Do auditors know more than the market?

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ABSTRACT

This study investigates the association between abnormal audit fees and future stock returns. We find that among small firms, the magnitude of both positive and negative abnormal audit fees are associated with lower future stock returns. There is no such relation, however, in medium and big firms. These results are robust to a number of alternative specifications and sensitivity analyses. In addition, we find that a simple trading strategy based on the top and bottom two audit fee deciles within the small firms produces significant positive returns within both the positive abnormal fee and negative abnormal fee firms. In supplemental tests, we investigate whether the association within small firms is constant across both loss and profit firms. We find that the negative association with future returns holds in both samples, but is stronger among loss firms. Overall our results indicate that audit fees convey auditors' private information about future firm performance for small firms.

Keywords: *audit fees; risk; returns; private information;*

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

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1 Introduction

By nature of their job, auditors have access to firms' accounting details, strategic choices and plans, internal performance and control metrics, and other assessments of firms' internal environments that are not available to the public. A rational auditor will, to the extent possible, incorporate this information into the audit work conducted and the pricing of the audit. Hence, audit fees may contain an element of the auditor's private information about the firm. To the extent that audit fees reflect this private information, the fees will be higher or lower than would be predicted by publicly available information. Thus, the unexpected, or abnormal, fees from an audit fee prediction model may serve as a summary statistic for the auditor's private information and prove value relevant to investors.

This paper examines whether abnormal audit fees contain information that the market does not contemporaneously fully impound by investigating their association with future stock returns. The theoretical association between abnormal fees and the auditor's acquisition of private information suggests an asymmetry between positive and negative abnormal fees. Therefore, we separately examine the relation of future returns with positive and negative abnormal fees. In addition, prior research suggests significant differences in the auditor/client relationship and in the information environment of big and small firms, so we also separately detail the relationships based on the size of the company (big, medium and small firms).[1]

We find that both positive and negative abnormal audit fees are predictive of significantly lower future returns in small firms, but not in medium or big firms. In addition, a hedge

[1] There is inherent confusion in using the term "large" to describe the magnitude of the abnormal fees, and also to describe the size of the company under consideration. Therefore, for consistency and to avoid confusion later in the text, we use the term "large" when referring to the size of abnormal fees, and the term "big" when referring to the size of the firm being audited.

portfolio that takes a long position in small firms within the smallest two positive abnormal audit fee deciles and a short position in small firms within the largest two positive abnormal audit fee deciles yields an average annual return of 23.8%, and produces positive returns in nine of the ten years studied. A similar hedge portfolio based on the top and bottom two negative abnormal audit fee deciles yields an average annual return of 9.6%, and produces positive returns in eight of the ten years studied.

We further investigate the relationship between abnormal audit fees and future returns among small firms by examining whether the association is more pronounced in firms that are performing poorly (i.e. have suffered a loss) as compared to those who are not (i.e. have positive earnings). For both positive and negative abnormal fees, the magnitude of the association is stronger for loss firms, but still significantly negative at the 10% level or better among both groups, with one exception: for negative abnormal fees among the small no-loss firms, the relationship is only marginally significant ($p=0.1338$).

Papers examining abnormal audit fees generally use a monotonic variable which makes no distinction between whether the audit fee model residuals are positive or negative. In the next section we argue that any anticipated relation may not be monotonic between positive and negative abnormal fees, resulting in the masking of potential associations if examined together. Our reported results are consistent with this expectation. To more formally examine the association, we conduct a sensitivity test in which we combine positive and negative abnormal fees into a single continuous variable. As expected, the positive and negative effects net against each other and result in no significant association between future returns and abnormal fees. This suggests that studies involving abnormal fees may benefit from making a positive/negative distinction.

Taken together, our results suggest that abnormal audit fees embed private auditor information that is not fully impounded contemporaneously by the market, but only in small firms. Among medium and big firms, either abnormal audit fees contain no significant information beyond that already available to the market, or else the market correctly contemporaneously impounds the information that is embedded in the abnormal fees.

The remainder of the study is organized as follows. Section 2 provides a discussion of the theory underlying the study and statement of hypotheses. Section 3 discusses our model specifications. Section 4 describes our data sources and our method of estimating fees. Section 5 discusses the results of the tests, and Section 6 concludes the paper.

2 Background and hypothesis development

A long line of prior research demonstrates that auditors incorporate publicly available indicators of risk and audit complexity when pricing audits (see for example, Simunic 1980; Francis 1984; Firth 1985; Simon 1985; Palmrose 1986; Francis and Simon 1987; Simon and Francis 1988; Craswell et al. 1995; Simunic and Stein 1996; Reynolds et al. 2004; Francis et al. 2005; Antle et al. 2006; Stanley 2011). In addition to information available to the public, the auditor also has access to private information about the firm. In particular, the auditor has access to accounting details, strategic choices and plans, internal performance and control metrics, and other internal assessments of the entity's environment and performance that are not available to the public. These factors are all related to the audit risk posed by the client, the engagement risk from the client, or both. Audit risk and engagement risk are related, but not identical. Audit risk is the probability that the auditor issues an unqualified opinion on materially misstated financial statements. Engagement risk is the auditor's exposure to economic loss due to legal or

reputational damages arising from conducting the audit, and therefore encompasses the likelihood of material misstatements in audited financial statements (audit risk), the probability that the misstatement will be revealed after the financial statements are released, and the severity of the loss should the auditor's diligence and efficacy be questioned.

Auditors control audit risk through the nature, timing, and extent of audit tests. The cost of audit tests generally increases with their strength and extent; therefore factors that cause the auditor to expend additional effort to maintain a desired level of audit risk increase the cost of the audit. Issuing an incorrect opinion also subjects the auditor to greater risk of loss, so holding all else constant, an increase (decrease) in audit risk leads to an increase (decrease) in engagement risk. Because engagement risk encompasses much more than just audit risk, however, some factors that increase audit risk (and thus *indirectly* engagement risk) may also have a similar *direct* effect on engagement risk.

As shown by Simunic (1980), a rational auditor should incorporate the elements of both audit risk and engagement risk into the price of the audit. Consequently, audit fee models attempt to control for publicly available measures of these factors. Usual metrics in the fee prediction model include financial performance (the book to market ratio, the quick ratio and/or current ratio, return on investment or on assets), debt or default risk (a loss indicator and/or a firm's financial distress score), audit difficulty or complexity (level of receivables, level of inventory, extent of foreign operations, number of operating segments, delay in audit reporting), and resource-constrained audit work (i.e, "busy season"). Occasionally the fee prediction models include measures of market risk (prior or contemporaneous returns), and more recently, have often been expanded to include measures of internal control weaknesses and SOX reporting, and restatements. They do not, however, control for firm-specific public information, such as news

that a firm has lost a major contract bid, nor can they control for private information known only to the auditor. Since rational auditors are expected to price performance-related private or firm-specific public information, but that information is not included in the audit fee models, the residuals from an audit fee model (detailed in Section 4) should be correlated with firm performance. Indeed, in a recent study, Stanley (2011) has shown an association between abnormal audit fees and accounting-based measures of financial performance. To the extent that such information is not only excluded from the fee prediction model, but also not available to the public or otherwise not contemporaneously used by the public, audit fee residuals may be correlated with *future* stock returns. It is the latter effect that is of interest to us in this study.

Hence, we examine whether there is an association between abnormal audit fees and future abnormal returns. To the extent that audit fees convey information available to the auditor but not otherwise available to the public, they may be value relevant. Under these circumstances, the necessary condition for value relevance is that the information reflects a non-diversifiable element of risk, such as information risk.[2] As we discuss in the following paragraphs, information risk is implicit in the auditor's private information. If, then, abnormal audit fees are value relevant and this fact is recognized by the market, the information may be impounded contemporaneously[3] by the market but still not reflected in future returns.

[2] Asset pricing theory suggests that stock prices will change due to either a revision in expected cash flows (often proxied by earnings) or the expected return (cost of capital). The cost of capital is a function of systemic, or non-diversifiable, risk, since any idiosyncratic volatility is diversifiable in a broad stock portfolio. High idiosyncratic performance volatility, however, may be more likely to trigger financial statement scrutiny, and thus be more likely to result in auditor loss. Audit fees may therefore price the auditor's assessment of idiosyncratic volatility even though the market does not. To the extent that high or low audit fees are a result of auditors' private information about future non-systemic volatility, they should not be predictive of future returns. Our returns tests likely reflect auditor's private information regarding the level of future cash flows, although they could reflect auditor's foreknowledge of a future change in investor's assessment of systemic risk as well. Any relation between abnormal audit fees and future returns, however, indicates that auditors have some non-public information useful in company valuation, be it cash flows or systemic risk.

[3] A large body of prior research has documented various facets of an association between audit fees and contemporaneous returns. See Whisenant et al. (2003), and especially Hay et al. (2006) for discussion.

Prior research, however, also suggests that the market may not be entirely efficient in incorporating all publicly available information into stock prices (e.g., Sloan 1996; Hirshleifer et al. 2004; Hirshleifer and Teoh 2003). If the market does not efficiently impound all information in publicly available financial reports, then it is even less likely that it efficiently impounds private information that might be implicitly conveyed in public disclosures. Audit fees represent one such item of public information that may imbed private information. Our hypotheses thus represent a joint test for the presence of non-public information in audit fees and the extent to which it is not contemporaneously impounded by the market.

Note from the preceding discussion that the audit fee prediction model, at least in theory, *already* reflects the publicly available portions of relevant information. Hence, the abnormal portion of the fee represents either "nonstandard" public information or nonvisible private information. Large *positive abnormal* audit fees may indicate that the auditor had to expend more effort to mitigate various elements of risk than would have been expected based on publicly available information. Examples of such factors that would impact information risk include weak internal controls over financial reporting, the presence of fraud risk, and aggressive or controversial managerial reporting choices that can obfuscate underlying fundamentals (Dechow et al., 1996; Hribar et al. 2013 [4]); limited or ineffective involvement of the Board of Directors (Dechow et al., 1996; Carcello and Neal, 2000; Zhang et al., 2007); and the role of critical third party information intermediaries (Carcello et al. 2002; Yu, 2008). Abnormally large audit fees are also usually interpreted in the audit literature as a potential indicator of impaired auditor independence. If the market does not fully identify the private information implicitly

[4] Hribar et al. (2013) investigate whether abnormal audit fees are an indicator of the quality of financial reports. They find that as a quality surrogate, abnormal audit fees provide incremental information content over other measures of accounting quality. They also find that abnormal audit fees are associated with future incidence of fraud and restatements, as well as with the market's future perception of accounting quality (using forward earnings response coefficients).

conveyed in audit fees, then future returns should be negatively associated with large positive abnormal fees.

Alternatively, large positive abnormal audit fees might simply indicate that the firm growth or audit complexity is not fully reflected in the financial metrics included in the fee prediction model, but that those factors nonetheless increase audit workload and fees (Knechel et al., 2009). These two alternatives lead to opposite predictions for the association between future stock returns and positive abnormal fees.

The theoretical association between *negative abnormal* audit fees and returns is equally ambiguous. Large negative abnormal audit fees can indicate that the client poses lower than normal audit risk or engagement risk. Abnormally low audit or engagement risk could result from the client being particularly strong, but also from the client presenting a less dynamic and complex audit than suggested by the components of the fee model. Hence, a positive association between negative abnormal fees and future returns would be consistent with the market failing to expeditiously identify and impound the positive private information conveyed in fees.

Alternatively, recent research suggests that low audit fees may reflect low demand for auditing, not because the underlying risks are implicitly low, but rather because strong governance is simply less important to the firm (Carcello et al. 2002; Abbott et al. 2003). This research stream suggests that low abnormal audit fees may thus indicate an underutilization of audit services, and a corresponding increase in a firm's information risk. This would imply a negative association between negative abnormal audit fees and future returns. In addition, although it is generally assumed that high audit fees may impair auditor objectivity, a recent line of research suggests that clients with strong bargaining power may be able to impose restrictions on the fees they pay to their auditors (Casterella et al., 2004; Carson and Fargher, 2007). This

yields the somewhat paradoxical prediction of abnormally low fees potentially impairing objectivity, conditional on client size (see discussion that follows the next paragraph). Impaired objectivity may increase information risk, and hence have a negative effect on future returns. Thus, as was the case for positive abnormal audit fees, the potentially competing drivers of negative abnormal audit fees result in no clearly predicted direction of association.

Finally, although the auditor's risk in a particular client may be higher or lower than the norm, we do not expect the auditor's fee response to be symmetrical between abnormally high and abnormally low fees. This is because there is a floor on abnormally low audit risk. Audits are conducted on a sample basis so, even in the best case scenario, audit risk and, correspondingly, minimum audit fees, are bounded on the lower side by sampling risk. Additionally, the potentially large losses associated with audit failure necessitate a rigorous amount of minimum testing. Auditors may therefore have significantly greater latitude to increase fees than to decrease fees in response to specific risk factors. These asymmetries heighten the likelihood that any relation between abnormal audit fees and future abnormal returns may be substantially different between positive and negative abnormal fees. Consistent with the perspective of an asymmetric effect, Choi et al., (2010) find that abnormal accruals are significantly associated with positive abnormal audit fees, but find no effect with negative abnormal audit fees. We therefore express our formal hypotheses separately for positive and negative fees, rather than jointly. We do, however, conduct a sensitivity test later in which we combine positive and negative abnormal fees into a single abnormal fee metric.

In addition to investigating positive and negative abnormal audit fees separately, we also run our analyses separately by firm size group (big, medium and small). We do so in an attempt to control for the fact that different sized firms can have widely different information

environments, fundamental characteristics, and auditor-client relationship characteristics. Regarding market factors and the information environment, prior research has shown that bigger firms tend to have greater analyst following (Bhushan 1989), larger institutional investor oversight (O'Brien and Bhushan 1990), and a wider investor base. Additionally, bigger firms often have greater resources to devote to investor relations. These varying attributes could result in significantly different amounts of private information in firms of different sizes, which could in turn affect the importance and impact of the information conveyed by the audit function.

Besides differences in the information environment, prior research has shown that the auditor-client relationship varies across client size. Among the more important elements of this relationship are the power structure and relationship between bigger firms and their auditors (Casterella et al. 2004; Carson and Fargher, 2007); auditor independence and asymmetric risk response to client size (DeAngelo, 1981; Reynolds and Francis, 2000), internal control quality (Doyle et al., 2007), and audit efficiency (Knechel et al., 2009). One the one hand, bigger clients may have greater say in audit pricing (Casterella et al., 2004), and auditors may be less likely to adjust fees for a given change in client risk and possibly damage a particularly lucrative engagement (DeAngelo, 1981). On the other hand, auditors can be subject to much larger losses in case of litigation or reputation damage associated with a bigger client (Reynolds and Francis, 2000), and therefore be more likely to increase testing to offset a given increase in business risk (Bell et al., 2001). Finally, the impact of technological and sampling effects makes audits of bigger companies, ceteris paribus, more efficient than audits of smaller companies (Knechel et al., 2009), and hence has the potential to alter the elasticity between risk and audit effort conditional on client size. These various factors make it prudent to control for firm size, so we also specify separate hypotheses for big, medium and small firms. We formally express the

hypotheses as follows:

H1(b,m,s): Positive abnormal audit fees are associated with future abnormal returns for (big, medium, small) firms.

H2(b,m,s): Negative abnormal audit fees are associated with future abnormal returns for (big, medium, small) firms.

3 Model specification

To test our hypotheses, we model the association between abnormal audit fees and year-ahead size adjusted buy-and-hold abnormal returns (RET), calculated beginning the month following the month in which the audit fees are released:

$$\begin{aligned} RET_{i,t+1} = {} & \alpha + \beta_1 POSAFEECL_{i,t} + \beta_2 NEGAFEECL_{i,t} + \beta_3 POSNFEECL_{i,t} + \\ & \beta_4 NEGNFEECL_{i,t} + \beta_5 AUDSIZE_{i,t} + \beta_6 IC\_OPIN_{i,t} + \beta_7 OPINLAGCL_{i,t} + \\ & \beta_8 RESTATE_{i,t} + \beta_9 ZCL_{i,t} + \beta_{10} B/MCL_{i,t} + \beta_{11} \text{E/PCL}_{i,t} + \beta_{12} BETACL_{i,t} + \\ & \beta_{13} MOMCL_{i,t} + \beta_{14} NOACL_{i,t} + \beta_{15} TACCCL_{i,t} + \beta_{16} AQ_{i,t} + \beta_{17} AGE_{i,t} + \\ & Industry\ \&\ Year\ Dummies + \varepsilon_{i,t} \end{aligned} \quad (1)$$

We calculate size adjusted returns by subtracting the corresponding CRSP size decile buy-and-hold return from a firm's return over the same period. Firm's that delist are assigned the CRSP delisting return at the date of delisting and assumed to have a zero size-adjusted return for the remainder of the return period.

Our primary variables of interest are the positive abnormal audit fees (POSAFEECL) and negative abnormal audit fees (NEGAFEECL). These are defined as the decile rank of the positive (POSAFEECL) or negative (NEGAFEECL) residuals from the audit fee model detailed

in Section 4, scaled to range from zero to one. We conduct our main tests on each size group separately (big, medium, small) to avoid forcing all control variables to have a constant coefficient across size groups. In sensitivity tests later, we consider a single combined model where we interact the positive and negative abnormal audit fees with dummy variables for company size. We define small companies as firms in the first three CSRP market value deciles, medium companies as firms in the next four deciles, and big companies as firms in the top three deciles. Although not our primary emphasis in the study, we also add variables to investigate the association between future performance and abnormal positive and negative nonaudit fees (POSNFEECL and NEGNFEECL, respectively), SOX section 404 internal control deficiencies (IC_OPIN), financial statement opinion lag (OPINLAGCL), and restatements (RESTATE). Because prior research has shown the determinants of both expected audit and nonaudit fees to be similar (Whisnant et al. 2003, Antle et al. 2006) we estimate non-audit fees using a fee model similar to that described in Section 4 for audit fees. Hribar et al. (2013) show that abnormal audit fees are related to accrual quality. We therefore control for accrual quality (AQ) as defined by Dechow and Dichev (2002) and modified by McNichols (2002), to ensure any results are not driven by accrual quality's previously documented association with future returns. All variables are defined in the Appendix.

We control for book-to-market (e.g., Fama and French 1993), net operating assets (e.g., Hirshleifer et al. 2004), total accruals (e.g., Sloan 1996), and Zmijewski's (1984) financial condition score (ZCL) because research has shown these measures to be related to future operating performance and returns. We control for auditor size (AUDSIZE) because prior research has shown that Big-4 auditors are associated with generally higher quality audits (e.g., DeAngelo 1981; Palmrose 1988; Davidson and Neu 1993), and that the market views financial

statements associated with Big-4 auditors more favorably than those of other auditors (e.g., Datar et al. 1991; Teoh and Wong 1993). We include earnings-to-price (e.g., Fama and French 1992), Beta (e.g., Fama and French 1993), and momentum (e.g., Jegadeesh and Titman 1993), since prior research has demonstrated that these variables are associated with future stock returns. Additionally we include fixed effects for industry, defined per Barth et al., (1999), and include a control for firm age.

As we do for abnormal fees, we decile rank all non-indicator control variables to reduce the impact of extreme values and nonlinear associations, and we scale the ranks from zero to one. This allows us to interpret all coefficients as the return or performance difference associated with moving between the lowest and highest deciles of the particular variable. These variables include opinion lag (OPINLAGCL), Zmijewski's financial condition score (ZCL), book-to-market (B/MCL), net operating assets (NOACL), and total accruals (TACCCL).[5]

4 Data sources and measurement of expected fees

4.1 Data sources

We collect financial statement data from Compustat, return data from CRSP, and auditor, audit fee, restatement, and internal control data from Audit Analytics. Fee data are available from 2000 through the present. We estimate fees on a rolling 12-month basis (as described later), and have insufficient data for a reliable estimate before December 2000. Although financial and fee data are available through 2011, we require the future period return, so our analysis stops with fiscal years ending December 2010. We eliminate utilities (SIC code 4900 through 4999), financial institutions (SIC codes 6000 through 6999) and firms not listed on a

[5] As a robustness check we rerun all analyses with continuous, unranked control variables winsorized at the top and bottom 1% level. Our inferences remain unchanged.

major exchange. We also eliminate firms with either market value or total assets less than one million dollars to avoid any inferences being driven by extremely small firms. After eliminations, our final sample has a maximum of 25,389 observations with sufficient data for the return tests.

4.2 Measurement of expected and abnormal fees

We measure abnormal audit fees as the residuals of the following log linear regression model drawn from variables in recent literature (e.g., Simon and Francis 1988; Craswell et al. 1995; Francis et al. 2005) and supplemented by other variables drawn from theory:

$$\begin{aligned} LN(AUDFEES)_{i,t} = {} & \alpha + \beta_1 LN(TotalAssets)_{i,t} + \beta_2 AUDSIZE_{i,t} + \beta_3 SPECAUD_{i,t} + \\ & \beta_4 AUDCHG_{i,t} + \beta_5 NONDECYR_{i,t} + \beta_6 OPINLAGCL_{i,t} + \beta_7 GC\_OPIN_{i,t} + \\ & \beta_8 B/MCL_{i,t} + \beta_9 SOX_{i,t} + \beta_{10} IC\_OPIN_{i,t} + \beta_{11} QUICK_{i,t} + \beta_{12} STOCKFIN_{i,t} + \\ & \beta_{13} DEBTFIN_{i,t} + \beta_{14} INVARECA_{i,t} + \beta_{15} \text{EX\_DISC}_{i,t} + \beta_{16} DEBTA_{i,t} + \beta_{17} ROI_{i,t} + \\ & \beta_{18} LOSS_{i,t} + \beta_{19} NUMSEGS_{i,t} + \beta_{20} FOR\_PCT_{i,t} + \beta_{21} ACQ_{i,t} + \beta_{22} RESTR_{i,t} + \\ & \beta_{23} RESTATE_{i,t} + \beta_{24} ZCL_{i,t} + \beta_{25} AGE_{i,t} + \beta_{26} LITRISK_{i,t} + \beta_{27} LN(BTDIFF)_{i,t} + \\ & Industry\ Dummies + \varepsilon_{i,t} \end{aligned} \tag{2}$$

The natural log of total assets (a proxy for company size), audit firm size (AUDSIZE), and audit firm industry specialization (SPECAUD) have been associated with audit pricing. In addition, auditor changes (AUDCHG) are frequently associated with lower fees in the year following the change, and companies with non-busy season year ends (NONDECYR) also normally receive a discount. We include a number of controls for high inherent audit risk: the level of inventory and receivables scaled by assets (INVARECA), a dummy variable indicating whether the firm

had extraordinary items or discontinued operations (EX_DISC), the square root of the number of operating segments (NUMSEGS), the percentage of sales from foreign operations (FOR_PCT), dummy variables indicating whether the company was engaged in new stock financing (STOCKFIN) or debt financing (DEBTFIN), and dummy variables indicating whether the company was engaged in acquisition activities (ACQ) or restructuring activities (RESTR). Book to Market value of equity (B/MCL) controls for growth, and along with AGE, serves as a common proxy for the company's current position within its life cycle. Finally, Sarbanes Oxley reporting requirements significantly increased fees, particularly in the early years of compliance activities, so we include a dummy variable to indicate whether a firm filed a section 404 report during the year (SOX).

The model also includes a number of variables that may indicate potential issues with either the financial statements or the conduct of the audit. The length of time between the fiscal year end and the date on which the audit report is issued (OPINLAGCL) is often an indicator that difficulties were encountered on the audit. Restating prior years' financial statements (RESTATE) generally requires significant audit effort in the year the restatement is issued. Firms receiving going concern opinion modifications (*GC_OPIN)* are generally regarded as high risk engagements, and subjected to increased audit scrutiny. The existence of a material internal control weakness (IC_OPIN) requires that the auditor devote additional effort to substantive testing. Finally, a loss during the year (LOSS), Zmijewski's (1984) financial condition score (ZCL), the quick ratio (QUICK), leverage, measured as the ratio of debt to total assets (DEBTA), and ROI are general indicators of a firm's financial health. Litigation Risk (LITRISK) is a dummy variable taking on a value of one if a firm’s four-digit SIC code is in a historically high litigation industry as defined in Francis et al. (1994). Book-tax difference (BTDIFF) is the

natural log of the absolute value of a firm's deferred tax expense, the temporary book-tax difference as defined in Hanlon et al. (2012).

We estimate audit fees for each firm year using rolling 12 month windows, beginning 11 months prior to the firm's year end, and ending at the firm's year end. We use rolling 12 month windows rather than an annual December computation to avoid estimating expected fees based on information that would not have been available to the market. Based on recent work by Picconi and Reynolds (2013), we estimate the fees by company size decile. The signs on the regression coefficients are consistent with prior research and theory. The model R^2 for the rolling windows range from a low of 67.8% to a high of 89.1%, with mean and median of 80.4% and 80.9% respectively. The explanatory power of the models increases nearly monotonically over time, except for the period from December 2002 through November 2003, which is the only period in which the R^2 falls below 70%.[6]

5 Results

5.1 Summary statistics and correlations

[Insert Table 1 and Table 2 about here]

Table 1 reports summary statistics by abnormal fee decile, partitioned by abnormal fee direction (positive or negative) and company size (small, medium, or big). The means of market value and book to market are relatively uniform across the deciles, with the exception of the market value of middle deciles of big firms with positive abnormal fees, which appears to be somewhat larger than the other deciles. While there appears to be no relationship between year ahead size adjusted returns and abnormal fees in the medium and big firms, a nearly monotonic

[6] For our fee models, we rank all non-indicator variables and then scale them between zero and one to facilitate ease of interpretation and to control for extreme observations. In sensitivity tests we also estimate fees using continuous variables, both raw and winsorized at 1% and 99%. Results are consistent with those reported in the paper.

relationship between both positive and negative abnormal fees appears to exist in the small firms.

Table 2 reports univariate correlations. Since we conduct our tests on decile classes, the Spearman correlations are the more relevant for our study. Table 2 shows that in the Spearman correlations both positive and negative fees are significantly negatively correlated with future returns, and that positive abnormal fees are correlated with poorer accruals quality, consistent with Hribar et al. (2013).

5.2 Future returns tests

[Insert Table 3 about here]

We investigate H1 and H2 using the future returns tests detailed in Equation 1 and report the results in Table 3. All statistics are adjusted for heteroskedasticity (White, 1980) and clustered by firm to control for serial correlation. We test H1 by evaluating whether we can reject the null that β_1=0, and test H2 by evaluating whether we can reject the null that β_2=0. Table 3 shows that the coefficient on positive abnormal audit fees for small companies (POSAFEECL) is significantly negative (-0.223, $p < 0.0001$), so we reject the null hypothesis for H1s. We note that because the abnormal fees are deciles are scaled between zero and one, this coefficients can be interpreted as a -22.3% year ahead size adjusted return difference moving from the bottom to top abnormal fee deciles. The coefficients on medium (0.025, p=0.3541) and big companies (0.013, p=0.3739) are insignificant, so we fail to reject the nulls for H1m and H1b that the coefficient on positive abnormal fees is zero. Positive abnormal audit fees are therefore predictive of significant negative future abnormal returns, but only in small firms.

Table 3 shows that the coefficient on negative abnormal audit fees for small companies (NEGAFEECL) is also significantly negative (-0.214, $p < 0.0001$), so we reject the null

hypothesis for H2s. The coefficients for medium (0.025, p=0.4494) and big companies (-0.006, p=0.7070) are insignificant, so we fail to reject the nulls for H2m and H2b that the coefficient on negative abnormal fees is zero. Hence, both positive and negative abnormal audit fees are predictive of significant negative future abnormal returns in small firms, but have no statistically significant association in medium and big firms.

The results for positive abnormal fees suggest that when auditors have negative private information relevant to future stock performance for small companies, they price that information into the audit fees. There is no indication of such an association for medium or big firms. Since our models are joint tests for the existence and pricing of information in fees, we cannot formally determine whether such information is not present in the fees of medium and big companies, or whether it is simply contemporaneously impounded. It is a reasonable assumption, however, that the information present for small companies is also present for bigger companies, but has no significant incremental explanatory power beyond those factors already incorporated into the richer information environment of bigger firms. Hence, we conclude that abnormal audit fees contain private information that could be useful to the market in contemporaneously valuing small firms, but the market fails to expeditiously incorporate this information into prices. Fees are therefore predictive of future price movement in small firms, where information asymmetry is generally larger. In untabulated tests we examine returns in the second year after the fiscal year end, but find no additional abnormal returns (all p-values are greater than 10%). Thus, the information in positive abnormal fees appears to be fully incorporated within the following year.

The results for negative abnormal fees indicate that negative abnormal fees do not generally represent discounts for strong firm fundamentals, but instead indicate increased

information risk associated with an underutilization of audit services. As with positive abnormal fees, significant results are found only in small firms where information asymmetry, and correspondingly information risk, tends to be highest. In robustness tests discussed later we show that this result is stronger among loss firms, indicating that the information risk associated with the underutilization of audit services is most acute when firms are not performing well.

In addition to our formal tests, we note two other interesting results in Table 3. First, both large negative abnormal nonaudit fees and large positive abnormal nonaudit fees in small companies (NEGNFEECL and POSNFEECL respectively) are associated with higher future returns. The coefficient on NEGNFEECL, β_4, is positive and significant (0.103, p=0.0543) and the coefficient on POSNFEECL, β_3, is likewise positive and significant (0.086, p=0.0850). There are no significant associations between abnormal nonaudit fees and future returns among medium and big firms. Results from prior research on the association between nonaudit fees and reporting quality, and the market's assessment of quality, are mixed (e.g., Frankel et al. 2002; Ashbaugh et al. 2003; Reynolds et al. 2004; Krishnan et al. 2005; Khurana and Raman 2006; Higgs and Skants 2006; Dhaliwal et al. 2008). This result may provide evidence that a low level of nonaudit services within small companies, after controlling for known fee determinants, is suggestive of strong internal competence. Similarly, it may indicate that small firms that determine they have a need for significant nonaudit services tend to derive a tangible benefit from them.

Second, the coefficient on AUDSIZE is significantly positive among both small and medium companies, but not within big companies. The insignificance among big clients is not entirely surprising, since hiring a non-Big 4 audit firm is not an option for many of them, due to resource constraints. As noted above in Section 3, previous research finds that Big-4 auditors are

associated with higher quality financial reports, and are generally viewed more favorably by the market than smaller auditors. Table 3 suggests that clients of Big-4 auditors also have stronger future stock returns than clients of other auditors.

5.3 Robustness tests

We conduct a number of robustness tests to evaluate the sensitivity of the results reported above to alternative specifications. First, we replace the year-ahead buy and hold abnormal returns with year-ahead size adjusted cumulative abnormal returns (CARs). The results are qualitatively similar to those reported in the tables – still highly statistically significant, but with a coefficient magnitude of around 14%. Second, we exclude any observations which involve a change in auditors, or observations where the auditor issued a going concern modification. The inferences likewise are unchanged from those reported in the tables.

Next, we investigate whether the significant association in the small company tests holds broadly, or just within loss or profit firms. We construct this test by repeating the analysis separately for loss and profit firms. Among the firms with positive abnormal fees, the association between abnormal fees and future returns remains identical to those reported in the tables for both loss (-0.287, $p < 0.0001$) and profit firms (-0.117, $p = .0247$). Among the firms with negative abnormal fees, the trend is similar for both loss and profit firms. For loss firms, the association is significant at better than 10% (-0.280, $p < 0.0001$), whereas for profit firms the association is only marginally significant (-0.086, $p = 0.1338$).

Although there is no general result for medium and big firms, we replicate the loss / profit analysis for them as well. Among medium firms, the association with positive abnormal fees in profit firms remains insignificant, although in loss firms the association is positive (0.099,

p=0.0546). This could be an indication that loss firms were excessively penalized within the context of the auditor having done additional work (i.e., higher than expected fees) to ensure that information risk is mitigated. We are hesitant to draw any such conclusion however, because there is no general result, and because the positive fee result is not present among big firms. Hence, it could simply be spurious. The association with negative abnormal fees remains insignificant, consistent with the tables. Finally, among big firms the association between abnormal fees and future returns remains insignificant for both loss and profit firms. These results then are largely consistent with those reported in the tables, suggesting that the small firm association exists within both loss and profit firms, and that there is generally no association in bigger firms.

Fourth, we repeat the tests from Model 1 as a single large sample, rather than separated by company size. To construct this test, we interact the positive and negative abnormal audit fees with dummy variables indicating whether the company is big or medium, leaving the non-interacted coefficient as the effect on small firms. The results are consistent with those reported in the tables, with the exception of negative fees among big companies taking a negative coefficient. Since that result is inconsistent with the group regressions and with other results in the single equation test, and since the single equation is an inferior specification that does not allow the control variables to vary across size groups without extensive and difficult to interpret interactions on every variable in the model, we are inclined to discount it. Hence, we view the single equation test as providing qualitatively similar results to the tests conducted by size group. We also repeat the test for Model 1 on a single large sample with no size distinction. In this case the non-results of the medium and big firms mask the significant association between abnormal audit fees and future returns in small firms. This argues for the necessity of studying abnormal

fees in the context of firm size groups.

We argued in Section 2 that considering abnormal audit fees as a continuous variable from negative to positive is problematic since theory suggests a potential asymmetry in the response and interpretation of positive and negative fees, leading to an improper conclusion of no effect when in fact there is one. For our final robustness test, we formally examine this by grouping together positive and negative abnormal fees into a single abnormal audit fee metric. Table 4 reports the results of this test. As expected, among medium and big firms the results remain insignificant, the positive and negative fee effects reported in the tables among small firms net to produce no significant association when the abnormal fees are combined (-.029, p=0.4963).

[Insert Table 4 about here]

5.4 Constructing a trading strategy

[Insert Table 5 about here]

The above multivariate tests suggest that future abnormal returns are associated with abnormal fees for small clients. Our final set of analyses relate to whether investors could generate significant returns by incorporating the information in abnormal audit fees into a simple trading strategy. Again we separate our tests by positive and negative abnormal audit fees. Although results suggest that a trading strategy would only be successful among small companies, we also construct the strategy for medium and big companies for comparison purposes. Our strategy consists of taking a long position in the two least extreme abnormal audit fee deciles and a short position in the two most extreme abnormal audit fee deciles. We report results using raw returns since those reflect actual market performance, although using size-

adjusted returns produces nearly identical results (within 1%) to the raw returns. To ensure an easily implementable strategy, we choose only firms with December year end dates and form our portfolios beginning in May[7] of the following year. Panels A through F of Table 5 show the yearly results of implementing this strategy among small, medium and big firms with positive and negative abnormal fees, respectively. Panel A shows that a hedge strategy consisting of shorting small companies with the largest positive abnormal audit fees earns an average annual return of 23.8% over the ten year period from 2000 through 2009, with all years earning strong positive returns except for 2007. In the medium and big firm segments, the returns are small and are very inconsistent from year to year. Panel B shows the strategy for small firms with negative abnormal audit fees, where the strategy is weaker but still earns positive returns in eight of the ten years for an average annual return of 9.6%. For the medium and big firms (Panels C through F), the trading strategies produce extremely small, inconsistent results. These trading strategy results provide inferences similar to the multivariate returns tests. We conclude from these results that investors can earn meaningful, predictable returns by conducting a simple trading strategy on small companies, but not on medium or big companies.[8]

In untabulated tests, we also examine returns on the most extreme high and low deciles. The results are slightly weaker, and show greater variability, but are still consistent with those reported in Table 5. We earn positive returns with small firms in both the positive and negative abnormal fee groups, and inconsistent, very small returns with medium and big firms. In summary, the trading strategy suggests that abnormal audit fees contain information relevant to

[7] We chose May 1 as the beginning of the implementation date because research suggests that most audit fees are released close to the 120 day filing deadline (Diaz et al., 2013). Additionally, we exclude any firms who have not reported their audit fees by the portfolio formation date.

[8] This result is not sensitive to the inclusion of trading costs. In untabulated tests we impose trading cost controls (e.g., Kausar et al. 2009) and find that abnormal returns can still be earned among small companies both with positive and negative abnormal fees.

assessing future performance, and that the effect is most pronounced among small clients. It also demonstrates that the information is of sufficient magnitude and consistency to be worth investor attention.

6 Conclusion

This study investigates the association between abnormal audit fees and future stock returns. We find that among small firms, the magnitude of both positive and negative abnormal audit fees are associated with lower future stock returns. There is no such relation, however, in medium and big firms. Our results indicate that positive abnormal audit fees convey auditors' private information about future firm performance for small firms. Negative abnormal fees appear to indicate an underutilization of audit services and a corresponding increase in information risk, which likewise has negative implications for future returns. That these results are only found in small firms is likely a result of their less-rich information environment, a conclusion that is supported by the finding that our results are stronger in loss firms where informational concerns are likely most acute. Simple trading strategies based on positive and negative abnormal audit fee hedge portfolios yield average returns of 23.8% and 9.6% respectively and provide fairly consistent positive returns over time. This, combined with our multivariate results, implies that investors could benefit from incorporating the information contained in audit fee releases. Additionally, our results and sensitivity tests demonstrate the importance of considering positive and negative abnormal audit fees separately, as well as accounting for firm size when conducting abnormal fee studies.

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APPENDIX

Variable Definitions

Variable Name	Definition
Primary test variables	
POSAFEECL	Decile rank of positive abnormal audit fees, where abnormal audit fees are computed as the residual of the fee regression specified in Equation 3
NEGAFEECL	Decile rank of negative abnormal audit fees, where abnormal audit fees are computed as the residual of the fee regression specified in Equation 3
RET	Year-ahead size adjusted buy-and-hold abnormal returns, beginning the month following the month in which the firm discloses audit fees. We calculate size adjusted returns by subtracting the corresponding CRSP size decile buy-and-hold return from a firm's return over the same period. Firm's that delist are assigned the CRSP delisting return at the date of delisting and assumed to have a zero size-adjusted return for the remainder of the return period.
Control variables	
ACQ	Indicator variable defined as 1 if the company engaged in acquisition activities during the year, and 0 otherwise
AGE	The company's age, defined as the number of active years in the Compustat database
AQ	Accrual quality as defined by Dechow and Dichev (2002) and modified by McNichols (2002). This metric approximates how well working capital accruals map into cash flow realizations. Higher AQ indicates lower accrual quality. A good summary of the modified metric is found in Francis et al. (2005)
AUDCHG	Indicator variable defined as 1 if the company changed auditors during the year, and 0 otherwise
AUDFEES	Audit fees for the fiscal year, from Audit Analytics
AUDSIZE	Indicator variable defined as 1 if the auditor is a Big-4 firm, 0 otherwise
B/MCL	Decile rank of the company's book to market ratio at the beginning of the fiscal year, scaled from 0 to 1
BETACL	Decile rank of the company's market Beta, obtained from CRSP
BTDIFF	The absolute value of a firm's deferred tax expense, the temporary book-tax difference as defined in Hanlon et al. (2012). The natural log of BTDIFF is used in the audit fee estimation model.
CAPCL	CRSP decile rank of the company's market value of equity at the beginning of the calendar year, scaled from 0 to 1
DEBTA	Ratio of debt to total assets
DEBTFIN	Indicator variable defined as 1 if the company engaged in debt financing during the year, and 0 otherwise
E/PCL	Decile rank of the company's earnings to price ratio, scaled from 0 to 1
EX_DISC	Indicator variable defined as 1 if the company reported extraordinary or discontinued items for the year, and 0 otherwise.
FOR_PCT	Percentage of sales from foreign operations during the year
GC_OPIN	Indicator variable defined as 1 if the company received a going concern modification to its audit opinion, and 0 otherwise

Variable Name	Definition
IC_OPIN	Indicator variable defined as 1 if the company received a qualified opinion on its internal controls during the year, and 0 otherwise
INVARECA	Ratio of inventory plus receivables to total assets
LITRISK	Indicator variable defined as 1 if a firm's four-digit SIC code is in a historically high litigation industry as defined in Francis et al. (1994), and 0 otherwise
LOSS	Indicator variable defined as 1 if the company reported a net loss during the year, and 0 otherwise
MOMCL	Decile rank of the company's Momentum, computed as returns for the six month period preceding the return period in Equation 1, scaled from 0 to 1
NEGNFEECL	Decile rank of negative abnormal nonaudit fees, where abnormal nonaudit fees are computed as the residual of the fee regression specified in Equation 1, scaled from 0 to 1
NOACL	Decile rank of the company's net operating assets at the beginning of the fiscal year, scaled from 0 to 1
NONDECYR	Indicator variable defined as 1 if the company has a non-December fiscal year end, and 0 otherwise
NUMSEGS	Number of operating segments reported by the company for the year
OPINLAGCL	Decile rank of the number of days between the end of the company's fiscal year and the date on which the audit report is issued, scaled from 0 to 1
POSNFEECL	Decile rank of positive abnormal nonaudit fees, where abnormal nonaudit fees are calculated as the residual of the fee regression specified in Equation 1, scaled from 0 to 1
QUICK	Quick ratio
RESTATE	Indicator variable defined as 1 if the company was engaged in restatement activities during the year, 0 otherwise
RESTR	Indicator variable defined as 1 if the company engaged in restructuring activities during the year, and 0 otherwise
ROI	Return on investment
SOX	Indicator variable defined as 1 if the company's controls were audited pursuant to SOX section 404, and 0 otherwise
SPECAUD	Indicator variable defined as 1 if the company's auditor served 20% or more of the market share of the industry in which the company operates, and 0 otherwise
STOCKFIN	Indicator variable defined as 1 if the company engaged in stock financing during the year, and 0 otherwise
TACCCL	Decile rank of the company's total current accruals at the end of the fiscal year, scaled from 0 to 1
ZCL	Decile rank of the score from Zmijewski (1984), computed as:-4.336 -4.513*ROA +5.679*Leverage +0.004*Current Ratio. Note that a higher score indicates greater financial distress. This variable is scaled from 0 to 1

Table 1 Summary statistics

Panel A: Small firms by abnormal audit fee decile

Abnormal Fee Decile	Positive Abnormal Fees					Negative Abnormal Fees				
	Number of Obs.	Audit Fee Studentized Standard Error	Market Value	Book to Market	Year Ahead Size Adjusted Return	Number of Obs.	Audit Fee Studentized Standard Error	Market Value	Book to Market	Year Ahead Size Adjusted Return
1	402	0.055	43.2	0.92	0.077	399	-0.056	37.5	1.01	0.165
2-3	778	0.232	43.4	0.92	0.083	717	-0.231	41.2	0.93	0.086
4-7	1,681	0.645	39.2	0.95	0.034	1,418	-0.635	43.9	0.97	0.091
8-9	878	1.232	41.2	0.87	-0.042	651	-1.238	40.8	1.06	-0.016
10	366	2.038	37.2	0.93	-0.006	291	-2.092	40.7	1.04	-0.035

Panel B: Medium firms by abnormal audit fee decile

Abnormal Fee Decile	Positive Abnormal Fees					Negative Abnormal Fees				
	Number of Obs.	Audit Fee Studentized Standard Error	Market Value	Book to Market	Year Ahead Size Adjusted Return	Number of Obs.	Audit Fee Studentized Standard Error	Market Value	Book to Market	Year Ahead Size Adjusted Return
1	612	0.056	321.5	0.56	0.035	586	-0.056	319.5	0.57	0.024
2-3	1,192	0.230	312.2	0.60	0.020	1,108	-0.234	311.3	0.62	0.012
4-7	2,355	0.636	318.3	0.58	0.034	2,180	-0.646	300.1	0.61	0.010
8-9	1,243	1.244	307.3	0.55	0.028	1,062	-1.258	311.6	0.57	0.055
10	636	2.087	303.9	0.52	0.004	498	-2.129	340.7	0.54	-0.009

Panel C: Big firms by abnormal audit fee decile

Abnormal Fee Decile	Positive Abnormal Fees					Negative Abnormal Fees				
	Number of Obs.	Audit Fee Studentized Standard Error	Market Value	Book to Market	Year Ahead Size Adjusted Return	Number of Obs.	Audit Fee Studentized Standard Error	Market Value	Book to Market	Year Ahead Size Adjusted Return
1	521	0.055	7835.1	0.41	0.014	525	-0.055	7903.6	0.42	0.016
2-3	1,036	0.234	6690.2	0.43	0.030	973	-0.228	8010.9	0.40	0.007
4-7	2,179	0.642	9825.1	0.42	0.031	1,928	-0.638	7945.3	0.41	0.016
8-9	1,066	1.234	7801.7	0.40	0.024	1,008	-1.257	8161.6	0.41	0.024
10	517	2.020	7353.9	0.41	0.031	428	-2.195	6858.0	0.41	-0.013

We define a company as *small* if it is in one of the first three CSRP market value deciles, *medium* if it is one of the next four deciles, and *big* if it is in one of the three largest deciles. See the Appendix for definition of other variables. There is slight variation in the number of observations per decile because we first ranked all observations, and then performed data cuts. We prefer this approach because it places observations within the context of their more comprehensive abnormal audit fee groups, rather than classifying them within the size groups represented by final sample of data.

Table 2 Correlations - Spearman below the diagonal / Pearson above the diagonal

	Positive Abnormal Fee	Negative Abnormal Fee	Market Value	Total Assets	Book to Market	One-Year Ahead Returns	Accrual Quality	Total Accruals
Positive Abnormal Fee	1	. .	-0.00685 0.3941	-0.00358 0.6565	-0.01777 0.0272	-0.01021 0.2042	0.04239 <.0001	-0.0263 0.0011
Negative Abnormal Fee	. .	1	-0.00903 0.2895	0.00135 0.8742	-0.00612 0.4726	-0.01471 0.0843	0.00384 0.6597	0.00585 0.4927
Market Value	-0.01439 0.0736	0.01959 0.0215	1	0.80531 <.0001	-0.06712 <.0001	-0.00388 0.5065	-0.0709 <.0001	0.00222 0.7042
Total Assets	-0.02029 0.0116	0.0108 0.2051	0.87366 <.0001	1	-0.0343 <.0001	0.00357 0.5413	-0.08993 <.0001	0.00254 0.6641
Book to Market	-0.02167 0.0071	-0.02109 0.0133	-0.35173 <.0001	-0.02102 0.0003	1	0.07546 <.0001	-0.03017 <.0001	0.00521 0.373
One-Year Ahead Returns	-0.02009 0.0125	-0.01755 0.0394	0.12278 <.0001	0.15981 <.0001	0.04511 <.0001	1	-0.03346 <.0001	0.00599 0.3057
Accrual Quality	0.04192 <.0001	0.00191 0.8267	-0.30567 <.0001	-0.40957 <.0001	-0.10156 <.0001	-0.11948 <.0001	1	-0.07874 <.0001
Total Accruals	-0.01981 0.0138	0.00332 0.6969	0.07197 <.0001	0.06103 <.0001	0.03955 <.0001	0.02366 <.0001	-0.06211 <.0001	1

See the Appendix for definition of variables.

Table 3 Regression of one year ahead size adjusted returns on abnormal fees

$$RET_{i,t+1} = \alpha + \beta_1 POSAFEECL_{i,t} + \beta_2 NEGAFEECL_{i,t} + \beta_3 POSNFEECL_{i,t} + \beta_4 NEGNFEECL_{i,t} + \beta_5 AUDSIZE_{i,t} + \beta_6 IC\_OPIN_{i,t} + \beta_7 OPINLAGCL_{i,t} + \beta_8 RESTATE_{i,t} + \beta_9 ZCL_{i,t} + \beta_{10} B/MCL_{i,t} + \beta_{11} \text{E/PCL}_{i,t} + \beta_{12} BETACL_{i,t} + \beta_{13} MOMCL_{i,t} + \beta_{14} NOACL_{i,t} + \beta_{15} TACCCL_{i,t} + \beta_{16} AQ_{i,t} + \beta_{17} AGE_{i,t} + Industry \& Year\ Dummies + \varepsilon_{i,t} \quad (1)$$

	Small Firms		Medium Firms		Big Firms	
Variable	Estimate	Pr > |t|	Estimate	Pr > |t|	Estimate	Pr > |t|
Intercept	-0.242	0.2252	-0.482	<.0001	-0.156	0.0265
Positive Abnormal Audit Fee Decile	**-0.223**	**<.0001**	0.025	0.3541	0.013	0.3739
Negative Abnormal Audit Fee Decile	**-0.214**	**<.0001**	0.025	0.4494	-0.006	0.7070
Positive Abnormal Non-Audit Fee Decile	0.086	0.0850	-0.031	0.2441	0.003	0.8423
Negative Abnormal Non-Audit Fee Decile	0.103	0.0543	-0.044	0.1285	0.008	0.5954
Auditor Size	0.186	<.0001	0.086	<.0001	0.031	0.2358
Internal Control Deficiencies	-0.016	0.8506	-0.025	0.4117	-0.004	0.8933
Filing Lag	-0.208	0.0032	-0.029	0.4131	-0.003	0.8989
Restatement	-0.103	0.5789	0.174	0.2622	-0.093	0.4619
Z-Score	0.005	0.9474	0.189	<.0001	0.135	<.0001
Book-to-Market	0.233	<.0001	0.179	<.0001	0.117	<.0001
Earnings-to-Price	0.019	0.7172	-0.009	0.8336	0.065	0.0430
Beta	-0.024	0.7577	0.133	0.0209	0.032	0.1269
Momentum	-0.050	0.2421	-0.040	0.1327	-0.036	0.0300
Net Operating Assets	-0.074	0.1435	-0.039	0.2206	-0.0678	<.0001
Total Accruals	0.017	0.7451	0.009	0.8054	-0.021	0.2085
Accrual Quality	0.082	0.6186	-0.266	0.0049	-0.423	<.0001
Age	-0.004	0.0212	0.001	0.3760	0.000	0.7527
Observations	6,195		9,874		9,320	
R-square	0.029		0.031		0.038	

Table 3 examines the association between current abnormal audit fees and future size-adjusted buy-and-hold returns. Our variables of interest are positive and negative abnormal audit fees for small, medium, and big companies. All variables are defined in the Appendix.

Table 4 Regression of one year ahead size adjusted returns on abnormal fees (with no positive/negative abnormal fee distinction)

$$RET_{i,t+1} = \alpha + \beta_1 AFEECL_{i,t} + \beta_2 POSNFEECL_{i,t} + \beta_3 NEGNFEECL_{i,t} + \beta_4 AUDSIZE_{i,t} + \beta_5 IC\_OPIN_{i,t} + \beta_6 OPINLAGCL_{i,t} + \beta_7 RESTATE_{i,t} + \beta_8 ZCL_{i,t} + \beta_9 B/MCL_{i,t} + \beta_{10} \text{E/PCL}_{i,t} + \beta_{11} BETACL_{i,t} + \beta_{12} MOMCL_{i,t} + \beta_{13} NOACL_{i,t} + \beta_{14} TACCCL_{i,t} + \beta_{15} AQ_{i,t} + \beta_{16} AGE_{i,t} + \textit{Industry \& Year Dummies} + \varepsilon_{i,t}$$

	Small Firms		Medium Firms		Big Firms	
Variable	Estimate	Pr > |t|	Estimate	Pr > |t|	Estimate	Pr > |t|
Intercept	-0.299	0.0843	-0.414	0.0003	-0.107	0.1250
Positive Abnormal Audit Fee Decile	-0.029	0.4963	0.000	0.9906	0.021	0.1629
Positive Abnormal Non-Audit Fee Decile	0.078	0.1252	-0.021	0.4144	0.003	0.8400
Negative Abnormal Non-Audit Fee Decile	0.088	0.0958	-0.041	0.1555	0.007	0.6347
Auditor Size	0.172	<.0001	0.073	<.0001	0.022	0.3884
Internal Control Deficiencies	-0.011	0.8926	-0.017	0.5774	-0.004	0.9020
Filing Lag	-0.210	0.0031	-0.041	0.2581	-0.019	0.3166
Restatement	-0.185	0.3447	0.190	0.2454	-0.082	0.5191
Z-Score	0.001	0.9916	0.190	<.0001	0.133	<.0001
Book-to-Market	0.242	<.0001	0.177	<.0001	0.122	<.0001
Earnings-to-Price	0.033	0.5159	0.009	0.8346	0.076	0.0154
Beta	-0.003	0.9721	0.144	0.0124	0.027	0.1820
Momentum	-0.048	0.2675	-0.046	0.0924	-0.038	0.0225
Net Operating Assets	-0.093	0.0719	-0.046	0.1346	-0.0706	<.0001
Total Accruals	0.000	0.9966	0.002	0.9588	-0.024	0.1580
Accrual Quality	0.060	0.7206	-0.296	0.0021	-0.449	<.0001
Age	-0.003	0.0808	0.001	0.1413	0.000	0.8366
Observations	6,195		9,874		9,321	
R-square	0.016		0.016		0.029	

Table 4 examines the association between current abnormal audit fees and future size-adjusted buy-and-hold returns. Our variables of interest are abnormal audit fees ranked from most negative to most positive for small, medium, and big companies.. All variables are defined in the Appendix.

Table 5 Yearly returns on an abnormal audit fee trading strategy

Panel A: Yearly returns on a small firm - positive abnormal audit fee hedge portfolio

	Year of Portfolio Formation										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Average
Long Smallest Two Positive Abn. Fee Deciles	0.390	0.229	1.319	0.020	0.525	0.206	-0.123	-0.426	1.286	0.373	0.380
Short Largest Two Positive Abn. Fee Deciles	0.089	-0.110	1.168	-0.023	0.144	0.020	-0.209	-0.367	0.624	0.086	0.142
Yearly Long-Short Portfolio Return	0.301	0.340	0.151	0.043	0.381	0.187	0.086	-0.059	0.662	0.287	0.238
Firms in Long Portfolio	37	66	85	90	84	80	90	70	65	56	
Firms in Short Portfolio	46	59	73	83	87	78	69	64	66	50	

Panel B: Yearly returns on a small firm - negative abnormal audit fee hedge portfolio

	Year of Portfolio Formation										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Average
Long Smallest Two Negative Abn. Fee Deciles	0.234	-0.007	1.748	0.238	0.244	0.132	-0.046	-0.309	1.066	0.363	0.366
Short Largest Two Negative Abn. Fee Deciles	0.342	-0.081	0.945	0.018	0.196	-0.025	-0.233	-0.370	1.670	0.242	0.270
Yearly Long-Short Portfolio Return	-0.108	0.075	0.803	0.221	0.048	0.157	0.187	0.061	-0.604	0.121	0.096
Firms in Long Portfolio	40	64	66	96	69	75	64	58	70	57	
Firms in Short Portfolio	40	54	54	64	50	54	58	42	44	55	

Panel C: Yearly returns on a medium firm - positive abnormal audit fee hedge portfolio

	Year of Portfolio Formation										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Average
Long Smallest Two Positive Abn. Fee Deciles	0.145	-0.248	0.765	-0.024	0.442	0.064	-0.111	-0.357	0.710	0.301	0.169
Short Largest Two Positive Abn. Fee Deciles	0.084	-0.258	0.741	0.058	0.305	0.124	-0.154	-0.385	0.622	0.342	0.148
Yearly Long-Short Portfolio Return	0.061	0.010	0.025	-0.083	0.137	-0.059	0.043	0.028	0.088	-0.041	0.021
Firms in Long Portfolio	86	121	111	127	147	114	124	122	90	110	
Firms in Short Portfolio	96	106	142	147	135	122	125	114	83	73	

Table 5 continued

Panel D: Yearly returns on a medium firm - negative abnormal audit fee hedge portfolio

	Year of Portfolio Formation										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Average
Long Smallest Two Negative Abn. Fee Deciles	0.007	-0.143	0.788	0.010	0.175	0.049	-0.129	-0.366	0.684	0.308	0.138
Short Largest Two Negative Abn. Fee Deciles	0.106	-0.207	0.581	0.052	0.367	0.027	-0.084	-0.376	0.799	0.221	0.148
Yearly Long-Short Portfolio Return	-0.099	0.065	0.207	-0.042	-0.192	0.022	-0.046	0.011	-0.115	0.087	-0.010
Firms in Long Portfolio	84	114	105	108	100	97	111	113	104	94	
Firms in Short Portfolio	82	97	84	87	103	106	115	103	80	99	

Panel E: Yearly returns on a big firm - positive abnormal audit fee hedge portfolio

	Year of Portfolio Formation										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Average
Long Smallest Two Positive Abn. Fee Deciles	-0.073	-0.210	0.349	0.096	0.254	0.125	0.017	-0.268	0.492	0.347	0.113
Short Largest Two Positive Abn. Fee Deciles	-0.039	-0.169	0.515	0.058	0.280	0.106	0.013	-0.355	0.471	0.279	0.116
Yearly Long-Short Portfolio Return	-0.033	-0.041	-0.166	0.038	-0.025	0.019	0.004	0.087	0.022	0.068	-0.003
Firms in Long Portfolio	84	100	83	96	104	114	113	99	88	107	
Firms in Short Portfolio	79	98	116	114	99	102	104	97	80	92	

Panel F: Yearly returns on a big firm - negative abnormal audit fee hedge portfolio

	Year of Portfolio Formation										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Average
Long Smallest Two Negative Abn. Fee Deciles	-0.093	-0.176	0.353	0.116	0.311	0.137	-0.003	-0.345	0.420	0.225	0.094
Short Largest Two Negative Abn. Fee Deciles	-0.083	-0.235	0.438	0.126	0.311	0.109	0.048	-0.303	0.522	0.224	0.116
Yearly Long-Short Portfolio Return	-0.011	0.059	-0.085	-0.010	-0.001	0.028	-0.051	-0.041	-0.102	0.001	-0.021
Firms in Long Portfolio	75	116	99	85	108	102	96	108	112	98	
Firms in Short Portfolio	86	113	81	72	85	99	94	95	85	74	

Table 5 examines whether a trading strategy based on abnormal audit fees can earn positive returns. The strategy consists of taking a short position in firms in the smallest abnormal fee decile and a long position in firms in the largest abnormal fee decile. All variables are defined in the Appendix