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Timing of auditor terminations and client firm risk

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Abstract

Purpose – The purpose of this study is to examine whether the timing of auditor terminations signals the riskiness of client firms.

Design/methodology/approach – This empirical study uses a sample of auditor switches during 2003-2014 to conduct univariate tests and multivariate regression analyses. Auditor switches occurring after the audit report date but before the shareholders' meeting are classified as "planned" terminations and auditor switches that occur outside of this window are classified as "abrupt" terminations.

Findings – First, abrupt terminations are more strongly related to client risk factors than planned terminations. Second, relative to planned terminations, abrupt terminations are more likely to result from an auditor resignation rather than a client dismissal. Third, abrupt termination firms are more likely to have internal control weaknesses and experience delistings in the following year. Future operating performance is also worse after an abrupt termination. Finally, auditors and investors view abrupt terminations as riskier than planned terminations.

Practical implications – As the timing of the auditor termination is publicly available information, it can provide an important signal of deteriorating financial performance to shareholders and potential investors. Abrupt terminations could be costly to shareholders because those firms likely have lower quality financial reporting (due to internal control weakness) and deterioration of future operating performance.

Originality/value – While concurrent studies investigate the relation between the timing of new auditor *appointment* and audit quality, this is the first study to document the relation between the timing of auditor *termination* and the riskiness of client firms.

Keywords Business risk, Litigation risk, Auditor changes, Audit risk, Auditor resignations

Paper type Research paper

1. Introduction

Auditor switching has drawn attention from investors, regulators and academics for decades, in part, because firms that switch auditors are viewed as higher risk (Stefaniak *et al.*, 2009). While some firms may switch auditors for legitimate reasons, e.g. fee-

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or service-related reasons, the market may never know the actual reason for the termination as it is rarely disclosed (Hossain *et al.*, 2014; Wells and Loudder, 1997). Consequently, outsiders must infer the underlying cause from other sources of information, such as the characteristics of the termination event. Furthermore, it is important that investors and auditors, understand various factors that can aid in detecting whether a termination may be due to a change in client risk. In this study, we propose that the *timing* of an auditor termination may be informative about client risk.

The timing of an auditor termination may signal an increase in the riskiness of a company when it occurs unexpectedly at an abnormal time. We refer to such terminations as "abrupt" and all other terminations as "planned." We note that the term "switch" refers specifically to terminations, not engagements, in our paper[1]. Prior studies on the timing of auditor *engagements* suggest that hiring a new auditor late in the year results in audit report delays and compromises audit quality (Pacheco-Paredes *et al.*, 2017; Cassell *et al.*, 2017). To the best of our knowledge, our study is the first to examine the timing of auditor *termination*.

Our research questions are as follows:

RQ1. Does the riskiness of client firms differ based on whether the auditor termination was planned or abrupt?

RQ2. Does the client firm experience more negative consequences following an abrupt termination than a planned termination?

RQ3. Do investors and successor auditors perceive a difference between abrupt terminations and planned terminations?

Auditor switching for innocuous reasons, e.g. service- or fee-related reasons, should be anticipated and well-planned events. Anticipated (or planned) auditor terminations should normally occur sometime after the audit is complete but before the annual shareholder meeting when the auditor ratification vote takes place (Ashbaugh-Skaife *et al.*, 2007), allowing sufficient time to perform next year's audit[2]. On the other hand, an auditor switch resulting from a dispute with management or discovery of a hidden risk is likely to occur abruptly or randomly[3]. Catanach *et al.* (2011) suggest that auditor resignations before the issuance of the financial statements are most likely due to the discovery of a serious concern over the financial reporting quality. Therefore, the timing of an auditor termination can be useful to outsiders who want to understand the underlying reason for the switch.

Auditor terminations occurring prior to the audit report date are more likely to signal a red flag because the switch occurs while the audit is still underway[4]. Therefore, we classify terminations as "planned" if they occur after the audit report date but before the shareholder meeting and all other terminations as "abrupt" switches[5]. We use the audit report date as the cut-off for a number of reasons. First, at that point "the auditor has completed the most important procedures in the field" (Arens and Loebbecke, 1999)[6]. Second, thereafter the auditor is no longer responsible for reviewing subsequent events occurring after the fiscal year-end (Arens and Loebbecke, 1999, p. 46). Further, the auditor selection decision for the upcoming year is generally made soon after the prior year's audit is complete (Pacheco-Paredes *et al.*, 2017). In Appendix 1, we provide some examples of abrupt and planned switches and their related Form 8-K disclosures as anecdotal evidence.

Using a sample of auditor terminations during 2003-2014, we predict and test whether abrupt terminations, relative to planned terminations, are more highly associated with client risk factors, more likely to be a resignation than a dismissal and face more adverse consequences in the subsequent year. Our empirical results are generally consistent with our

predictions. First, we document that abrupt terminations are more likely for firms with assets concentrated in risky accounts (i.e. accounts receivable and inventory) and firms having conflicts with auditors. Second, we find that abrupt terminations are more likely to result from a resignation. Third, we find strong evidence that, following an abrupt switch, firms are more likely to report internal control weaknesses, more likely to be delisted and have worse operating performance. These results are consistent with abrupt terminations involving riskier clients compared to planned terminations.

After documenting that abrupt terminations are associated with higher client risk, we consider investors' and successor auditors' perspectives in additional analyses. If the market perceives abrupt terminations to be riskier than planned terminations, then the market reaction to abrupt terminations should be more negative compared to planned terminations. This argument is supported by our results. Next, we examine whether the audit fees charged by successor auditors differ for the two groups. If abrupt terminations involve riskier clients, then the upcoming audit will likely require additional effort, more experienced personnel and additional procedures. In addition, the audit fee may incorporate a risk premium. As predicted, we find some evidence that newly engaged auditors charge higher audit fees for firms that abruptly terminate the relationship with their auditors. Therefore, it appears that both investors and auditors perceive greater risk among clients that change auditors abruptly relative to clients with planned auditor changes.

Our study provides new insights into client risk by showing that the timing of the switch is informative about client risk. Our finding that abrupt terminations are more likely to face adverse events in the following year suggests that an abrupt termination may provide an advance warning to investors who are sensitive to firm risk. Therefore, the timing of the termination – publicly available information – provides an important signal of deteriorating financial performance and financial reporting risk by revealing the type of firms that have more conflicts with their auditor, more internal control weaknesses and poor operating performance.

We contribute to the auditor switching literature by providing systematic evidence that the timing of auditor terminations can be used to infer the riskiness of auditor switching firms. Prior research finds that investors extract information about auditor changes from Form 8-K reportable events (Whisenant *et al.*, 2003), resignations (Wells and Loudder, 1997), downward switches (Chang *et al.*, 2010) and industry specialization (Knechel *et al.*, 2007). We add to this line of research by showing that investors also find the timing of the termination informative. Another related line of research finds that audit fees are increasing in client risk using various measures of risk, e.g. engagement partners' risk assessments (Simunic and Stein, 1996), IPOs (Venkataraman *et al.*, 2008) and short-term accruals (Schelleman and Knechel, 2010). Our audit fee results also support the notion that the timing of a termination is an indicator of risk.

2. Literature review and predictions

2.1 Reasons for auditor switching

A realignment of the auditor–client relationship suggests significant startup and separation costs, which deter both parties from terminating their relationship (DeAngelo, 1981)[7]. Therefore, auditor switches will only occur when either party, client or auditor, believes that the benefits from the separation exceed the costs. Prior research has identified a number of reasons underlying an auditor switch[8]. Auditor switches do not necessarily occur for negative reasons. Firms experiencing high growth may look for an audit firm that is better qualified for larger size clients (Johnson and Lys, 1990; Hackenbrack and Hogan, 2002). Also, firms may seek a higher quality auditor to improve market perception in preparation for

upcoming events such as external financing or going public (Menon and Williams, 1991). Such service-related auditor switches are perceived favorably by market participants (Hackenbrack and Hogan, 2002).

However, the auditor switching literature suggests that switches often do occur for unfavorable reasons that may indicate an increase in client risk[9]. For example, firms experiencing financial difficulties may be forced to find a new auditor when their former auditors decide to walk away (Schwartz and Menon, 1985; Schwartz and Soo, 1995). Moreover, some firms may dismiss their auditor to find a new auditor who is more lenient to their aggressive accounting (Dye, 1991) or due to serious disagreements over accounting issues (Dhaliwal *et al.*, 1993). In such cases, the management has an incentive to hide the real reasons for the auditor change, which adds to the importance of being able to infer the actual reason from various signals, such as the timing of the auditor change.

2.2 Informativeness of timing

Information can be inferred not only from the occurrence of an event (or the content of disclosure) but also from its timing. In most cases, a delayed (or late) occurrence is interpreted as conveying unfavorable information. For example, favorable (unfavorable) earnings announcement tend to occur earlier (later) than expected (Begley and Fischer, 1998). Moreover, when a firm discloses an expected earnings announcement date and misses it, the stock price declines with each day of delay (Bagnoli *et al.*, 2002). The event itself, however, need not contain information for its timing to be informative. Non-timely 10-K/Q filings may be attributable to period-end accounting and audit process issues, resulting in lengthy discussions and negotiation between the firm and their auditors (Gibbins *et al.*, 2001). Thus, late 10-K filings are indicative of poor accounting quality (Cao *et al.*, 2016) and effectuate a negative market reaction (Alford *et al.*, 1994; Bartov and Konchitchki, 2017). Likewise, the timing of individual analyst forecasts can send a signal to the market about the quality of the forecasts. Earlier forecasts are of higher quality than those issued later (Keskek *et al.*, 2014) because analysts with superior ability issue their forecasts early while other analysts who issue later tend to herd (Scharfstein, 1990; Trueman, 1994; Hong *et al.*, 2000). Our study adds to this line of literature by providing evidence that the timing of an auditor switch also signals information about a firm, in particular, its riskiness.

2.3 Market reaction to auditor switches

Early evidence on the market reaction to auditor switches has produced mixed results (Johnson and Lys, 1990; Klock, 1994). Subsequent research has tended to focus on the market reaction to auditor changes conditional on the presence of related information, either from disclosures or other characteristics. Krishnan (2002) finds a negative market reaction to auditor change announcements that do not contain the auditor's letter. Whisenant *et al.* (2003) find that the market reacts more negatively when the auditor change is accompanied by reportable events, particularly when they relate to reliability concerns and auditor–client disagreements. Our study is more closely related to the research that examines the informativeness of client firm characteristics and auditor switch characteristics. Several studies find a negative reaction to auditor resignations but not dismissals (DeFond *et al.*, 1997; Wells and Loudder, 1997). Moreover, the negative reaction to resignations becomes stronger (more negative) with client-specific litigation risk (Shu, 2000) and bankruptcy risk (Griffin and Lont, 2010). In summary, the literature has shown that investors revise their beliefs, not only when the auditor change is accompanied by additional disclosures (e.g. reportable events and disagreements) but also based on the type of auditor switch (resignation or dismissal) and client firm characteristics. We add to this literature by

examining whether the timing of the auditor switch provides useful information to investors.

2.4 Prior literature on the timing of an auditor switch

Few prior studies have examined the timing of an auditor switch. Schwartz and Soo (1996) find that firms switching auditors late in the fiscal year (i.e. during the fourth quarter) announce earnings later than firms switching auditors earlier in the year. In addition to simply leaving less time to complete the audit, they argue that late switches are also associated with greater risk, which causes even more delay in the audit process. In addition, Catanach *et al.* (2011) examine the decision to engage a dropped client and find that Big N firms are less likely to accept clients following a resignation between the fiscal year-end and release of the financial statements. Such resignations would have occurred while audits were still underway.

Two concurrent studies focus on the timing of auditor engagement rather than the timing of auditor termination. Pacheco-Paredes *et al.* (2017) document that auditor engagements closer to year-end are associated with lengthy audit reporting lags (time taken to complete an audit) and lower audit quality. Cassell *et al.* (2017) find that firms engaging a new auditor in the fourth quarter are more likely to restate their financial statements in the initial year of an audit than firms engaging a new auditor in earlier quarters and continuing clients (i.e. non-switchers) due to time constraints. These studies argue that auditors hired late in the year are put under more time pressure to conduct quality audits, particularly as new auditors face a steep learning curve in understanding new client's business operation, financial reporting practices or culture and management integrity. By contrast, we posit that the timing of auditor terminations is indicative of client risk.

2.5 Timing of an auditor termination and client risk

Auditor terminations can occur at any time of the fiscal year, and there is no regulation that restricts the timing of the auditor switch. Firms that change auditors are required to disclose the termination date, as well as certain reportable events, in the Form 8-K; however, firms are not required to disclose the specific reason for the change (Wells and Loudder, 1997; Beneish *et al.*, 2005)[10]. Common intuition and prior research, however, suggest that the timing of an auditor switch is closely related to the underlying reason for the switch.

We believe that auditor terminations initiated for innocuous reasons, such as a service- or fee-related reason, are anticipated, well-planned and should take place after an annual audit season ends. In contrast, auditor terminations associated with "negative" reasons (e.g. disagreement, opinion shopping or change in the client risk profile) are more likely to be abrupt or random. Disagreements between an auditor and its client tend to develop after the auditor gathers sufficient evidence to identify significant issues that must be resolved, which is usually at or after the end of fiscal year (Schwartz and Soo, 1996). Therefore, we propose that the timing of an auditor termination reveals information about the underlying reason, particularly when the termination is due to a change in client-specific risk[11].

2.6 Risk factors/determinants

Prior research has identified several risk factors associated with auditor terminations (or more specifically, resignations), such as reportable events, going concern opinions, financial distress, litigation risk and proportion of receivables and inventory (Pratt and Stice, 1994; Krishnan and Krishnan, 1997). SEC Form 8-K reportable events are generally considered a risk factor, although the literature on the market reaction to the disclosure of reportable events has produced mixed results (Whisenant *et al.*, 2003; Griffin and Lont, 2010)[12]. If

abrupt terminations involve riskier clients, then we should observe a stronger relation between the aforementioned risk factors and abrupt terminations as compared to planned terminations and state our first hypothesis in alternate form:

H1. Abrupt terminations are more strongly associated with client risk factors than planned terminations.

2.7 Resignations vs dismissals

Resignations are generally viewed as riskier than client-initiated dismissals (Krishnan and Krishnan, 1997)[13]. Auditors would not normally walk away from an engagement and doing so implies an economic loss. Audit firms resign when predicted costs related to the audit (i.e. direct audit costs and expected litigation costs) exceed the benefits (i.e. audit fees). Consequently, resignations suggest that the client firm is associated with greater risk (Ghosh and Tang, 2015). As discussed in Section 2.3, it is well-documented that the market reacts negatively to resignations, but not dismissals, consistent with the resignation itself serving as a signal of risk to the market. Therefore, we state our second hypothesis in alternate form:

H2. Auditor-initiated resignations are more likely for abrupt terminations than planned terminations.

2.8 Consequences

Finally, we investigate the consequences of an abrupt termination relative to a planned termination. Client firms whose auditors resign (i.e. risky firms) tend to experience more frequently negative consequences in the years following auditor switches (Ghosh and Tang, 2015). Similarly, we predict that if an abrupt termination is riskier than a planned termination, client firms following a planned (abrupt) switch are less (more) likely to experience adverse events associated with audit risk, litigation risk and business risk, such as internal control weaknesses, lawsuits and delistings, respectively. In addition, greater risk may manifest in poor future operating performance. Thus, we state the following hypothesis in alternate form:

H3. Adverse consequences are more likely following an abrupt termination than a planned termination.

3. Research design

3.1 Sample selection

We use two different samples for our empirical tests to maximize the number of observations for each test. Our first sample is used to test the determinants of auditor termination timing and auditor switch type. Our second sample is used to test the consequences of an auditor termination, which has more stringent data requirements. Table I presents the sample selection procedures. We begin with all auditor switch firms during the post-SOX period (2003-2014) from Audit Analytics (17,113 firm-year observations)[14]. We obtain financial data from Compustat and exclude observations with missing values for our regression variables. We are left with 5,879 firm-year observations (Sample 1) for the tests of the relationship between auditor termination timing and auditor switch type and 3,998 firm-year observations (Sample 2) for the test of auditor switch consequences.

3.2 Empirical model for the test of determinants of auditor termination timing

First, we test whether known risk factors are associated with the timing of an auditor termination using the following logistic regression model:

$$\Pr(Abrupt) = f(\beta_0 + \beta_1 RepEvent + \beta_2 GC + \beta_3 FinCond + \beta_4 LitRisk + \beta_5 RecInv + \beta_6 Size + \text{Year/Industry fixed effects}) \quad (1)$$

The dependent variable is *Abrupt*, which captures auditor terminations occurring in the period between the beginning of the sixth month after the fiscal year-end at year $t-1$ and the audit report date for the fiscal year t. Note that the inverse of *Abrupt* is *Planned*, which captures auditor terminations that take place after the audit report date and before the sixth month after the fiscal year-end. To illustrate, consider a firm with a December 31 fiscal year-end. For the 2010 fiscal year, an auditor termination occurring between June 1, 2010 and the audit report date (finalized in 2011) would be classified as *Abrupt*, whereas terminations occurring between the audit report date and May 31, 2011, would be classified as *Planned*.

Here, we seek to examine what causes firms to abruptly terminate the relationship with their auditors. In particular, our conjecture is that abrupt terminations are associated with client risk. Thus, we estimate the timing of an auditor termination to be a function of preexisting risk factors of the client firm. We predict that the probability of an abrupt auditor termination is higher for firms with the following characteristics: reportable events disclosed in the Form 8-K that indicate conflicts with auditors, RepEvent *RepEvent*[15], going-concern risk, *GC*[16], financial distress proxied by a net loss indicator, *FinCond*, high litigation risk proxied by litigious industry membership, *LitRisk*[17], inherent risk proxied by receivables and inventory, *RecInv*, and smaller firms proxied by sales, *Size*. All variables are defined in Appendix 2.

3.3 Empirical model for the test of auditor switch type

Following Catanach *et al.* (2011), we estimate a logistic regression model that predicts the probability of the departing auditor resigning (*Resign*):

$$\Pr(Resign) = f(\alpha_0 + \alpha_1 Abrupt + \beta_1 RepEvent + \beta_2 GC + \beta_3 FinCond + \beta_4 LitRisk + \beta_5 RecInv + \beta_6 Size + \beta_7 PredBigN + \text{Year/Industry fixed effects}) \quad (2)$$

Our variable of interest is *Abrupt* with *Planned* as the base level. We expect a positive coefficient on *Abrupt* when the dependent variable is *Resign* (set to one for resignations and zero for dismissals). Additionally, we control for potential determinants that have been

Table I. Sample selection procedures

Sample selection process	Sample 1	Sample 2
Auditor switch firms in Audit Analytics during 2003-2014	17,113	17,113
Less: cannot be merged with Compustat	(9,212)	(9,212)
Less: financial data is not available	(2,022)	(3,506)
Less: subsequent events are not available in Audit Analytics	N/A	(397)
Final sample	5,879	3,998

suggested by prior studies. Specifically, we include a reportable event indicator, *RepEvent*, which has been shown to be associated with auditor resignations (DeFond *et al.*, 1997; Lee *et al.*, 2004). In addition, prior-year going-concern opinions, *GC*, are likely to result in auditor resignations (Lee *et al.*, 2004). Auditor resignations are expected to occur more often among clients in poor financial condition, *FinCond* (DeFond *et al.*, 1997; Krishnan and Krishnan, 1997). Following Francis *et al.* (1994), we proxy for litigation risk, *LitRisk*, using industries that tend to have a higher incidence of litigation and predict a positive association with resignations. We control for receivables and inventory, *RecInv*, because these risky accounts tend to be linked to auditor lawsuits (Stice, 1991) and SEC enforcement actions (Feroz *et al.*, 1991). We include client size, *Size*, because auditors are less likely to resign from large companies (Raghunandan and Rama, 1999). Finally, we include *PredBigN*, an indicator variable that is set to equal one if the predecessor auditor was a Big N audit firm, and zero otherwise.

3.4 Empirical model for tests of auditor switch consequences

Next, we examine whether the timing of an auditor termination has implications for future adverse outcomes. Following Ghosh and Tang (2015), we examine the following adverse subsequent events: internal control weaknesses (a proxy for audit risk), delistings (a proxy for business risk) and lawsuits (a proxy for litigation risk)[18]. We also follow Ghosh and Tang (2015) in measuring these three adverse events. First, we identify internal control weaknesses using SOX 404 reporting after 2004 and 8-K reporting before 2004. Next, we code a lawsuit as one if a client is involved in a class-action lawsuit for issues related to accounting, financial reporting, tax and SEC accounting, auditing, or enforcement releases (Audit Analytics category types 1, 2, 41, 43, 48 and 54), and zero otherwise. Finally, we define delistings according to when a firm is delisted from a stock exchange for reasons other than a merger and acquisition (CRSP delisting codes 170, 400-490, 535-587 and 589-591). Instead of using a three-year event window as in Ghosh and Tang (2015), we use only one-year for the ex-post analysis to preserve as many observations as possible. We estimate the following logistic regression that predicts adverse events in the year after an auditor termination:

$$\begin{aligned}\Pr(\textit{Adverse Outcome}) = f(&\delta_0 + \delta_1 \textit{Abrupt} + \beta_1 \textit{GC} + \beta_2 \textit{LitRisk} + \beta_3 \textit{ZScore} \\ &+ \beta_4 \textit{RepEvent} + \beta_5 \textit{Resign} + \beta_6 \textit{PosASP} + \beta_7 \textit{M\&A} \\ &+ \beta_8 \textit{Leverage} + \beta_9 \textit{Size} + \beta_{10} \textit{MB} + \beta_{11} \textit{Growth} \\ &+ \beta_{12} \textit{ROA} + \text{Year/Industry fixed effects}) \end{aligned} \quad (3)$$

Again, our variable of interest is *Abrupt* with *Planned* serving as the base level. We include *ex ante* risk factors that might also predict future adverse outcomes such as going concern, *GC*; litigation risk, *LitRisk*; and bankruptcy risk, *ZScore*. We also include risk factors associated with auditor terminations: 8-K reportable events, *RepEvent*, resignations, *Resign* and long auditor search period, *PosASP*. These risk factors are expected to be positively associated with future adverse events (Ghosh and Tang, 2015; Mande *et al.*, 2017).

We also control for mergers and acquisitions, *M&A*, because firms tend to report financial reporting problems after acquisition (Kinney *et al.*, 2004). We include leverage, *Leverage*, because highly leveraged firms have greater incentive to misstate their financial reports (Ettredge *et al.*, 2010). We control for size, *Size* and two growth measures, *MB* and *Growth*, because prior research has shown that smaller firms and high growth firms are

more likely to have financial reporting problems (Erickson *et al.*, 2006). However, as large firms have "deeper pockets" and higher litigation exposure (Jones and Raghunandan, 1998; Palmrose and Scholz, 2004), we expect a positive relation between firm size and lawsuits. Finally, we include return-on-assets, *ROA*, because firms with poor financial performance tend to report more financial reporting problems (Ettredge *et al.*, 2010). All control variables are measured in the fiscal year preceding the adverse event year. All variables are defined in Appendix 2.

4. Empirical results

4.1 Descriptive statistics

In Panel A of Table II, we present the descriptive statistics of the variables used to test determinants of auditor switch timing and auditor switch type. The mean of *Abrupt* indicates that about 69 per cent of auditor terminations occur in the period between the sixth month following the fiscal year-end and the audit report date for the fiscal year. Less than one-third of the firms switching auditors employ a Big N auditor as their new auditor (mean of *BigN* = 0.293), but nearly half of the sample firms previously used a Big N auditor (mean of *PredBigN* = 0.489). Thus, it appears that the direction of auditor switching is generally downward (i.e. Big N to non-Big N) rather than upward or lateral during our research period.

Variable	*N*	Mean	SD	25th Pctl.	50th Pctl.	75th Pctl.
Panel A: Regression variables used for tests of determinants of auditor switch timing and auditor switch type						
Abrupt	5,879	0.693	0.461	0.000	1.000	1.000
BigN	5,879	0.293	0.455	0.000	0.000	1.000
Resign	5,879	0.262	0.440	0.000	0.000	1.000
GC	5,879	0.026	0.159	0.000	0.000	0.000
RepEvent	5,879	0.284	0.654	0.000	0.000	0.000
FinCond	5,879	0.510	0.500	0.000	1.000	1.000
LitRisk	5,879	0.284	0.451	0.000	0.000	1.000
RecInv	5,879	0.286	0.251	0.066	0.222	0.466
Size	5,879	3.849	2.440	2.105	3.834	5.437
PredBigN	5,879	0.489	0.500	0.000	0.000	1.000
Panel B: Regression variables used for test of auditor switch consequences						
Abrupt	3,998	0.692	0.462	0.000	1.000	1.000
ICMW	3,998	0.182	0.386	0.000	0.000	0.000
LAWSUIT	3,998	0.036	0.188	0.000	0.000	0.000
DELIST	3,998	0.037	0.190	0.000	0.000	0.000
LitRisk	3,998	0.339	0.473	0.000	0.000	1.000
GC	3,998	0.026	0.161	0.000	0.000	0.000
ZScore	3,998	−1.961	27.349	−1.790	0.993	2.732
RepEvent	3,998	0.213	0.409	0.000	0.000	0.000
Resign	3,998	0.263	0.440	0.000	0.000	1.000
PosASP	3,998	0.287	0.452	0.000	0.000	1.000
M&A	3,998	0.086	0.280	0.000	0.000	0.000
Leverage	3,998	0.663	1.034	0.284	0.497	0.731
Size	3,998	4.496	2.328	2.830	4.287	5.926
MB	3,998	4.083	198.355	0.800	1.704	3.387
Growth	3,998	6.130	188.517	−0.070	0.083	0.318
ROA	3,998	−0.244	1.312	−0.224	−0.007	0.053

Table II.
Descriptive statistics

Note: Variables are defined in Appendix 2

In Panel B, we present the descriptive statistics of variables used for our tests of auditor switch consequences. The adverse outcome variables are *ICMW*, *LAWSUIT* and *DELIST*. About 18 per cent of auditor switching firms experience internal control weakness and about 4 per cent experience lawsuits or delisting. Our sample includes a relatively large number of firms in financial distress (median *ZScore* = 0.993), which is consistent with other auditor switch studies (Schwartz and Menon, 1985; Feng, 2013). Means of *RepEvent*, *PosASP* and *Resign* are 0.213, 0.287 and 0.263, respectively. These results suggest that less than 30 per cent of sample firms disclose 8-K reportable events, fail to find a new auditor on the termination date and have a former auditor who resigns.

4.2 Determinants of auditor termination timing

Table III presents the results of a logistic regression that tests the determinants of auditor termination timing[19]. As logistic models do not provide multicollinearity diagnostics, we check the variance inflation factor (VIF) using ordinary least squares (OLS) and verify that all VIF scores are below three. All inferences are based on standard errors clustered by firm to account for any potential time-series dependence. For our multivariate analyses, we use one-tailed tests if predicted and two-tailed tests otherwise. The dependent variable represents the probability that an auditor termination is abrupt vs planned. As predicted, we find that the probability of an abrupt auditor termination is higher in firms having more complex accounts (*RecInv*), more concerns associated with auditor switches (*RepEvent*) and smaller size (*Size*). These results support our hypothesis *H1* that abrupt auditor terminations are riskier than planned auditor terminations.

4.3 Test of auditor switch type and timing

Next, we examine whether abrupt terminations are more likely to be resignations as opposed to dismissals. Table IV presents the results of the logistic regression that tests the probability of a resignation. We find that the coefficient for *Abrupt* is positive and statistically different from zero at the 1 per cent level, consistent with *H2*. The coefficient of *Abrupt* is 0.403, suggesting that the probability of a resignation is about 50 per cent greater for abrupt terminations than for planned terminations[20]. As resignations reflect greater risk than dismissals, this result is consistent with abrupt terminations carrying more risk

Variable	Expected sign	Abrupt switch = 1 vs planned switch = 0 Coefficient	*z*-value
Intercept	+/−	1.171***	9.71
RepEvent	+	0.143***	3.20
GC	+	−0.113	−0.60
FinCond	+	0.061	0.89
LitRisk	+	−0.128	−1.64
RecInv	+	0.651***	4.81
Size	−	−0.188***	−12.88
Max-rescaled R^2		0.067	
N		5,879	

Table III. Risk factors and the probability of an abrupt switch

Notes: ***indicates statistical significance at the 1% levels (one-tailed if predicted and two-tailed otherwise); This table presents the logistic regression results testing the probability of an *Abrupt* switch; Variables are defined in Appendix 2. Regressions use robust standard errors clustered by the company

Table IV.
Results of the logistic regression testing the probability of a resignation

Variable	Expected sign	*Resign* Coefficient	*z*-value
Intercept	+/−	−0.673***	−4.71
Abrupt	+	0.403***	5.45
GC	+	0.848***	4.69
RepEvent	+	0.317***	6.64
FinCond	+	−0.030	−0.41
LitRisk	+	0.019	0.23
RecInv	+	0.176	1.22
Size	−	−0.084***	−4.65
PredBigN	+/−	−0.817***	−10.82
Max-rescaled R^2		0.110	
N		5,879	

Notes: ***indicates statistical significance at the 1% levels (one-tailed if predicted and two-tailed otherwise); Coefficient estimates are reported in log odds form; Regressions use robust standard errors clustered by the company; Variables are defined in Appendix 2

than planned terminations. The control variable coefficients are generally significant and in the expected directions. Auditor resignations are associated with more high risk disclosures in the Form 8-K (*RepEvent*), going concern opinions (*GC*), smaller clients (*Size*) and non-Big N predecessors (*PredBigN*).

4.4 Test of auditor switch consequences

If abrupt terminations reflect greater risk than planned terminations, then adverse consequences should occur more frequently after abrupt terminations. In Table V, we present the results from the logistic regressions that predict the probability of adverse events in the year following an auditor switch: material weaknesses (*ICMW*), lawsuits (*LAWSUIT*) and delistings (*DELIST*). In the first model, where the dependent variable is *ICMW*, we find that our variable of interest, *Abrupt*, is positive and significant at the one percent level ($z = 2.84$)[21]. The coefficient estimate of 0.284 suggests that abrupt auditor switch firms are 33 per cent more likely to disclose an internal control weakness than planned auditor switch firms. Regarding the control variables, clients with going concern opinions, Form 8-K reportable events, positive (nonzero) auditor search period and smaller size are more likely to report (*ICMW*) in the subsequent year. Turning to the *LAWSUIT* model, we do not find evidence that an accounting-related class-action lawsuit is more likely in the year following an abrupt termination. This may be attributable to the low-frequency of accounting-related class-action lawsuits (3.6 per cent of the sample) resulting in low power in the cross-sectional regression. The probability of a lawsuit is positively associated with firms that are large in size and disclose reportable events in Form 8-K. In the *DELIST* model, we find that the coefficient of *Abrupt* is 0.374 and significant at the 5 per cent level ($z = 1.74$), suggesting that abrupt switch firms are 45 per cent more likely to be delisted in the subsequent year than planned switch firms. Turning to the control variables, we find that the probability of delisting is higher for firms that receive going concern opinions (*GC*), take longer to find a replacement auditor (*PosASP*) and experience auditor resignations (*Resign*).

While the above events represent risks that auditors usually take into consideration in their client selection and/or retention decision, investors may be more likely interested in the

Variable	Expected sign	$ICMW_{t+1}$ Coefficient	$ICMW_{t+1}$ z-value	$LAWSUIT_{t+1}$ Coefficient	$LAWSUIT_{t+1}$ z-value	$DELIST_{t+1}$ Coefficient	$DELIST_{t+1}$ z-value
Intercept	+/−	−2.419***	−3.61	−5.472***	−12.19	−4.130***	−4.67
Abrupt	+	0.284***	2.84	0.019	0.11	0.374**	1.74
GC	+	0.567***	4.51	0.143	0.45	1.241***	5.32
LitRisk	+	0.136	1.29	0.231	1.13	−0.091	−1.13
ZScore	−	0.002	1.44	−0.001	−0.29	−0.008	−1.40
RepEvent	+	0.425***	4.24	0.457**	2.36	0.211	1.02
Resign	+	0.079	0.80	0.007	0.03	0.633***	3.27
PosASP	+	0.223**	2.39	0.289	1.41	0.319*	1.58
M&A	+	−0.078	−0.48	0.297	1.09	−0.246	−0.64
Leverage	+	0.057	1.40	0.019	0.23	−0.138	−1.54
Size	+/−	−0.055**	−2.34	0.304***	7.76	0.052	1.33
MB	+	0.000	−0.71	0.000	1.71	0.000	−0.43
Growth	+	0.000	0.52	−0.021	−0.78	0.000	−0.37
ROA	−	0.025	1.14	−0.052	−1.18	0.022	0.50
Max−rescaled R^2		0.062		0.094		0.113	
N		3,998		3,998		3,998	

Notes: *; ** and *** indicate statistical significance at the 10, 5 and 1% levels, respectively (one-tailed if predicted and two-tailed otherwise); Coefficient estimates are reported in log odds form; Regressions use robust standard errors clustered by the company; Variables are defined in Appendix 2

Table V. Results of the logistic regressions testing the probability of adverse events in the year following an auditor switch

firm's future operating performance. Thus, we further test whether future operating performance varies with the timing of auditor terminations. Following Curtis *et al.* (2014), we measure future operating performance using operating earnings per share (Compustat OPEPS). In Table VI, we find that the coefficient of *Abrupt* is negative and statistically

Variable	Expected sign	*Operating earnings* Coefficient	*Operating earnings* t-value
Intercept	+/−	−0.062	−0.33
Abrupt	−	−0.073**	−2.10
Operating Earnings$_{t-1}$	+	0.688***	21.94
Sales Growth	+	0.013*	1.47
Ln(Total Assets)	+	0.139***	3.99
Earnings Volatility	−	−0.272***	−2.88
Loss	−	−0.225***	−5.02
Book-to-Market Ratio	−	−0.077***	−5.07
Adjusted R^2		0.536	
N		4,691	

Notes : *; ** and *** indicate statistical significance at the 10, 5 and 1% levels, respectively (one-tailed if predicted and two-tailed otherwise); The dependent variable is operating earnings per share (Compustat OPEPS or OPREPSX); *Sales Growth* represents sales growth per share from year $t-1$ to year t (Compustat SALE); *Earnings Volatility* is calculated as the standard deviation of income before extraordinary items divided by total assets over at least six of the prior eight quarters (Compustat IBCOMQ/ATQ); *Loss* is an indicator variable equal to one if income before extraordinary items is less than zero, and zero otherwise (Compustat IBCOM); *Ln(Total Assets)* is the log of firm assets in millions (Compustat AT); *Book-to-Market Ratio* is the book value of equity divided by the market value of equity [Compustat SEQ/(CSHO*PRCC)]; Regressions use robust standard errors clustered by the company

Table VI. Results of the OLS regression testing firms' operating performance in the year following an auditor termination

significant at the 5 per cent level ($t = -2.10$). The coefficient of *Abrupt*, −0.073, suggests that operating earnings per share is, on average, seven cents lower following an abrupt termination than after a planned termination. This result suggests that abrupt auditor terminations are associated with firms with deteriorating operating performance.

Taken together, this evidence, consistent with *H3*, suggests that the timing of auditor terminations is also associated with future risks, such as internal control weaknesses and delistings and poor future operating performance.

4.5 Untabulated sensitivity tests

As mentioned previously, our study differs from prior studies in that we focus on the termination date of the predecessor auditor rather than the hiring date of the successor auditor. However, we are unable to isolate the effect of a termination from the effect of a new appointment when both events are announced simultaneously, which is the case for roughly 71 per cent of our sample. To address this issue, we repeat our analysis after excluding such observations, leaving only those with a positive auditor search period. Our results using this subsample lead to inferences similar to our main results[22]. These results provide additional assurance that our study is not simply documenting the effect of the timing of auditor engagements, but indeed provides an incremental contribution to the literature.

The premise of our study is that auditor terminations that are unplanned (i.e. occurring abruptly or before the audit is complete) are likely attributable to a conflict or riskiness of a client. However, closely related prior studies argue that firms switching their auditors later in the fiscal year suffer from lower audit quality because the late switch leaves little time for the new auditor to conduct a thorough and reliable audit. These studies typically classify a switch as "late" if it occurs in the fourth quarter. Accordingly, our abrupt switches have some overlap with late switches as defined in prior studies. To eliminate the possibility that fourth quarter terminations are driving our results, we drop auditor terminations that occur in the fourth quarter (about 22 per cent of our sample) and re-estimate our models[23]. Our results are qualitatively similar to our main results. This corroborates our argument that abrupt terminations, as defined in this study, are riskier than planned terminations, even after excluding terminations occurring in the fourth quarter.

5. Tests of perceptions of investors and successor auditors

5.1 Analysis of market reactions

Having thus far documented that abrupt terminations are associated with various risk factors and poor future operating performance, we are able to provide evidence consistent with our assertion that the timing of an auditor switch can serve as a signal of firm risk to outsiders. A natural extension of our study is to investigate empirically how outsiders, such as investors and successor auditors, perceive the timing of auditor terminations. Accordingly, we next examine the market reaction to the auditor switch announcement following prior studies (Griffin and Lont, 2010; Chang *et al.*, 2010)[24]. Specifically, we calculate cumulative abnormal stock returns (*CAR*) over the three-day window (−1, 1) surrounding the 8-K filing date by subtracting the CRSP equal-weighted market return from the firm's holding return (Griffin and Lont, 2010; Scholz, 2008)[25]. If investors view abrupt terminations as a signal of risk, we should observe a negative coefficient on *Abrupt*.

Table VII, Panel A presents the univariate results. On average, abrupt (planned) firms experience negative (positive) abnormal returns and the difference in *CAR* is statistically significant at the ten percent level ($t = 1.62$). Panel B presents the cross-sectional analysis of *CAR*[26]. The coefficient on *Abrupt* is −0.005 and statistically significant at the 5 per cent level ($t = -1.76$). Thus, relative to planned switch firms, abrupt switch firms' abnormal

	Planned	Abrupt	Mean difference (*t*-value)
Panel A. Univariate test: Difference in means			
CAR	0.002	−0.001	1.62*
N	1,412	2,364	
Panel B. Multivariate test: Cross-sectional analysis of cumulative abnormal returns			
Variable	Expected sign	Coefficient	*t*-value
Intercept	+/−	0.013**	2.03
Abrupt	−	−0.005**	−1.76
LNMKT	+/−	0.000	−0.39
Big to non-Big	−	−0.005*	−1.49
Non-Big to Big	+	0.003	0.59
Big to Big	+/−	−0.004	−1.00
Resign	−	−0.002	−0.65
Issue	−	−0.001	−0.29
Adj. R^2	0.001		
N	3,776		

Notes : *; ** and *** indicate statistical significance at the 10, 5 and 1% levels, respectively (one-tailed if predicted and two-tailed otherwise); The dependent variable is *CAR* (cumulative abnormal stock returns over a three-day window surrounding the predecessor auditor departure date); *LNMKT* is calculated as the natural logarithm of the market value of equity; *Big to non-Big* is set to one if a Big N auditor is replaced with a non-Big N auditor, and zero otherwise; *Non-Big to Big* is set to one if a non-Big N auditor is replaced with a Big N auditor, and zero otherwise; *Big to Big* equals one if the client switches from one Big N to another Big N, and zero otherwise; *Issue* equals the number of reportable events disclosed in the Form 8-K auditor change filing

Table VII.
Analysis of the market reaction to auditor terminations

returns are lower by 0.5 percentage points, which is 500 per cent of the mean *CAR* of 0.001 for the full sample (untabulated). These results suggest that investors perceive auditor switches in a more negative light when the termination occurs abruptly.

With respect to the other variables, we also find a negative coefficient on *Big to non-Big*, consistent with the market viewing downward switches with suspicion[27]. We note that the other risk factors, *Resign* and *Issue*, are not statistically significant. Disagreements between clients and their auditors, proxied by *Issue*, may be leaked before the separation announcement. Johnson and Lys (1990) argue that the "realignment is a predictable consequence of earlier changes in the client's operations and activities." In contrast, the timing of the auditor switch (*Abrupt*) and the type of subsequent auditor (*Big to non-Big*) is revealed only when the Form 8-K is filed[28].

5.2 Analysis of audit fees charged by the successor auditor

Finally, we examine whether newly engaged auditors charge higher audit fees for the first-year audit following an abrupt termination. Auditors evaluate new clients' risk and incorporate their *ex ante* perception of the engagement risk into their audit pricing decisions (Kannan *et al.*, 2014). If auditors believe abrupt switchers expose them to greater risk, they will expand the audit scope and/or add a risk premium. For our analysis, we examine the audit fees charged by the successor auditor in the initial year of engagement and estimate

the audit fee model as a function of audit complexity, litigation risk and audit effort following prior studies (Ferguson *et al.*, 2003; Francis *et al.*, 2005; Hay *et al.*, 2006)[29]. Results are shown in Table VIII. Contrary to our risk argument, the univariate test in Panel A shows that the successor auditors' fees are higher for the planned termination subgroup than for the abrupt termination subgroup (t = 9.56). Recall, however, that abrupt switch firms tend to be smaller (i.e. requiring fewer audit hours). The untabulated analysis also reveals that abrupt switch firms are more likely to hire a non-Big N successor auditor (i.e. lower rate). Panel B presents the results after controlling for other factors that have been shown to affect audit fees. The coefficient of *Abrupt* indicates that audit fees are approximately four percent higher for abrupt termination firm (t = 1.62). Remaining

	Planned	Abrupt	Mean difference (t-value)
Panel A. Univariate test: Difference in means			
Initial audit fees (natural log)	12.776	12.333	9.56***
N	1,810	2,564	
Panel B. Multivariate test: Audit fees for initial year of audit engagement			
		Natural log of initial audit fees	
Variable	Expected sign	Coefficient	t-value
Intercept	+/−	5.920***	29.76
Abrupt	+	0.039*	1.62
SIZE	+	0.342***	27.16
FRGN	+	0.048	1.41
SEG	+	0.022***	3.03
RECV	+	0.052	0.49
INVT	+	−0.299***	−2.72
LEV	+	0.033	1.28
LOSS	+	0.044*	1.47
CATA	+	0.378***	6.14
ACCR	+	0.093**	2.31
EBIT	−	−0.166***	−4.79
QUICK	−	−0.018***	−5.17
DYE	+	0.120***	4.56
BIGN	+	0.213***	5.39
PreAuditFees	+	0.386***	21.39
Resign	+	0.007	0.25
Big to non-Big	−	−0.001	−0.02
Adjusted R^2		0.746	
N		4,374	

Notes: *; ** and *** indicate statistical significance at the 10, 5 and 1% levels, respectively (one-tailed if predicted and two-tailed otherwise); The dependent variable is the natural log of audit fees charged by the new auditor; *SIZE* is the natural log of total assets; *FRGN* equals the ratio of sales of foreign subsidiaries to total sales; *SEG* is the number of business segments; *RECV* is the ratio of total receivables to total assets; *INVT* is the ratio of total inventory to total assets; *LEV* is the ratio of total liabilities to total assets; *LOSS* is equal to one if earnings before extraordinary items are less than zero, and zero otherwise; *CATA* is the ratio of current assets to total assets; *ACCR* is the ratio of the absolute value of total accruals to total assets; *EBIT* is the ratio of earnings before interest and tax to total assets; *QUICK* is the ratio of current assets (less inventory) to current liabilities; *DYE* is set to one if the firm has a December fiscal year-end, and zero otherwise; *PreAuditFees* is equal to the natural log of audit fees charged by the predecessor auditor; *Resign* is equal to one if an auditor resigns, and zero if an auditor is dismissed; *Big to non-Big* is equal to one if the auditor switch is from a Big N to a non-Big N, and zero otherwise; Regressions use robust standard errors clustered by the company

Table VIII.
Analysis of audit fees charged by the successor auditor

variables are as predicted. We observe that audit fees increase with client size (*SIZE*), segments (*SEG*), financial difficulty (*LOSS*), current assets (*CATA*), accruals (*ACCR*), busy season clients (*DYE*) and auditor size (*BIGN*).

In summary, we find that abrupt terminations are associated with lower abnormal returns and higher initial-year audit fees. These results provide additional support for our hypothesis that termination of the client–auditor relationship is more likely to occur abruptly for riskier firms.

6. Conclusion

Our study incrementally contributes to the auditor switching literature by documenting that the timing of auditor terminations serves as another important risk factor, which has been largely overlooked in prior research. Results of this study suggest a novel way for investors to distinguish higher risk firms from less risky firms. Information about the timing of an auditor termination, which is publicly available, can be especially useful for evaluating firms that do not disclose any negative events in the Form 8-K (about 72 per cent of auditor terminations in our sample). Documented results of adverse consequences following abrupt terminations suggest that abrupt terminations could be costly to shareholders because those firms are likely to have lower quality financial reporting due to internal control weakness and deterioration of future operating performance.

Abrupt auditor terminations are not simply random events but instead appear to be driven by negative circumstances. Unlike abrupt terminations, however, planned auditor terminations are more likely to occur for positive or benign reasons. Therefore, our study joins the type of research that is relevant to regulators and practitioners, particularly those seeking a better understanding of the dynamics of auditor terminations. Our study shows that the timing of auditor terminations can provide new insights into the causes and consequences of auditor terminations. Indeed, we provide some evidence that investors and successor auditors incorporate potential risk implications of abrupt terminations in their economic decisions.

Notes

1. For most firms (about 71 per cent in our sample) the two events occur on the same day. For firms that do not disclose a new auditor on the termination day, there are two event days associated with the auditor switch.
2. If a firm switches its auditor after a shareholder meeting, the ratification of the appointed auditor should be done at the next shareholder meeting.
3. Although Section 301 of SOX requires audit committees to take primary responsibility to hire and fire their auditor, prior studies show that management still plays a powerful role in the auditor switching process (Beck and Mauldin, 2014; Cohen *et al.*, 2010).
4. We use the audit report date instead of the 10-K filing date because auditor terminations occurring after audit report date but before the issuance of the financial statements appear to be a normal process of auditor switch. The most problematic case is auditor terminations due to disagreements that take place during the audit process. Disagreements over accounting issues may cause client firms to fire their auditor unexpectedly even before the audit is complete.
5. We use the fifth month after the fiscal year-end to proxy for the annual shareholders' meeting date for the following reasons. First, because we propose that the timing of an auditor switch can be used by investors (including prospective investors) and other outsiders as a simple heuristic, it would be more consistent to use an approximation instead of the actual dates. Second, the actual dates would have to be hand-collected, which is highly costly given our sample size. We examine

the actual dates for a subset of our sample and confirm that the majority of firms indeed hold their annual shareholders' meeting within five months after the fiscal year-end.

6. PCAOB AU Section 530 (Dating of the Independent Auditor's Report) states that "the auditor should date the audit report no earlier than the date on which the auditor has obtained sufficient appropriate evidence to support the auditor's opinion."

7. Potential costs associated with auditor switches include management's time and effort to look for a new auditor; lower audit quality due to unfamiliarity in initial years of audit; reputation costs if auditor switches are accompanied by a disclosure of disagreements between auditors and clients; a potential risk that a new auditor is relatively more conservative in accounting issues than the old auditor (Francis *et al.*, 2017).

8. See Stefaniak *et al.* (2009) for a review of the literature.

9. Auditor switches may also occur for other reasons that are not related to risk, but may not necessarily be perceived as positive by the market. Some firms may seek a new auditor for fee-related reasons, i.e. to find an auditor that charges less than does the incumbent auditor (Johnson and Lys, 1990; Ettredge *et al.*, 2007). Also, if an auditor ceases auditing public companies, its publicly-traded clients would be forced to find a new auditor as many had to do after the Sarbanes-Oxley Act (SOX) was implemented for public firms (Landsman *et al.*, 2009). Pacheco-Paredes *et al.* (2017) also suggest that changes of audit committee members or management may trigger an auditor switch.

10. Despite disclosure requirements in Form 8-K, there exists lack of transparency surrounding auditor switches (ACAP, 2008)

11. We acknowledge that the terms of an auditor termination are subject to negotiation, which opens up the possibility that a client would attempt to negotiate its timing to avoid signaling risk. For such an incentive to exist, the client must first be aware that the timing matters. In addition, there is little incentive to negotiate the timing if the termination was due to a disagreement over accounting issues because the financial reporting process would be halted until a new auditor is engaged. Nonetheless, the presence of negotiated termination dates would bias against finding an association between our timing measure and risk factors.

12. Auditor switching firms are required to disclose the following information in Form 8-K: the party that initiates the auditor change; auditor–client disagreements; and reportable events about financial reporting quality issues. The reportable events listed in Financial Reporting Release No. 31 include: internal control weaknesses; reliability of management's representations; information requiring an expansion of audit scope; and any other information that materially affects the fairness and reliability of prior or current financial statements.

13. Dismissals with disagreement are, however, considered riskier than resignations with innocuous reasons (e.g. capacity constraints caused by SOX requirements) (Francis *et al.*, 2017).

14. We note that the total number of auditor switches (N = 17,113) is on par with prior research. For example, Francis *et al.* (2017) begin with a sample of 21,538 auditor switches during 2000-2013.

15. *RepEvent* is coded as a value of one if any of these negative events is reported in the Audit Analytics database: management representation not reliable, illegal acts, SEC investigations, scope limitation, lack of independence, disagreement about audit opinion, disagreement about accounting treatment and fee disputes (Mande *et al.*, 2017).

16. Following Blay and Geiger (2013), we measure *GC* based on first-time going concern opinions.

17. We also conduct tests using Kim and Skinner's (2012, p. 302, Model 3) litigation risk score and find similar results. Because using the litigation risk score substantially decreases our sample size due to more restrictive data requirements (e.g. monthly market returns), we present our analysis using the industry-based proxy.

18. We also conduct tests using Kim and Skinner's (2012, p. 302, Model 3) litigation risk score and find similar results. Because using the litigation risk score substantially decreases our sample size due to more restrictive data requirements (e.g. monthly market returns), we present our analysis using the industry-based proxy

19. A way of measuring the predictive ability of logistic models is to use the receiver operating characteristic (ROC curve) (Hosmer and Lemeshow, 2000). The areas under the ROC curves range from 0.71 to 0.86 for all our logistic models, which indicates that the models offer a good fit.

20. The calculation is: exp (0.403) − 1 = 0.496.

21. We note that about half of the internal control material weaknesses (ICMWs) in our sample are recurring. Therefore, in untabulated analyses, we also control for prior year ICMW status ($ICMW_t$). This test allows us to examine whether the timing of an auditor switch provides an incremental signal of risk, given the firm's prior year ICMW status (publicly known). The test results reveal a statistically significant coefficient of *Abrupt* ($z = 1.87$) and of $ICMW_t$ ($z = 21.72$), suggesting that the timing of auditor switches is incrementally informative over prior year ICMW

22. We also find similar results for the subsample of firms whose termination and appointment occur on the same date.

23. Prior studies (Catanach *et al.*, 2011; C assell *et al.*, 2017) have defined late switches as those occurring during or after the fourth quarter but before the 10-K filing date. We also drop switches that meet this definition of "late" and repeat our analyses. Our inferences remain largely unchanged, except that the coefficient of *Abrupt* in the *DELIST* model in Table V is no longer significant.

24. The Form 8-K filing date is typically when investors first come to know information about auditor switches. In August 23, 2004, the 8-K filing deadline was reduced from five to four days after the triggering event.

25. The Form 8-K filing date is typically when investors first come to know information about auditor switches. In August 23, 2004, the 8-K filing deadline was reduced from five to four days after the triggering event.

26. We delete firms with stock prices lower than one dollar as the estimation of abnormal returns for penny stocks is not reliable (Bartov and Konchitchki, 2017).

27. In untabulated tests, we also control for other factors that may influence investor's perception, such as litigation risk (*LitRisk*) and bankruptcy risk (*ZScore*). We find that bankruptcy risk (*ZScore*) is negative and statistically significant ($t = 1.98$) and litigation risk (*LitRisk*) is not significant. The other variables remain unchanged; in particular, the variable of interest (*Abrupt*) continues to be statistically significant ($t = 1.64$).

28. To evaluate when investors begin to price risks, we test CAR for pre-announcement periods (−30, −2), (−20, −2), (−10, −2) and (−5, −2). We do not find that these alternate measures of CAR are significantly different between abrupt and planned. We also test for the possibility of a post-announcement drift. However, we fail to find any further differences in CAR beyond day 1 between two groups. It seems that investors react only in the short period around the date of 8-K filing.

29. We exclude firms in the financial industry (SIC codes 6000-6999) because they face unique audit fee structures (Fields *et al.*, 2004).

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Appendix 1. Examples of abrupt and planned switches

As an example of an abrupt switch, we point to BDO's resignation shortly before Osiris Therapeutics, Inc.'s 2015 fiscal year-end. The Form 8-K reported disagreements about revenue recognition and internal controls (i.e. reportable events). Furthermore, all of Osiris' quarterly reports for 2015 were restated and the 10-K for that year was not filed until 2018 – signs of a risky client. Another abrupt switch example is Suffolk Bancorp's dismissal of Grant Thornton in January 2010, before the audit report was issued. Although the press release cited other reasons for the change, the Form 8-K revealed that there were disagreements about the method of estimating loan loss reserves. To provide an example of a planned switch, we refer to Best Buy Co., Inc.'s dismissal of Ernst and Young LLP (E&Y), which we would classify as a planned termination because it occurred contemporaneously with the conclusion of the audit for its fiscal year ended February 26, 2005. For this auditor switch, no reportable events were disclosed.

Appendix 2

Table AI. Variable definitions (Compustat *mnemonic* in brackets)

Planned	An indicator variable set to one if an auditor change occurs in the period between the audit report date and the fifth month after fiscal year-end, and zero otherwise (Source: Audit Analytics)
Abrupt	An indicator variable set to one if an auditor change occurs in the period between the sixth month after fiscal year-end and the audit report date of the next year, and zero otherwise (Source: Audit Analytics)
BigN	An indicator variable set to one if the successor auditor [AU] is a Big N audit firm, and zero otherwise (Source: Compustat)
Resign	An indicator variable set to one if the auditor resigns, and zero if the auditor is dismissed (Source: Audit Analytics)
GC	An indicator variable set to one if a firm receives a going-concern opinion in the previous year for the first time, and zero otherwise (Source: Audit Analytics)
RepEvent	An indicator variable set to one if any of the eight categories of negative disclosures (shown below) in the Audit Analytics database events are present, and zero otherwise The eight categories are as follows: management representation not reliable assertion, illegal acts, SEC investigation, scope limitation, lack of independence, disagreement about audit opinion, disagreement about accounting treatments and fee dispute (Source: Audit Analytics)
FinCond	An indicator variable set to one if net income [NI($M)] is negative, and zero otherwise (Source: Compustat)
LitRisk	An indicator variable set to one if the client is in a high-litigation industry, and zero otherwise (Source: Compustat)
RecInv	Accounts receivable [RECT($M)] plus inventory [INVT($M)], divided by total assets [AT($M)] (Source: Compustat)
Size	Natural logarithm of sales [SALE($M)] (Source: Compustat)
ICMW	An indicator variable set to one if an internal control weakness is present, and zero otherwise. Internal control weaknesses identified using SOX 404 reporting after 2004 and 8-K reporting before 2004 (Source: Audit Analytics)
LAWSUIT	An indicator variable set to one if a client is involved in a class-action lawsuit for issues related to accounting, financial reporting, tax, and SEC accounting, auditing, or enforcement releases (Audit Analytics category types 1, 2, 41, 43, 48 and 54) (Source: Audit Analytics)
DELIST	An indicator variable set to one if firm is delisted from a stock exchange for reasons other than merger/ acquisition (CRSP delisting codes 170, 400-490, 535-587 and 589-591) (Source: Audit Analytics)
PredBigN	An indicator variable set to one if the predecessor auditor [AU] is a Big N firm, and zero otherwise (Source: Compustat)
ZScore	Altman (1968) measure of bankruptcy risk (Source: Compustat)
PosASP	An indicator variable set to one when a firm's auditor search period (ASP) is positive, and zero otherwise. ASP is the difference between the appointment date of the new auditor and the termination date of the incumbent auditor in calendar days (Source: Audit Analytics)
M&A	An indicator variable set to one when a firm engages in a merger and acquisition [AQP($M)], and zero otherwise (Source: Compustat)
Leverage	Ratio of long-term debt [LT($M)] to total assets [AT($M)] (Source: Compustat)
MB	Market-to-book ratio [PRCC_F ($)*CSHO($M)/CEQ($M)] (Source: Compustat)
Growth	% change in revenues [SALE($M)] between the current and the prior year (Source: Compustat)
ROA	Income before extraordinary items divided by total assets [IB($M)/AT($M)] (Source: Compustat)