership, and longer restated time periods (not longer dark periods). Large firms are also more likely to experience multiple restatement issues, have more foreign and business segments, and use Big 4 and industry specialist auditors. Section 407 financial expertise on the AC is positively correlated with firm size as well, but the associations are more with non-accounting expertise than with accounting financial expertise. Other interesting pairwise associations relate to Big 4 auditors. In addition to being associated with larger clients, Big 4 auditors are engaged by clients that are more profitable and more highly leveraged, and that have longer restated time periods (again, not longer dark periods). The restatements that are experienced by clients of Big 4 auditors tend to be smaller in relative magnitude, however, and auditor changes are significantly less likely among Big 4 clients. Finally, our ACC financial expertise measure is positively correlated with positive earnings adjustments and negatively correlated with the number of foreign segments, but is not correlated with any other variables that do not directly involve financial expertise. Overall, significant correlations exist for a number of our variables of interest, suggesting that a comprehensive multivariate analysis is warranted.

MULTIVARIATE RESULTS

Initial Tests

We present the results associated with our multivariate models in Table 4. Table 4 shows that larger firms (*logASSETS*) have marginally longer dark periods, which is generally consistent with the audit reporting lag findings of Ashton et al. (1987). We find no relationship between the length of the dark period and the holdings of 5 percent and greater outside blockholders (*OUTSIDEBLK*), but we do find that the greater the stock ownership of insiders (*DIROFFSHR*), the more quickly firms provide restatement details ($p < 0.01$). Our finding regarding insider ownership complements prior research suggesting that disclosure quality improves with more concentrated stock ownership and/or greater monitoring (e.g., Bamber et al. 1993; Bushee and Noe 2000).

Regarding the timing of dark restatements, Table 4 shows that the longer the timespan between the end of the restated time period and the discovery of the restatement (*PROXIMITY*), the longer the dark period. Table 4 also shows that when restatements are discovered within three months after the end of the firm's fiscal year-end (*DURING_AUDIT*), dark periods are significantly shorter. Taken together, these factors suggest that if restatements involve reporting periods that are relatively recent and/or are discovered during the annual audit period, disclosures are significantly timelier. Dark periods are significantly longer when fraud is involved (*FRAUD*)¹⁷ or when the restatement magnitude is greater (*RESTEFFECT*)¹⁸ but are significantly shorter when the

¹⁷ As an additional sensitivity test, we classified as non-fraudulent (i.e., *FRAUD* = 0) the observations where there were SEC or other regulatory investigations but no specific indication of financial fraud, irregularities, or misrepresentations. The coefficient for *FRAUD* remains positive and highly significant in our multivariate models and our conclusions regarding H1–H3 are unchanged.

¹⁸ The seven companies that never provided details are assigned to the middle (5th) *RESTEFFECT* decile. When we assign these seven companies to random *RESTEFFECT* deciles, our results are qualitatively unchanged.

TABLE 3
Pairwise Correlations for Variables Included in Multivariate Models

Panel A: Variables TIMEPASSED to RESTEFFECT

Variable	TIME-PASSED	Log-(ASSETS)	ROA	LTDAR	OUTSIDE-BLK	DIR-OFFSHR	LENGTH	DURING-AUDIT	FRAUD	MULT-ISSUES	REST-EFFECT
TIMEPASSED											
Log(ASSETS)	0.00										
ROA	-0.04	0.25									
LTDAR	-0.21	0.39	-0.15								
OUTSIDEBLK	0.07	0.11	-0.07	0.18							
DIROFFSHR	-0.12	-0.48	-0.04	-0.14	-0.40						
LENGTH	0.29	0.31	0.06	0.04	-0.02	-0.11					
DURING_AUDIT	-0.19	0.00	0.00	0.06	0.03	-0.16	0.01				
FRAUD	0.33	0.09	0.03	-0.11	-0.02	-0.07	0.36	-0.07			
MULT_ISSUES	0.12	0.12	-0.02	0.01	0.07	-0.15	0.14	0.09	0.11		
RESTEFFECT	0.30	-0.51	-0.12	-0.45	-0.05	0.13	0.12	0.02	0.15	0.10	
POS_EARN	-0.23	-0.04	-0.08	0.11	-0.03	0.01	-0.08	0.02	-0.07	-0.18	-0.19
FOR_SEG	0.11	0.20	0.15	-0.04	0.17	-0.10	0.12	-0.02	0.19	0.16	0.08
BUS_SEG	0.01	0.23	0.06	0.23	0.01	-0.04	-0.03	-0.02	-0.02	0.05	-0.09
PROXIMITY	0.10	-0.13	0.04	-0.11	-0.09	0.13	0.00	0.16	0.04	0.02	0.09
AUD_SPEC	-0.04	0.36	0.02	0.12	-0.04	-0.12	0.11	-0.01	-0.02	0.12	-0.17
AUDCHG	0.22	-0.26	-0.23	-0.09	-0.07	0.04	-0.06	-0.03	-0.10	-0.09	0.24
BIG4	-0.10	0.57	0.22	0.17	0.07	-0.26	0.31	0.01	0.07	0.17	-0.27
AC_EXP%	0.02	0.10	0.09	0.05	0.13	-0.14	0.04	0.04	0.04	0.11	0.07
NONAFE_EXP%	0.09	0.16	0.07	0.12	0.07	-0.07	-0.04	0.08	-0.04	-0.02	-0.07
AFE_EXP%	-0.10	-0.08	0.07	-0.12	0.06	-0.07	0.07	-0.07	0.05	0.11	0.14
NONACC_AFE	-0.01	0.00	0.03	0.05	0.12	-0.04	-0.06	0.03	-0.13	0.02	-0.02
ACC_AFE	-0.15	0.01	0.03	-0.08	0.06	-0.11	0.06	-0.09	0.07	0.13	-0.01

(continued on next page)

TABLE 3 (continued)

Panel B: Variables POS_EARN to ACC_AFE

Variable	POS_EARN	FOR_SEG	BUS_SEG	PROX-IMITY	AUD_SPEC	AUD_CHG	BIG4	AC_EXP%	NONAFE_EXP%	AFE_EXP%	NONACC_AFE	ACC_AFE
<i>TIMEPASSED</i>	-0.21	0.01	0.02	0.09	-0.12	0.18	-0.15	0.03	0.10	-0.11	0.02	-0.14
<i>Log(ASSETS)</i>	-0.06	0.29	0.18	-0.08	0.39	-0.29	0.55	0.27	0.26	-0.02	0.00	0.04
<i>ROA</i>	-0.13	0.12	0.08	0.04	0.12	-0.31	0.26	0.21	0.12	0.10	0.06	0.09
<i>LTDAR</i>	0.14	0.06	0.18	-0.06	0.06	-0.08	0.18	0.05	0.14	-0.13	0.03	-0.10
<i>OUTSIDEBLK</i>	0.01	0.12	0.00	-0.08	-0.05	-0.02	0.04	0.11	0.05	0.09	0.13	0.05
<i>DIROFFSHR</i>	0.05	-0.10	0.04	0.01	-0.04	0.07	-0.22	-0.20	-0.13	-0.09	-0.05	-0.09
<i>LENGTH</i>	-0.11	0.03	-0.03	0.09	0.10	-0.10	0.29	0.12	0.07	-0.07	-0.02	0.06
<i>DURING_AUDIT</i>	0.02	0.04	0.01	0.14	-0.01	-0.03	0.01	0.05	0.10	-0.09	0.03	-0.09
<i>FRAUD</i>	-0.07	0.09	-0.09	0.06	-0.02	-0.10	0.07	0.08	0.02	0.08	-0.13	0.07
<i>MULT_ISSUES</i>	-0.18	0.14	0.02	0.04	0.12	-0.09	0.17	0.14	0.05	0.12	0.02	0.13
<i>RESTEFFECT</i>	-0.19	0.00	-0.10	0.08	-0.17	0.24	-0.27	-0.02	-0.11	0.13	-0.01	-0.01
<i>POS_EARN</i>	-0.08	-0.07	-0.01	-0.02	-0.01	0.07	0.00	-0.14	-0.16	0.04	-0.09	0.14
<i>FOR_SEG</i>	-0.08	0.11	0.11	-0.03	0.16	-0.09	0.07	0.21	0.28	-0.13	0.15	-0.17
<i>BUS_SEG</i>	-0.05	0.13	0.13	-0.10	0.02	0.03	0.14	0.17	0.17	-0.02	0.15	-0.08
<i>PROXIMITY</i>	-0.04	-0.07	-0.02	-0.10	0.05	-0.04	0.01	-0.07	-0.05	-0.02	-0.04	0.00
<i>AUD_SPEC</i>	-0.01	0.12	0.01	-0.02	0.17	-0.17	0.35	0.05	0.03	0.03	-0.01	0.03
<i>AUDCHG</i>	0.07	-0.08	0.03	0.05	-0.17	-0.37	-0.37	-0.16	-0.08	-0.10	-0.06	-0.06
<i>BIG4</i>	0.00	0.15	0.14	-0.09	0.35	-0.37	0.05	0.05	0.07	-0.03	-0.05	0.06
<i>AC_EXP%</i>	-0.16	0.11	0.15	-0.04	-0.05	-0.12	-0.06	0.05	0.75	0.25	0.23	-0.07
<i>NONAFE_EXP%</i>	-0.17	0.20	0.14	-0.10	-0.03	-0.06	0.01	0.56	0.75	-0.46	0.16	-0.57
<i>AFE_EXP%</i>	0.06	-0.16	-0.05	0.06	-0.03	-0.08	-0.05	0.32	-0.54	0.08	0.08	0.74
<i>NONACC_AFE</i>	-0.09	0.13	0.13	-0.04	-0.01	-0.06	-0.05	0.25	0.20	0.08	0.08	-0.39
<i>ACC_AFE</i>	0.14	-0.17	-0.08	0.04	0.03	-0.06	0.06	-0.05	-0.65	0.74	-0.39	-0.39

Pearson (Spearman) coefficients are above (below) the diagonal. Coefficients in bold are significant at $p \leq 0.10$.

TABLE 4
Negative Binomial Regression Models Investigating Factors Influencing the Number of Days between the Discovery of the Need for a Restatement and the Disclosure of Restatement Details
(n = 154 Dark Restatements)

Variable	Pred Sign	Model 1		Model 2		Model 3	
		Coeff.	(p-value)	Coeff.	(p-value)	Coeff.	(p-value)
Intercept	?	3.53	(0.01)	3.65	(0.01)	3.71	(0.01)
Log(ASSETS)	?	0.10	(0.08)	0.09	(0.11)	0.09	(0.10)
ROA	?	-0.06	(0.73)	-0.00	(0.99)	-0.01	(0.98)
LTDAR	?	-0.30	(0.40)	-0.40	(0.26)	-0.44	(0.21)
FOR_SEG	?	-0.01	(0.56)	-0.03	(0.17)	-0.03	(0.17)
BUS_SEG	?	0.05	(0.24)	0.05	(0.23)	0.05	(0.23)
OUTSIDE_BLK	-	-0.00	(0.79)	0.00	(0.87)	0.00	(0.84)
DIROFFSHR	-	-0.01	(0.02)	-0.01	(0.02)	-0.01	(0.01)
LENGTH	+	0.04	(0.27)	0.04	(0.25)	0.04	(0.21)
PROXIMITY	+	0.53	(0.08)	0.48	(0.11)	0.50	(0.09)
DURING_AUDIT	-	-0.64	(0.01)	-0.62	(0.01)	-0.61	(0.01)
FRAUD	+	0.47	(0.01)	0.50	(0.01)	0.55	(0.01)
MULT_ISSUES	+	0.11	(0.48)	0.16	(0.30)	0.22	(0.17)
RESTEFFECT	+	0.10	(0.01)	0.10	(0.01)	0.09	(0.01)
POS_EARN	-	-0.49	(0.01)	-0.41	(0.02)	-0.37	(0.04)
AUD_SPEC	-	-0.17	(0.35)	-0.09	(0.60)	-0.11	(0.53)
AUDCHG	+	0.50	(0.02)	0.49	(0.02)	0.56	(0.01)
Hypothesis Tests:							
BIG4 (H1)	-	-0.38	(0.02)	-0.38	(0.04)	-0.34	(0.05)
AC_EXP% (H2a)	-	-0.07	(0.80)	—	—	—	—
NONAFE_EXP%	?	—	—	0.18	(0.53)	—	—
AFE_EXP% (H2b)	?	—	—	-0.87	(0.03)	—	—
NONACC_AFE	-	—	—	—	—	-0.18	(0.50)
ACC_AFE (H3)	-	—	—	—	—	-0.47	(0.01)
Pearson Chi-square (Value/DF)			1.28		1.26		1.26
Scaled Deviance (Value/DF)			1.24		1.25		1.24

adjustments have the effect of increasing earnings (*POS_EARN*). Finally, Table 4 shows that disclosure timeliness suffers when there is an auditor change (*AUDCHG*) either immediately preceding or during the dark period.¹⁹ Our findings, with respect to the control variables, generally hold across all of the models that are presented in Table 4 and the negative binomial specification appears to be equally appropriate across all models.²⁰ As a result, the remainder of our discussion will focus on the test variables.

H1 predicts that dark periods will be shorter for clients that are audited by Big 4 auditors. In all three models, the coefficient for *BIG4* is negative and statistically significant ($p < 0.05$). The coefficient magnitudes are economically significant as well. In a negative binomial model, for a one unit change in the independent variable, the difference in the logs of expected counts of the dependent variable is expected to change by the value of the regression coefficient (i.e., *TIMEPASSED* is expected to change by $exp[\text{coefficient}]$ if all other variables are held constant). Using the *BIG4* coefficient of -0.38 in Model 1, a client with a Big 4 auditor would have a predicted dark period that is only 68 percent as long ($exp^{-0.38} = 0.68$) as a client with a non-Big 4 auditor. Stated differently, the presence of a Big 4 auditor is associated with a dark period reduction of 32 percent ($1 - exp^{-0.38}$). At the average *TIMEPASSED* value of 92 days, this translates into a restatement disclosure that is provided approximately one month faster when a Big 4 auditor is present. Clearly, this is a nontrivial improvement in the timely provision of restatement details. It is also important to note that our findings contrast with those of BB who predict, but do not document, a negative coefficient for *BIG4* in their sample of all restating companies. Our conclusion is that limiting the analysis to restatements with observable disclosure lags allows us to identify the value that Big 4 auditors may add to the restatement disclosure process.²¹

H2a predicts that dark periods will be shorter when there are more financial experts on the AC. As indicated earlier, we use *AC_EXP%*, defined as the number of SOX Section 407 financial experts on the AC divided by the total number of AC members, to test this hypothesis. The coefficient for *AC_EXP%* is negative but insignificant in Model 1, suggesting that the presence of relatively more Section 407 financial experts does not influence the length of restatement dark periods.²² Thus, our findings do not support H2a. However, when we partition *AC_EXP%* into the percentage of members that are non-accounting financial experts (*NONAFE_EXP%*) and accounting financial experts (*AFE_EXP%*), the coefficient for *AFE_EXP%* is negative and significant ($p < 0.03$). This result supports H2b, and in combination with the non-result for both *AC_EXP%* and *NONAFE_EXP%*, suggests that accounting expertise is particularly important in reducing the length of restatement dark periods. The coefficient for *AFE_EXP%* implies a predicted dark period reduction of 58 percent ($1 - exp^{-0.87} = 0.58$) for a restatement firm having a committee

¹⁹ Our results are not sensitive to redefining the beginning auditor change date from one year prior to the discovery date to 180 days or 90 days prior to the discovery date, nor are they sensitive to extending the ending auditor change date to one year after the discovery date. Data limitations prevent us from reliably testing whether changes across auditor classes (e.g., from non-Big 4 to Big 4) incrementally impact dark periods.

²⁰ Scaled deviance and Pearson Chi-Square values that are close to 1 indicate appropriate fit for negative binomial and Poisson models. These values are between 1.20 and 1.30 in the negative binomial models presented in Table 4, indicating adequate model fit. In contrast, values are between 50 and 60 when we estimate Poisson models. When we estimate Poisson regressions with robust standard errors, the statistical significance of our test variables improves slightly.

²¹ When we eliminate observations with *TIMEPASSED* values of 360 days or greater, the significance of *BIG4* decreases to 8 percent and none of our other conclusions are changed. However, while only 29 percent of our sample observations have non-Big 4 auditors, 78 percent of the observations with *TIMEPASSED* values of 360 days or greater have non-Big 4 auditors. Thus, one could make a reasonable argument that these observations are not statistical "outliers," but rather fundamental indicators that dark periods are, indeed, longer in the presence of non-Big 4 auditors.

²² When we replace *AC_EXP%* with the number of audit committee experts (i.e., the raw number rather than the number as a percentage of audit committee size), our results are qualitatively unchanged.

comprised entirely of accounting financial experts, relative to a comparable firm having a committee with no accounting financial experts. But, even if only one accounting financial expert were present on a committee of three members, the predicted dark period would be reduced by 19 percent. This would represent an improvement in disclosure timeliness of two-and-a-half weeks at the average *TIMEPASSED* value of 92 days.

Our final hypothesis suggests that companies that have ACCs with accounting financial expertise should have shorter restatement dark periods. In Model 3, the coefficient for *ACC_AFE* is negative and significant ($p < 0.01$) and the coefficient for *NONACC_AFE* is statistically insignificant. The coefficient estimate of -0.47 for *ACC_AFE* reveals that if all other variables are held constant, a company with an ACC having significant accounting experience is predicted to have a dark period that is 38 percent shorter than a similar company that does not have an AFE on its audit committee ($1 - \exp^{-0.47} = 0.38$). This reduction results in a predicted dark period that is 35 days shorter when measured at the average *TIMEPASSED* value of 92 days. Overall, the results presented in Table 4 provide support for H1, H2b, and H3.

Additional Tests

Table 3 shows that the Pearson correlation between *AFE_EXP%* and *ACC_AFE* is 0.74 ($p < 0.001$), a level that obviously is very high. As a result, it is difficult to determine from the results presented in Models 2 and 3 whether a higher proportion of AFEs or the presence of an ACC who is also an AFE is more instrumental in reducing restatement dark periods. To explore this issue, we re-estimated Model 2 and interacted *ACC_AFE* with both *NONAFE_EXP%* and *AFE_EXP%*. In this model, the overall AFE effect appears to be driven primarily by the presence of ACCs who are AFEs, as the only coefficient that is significant is the coefficient for *ACC_AFE*. We obtain similar results when we estimate a fully interactive model that replaces *AC_EXP%* with a binary variable that defines firms with audit committees having at least 50 percent SOX Section 407 financial experts. In this interactive model, again, the only coefficient that is statistically significant is the coefficient for *ACC_AFE*. Our conclusion is that the accounting expertise of the ACC is the most important governance-related factor in our model.²³

In constructing our sample, we attempted to retain only those restatements that were sufficiently “dark” at the time of their disclosure. In all cases, we had to read the disclosures and in most cases there was no judgment required at all. In other cases, we had to critically evaluate the information provided in the 8-K and determine whether the company provided enough details to require its removal from the sample. As noted previously, 23 of our companies did disclose some restatement-related numbers in their initial 8-K filings; however, all of the disclosures included enough uncertainty to be deemed sufficiently dark. For example, MatrixOne, Inc. notes in its 8-K filing on August 3, 2005 that it “believes that less than \$1.0 million of previously recognized revenues will be reversed,” but that the restatement, “which is not yet complete and is subject to audit by the Company’s independent registered public accounting firm, will also include other asset and liability accounts that, in total, are expected to *increase net income or reduce net loss* [emphasis added] in previously reported periods” (MatrixOne, Inc. 2005). Given the uncertainty implied by the reversal of previously recognized revenues and the mysterious transactions that are expected to influence earnings in the opposite direction, our opinion is that this filing did not shed much light on the restatement details for MatrixOne. As a result, we did not remove MatrixOne nor the 22 other “judgment-call” firms from the sample. When we include an extra indicator variable in our multivariate model that identifies these 23 firms, its coefficient is insignificant and our inferences

²³ When we interact *ACC_AFE* with *BIG4* and *DIROFFSHR*, all of the main effects are significant but the interactions are not.

regarding H1–H3 are unchanged. When we remove these 23 observations, our inferences are unchanged as well. Our conclusion, therefore, is that providing vague information in an initial 8-K disclosure does not ultimately influence the timeliness of meaningful restatement disclosures.

In the multivariate models presented in Table 4, we define *RESTEFFECT* as the decile ranking of the absolute value of the restatement's cumulative effect on earnings scaled by assets, because the distribution of raw values includes some extreme observations. When we redefine *RESTEFFECT* as the raw value rather than the decile ranking, the coefficient for *RESTEFFECT* is positive but insignificant. However, when we winsorize the raw values at the top 5 percent, the coefficient for *RESTEFFECT* is positive and significant (as it is in all of the Table 4 models) and our results related to H1–H3 are unchanged. Therefore, our conclusion remains that restatements of greater magnitude are associated with longer dark periods. Further, the mean absolute value of the restatement's effect on earnings scaled by total assets is approximately 12 percent, so these restatements are economically significant and should be meaningful to investors.

Although our multivariate model is relatively comprehensive, we did include several additional control measures to ensure—to the greatest extent possible—that our test variables are not simply correlated with other potentially important factors. Specifically, we augmented our baseline model with binary variables identifying (1) companies with material internal control weaknesses; (2) companies with an above-median (specifically, eight) number of AC meetings;²⁴ (3) companies with missing prior year audit reporting lags or lags for which the data are over one year old;²⁵ and (4) the restatement categories identified in Table 1. Only two of these variables enter the model significantly (binary measures identifying restatements related to plant assets and foreign/related party/affiliate/subsidiary issues) and our inferences regarding H1–H3 remain unchanged.

As a final sensitivity test, we follow Myers et al. (2011) and analyze the length of the dark period using a Cox proportional hazard model. The primary advantage of this model is that it automatically adjusts for censored data and allows us to include the seven “permanently dark” companies in our analysis without having to set a specific *TIMEPASSED* value for them. Our conclusions using this alternative model are consistent with the results presented in Table 4.

Limitations

The results of this study should be interpreted in light of at least two limitations. First, because dark restatements are a relatively small subset of the overall population of accounting restatements, our findings may not be as generalizable as those of other studies involving restatements. That being said, we have done everything we can to ensure that our sample is comprised of a comprehensive set of dark restatements. Second, within a given client, auditor choice and audit committee design are endogenous. As such, it is possible that clients with “better” auditors and audit committees may be more likely to have systems in place that allow them to address dark restatement problems more quickly. Addressing this issue empirically is difficult given our sample constraints, but we acknowledge that our results should be viewed with this caveat in mind.

²⁴ We did not include the number of meetings in the model because those data are not available for 13 percent of our sample observations. With our binary variable, we include the observations for which the number of meetings is missing in the below-median category—an approach that seems reasonable given that these firms are smaller than average and would not be likely to have more than eight AC meetings in a given year.

²⁵ Our intent was to control specifically for the prior year's audit reporting lag. However, for 16 percent of our sample observations, data needed to calculate this measure are either missing or stale (i.e., the difference between the 8-K announcing the restatement and the most recent 10-K filing date is greater than one year). These 16 percent of observations primarily include firms that did not file their 10-Ks on time and/or perpetually delayed their filings.

CONCLUSION

Companies that discover a need for a financial statement restatement are required to file an 8-K within four business days of management's non-reliance judgment, even if the precise impact of the restatement on earnings is not yet known (SEC 2004). However, providing timely notification of a non-reliance judgment is just one step in the disclosure process. It is also important that companies provide timely disclosure of a restatement's specific quantitative impact on earnings. In this study, we investigate companies that delay their disclosure of restatement details following an initial 8-K non-reliance disclosure. We refer to the period between these two dates as the restatement "dark period." Our objective is to determine whether auditor quality and audit committee financial expertise are associated with improved restatement disclosure timeliness as reflected in reduced restatement dark periods.

Using a sample of 154 dark restatements, we find that dark periods are shorter in the presence of Big 4 auditors. We also find that restatement dark periods are shorter among clients that have audit committees with more accounting financial experts. The relationship between audit committee financial expertise and restatement dark periods is primarily attributable to the presence of an audit committee chair who is an accounting financial expert. The dark period reduction is economically significant, with restatement disclosures provided up to 38 percent faster for clients having Big 4 auditors and audit committee chairs with accounting financial expertise. Overall, our results suggest that two important parties in the audit process—auditors and audit committees—can provide significant value to clients as they attempt to bring their restatement darkness to light.

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APPENDIX A
Variable Definitions

Variable	Definition
<i>FILINGDELAY</i>	number of days between the discovery of the need for a restatement and the initial 8-K filing date;
<i>TIMEPASSED</i>	number of days between the discovery of the need for a restatement and disclosure of quantitative restatement details;
<i>ASSETS</i>	total assets (\$ millions);
<i>NI</i>	net income (\$ millions);
<i>RESTATEMENT_EFFECT</i>	cumulative effect of restatement on earnings (\$ millions);
<i>RELATIVE_RESTATEMENT_EFFECT</i>	absolute value of <i>RESTATEMENT_EFFECT</i> / <i>ASSETS</i> ;
<i>RETEFFECT</i>	decile ranking of <i>RELATIVE_RESTATEMENT_EFFECT</i> ;
<i>ROA</i>	<i>NI</i> / <i>ASSETS</i> ;
<i>LTDAR</i>	long-term debt/ <i>ASSETS</i> ;
<i>OUTSIDEBLK</i>	percentage of stock held by 5 percent and greater outside blockholders;
<i>DIROFFSHR</i>	percentage of stock held by all directors and officers as a group;
<i>LENGTH</i>	number of days in the restated time period/365;
<i>DURING_AUDIT</i>	1 if need for restatement discovered within 90 days after fiscal year-end, 0 otherwise;
<i>FRAUD</i>	1 if restatement involved financial fraud, irregularities, or misrepresentations, or the restating company was involved in SEC or other regulatory investigations, 0 otherwise;
<i>MULT_ISSUES</i>	1 if the restatement involved more than one accounting rule (GAAP/FASB) application failure, 0 otherwise;
<i>POS_EARN</i>	1 if the restatement increased earnings, 0 otherwise;
<i>FOR_SEG</i>	number of foreign segments;
<i>BUS_SEG</i>	number of business segments;
<i>PROXIMITY</i>	(number of days between the end of the restated time period and the discovery of the need for a restatement)/365;
<i>AUD_SPEC</i>	1 if the auditor at the discovery of the need for a restatement has at least 30 percent national market share in the client's industry, 0 otherwise;
<i>AUDCHG</i>	1 if the client changed auditors from one year preceding the discovery of the need for a restatement to the disclosure of restatement details, 0 otherwise;
<i>BIG4</i>	1 if the auditor when the client discovered the need for a restatement was a Big 4 auditor, 0 otherwise;
<i>AC_SIZE</i>	number of members on audit committee;
<i>AC_EXPERTS</i>	number of SOX Section 407 financial experts on audit committee;
<i>AC_EXP%</i>	<i>AC_EXPERTS</i> / <i>AC_SIZE</i> ;
<i>AFE_EXPERTS</i>	number of accounting financial experts;
<i>AFE_EXP%</i>	number of accounting financial experts/ <i>AC_SIZE</i> ;
<i>NONAFE_EXP%</i>	number of non-accounting financial experts/ <i>AC_SIZE</i> ;
<i>ACC_AFE</i>	1 if audit committee chair is an accounting financial expert, 0 otherwise; and
<i>NONACC_AFE</i>	1 if company has an accounting financial expert but the accounting financial expert is not the audit committee chair, 0 otherwise.

All financial variables are measured as of the fiscal year-end preceding the restatement announcement.
