

Accepted Manuscript

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Evidence from Nonaudit Fees and SOX 404 Opinions

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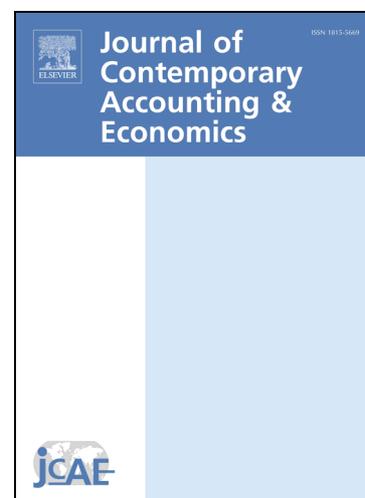
PII: S1815-5669(17)30007-3
DOI: <http://dx.doi.org/10.1016/j.jcae.2017.02.001>
Reference: JCAE 104

To appear in: *Journal of Contemporary Accounting & Economics*

Received Date: 31 July 2015
Revised Date: 1 February 2017
Accepted Date: 1 February 2017

Please cite this article as: Li, C., Raman, K.K., Sun, L., Wu, D., The Effect of Ambiguity in an Auditing Standard on Auditor Independence: Evidence from Nonaudit Fees and SOX 404 Opinions, *Journal of Contemporary Accounting & Economics* (2017), doi: <http://dx.doi.org/10.1016/j.jcae.2017.02.001>

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**The Effect of Ambiguity in an Auditing Standard on Auditor Independence:
Evidence from Nonaudit Fees and SOX 404 Opinions**

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The Effect of Ambiguity in an Auditing Standard on Auditor Independence: Evidence from Nonaudit Fees and SOX 404 Opinions

Abstract

We examine the relation between nonaudit fees and SOX 404 opinions on the effectiveness of a client's internal control over financial reporting. We find a *negative* association between nonaudit fees and the auditor's propensity to issue an adverse SOX 404 opinion during 2004-2006 (when AS2 was the applicable standard), but not in 2007 or 2008 (when AS5 was the applicable standard). Our results hold when we control for office size and time trend and examine tax and nontax nonaudit fees separately. These findings suggest that AS5 reduced ambiguity relative to AS2 and improved auditor independence. Our paper contributes to two literature streams: (1) the sparse literature on the adverse effects associated with ambiguity (lack of precision) in an auditing standard (Willekens and Simunic 2007; Ye and Simunic 2013), and (2) the AS5 literature by documenting that AS5 contributed to a more effective audit via greater auditor independence.

Keywords: Nonaudit fees; SOX 404 audit opinions; Auditor independence; Engagement risk; Ambiguity in AS2.

JEL Codes: M42, M48.

The Effect of Ambiguity in an Auditing Standard on Auditor Independence: Evidence from Nonaudit Fees and SOX 404 Opinions

1. INTRODUCTION

We investigate the effect of ambiguity (i.e., verbal probability expressions that are subject to between-auditor variations in interpretation) in the PCAOB's Auditing Standard No. 2 (AS2) on auditor decision making. Specifically, we examine the impact of the ambiguity in AS2 on auditor independence by testing the relation between nonaudit fees and the 2002 Sarbanes Oxley Act (SOX) 404 control audit opinion on the client's internal control over financial reporting (ICFR).¹ Basically, SOX Section 404 requires the auditor to issue an audit opinion on the effectiveness of the client's ICFR in addition to the traditional financial statement audit opinion.

Prior experimental research (e.g., Hackenbrack and Nelson 1996; Nelson and Kinney 1997; Kadous et al. 2003) suggests that auditors tend to exploit the ambiguity in a standard to justify clients' preferred reporting choices. The argument is that auditors are sensitive to client pressure and thus might exploit the ambiguity in a standard to justify *incentive-compatible client-preferred reporting choices*. Other research (Gibbins et al. 2001, 2005; Nelson 2003; Nelson et al. 2002, 2003) also suggests that ambiguous standards make it difficult for the auditor to stand his/her ground during auditor-client negotiations. However, no prior study has linked the auditor's incentive to exploit the ambiguity in an accounting (or auditing) standard to the magnitude of nonaudit fees.

Prior research examining the effects of ambiguity in a standard on auditor decision making has utilized experimental or analytical methods (Nelson 2003; Willekens and Simunic 2007; Ye and Simunic 2013). By contrast, the SOX 404 audit provides a natural setting in which to utilize archival data to empirically investigate the effect of the ambiguity in an auditing standard on auditor independence. Examining this association is important because the question of whether nonaudit fees paid to the

¹ As discussed by DeAngelo (1981), audit quality is a joint function of the auditor's competence in discovering a breach in the client's accounting system and independence in reporting the breach. Given broadly similar auditor competence (say among the Big 4 firms), audit quality is essentially a function of auditor independence. Separately, Knechel (2013, p. A2) refers to ambiguity in auditing standards as vagueness or flexibility.

incumbent auditor impair auditor independence has drawn considerable attention from regulators (e.g., PCAOB 2006; SEC 2000, 2003). More recently, the Chief Auditor of the PCAOB indicated that "... we are aware of the increase in nonaudit services at many firms. We're working closely with our Inspections division to consider whether the nature or extent of these nonaudit services could impact auditor independence and require action on our part" (Baumann 2010). Moreover, given the increasing importance of nonaudit services (both those provided to audit as well as nonaudit clients) for the Big 4 firms, Doty (2014) suggests that within 10 years revenues from public company audits may amount to less than 20 percent of aggregate revenues for these large audit firms. Along the same lines, PCAOB member Harris (2014) suggests that the rising importance of nonaudit services (albeit to their nonaudit clients) at the large audit firms can be a "potential distraction ...away from audit and its core values" (p. 5).

Notably, prior evidence on the relation between nonaudit fees and auditor independence is mixed and applies exclusively (with the sole exception of Zhang et al. 2007) to the traditional financial statement audit. By contrast, we focus on examining whether the auditor's propensity to issue an adverse SOX 404 opinion was compromised by nonaudit fees. The SOX 404 control audit was first required for accelerated filers with fiscal years ending on or after November 15, 2004. For these audits, the applicable standard was AS2 for the first three years and AS5 for subsequent years. Both standards required the auditor to issue an opinion on the effectiveness of the client's ICFR. In the event that the client had a material weakness (or weaknesses) in internal control, the standards required the auditor to issue an adverse SOX 404 opinion. Both AS2 and AS5 were new standards designed for a new type of assurance service (the SOX 404 audit). As discussed in greater detail below, although both AS2 and AS5 have ambiguity, the ambiguity in AS2 was more severe. Hence, the transition to AS5 provides a natural setting for us to examine the effect of ambiguity in an auditing standard on auditor independence in the context of the SOX 404 audit.

Prior research (Aharony and Dotan 2004; Cuccia et al. 1995) suggests that verbal probability expressions (such as "remote") are subject to substantial between-auditor variations in interpretation.

Both AS2 and AS5 have ambiguity in that both use verbal probability expressions for determining whether a weakness in internal control is material, although the level of ambiguity in AS2 was more severe. Specifically, the AS2 notion of a material weakness in internal control was based on the verbal probability phrase “more than remote likelihood” that internal control will not prevent or detect a material misstatement in the financial statements and was ill-defined as to the probabilities pertinent to the auditor’s reporting decision (Deloitte & Touche LLP 2005; O’Hara 2005; Steinberg 2006). Consequently, auditors had considerable latitude in determining whether a weakness in internal control was material. Although AS5 retains the verbal probability expression “reasonably possible,” the ambiguity in AS5 was lower than in AS2 for three reasons: (1) the revised definition of a material weakness in internal control in AS5 incorporated the AS2 guidance provided by PCAOB and SEC in the preceding two years, and (2) AS5 (unlike AS2) explicitly referred to the probability expressions in SFAS No. 5 (an accounting standard long familiar to auditors going back to its issuance in 1975), and (3) AS5 explicitly identified several indicators of material weakness in internal control. Hence, the latitude that auditors had in determining whether a weakness in internal control was material was at its greatest during 2004 and 2005 (the first two years) of the SOX 404 audit, and declined thereafter as the guidance (and the revised standard AS5) took effect.²

As a result of the restrictions placed by SOX on the provision of nonaudit services to audit clients, nonaudit fees (as a proportion of audit fees) may be expected to be smaller during the post-SOX time period of our study (2004-2008). The smaller proportion of nonaudit fees to audit fees potentially biases our study *against* being able to document a negative relation between nonaudit fees and the auditor’s propensity to issue an adverse SOX 404 opinion. Still, during the period of our study (2004-2008), the mean (median) nonaudit fees to audit fees ratio for our sample was 24 (14) percent. Given (1) that nonaudit services likely have higher profit margins, and (2) that five percent is generally viewed as

² Relative to AS2, AS5 permits the auditor to align audit procedures with auditee fraud risk, i.e., allows more auditor judgment by adopting a “top-down” risk-based approach to selecting the controls to be tested and to improve audit efficiency by focusing on the most significant transactions and accounts (Doogar et al. 2010). However, our study is focused not on the auditor’s judgment with respect to appropriate audit procedures but on the exercise of auditor judgment with respect to the appropriate SOX 404 opinion.

the materiality threshold (Rittenberg et al. 2010), it seems reasonable that any *additional* economic rents from nonaudit services to the tune of 24 (14) percent (i.e., over and above the economic rents, if any, from audit services) is likely to be a material consideration for most auditors. In any event, in an intensely competitive market for audit services, any source of economic rent may be both welcome as well as important to the auditor.³ Thus, the incentive effect of nonaudit fees on auditor independence in a SOX 404 audit (particularly in the presence of ambiguity in the relevant auditing standard) remains an important, but yet unanswered, empirical question.

Consistent with the recent literature, our analysis is conducted at the level of the local audit office and uses the ratio of the client's nonaudit fees to total local office revenues as our main test metric (Khurana and Raman 2006; Li 2009). Since audit fees can also engender economic bonding, following prior studies (e.g., DeFond et al. 2002; Krishnan et al. 2005; Li 2009) we also include the ratio of audit fees to total local office revenues as a control variable in our analysis. However, in the context of a SOX 404 audit, deficiencies in the client's internal control are likely to automatically trigger higher audit effort (i.e., additional audit tests and procedures) and therefore higher audit fees (Raghunandan and Rama 2006; Hogan and Wilkins 2008), creating a positive (albeit mechanical) relation between the propensity of the auditor to issue an adverse SOX 404 opinion and audit fees.⁴ Because of this confounding relation, potentially neither audit fees nor total fees (i.e., the sum of audit and nonaudit) may be useful for examining whether the auditor's economic bond with the client impairs auditor independence in our SOX 404 setting.

We examine the first five years of the SOX 404 audit (the fiscal years 2004 through 2008). Our final sample consists of 17,372 observations with SOX 404 audits over the five year period. Our results indicate that the ratio of nonaudit fees to local office revenues is significantly and *negatively* associated

³ Consistent with the notion of lower margins on audit fees, the Chief Auditor of the PCAOB indicated that "... we're also hearing about demands on auditors for significant fee reductions" (Baumann 2010).

⁴ "The presence of a material (control) weakness creates significant additional work for auditors including additional (1) testing and changes in the audit program, (2) partner time related to discussions with client management, and (3) documentation related to the decision to classify a weakness as a material weakness as opposed to a significant deficiency (which does not require disclosure in SEC filings). Such additional work can be expected to lead to higher audit fees." (Raghunandan and Rama 2006, p.102).

with the auditor's propensity to issue an adverse SOX 404 opinion during 2004 through 2006, but not in 2007 or 2008. Moreover, during 2004-2006, our findings suggest a decline in the absolute magnitude of the negative relation between nonaudit fees and the auditor's propensity to issue an adverse SOX 404 opinion, consistent with the notion that the ambiguity in AS2 declined during this time period as the PCAOB continued to provide implementation guidance. These results are robust to alternative nonaudit fee measures and a series of other sensitivity tests including separate examination of tax and nontax nonaudit fees and controlling for office size.

To help rule out alternative explanations (such as auditor learning), in our analyses we controlled for time trend in SOX 404 audit reporting and also performed several cross-sectional analyses. Hackenbrack and Nelson (1996) suggest that the auditor is more likely to exploit the ambiguity in a standard to make clients' preferred choices when the engagement risk is lower than when it is higher. Thus, we expect the negative relation between nonaudit fees and likelihood of an adverse SOX 404 opinion to be stronger when the engagement risk is low. We proxy engagement risk utilizing two measures: (1) the Stice (1991) client-specific litigation risk score, and (2) industry-specific litigation risk (Francis et al. 1994). Our results indicate that the negative relation between nonaudit fees and the auditor's propensity to issue an adverse SOX audit opinion during 2004-2006 holds only for low engagement risk clients.⁵ These findings suggest that the negative relation we find between nonaudit fees and the auditor's propensity to issue an adverse SOX 404 opinion is likely driven by auditor incentives rather than auditor learning.⁶

Overall, our study contributes to the literature in several ways. First, our findings suggest that nonaudit fees may impair auditor independence when the level of ambiguity in an auditing standard is

⁵ We find no association between nonaudit fees and SOX 404 opinions in 2007 and 2008 for either low or high engagement risk clients, which suggests that it is the higher level of ambiguity in AS2 (the applicable standard during 2004-2006) that potentially explains the negative relation between nonaudit fees and SOX 404 adverse opinions during 2004-2006.

⁶ SOX prohibits the incumbent auditor from providing nonaudit services linked to the client's internal controls. Hence, nonaudit fees are unlikely to be paid to the incumbent auditor to remediate internal control deficiencies and, thus, are unlikely to be an alternative explanation for the negative relation we observe between nonaudit fees and the likelihood of an adverse SOX 404 opinion.

high. Prior research on the relation between nonaudit fees and auditor independence has been primarily in the context of the traditional financial statement audit, and reports mixed evidence. By contrast, to our knowledge, our study is only the second study to examine the effect of nonaudit fees on auditor independence in the context of the internal control audit.⁷ Second, we contribute to the prior literature on AS2 and AS5 by shedding light on another difference between the two standards. Specifically, as noted by Doogar et al. (2010), relative to AS2 the replacement standard AS5 resulted in auditors deploying a risk-based approach and contributed to audit fees that were better aligned with client fraud risk. In our study, we show that the AS2 implementation guidance and the improvements embodied in AS5 (the replacement standard) contributed to a more effective audit via reduced ambiguity and greater auditor independence. Third, while prior *experimental* research (e.g., Hackenbrack and Nelson 1996) suggests that auditors have an incentive to comply with clients' reporting preferences and may utilize the ambiguity in a standard to do so, our study is the first to provide *archival* evidence on this issue by linking the incentive to compromise independence to the magnitude of nonaudit fees. Finally, to our knowledge, there is limited prior research on the economic consequences of ambiguity in an *auditing* standard. Specifically, Willekens and Simunic (2007) suggest analytically that ambiguity in an auditing standard can lower audit quality by decreasing auditor effort. In a similar vein, Ye and Simunic (2013) posit that vagueness/ambiguity in an auditing standard allows an auditor to exert a lower level of effort when the level of toughness is high.⁸ In our study, we contribute to the extant sparse literature on the adverse effects associated with ambiguity in an auditing standard by examining a different channel through which the ambiguity can lower audit quality, i.e., through a decrease in auditor independence.

⁷To our knowledge, Zhang et al. (2007) is the only prior study that examines the fee effect on auditor independence in the context of the internal control audit. We discuss how our study extends Zhang et al. (2007) below in section 2.

⁸Ye and Simunic (2014) point out that vagueness/ambiguity and toughness are two properties of auditing standards. They define toughness as the level of audit effort required by the standard. We believe that toughness in AS5 is lower relative to that in AS2, because AS5 adopts a "top-down" risk-based approach which allows auditors to focus on more important issues thereby eliminating unnecessary audit procedures previously conducted under AS2. Audit effort and the effect of toughness of standards on audit effort are beyond the scope of our study.

The rest of this paper proceeds as follows. In the next section, we develop our hypothesis, and in section 3 we discuss our empirical models and methodology. Section 4 discusses the results and findings from additional analyses, while section 5 provides concluding remarks.

2. PRIOR RESEARCH AND HYPOTHESIS DEVELOPMENT

2.1 Auditor Incentives and Ambiguity in an Accounting Standard

Prior research (e.g., Citron and Taffler 1992) suggests that auditor incentives are a delicate balance between the desire to protect the firm's reputation and avoid litigation, and the need to maintain the profits (quasi rents) from the relationship with the audit client. Specifically, auditor discretion can affect the financial statements issued by the client as well as the audit opinion issued by the auditor (Reynolds and Francis 2001; Roberts 2010). With respect to the audit report, the auditor potentially trades-off the need to retain the client against the risk of substantial financial and reputational loss if alleged (at a later date) to have allowed the client to exercise an overly-aggressive reporting choice.

In the context of a financial statement audit, Hackenbrack and Nelson (1996) suggest that although the purpose of accounting standards is to restrain the client's use of aggressive reporting choices, the ambiguous criteria in a standard may "actually provide auditors a convenient mechanism to justify aggressive reporting methods" (p. 44). Specifically, Hackenbrack and Nelson (1996) conducted an experiment in which the applicable standards were SFAS No. 5, *Accounting for Contingencies* (FASB 1975) and SFAS No. 77, *Reporting by Transferors for Transfers of Receivables with Recourse* (FASB 1983). Both of these standards have ambiguity relating to being able to "reasonably estimate" uncollectible accounts. Hackenbrack and Nelson (1996) find that their auditor subjects preferred the aggressive reporting option with respect to both SFAS No. 5 and SFAS No. 77 when engagement risk (i.e., vulnerability to litigation and reputation loss) was judged to be moderate, but preferred the conservative option (i.e., applied the standards conservatively) when engagement risk was judged to be high. They conclude that auditors are sensitive to client pressure and may utilize the ambiguous criteria in an accounting standard (i.e., the lack of precision about the probabilities pertinent to a reporting decision) to make and justify incentive-compatible reporting decisions. However, neither Hackenbrack

and Nelson (1996) nor later studies such as Nelson and Kinney (1997) and Kadous et al. (2003) link the incentive to exploit the ambiguity in a standard to the magnitude of nonaudit fees.

Other research (Gibbins et al. 2001, 2005; Nelson et al. 2002, 2003) suggests, albeit indirectly, that ambiguity in an auditing standard can significantly influence the auditor-client interaction preceding the auditor forming his/her SOX 404 opinion. In forming the SOX 404 opinion, the auditor analyzes the various deficiencies discovered during the internal control audit to categorize and combine them in deciding if they amount to a significant deficiency or a material weakness. Understandably, this process usually involves auditor-client discussion and possible negotiation. Prior research in auditor-client negotiations suggests that ambiguous standards make it difficult for the auditor to argue against alternative accounting treatments requested by the client. By contrast, unambiguous standards increase the influence of the auditor in such negotiations (Gibbins et al. 2001; Gibbins et al. 2005). Along the same lines, Nelson et al. (2002, 2003) use questionnaire data from 253 auditors in a Big 5 firm to suggest that auditors are most successful in standing up to their client demands for more aggressive accounting when the pertinent GAAP is precise (unambiguous). Although these prior studies (Gibbins et al. 2001, 2005; Nelson et al. 2002, 2003) pertain to financial reporting rather than an assessment of the client's internal control, their findings and underlying logic can be extended to auditor-client negotiation in the context of the SOX 404 internal control audit. In other words, given a client's preferred outcome for a clean SOX 404 audit opinion, the greater ambiguity in AS2 (relative to AS5) may reasonably be expected to weaken the auditor's hand during auditor-client negotiations especially when the magnitude of nonaudit fees is higher.

2.2 Nonaudit Fees and Auditor Independence

Previous research has examined the association between nonaudit fees and auditor independence (and, by implication, audit quality) exclusively for financial statement audits, and has utilized various proxies for auditor independence such as discretionary accruals, accrual quality, financial statement restatements, and the auditor's propensity to issue a going concern opinion. Despite concerns expressed by regulators that the potentially more lucrative nature of nonaudit services is likely to reduce auditor

independence by increasing the auditor's economic dependence on the client, these studies report mixed evidence on whether nonaudit fees impair auditor independence for financial statement audits.

Specifically, Ashbaugh-Skaife et al. (2003), Chung and Kallapur (2003), Raghunandan et al. (2003), Reynolds et al. (2004) suggest *no* relation between nonaudit fees and auditor independence while Kinney et al (2004), Joe and Vandervelde (2007), Paterson and Valencia (2011), Gleason and Mills (2011), Koh et al. (2013) indicate a *positive* relation implying that the provision of nonaudit services (such as recurring tax services) improves audit quality due to knowledge transfers. However, Frankel et al. (2002) and Srinidhi and Gul (2007) document a negative effect of nonaudit fees on auditor independence although Larcker and Richardson (2004), Gul et al. (2007), and Kanagaretnam et al. (2010) suggest that the negative relation prevails only in special situations such as weak governance, small clients with short auditor tenure, small banks in the banking industry, respectively.

Other studies have examined the impact of nonaudit fees on the willingness of the auditor to issue a going concern qualification or a qualified audit report (as a proxy for auditor independence). Again, the evidence is mixed (DeFond et al. 2002; Geiger and Rama 2003; Callaghan et al. 2009; Li 2009; Blay and Geiger 2013). However, there is broad consensus in the literature that nonaudit fees are related to lower perceived auditor independence and audit quality as proxied by earnings response coefficients and the cost of capital (Higgs and Skantz 2006; Khurana and Raman 2006; Mauldin 2003, Ackert 2008).

To our knowledge, there is only one other study that examines the relation between nonaudit fees and the auditor's propensity to issue an adverse opinion on internal control quality. Specifically, Zhang et al. (2007) offer preliminary evidence on the relation between nonaudit fees and the SOX 404 opinion during the first nine months of the SOX 404 control audit (November 15, 2004 through July 31, 2005) and find that higher nonaudit fees are associated with a lower likelihood of an adverse SOX 404 opinion. By contrast, in our study, we examine a longer time window (2004 through 2008) and investigate the time-varying effect of nonaudit fees on auditor independence in the context of the ambiguity in the auditing standard (AS2 or AS5) pertinent to the SOX 404 audit. Further, we measure the economic

importance of nonaudit fees at the level of the individual engagement office and examine whether the client-specific engagement risk impacts the relation between nonaudit fees and the SOX 404 opinion.

2.3 Ambiguity in AS2 and AS5

The PCOAB issued Auditing Standard No.2, *An Audit of Internal Control over Financial Reporting that is Integrated with an Audit of Financial Statements* in June 2004. As discussed previously, the AS2 notion of a material weakness in internal control was highly ambiguous about the probabilities pertinent to the auditor's reporting decision (Deloitte & Touche LLP 2005; O'Hara 2005; Steinberg 2006). Subsequent to the issuance of AS2, the SEC conducted at least two separate roundtable discussion sessions, and the PCAOB issued five separate releases to provide clarification and guidance on how the standard should be implemented. On May 24, 2007, the PCAOB issued Auditing Standard No.5 to supersede AS2. AS5 becomes effective for audits of fiscal years ending on or after November 15, 2007. As discussed below, the reduced level of ambiguity in AS5 pertaining to the definitions of a material weakness/significant deficiency in internal control appears to have affected auditors' evaluation of internal controls and the formation of the SOX 404 opinion.

2.3.1 Reduced level of ambiguity in AS5

AS2 defines a material weakness as "a significant deficiency, or combination of significant deficiencies, that results in more than a remote likelihood that a material misstatement of the annual or interim financial statements will not be prevented or detected." By contrast, AS5 defines a material weakness as "a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the company's annual or interim financial statements will not be prevented or detected on a timely basis."

Relatedly, AS2 defines a significant deficiency as "a control deficiency, or combination of control deficiencies, that adversely affects the company's ability to initiate, authorize, record, process, or report external financial data reliably in accordance with generally accepted accounting principles such that there is a more than a remote likelihood that a misstatement of the company's annual or interim financial statements that is more than inconsequential will not be prevented or detected." AS5 defines a significant

deficiency as “a deficiency, or a combination of control deficiencies, in internal control over financial reporting that is less severe than a material weakness, yet important enough to merit the attention by those responsible for oversight of the company’s financial reporting.”

Besides the revised definition of material weakness/significant deficiency, AS5 identifies several specific indicators of material weaknesses in ICFR. Notably, these indicators help further reduce ambiguity in what should be considered as a material weakness in internal control. The indicators include (1) identification of fraud, whether or not material, on the part of senior management, (2) restatement of previously issued financial statements to reflect the correction of a material misstatement, (3) identification by the auditor of a material misstatement of financial statements in the current period in circumstances that indicate that the misstatement would not have been detected by the company’s ICFR, and (4) ineffective oversight of the company’s external financial reporting and ICFR by the company’s audit committee. In addition, AS5 suggests that “when evaluating the severity of a deficiency, or combination of deficiencies, the auditor also should determine the level of detail and degree of assurance that would satisfy prudent officials in the conduct of their own affairs that they have reasonable assurance that transactions are recorded as necessary to permit the preparation of financial statements in conformity with generally accepted accounting principles.” If a reasonable level of assurance cannot be achieved, the auditor is required to treat the deficiency, or combination of deficiencies as an indicator of a material weakness.

In summary, although both AS2 and AS5 have ambiguity (i.e., both use verbal probability expressions that are subject to between-auditor variations in interpretation), the ambiguity in AS2 was more severe because the probability expression (“more than remote likelihood”) used in AS2 was unfamiliar and initially undefined. By contrast, AS5 explicitly referred to SFAS No. 5 and utilized a probability expression (“reasonably possible”) that had been previously used in SFAS No. 5 familiar to auditors. Further, AS5 describes a number of indicators of material weaknesses in internal control to help reduce ambiguity. In our study, we utilize the heightened ambiguity in AS2 (beginning 2004) and the declining level of ambiguity in subsequent years (following regulators’ guidance on what the expression

“more than remote likelihood” in AS2 meant and the subsequent issuance of AS5 in 2007) to investigate the incentive effect of nonaudit fees on auditor decision making in a SOX 404 audit.

2.4 Hypotheses

Prior research suggests that the market values a clean opinion on internal control for the implied favorable effects on the client’s information quality (Ashbaugh-Skaife et al. 2009; Costello and Moerman 2011). In particular, Ashbaugh-Skaife et al. (2009) suggest that the market largely anticipates internal control deficiencies based on publicly known client characteristics (such as the complexity of operations), and responds favorably to a clean (unqualified) SOX 404 audit opinion on internal control by lowering the client’s cost of equity capital. Also, Ettredge et al. (2011) find that adverse SOX 404 opinions are associated with an increased frequency of auditor switches. For both these reasons, it is understandable that the client would prefer to receive -- and that the auditor would prefer to issue -- a clean rather than an adverse SOX 404 opinion on internal control.

As noted previously, although SOX prohibits the incumbent auditor from providing many types of nonaudit services (including remediation of internal control weaknesses) to their audit clients, in the post-SOX period nonaudit fees continue to be a material source of economic rents for the audit firms. Consequently, in the context of a SOX 404 audit, the economic rents from nonaudit services may be expected to raise the auditor’s sensitivity to client pressure, i.e., increase the auditor’s incentive not to jeopardize client relations. This suggests a correlation between the propensity to issue an adverse SOX 404 opinion and auditor independence.

In our study, we examine whether the ambiguity in AS2 and AS5 had an incentive effect on the auditor’s SOX 404 reporting choices. Prior research indicates (1) that ambiguity in a pertinent standard is likely to result in substantial between-auditor variations in interpretation and application of the standard (Amer et al. 1994), and (2) that auditor independence is more likely to be impaired (i.e., the auditor is more likely to acquiesce to client preferences) when there is ambiguity in the relevant standard (Gibbins et al. 2001, 2005; Hackenbrack and Nelson 1996; Nelson et al. 2002, 2003). For these reasons, we

hypothesize that in the context of the ambiguity in AS2 and AS5, nonaudit fees are associated with a reduced auditor's propensity to issue an adverse SOX 404 opinion during 2004-2008. Our first hypothesis, stated in the alternative form, is as follows:

H1: Higher nonaudit fees are associated with a reduced propensity on the part of the auditor to issue an adverse SOX 404 opinion during 2004-2008.

As discussed previously, the ambiguity in the pertinent auditing standard (AS2) potentially declined over time as the PCAOB provided guidance and clarification, and subsequently replaced AS2 with AS5 in 2007. To the extent that the ambiguity in AS2 declined over time (following PCAOB guidance), the latitude available to the auditor in determining what was a material weakness in internal control also declined. Thus, the negative relation hypothesized in H1 need not be equally strong during each of the five years 2004 through 2008. Hence, we also examine the strength of the relation between nonaudit fees and the auditor propensity to issue an adverse SOX 404 opinion across our five year sample period. Our second hypothesis, stated in the alternative form, is as follows:

H2: The magnitude of the negative relation between nonaudit fees and the auditor's propensity to issue an adverse SOX 404 opinion declines over the 2004-2008 time period.

3. SAMPLE SELECTION AND RESEARCH METHODOLOGY

3.1 Sample Selection

Our sample is drawn from the Audit Analytics database and consists of accelerated filers only.⁹ The sample period covers the first five years of the SOX 404 audit (i.e., fiscal years ending November 15, 2004 through December 31, 2008).¹⁰ The initial sample consists of 20,506 client-year observations. To calculate the proportion of nonaudit fees and audit fees for a client to the local office's total revenues, we

⁹ The effective date for a SOX 404 audit for non-accelerated filers (i.e., companies with a public float below \$75 million) was repeatedly delayed during the period of our study (2004-2008). Later, the 2010 Dodd-Frank Act permanently exempted non-accelerated filers from the requirement of SOX audit. In additional analysis (untabulated), we deleted firms with a market value of less than \$75 million (i.e. non-accelerated filers voluntarily submitting to a SOX 404 audit) from our sample (51, 95, 56, 106, and 387 observations for years 2004-2008, respectively). The results for this analysis are similar to those reported in the paper.

¹⁰We end the analysis period in 2008 because the frequency of material weaknesses in internal control for accelerated filers dropped substantially thereafter weakening the power of our empirical tests. When we include later years, the inferences are similar to those for 2007 or 2008.

retrieve information on fees as well as the identity of the local engagement office conducting the audit from Audit Analytics. These data requirements reduce our sample size to 18,700 client-year observations. Further, we require our sample observations to have the requisite financial data on Compustat. These selection procedures yield a final sample of 17,372 client-year observations over the five year period, consisting of 515 (2,471), 425 (3,184), 319 (3,294), 282 (3,367) and 139 (3,376) clients receiving adverse (clean) SOX 404 audit opinions during 2004, 2005, 2006, 2007, and 2008 respectively. As one would expect (given client efforts at improving internal controls over time), the proportion of adverse SOX 404 opinions declines from a high of about 17 percent (515/2986) in 2004 to about 4 percent (139/3515) in 2008.

3.2 Regression Model

To test our hypothesis H1 about the relation between nonaudit fees and the auditor's propensity to issue an adverse SOX 404 opinion, we employ the following logistic regression model:

$$\begin{aligned}
 \text{ADVERSE} = & b_0 + b_1\text{NAFEE/OFFREV} + b_2\text{AFEE/OFFREV} + b_3\text{LNAT} + b_4\text{LEV} + b_5\text{LOSS} \\
 & + b_6\text{GROWTH} + b_7\text{RECEIVABLE} + b_8\text{INVENTORY} + b_9\text{SEGMENT} \\
 & + b_{10}\text{RESTRUCT} + b_{11}\text{FOREIGN} + b_{12}\text{RESTATE} + b_{13}\text{GC} + b_{14}\text{BIG4} \\
 & + b_{15}\text{OFFSIZE} + b_{16}\text{AUDCHG} + b_{17}\text{LAGADVERSE} + b_{18}\text{YR05} + b_{19}\text{YR06} \\
 & + b_{20}\text{YR07} + b_{21}\text{YR08}
 \end{aligned} \tag{1}$$

We estimate model (1) on a pooled basis over the 2004-2008 period. The dependent variable ADVERSE is a dummy variable that equals 1 if the auditor issued an adverse SOX 404 opinion on the effectiveness of the client's ICFR, and 0 otherwise. The test variable in the regression is NAFEE/OFFREV, which represents the client's nonaudit fees scaled by the total revenues of the local office through which the audit was conducted. Consistent with recent literature (e.g., Khurana and Raman 2006; Li 2009), this variable attempts to capture the economic importance of the nonaudit fees earned from the client at the level of the individual engagement office. At any given level of office revenues, the higher the nonaudit fees from the client, the stronger the auditor's economic bond with the client. Thus, as hypothesized previously, the predicted sign for NAFEE/OFFREV is negative.

In model (1), the variables AFEE/OFFREV through YR08 represent our control variables. Variable AFEE/OFFREV represents the client's audit fees scaled by the total revenues of the local audit

office.¹¹ Audit fees may also be expected to strengthen the auditor's economic bond with the client. However, deficiencies in the client's internal control are likely to automatically trigger greater audit effort and higher audit fees (Raghunandan and Rama 2006; Hogan and Wilkins 2008; Bedard et al. 2008). Hence, the predicted sign for this variable in the regression is positive.

The remaining control variables in the model (LNAT through YR08) are based on prior research on client characteristics related to the presence of control deficiencies (Ashbaugh-Skaife et al. 2007; Doyle et al. 2007). Specifically, larger clients are expected to have stronger internal controls and thus are less likely to receive an adverse SOX 404 opinion. Therefore, the predicted sign for variable LNAT (log of the client's total assets) is negative. By contrast, clients reporting higher leverage (variable LEV), incurring losses (LOSS), with rapid growth (GROWTH), having more receivables and inventory (RECEIVABLE and INVENTORY), operating more segments (SEGMENT), incurring restructure (RESTRUCT), having foreign operations (FOREIGN), announcing a restatement in the current year (RESTATE), and receiving a going concern opinion (GC) are more likely to have internal control weaknesses. Hence, the predicted signs for these variables are all positive. Our model also controls for auditor type (BIG4) and audit office size (OFFSIZE). Consistent with the notion (based on prior research) that large auditors and large audit offices provide audits of higher quality, the predicted signs for both BIG4 and OFFSIZE are positive. We also control for auditor change during the current year (AUDCHG); to the extent that clients experiencing an auditor change are more likely to have issues, the predicted sign for AUDCHG is positive. LAGADVERSE represents the prior year's SOX 404 opinion and the predicted sign for this variable is positive. YR05-YR08 are year dummies with negative predicted signs. Table 1 lists the variable definitions.

¹¹Prior research suggests that the impact of nonaudit fees on auditor independence cannot be properly assessed without controlling for audit fees (DeFond et al. 2002; Geiger and Rama 2003; Basioudis et al. 2008; Li 2009). Because audit fees and nonaudit fees could be simultaneously and endogenously determined, failure to control for audit fees can result in a correlated omitted variable problem. We control for audit fees in our models.

To test hypothesis H2 which predicts a decline in the magnitude of the negative relation between nonaudit fees and auditor propensity to issue an adverse SOX 404 opinion over the 2004-2008 time period, we employ the following logistic regression model:

$$\begin{aligned} \text{ADVERSE} = & b_0 + b_1\text{NAFEE/OFFREV} + b_2(\text{YR05}\times\text{NAFEE/OFFREV}) \\ & + b_3(\text{YR06}\times\text{NAFEE/OFFREV}) + b_4(\text{YR07}\times\text{NAFEE/OFFREV}) \\ & + b_5(\text{YR08}\times\text{NAFEE/OFFREV}) + \text{control variables} \end{aligned} \quad (2)$$

Relative to model (1), model (2) includes interactions between the year dummies and variable NAFEE/OFFREV. In model (2), the coefficient b_1 for the main effect NAFEE/OFFREV measures the relation between nonaudit fees and the likelihood of an adverse SOX 404 opinion in year 2004. The coefficients b_2 , b_3 , b_4 , and b_5 for the interactions between the year dummies and NAFEE/OFFREV measure the change in the magnitude of this relation between the base year 2004 and the later years 2005, 2006, 2007, and 2008, respectively. Hypothesis H2 predicts positive signs for b_2 , b_3 , b_4 , and b_5 . Control variables in model (2) are defined the same as in model (1). P-values in all regression analyses are based on robust standard errors that control for firm clustering effects (Petersen 2009).

4. EMPIRICAL FINDINGS

4.1 Descriptive statistics

Table 2 presents the mean (and median) values for our independent variables by type of SOX 404 audit opinion (i.e., adverse or clean) for our pooled (2004-2008) sample. The mean for variable NAFEE/OFFREV (for clients receiving an adverse SOX 404 opinion or otherwise) is about 3 percent, indicating that on average nonaudit fees from an audit client accounted for about 3 percent of local office revenues.¹² Although 3 percent may appear to be a low percentage, recall that it represents nonaudit

¹² Another important measure of the economic importance of nonaudit revenues to the auditor is the ratio of nonaudit fees to audit fees (Ashbaugh-Skaife et al. 2003; DeFond et al. 2002). Untabulated results indicate that the mean (median) nonaudit fees to audit fees ratio for our overall sample is 24 (14) percent. The mean (median) ratio of nonaudit fees to audit fees for clients receiving an adverse SOX 404 opinion (ADVERSE=1) is 20 (10) percent, while the similar (nonaudit fees to audit fees) mean (median) ratio for clients receiving a clean SOX 404 opinion (ADVERSE=0) is 24 (15) percent, and the difference is significant at the 0.01 level for both the mean and the median. We use the nonaudit fee to audit fee ratio and the log of nonaudit fees as alternative test variables to examine the impact of nonaudit fees on auditor independence in a SOX 404 audit. Untabulated results using these alternative nonaudit fee metrics are consistent with those for NAFEE/OFFREV.

revenues from an *individual* client relative to the sum of all (audit and nonaudit) revenues from *all* public clients of that local audit office. In dollar terms (untabulated), these nonaudit revenues represent a mean (median) of \$2.6 (\$1.2) million of additional revenues for the local offices from a given client.

The univariate tests in Table 2 suggest that nonaudit fees (as a proportion of local office revenues) for clients receiving an adverse SOX 404 opinion is generally not significantly different from that of other clients. However, these univariate comparisons do not control for other factors (such as size and risk) that can also affect the likelihood of an adverse SOX 404 opinion. Our multivariate regression analysis discussed below control for these other variables in examining the relation between nonaudit fees and the auditor's propensity to issue an adverse SOX 404 opinion.

4.2 Logistic regression results

Table 3 reports the results for testing hypothesis H1 using the pooled (2004-2008) sample.¹³ The regression examines whether the propensity of the auditor to issue an adverse SOX 404 opinion is affected by the auditor's economic bond with the client engendered by nonaudit fees (NAFEE/OFFREV). The test variable NAFEE/OFFREV has the predicted negative sign, and is significant (p-value =0.002). In economic terms, as the test variable NAFEE/OFFREV increases by one standard deviation, the likelihood of an adverse SOX 404 audit report decreases by 1 percent.¹⁴ Note that this effect is quite large, since the mean likelihood of receiving an adverse SOX 404 opinion is only 9.67 percent during 2004-2008. Consistent with our hypothesis H1, these findings suggest that higher nonaudit fees are associated with a reduced propensity on the part of the auditor to issue an adverse SOX 404 opinion during 2004-2008. The highest VIF (untabulated) in table 3 for any variable in the regression was only 1.81 (for variable YR08), indicating that multicollinearity is not likely to be an issue in interpreting the regression results.

¹³ For brevity, we do not present a correlation matrix. Although several pairwise correlations were significant, the variance inflation factors (VIFs) discussed below indicate that collinearity is not a significant issue in interpreting our regression results.

¹⁴ Economic effect = coefficient $\times p \times (1 - p) \times$ one standard deviation of the test variable, where p = the probability that the dependent variable is equal to 1, i.e., the mean likelihood of receiving an adverse SOX 404 opinion in our study.

Table 4 reports the regression results for testing hypothesis H2, i.e., whether the strength (magnitude) of the relation between nonaudit fees and the auditor's propensity to issue an adverse SOX 404 opinion is decreasing during 2004-2008. The main effect NAFEE/OFFREV is negative and significant (p-value = 0.001), suggesting a significant and negative association between nonaudit fees and SOX 404 opinions in year 2004. The interaction effects YR05×NAFEE/OFFREV and YR06×NAFEE/OFFREV (although positive) are insignificant, indicating the relation between nonaudit fees and SOX 404 opinions in years 2005 and 2006 are not different from that in year 2004. However, the interaction effects YR07×NAFEE/OFFREV and YR08×NAFEE/OFFREV are positive and significant (p-value = 0.060 for year 2007 and p-value = 0.009 for year 2008), which suggest that the negative relation is significantly lower in years 2007 and 2008 relative to year 2004.

Further, we examine the relation between nonaudit fees and the likelihood of an adverse SOX 404 opinion on a year-by-year basis by adding the coefficients for the main effect NAFEE/OFFREV and the yearly interaction terms. The combined effects of (NAFEE/OFFREV + YR05×NAFEE/OFFREV) and (NAFEE/OFFREV + YR06×NAFEE/OFFREV) are significantly negative (p-value = 0.042 and 0.063 respectively), indicating a significantly negative relation between nonaudit fees and SOX 404 opinions in years 2005 and 2006. By contrast, the combined effects of (NAFEE/OFFREV + YR07×NAFEE/OFFREV) and (NAFEE/OFFREV + YR08×NAFEE/OFFREV) are not significant, suggesting no significant relation between nonaudit fees and the SOX 404 opinion in years 2007 and 2008.¹⁵

Taken together, the results in Table 4 indicate that the strength of the relation between nonaudit fees and the likelihood of an adverse SOX 404 opinion declines over time, lending support to our

¹⁵ Potentially, the decline in the incidence of an adverse 404 opinion (due to remediation over time) could explain the insignificance of nonaudit fees in years 2007 and 2008. We conduct additional analysis for years 2007 and 2008 by employing a one-to-one matching design, i.e., we match each adverse 404 opinion observation with a clean 404 opinion observation based upon year, 2-digit SIC code, assets within a 20% range, and the closest return on assets. The matched sample consists of 418 observations with an adverse 404 opinion for years 2007 and 2008 and 418 matching peers (we lose three adverse 404 opinion observations due to the unavailability of matching peers based on our matching criteria). By design, the percentage of adverse 404 opinions in the matched sample equals the percentage of clean 404 opinions, i.e., 50 percent. Untabulated results are consistent with those reported for the main analysis based on the original sample, i.e., we find no association between nonaudit fees and the likelihood of an adverse SOX 404 opinion during 2007 and 2008.

hypothesis H2. Economically speaking, as the test variable NAFEE/OFFREV increases by one standard deviation, the likelihood of an adverse SOX 404 audit report is reduced by 2.4 percent, 1.2 percent, and 1 percent in 2004, 2005, and 2006, respectively. These reductions are economically significant since the mean likelihood of receiving an adverse SOX 404 opinion is only 17.2 percent, 11.8 percent, and 8.8 percent in 2004, 2005, and 2006, respectively. Note also (from the tests reported at the bottom of Table 4) that the absolute size of the negative coefficient for NAFEE/OFFREV is declining over time (2.803 in 2004, 1.817 in 2005, and 1.654 in 2006). This trend is consistent with the notion that the ambiguity in AS2 declined over this time period as the PCAOB continued to provide additional guidance.

In both Tables 3 and 4, the variables AFEE/OFFREV through YR08 represent control variables. As discussed previously, internal control deficiencies may be expected to automatically trigger higher audit effort in terms of additional audit tests and procedures which, in turn, could result in higher audit fees. Consistent with this expectation, variable AFEE/OFFREV (i.e., the ratio of audit fees to local office revenues) is significantly positive in both regressions. Also, variables LNAT, LOSS, LEV, INVENTORY, SEGMENT, RESTRUCT, FOREIGN, RESTATE, GC, and AUDCHG are consistently significant with the predicted signs. As expected, LAGADVERSE is significant and positive, indicating that an adverse SOX 404 opinion in the prior year is positively associated with the likelihood of an adverse 404 opinion in the current year. Finally, the significant and negative coefficients for YR05 through YR08 suggest that the likelihood of an adverse 404 opinion decreases over time.

4.3 Additional Analyses

4.3.1 Analyses by Audit Office Size

Our main analyses control for audit office size as a proxy for audit quality (Francis et al. 2013). In this additional analysis, we partition our sample into two groups based on audit office size and re-estimate Equation (1) for each subsample separately.¹⁶ Consistent with Francis et al. (2013, p.1652), the large (small) office subsample consists of offices with 30 or more (fewer than 30) SEC clients. In Table 5, we

¹⁶ We thank the editor for suggesting this analysis.

report a negative association between NAFEE/OFFREV and ADVERSE for both subsamples, suggesting that our findings are not sensitive to audit office size.

4.3.2 Control for Time Trend and Analyses for Nontax/Tax Nonaudit Fees

Potentially, auditor learning could have occurred as auditors became more familiar with the implementation of the SOX 404 audit. To ensure that our results are not driven by auditor learning, we perform additional analysis to control for time trend. Following Rice and Weber (2012), we use the number of years since the inception of SOX 404 (LNSOXYEAR) to control for any time trend in internal control audit reporting. For this analysis, we replace the year dummies with an indicator variable AS5, which equals 1 for years 2007 and 2008 (i.e., AS5 years), and 0 for years 2004-2006 (i.e., AS2 years), and interact AS5 with NAFEE/OFFREV. The results for this analysis are presented in Table 6 left column. Consistent with our main results, NAFEE/OFFREV is significant with a negative sign, suggesting a negative association between nonaudit fees and the likelihood of an adverse SOX 404 opinion under AS2. The interaction term $AS5 \times NAFEE/OFFREV$ is significant with a positive sign, suggesting that the strength of the negative relation between nonaudit fees and the likelihood of an adverse SOX 404 opinion is lower under AS5. Also, the combined effect of $(NAFEE/OFFREV + AS5 \times NAFEE/OFFREV)$ is not significant suggesting that is no significant relation between nonaudit fees and the likelihood of an adverse SOX 404 opinion under AS5.

Separately, Simone et al. (2015) suggest that knowledge spillover from tax nonaudit services can help clients improve their internal controls on a timely basis. To control for this potential knowledge spillover, we examine nontax nonaudit fees (NAFEE_NT/OFFREV) and tax nonaudit fees (NAFEE_T/OFFREV) separately. In Table 6, both NAFEE_NT/OFFREV (middle column) and NAFEE_T/OFFREV (right column) are significant with negative signs, suggesting that the negative relation between nonaudit fees and the likelihood of an adverse SOX 404 opinion under AS2 holds for both nontax and tax nonaudit services. Notably, if our results were driven purely by knowledge spillover from tax nonaudit services, we would *not* have observed significant results for nontax nonaudit fees (NAFEE_NT/OFFREV). Further, the combined coefficient of $(NAFEE_NT/OFFREV + AS5 \times$

NAFEE_NT/OFFREV) is insignificant, which is consistent with our main results suggesting no significant relation between nonaudit fees and the SOX 404 opinion under AS5. By contrast, the combined coefficient of (NAFEE_T/OFFREV + AS5×NAFEE_T/OFFREV) is significant with a negative sign, suggesting that potential knowledge spillover from tax nonaudit services persists under AS5.

4.3.3 Analyses Controlling for Auditor Engagement Risk

Prior research suggests that audit quality is driven by market-based institutional incentives such as reputation loss and litigation exposure. Thus, Hackenbrack and Nelson (1996) suggest that auditors are more likely to utilize the ambiguous criteria in an accounting standard to accommodate and justify a client's aggressive reporting when the engagement risk (i.e., the client-specific risk of litigation and reputation loss) is lower. Hence, a differential effect across clients with different levels of engagement risk would suggest that our findings are likely driven by auditor incentives rather than some confounding effect which may be expected to be similar across all clients regardless of engagement risk.

We investigate whether the negative relation between nonaudit fees and the auditor's propensity to issue an adverse SOX 404 opinion we observe in 2004, 2005 and 2006 holds only for low engagement risk clients. We proxy engagement risk using two alternative measures: (1) the median value of the Stice (1991) litigation risk score (derived from client-specific financial and market information), and (2) industry specific litigation risk based on Francis et al. (1994). We then include the dummy variable indicating high engagement risk (HIGHRISK) and its interaction with our test variable NAFEE/OFFREV in model (1).¹⁷ In the revised model, the main effect NAFEE/OFFREV measures the relation between nonaudit fees and the propensity of the auditor to issue an adverse SOX 404 opinion for clients with low engagement risk, the interaction term HIGHRISK×NAFEE/OFFREV captures the *difference* in the magnitude of the relation for clients with high vs. low engagement risk, and the sum of the coefficients

¹⁷ HIGHRISK is equal to 1 for clients with Stice (1991) litigation risk score greater than or equal to the median score, and 0 otherwise. [Stice (1991) litigation risk score = 315.74 - 0.273AR + 0.423INV + 1.053GROWTH - 0.18FC + 2.276NAME - 1.517TENURE - 323.44INDEPNT + 2725.8VAR + 0.269MV; see Stice (1991) for variable definitions.] Alternatively, HIGHRISK is equal to 1 for clients in the following industries: biotechnology (2833–2836 and 8731–8734), computers (3570–3577 and 7370–7374), electronics (3600–3674), and retail (5200–5961) industries (based on Francis et al. 1994), and 0 otherwise.

for NAFEE/OFFREV and $\text{HIGHRISK} \times \text{NAFEE/OFFREV}$ captures the relation for clients with high engagement risk. The results from these additional tests (untabulated for brevity) indicate that the negative relation between nonaudit fees and the auditor's propensity to issue an adverse SOX audit opinion during 2004-2006 holds for low (but not high) engagement risk clients. These findings suggest that the negative relation we find between nonaudit fees and the likelihood of an adverse SOX 404 opinion is likely driven by auditor incentives rather than some confounding factor.¹⁸

5. CONCLUDING REMARKS

Given the rising importance of nonaudit fees to the Big 4 firms, the question of whether nonaudit fees paid to the incumbent auditor impair auditor independence continues to be an important concern to regulators (e.g., Baumann 2010; Doty 2014; PCAOB 2006; SEC 2000, 2003). In this paper, we provide evidence on the effect of ambiguity in the PCAOB's auditing standards AS2 and AS5 on the relation between nonaudit fees and auditor independence in the context of the SOX 404 audit. Although both AS2 and AS5 have ambiguity (i.e., both use verbal probability expressions that are subject to between-auditor variations in the interpretation of whether a weakness in internal control is material), the ambiguity in AS2 – the applicable standard during 2004-2006 (the first three years) of the SOX 404 audit -- was more severe.

We find a negative relation between nonaudit fees and auditor independence (as measured by the auditor's propensity to issue an adverse SOX 404 opinion) during 2004-2008. Further analysis indicates that this negative relation exists only during the first three years of the SOX 404 audit (years 2004 through 2006), and suggests that the absolute size of this negative relation was declining during this time period. These results are robust to alternative nonaudit fee test variable definitions and model specifications as well as controlling for time trend and examining tax and nontax audit fees separately. Further, consistent with the notion that audit quality is largely driven by engagement risk (i.e., litigation

¹⁸ Potentially, both nonaudit fees and the likelihood of an adverse SOX 404 opinion could be related to financial distress, i.e., distressed firms may be more likely to have control weaknesses due to lack of resources. To alleviate this concern, we re-did our analyses to control for distress by adding to our models a client-specific bankruptcy prediction score based on Zmijewski (1984). Our inferences remain unchanged.

exposure and reputation loss), we find that the negative relation between nonaudit fees and the auditor's propensity to issue an adverse SOX 404 opinion holds for low (but not high) engagement risk clients.

Collectively, our results suggest that nonaudit fees (together with the more severe ambiguity in AS2) lowered the propensity of the auditor to issue an adverse SOX 404 opinion during 2004-2006. In addition, our finding that the negative effect of nonaudit fees on auditor independence becomes weaker over time (and disappears in 2007 and 2008) is consistent with the argument that the clarifications provided by the PCAOB during 2005 and 2006 were effective in reducing ambiguity and thereby improving the quality of SOX 404 audits.

Our findings have important implications for the PCAOB, i.e., suggest that ambiguity in an auditing standard can impair audit quality by affecting auditor behavior. As noted previously, there is limited prior research on the economic consequences of ambiguity in an *auditing* standard. Specifically, Willekens and Simunic (2007) have suggested analytically that ambiguity in an auditing standard can lower audit quality by decreasing auditor effort. Our study contributes to the extant sparse literature on the adverse effects associated with ambiguity in an auditing standard by documenting empirically that impairment of auditor independence can be another channel through which ambiguity in an auditing standard can lower audit quality.

REFERENCES

- Ackert, L. F., B. K. Church, and A. Schneider. 2008. Provision of non-audit services and individuals' investment decisions: experimental evidence. *Research in Accounting Regulation* 20: 177–185.
- Aharony, J., and A. Dotan. 2004. A comparative analysis of auditor, manager and financial analyst interpretations of SFAS 5 disclosure guidelines. *Journal of Business Finance and Accounting* 31 (3): 475–504.
- Amer, T., K. Hackenbrack, and M. Nelson. 1994. Between-auditor differences in the interpretation differences of probability phrases. *Auditing: A Journal of Practice and Theory* 13 (1): 126–136.
- Ashbaugh-Skaife, H., R. LaFond, and B. Mayhew. 2003. Do non-audit services compromise auditor independence? Further evidence. *The Accounting Review* 78 (3): 611–639.
- Ashbaugh-Skaife, H., D. W. Collins, and W. R. Kinney. 2007. The discovery and reporting of internal control deficiencies prior to SOX-mandated audits. *Journal of Accounting and Economics* 44 (1-2): 166–192.
- Ashbaugh-Skaife, H., D. Collins, W. Kinney, and R. LaFond. 2009. The effect of SOX internal control deficiencies on firm risk and cost of equity capital. *Journal of Accounting Research* 47 (1): 1–43.
- Basioudis, I. G., E. Papakonstantinou, and M. A. Geiger. 2008. Audit fees, non-Audit fees and auditor going-concern reporting decisions in the United Kingdom. *Abacus* 44 (3): 284–309.
- Baumann, M. 2010. Presentation to the AICPA National Conference. http://pcaobus.org/News/Speech/Pages/12072010_BaumannAICPAPresentation.aspx. (Accessed 27 November 2016).
- Bedard, J. C., U. Hoitash, and R. Hoitash. 2008. Audit pricing and internal control disclosures among non-accelerated filers. *Research in Accounting Regulation* 20: 103–126.
- Blay, A., and M. Geiger. 2013. Nonaudit fees and auditor independence: evidence from going concern reporting decisions. *Contemporary Accounting Research* 30 (2): 579–606.
- Callaghan, J., Parkash, M., and Singhal, R. 2009. Going-concern audit opinions and the provision of non-audit services: Implications for auditor independence of bankrupt firms. *Auditing: A Journal of Practice & Theory* 28 (1), 153–170.
- Chung, H., and S. Kallapur. 2003. Client importance, non-audit fees, and abnormal accruals. *The Accounting Review* 78 (4): 931–966.
- Citron, D. B., and R. J. Taffler. 1992. The audit report under going-concern uncertainties: An empirical analysis. *Accounting and Business Research* 22 (4), 337–345.
- Costello, A., and R. W. Moerman. 2011. The impact of financial reporting quality on debt contracting: evidence from internal control weakness reports. *Journal of Accounting Research* 49 (1): 97–136.
- Cuccia, A., K. Hackenbrack, and M. Nelson. 1995. The ability of professional standards to mitigate aggressive reporting. *The Accounting Review* 70 (2): 227–248.
- DeAngelo, L. 1981. Auditor size and audit quality. *Journal of Accounting and Economics* 3 (3): 183–199.
- DeFond, M. L., K. Raghunandan, and K. R. Subramanyam. 2002. Do non-audit service fees impair auditor independence? Evidence from going concern audit opinions. *Journal of Accounting Research* 40 (4): 1247–74.
- Deloitte & Touche LLP. 2005. The SEC's roundtable on implementation of internal control reporting provisions: highlights and perspectives.
- Doogar, R., P. Sivadasan, and I Solomon. 2010. The regulation of public company auditing: evidence from the transition to AS5. *Journal of Accounting Research* 48 (4): 795–814.
- Doty, J. 2014. Strategic opportunities and challenges for the auditing profession. AICAP Conference on Current SEC and PCAOB Developments. http://pcaobus.org/News/Speech/Pages/12082014_Doty_AICPA.aspx. (Assessed 27 November 2016).
- Doyle, J., W. Ge, and S. McVay. 2007. Accruals quality and internal control over financial reporting. *The Accounting Review* 82 (5): 1141–1170.
- Ettredge, M., J. Heintz, C. Li, and S. Scholz. 2011. Auditor Realignment Accompanying Implementation of SOX 404 Reporting Requirements. *Accounting Horizons* 25 (1): 17–39.

- Financial Accounting Standards Board (FASB). 1975. Statement of Financial Accounting Standards No. 5: Accounting for contingencies. Stamford, CT: FASB.
- Financial Accounting Standards Board (FASB). 1983. Statement of Financial Accounting Standards No. 77: Reporting by Transferors for Transfers of Receivables with Recourse. Stamford, CT: FASB.
- Francis, J., P. Michas, and M. Yu. 2013. Office size of Big 4 auditors and client restatements. *Contemporary Accounting Research* 30(4): 1626-1661.
- Francis, J., D. Philbrick, and K. Schipper. 1994. Shareholder litigation and corporate disclosures. *Journal of Accounting Research* 32 (2): 137–164.
- Frankel, R., M. Johnson, and K. Nelson. 2002. Auditor independence and earning quality. *The Accounting Review* 77 (Supplement): 71–105.
- Geiger, M., and Rama, D. 2003. Audit fees, non-audit fees, and auditor reporting on stressed companies. *Auditing: A Journal of Practice & Theory* 22 (2): 53–69.
- Gibbins, M., and S. Salterio, and A. Webb. 2001. Evidence about auditor-client management negotiation concerning client’s financial reporting. *Journal of Accounting Research* 39 (3): 535–563.
- Gibbins, M., and S. McCracken and S. Salterio. 2005. Negotiations over accounting issues: The congruency of audit partner and chief financial officer recalls. *Auditing: A Journal of Practice & Theory* 25 (Supplement): 171–193.
- Gleason, C. A., and L. F. Mills. 2011. Do auditor-provided tax services improve the estimate of tax reserves? *Contemporary Accounting Research* 28 (5): 1484–1509.
- Gul, F., B. Jaggi, and G. Krishnan. 2007. Auditor independence: Evidence on the joint effects of auditor tenure and nonaudit fees. *Auditing: A Journal of Practice and Theory* 26 (2): 117–142.
- Hackenbrack, K., and M. W. Nelson. 1996. Auditors’ incentives and their application of financial accounting standards. *The Accounting Review* 71 (1): 43–59.
- Harris, S. 2014. The rise of advisory services in audit firms. Speech delivered at Practising Law Institute 12th annual Directors’ Institute on Corporate Governance (November 24).
- Higgs, J., and T. Skantz. 2006. Audit and nonaudit fees and the market’s reaction to earnings announcements. *Auditing: A Journal of Practice and Theory* 25 (1): 1–26.
- Hogan, C. E., and M. S. Wilkins. 2008. Evidence on the audit risk model: Do auditors increase audit fees in the presence of internal control deficiencies? *Contemporary Accounting Research* 25 (1): 219–242.
- Joe, J., and S. Vandervelde. 2007. Do auditor-provided nonaudit services improve audit effectiveness? *Contemporary Accounting Research* 24 (2): 467–487.
- Kadous, K., S. J. Kennedy, and M. E. Peecher. 2003. The effect of quality assessment and directional goal commitment on auditors’ acceptance of client-preferred accounting methods. *The Accounting Review* 78 (3): 759–778.
- Kanagaretnam, K., G. V., Krishnan, and G. J. Lobo. 2010. An empirical analysis of auditor independence in the banking industry. *The Accounting Review* 85 (6): 2011–2046.
- Khurana, I., and K. Raman. 2006. Do investors care about the auditor’s economic dependence on the client? *Contemporary Accounting Research* 23(4): 977–1016.
- Kinney, W. R., Z. Palmrose, and S. Scholz. 2004. Auditor independence, non-audit services, and restatements: Was the U.S. government right? *Journal of Accounting Research* 42 (3): 561–88.
- Knechel, W. 2013. Do auditing standards matter? *Current Issues in Auditing* 7(2): A1-A16.
- Koh, K., S. Rajgopal, and S. Srinivasan. 2013. Non-audit services and financial reporting quality: evidence from 1978 to 1980. *Review of Accounting Studies* 18 (1): 1–33.
- Krishnan, J., H. Sami, and Y. Zhang. 2005. Does the provision of nonaudit services affect investor perceptions of auditor independence? *Auditing: A Journal of Practice & Theory* 24 (2): 111–135.
- Larcker, D. F., and S. A. Richardson. 2004. Fees paid to audit firms, accrual choices, and corporate governance. *Journal of Accounting Research* 42 (3): 625-658.
- Li, C. 2009. Does client importance affect auditor independence at the office level? Empirical evidence from going concern opinions. *Contemporary Accounting Research* 26 (1): 201–230.

- Mauldin, E. G. 2003. Improving auditor independence – the principles vs. standards debate: some evidence about the effects of type and provider of non-audit services on professional investors' judgments. *Research in Accounting Regulation* 16: 159–169.
- Nelson, M. 2003. Behavioral evidence on the effects of principles and rules-based standards. *Accounting Horizons* 17 (1): 91–104.
- Nelson, M. W., and W. R. Kinney. 1997. The effect of ambiguity on loss contingency reporting judgments. *The Accounting Review* 72 (2): 257–274.
- Nelson, M.W., J. A. Elliott, and R. L. Tarpley. 2002. Evidence from auditors about managers' and auditors' earnings management decisions. *The Accounting Review* 77 (Supplement): 175–202.
- Nelson, M.W., J. A. Elliott, and R. L. Tarpley. 2003. How are earnings managed? Examples from auditors. *Accounting Horizons* 17 (Supplement): 17–35.
- O'Hara, N. 2005. How Companies go from deficiencies to weaknesses. Compliance Week. August, 2.
- Paterson, J. S., and A. Valencia. 2011. The effects of recurring and nonrecurring tax, audit-related, and other nonaudit services on auditor independence. *Contemporary Accounting Research* 28 (5): 1510–1536.
- Petersen, M. A. 2009. Estimating standard errors in finance panel data sets: Comparing approaches. *Review of Financial Studies* 22 (1): 435–480.
- Public Company Accounting Oversight Board (PCAOB). 2004. *An audit of internal control over financial reporting performed in conjunction with an audit of financial statements*. Auditing Standard No. 2. Washington, D.C.: PCAOB.
- Public Company Accounting Oversight Board (PCAOB). 2006. Implementation schedule for certain ethics and independence rules concerning independence, tax services, and contingent fees (March). http://pcaobus.org/Rules/Rulemaking/Docket017/2006-03-28_Release_2006-001.pdf. (Accessed at 27 November 2016).
- Public Company Accounting Oversight Board (PCAOB). 2007. An audit of internal control over financial reporting. Auditing Standard No. 5. Washington, D.C.: PCAOB.
- Raghunandan, K., W. Read, and S. Whisenant. 2003. Initial evidence on the association between nonaudit fees and restated financial statements. *Accounting Horizons* 17 (3): 223–34.
- Raghunandan, K., and D. V. Rama. 2006. SOX Section 404 Material weakness disclosure and audit fees. *Auditing: A Journal of Practice & Theory* 25 (1): 99–114.
- Reynolds, J., D. Deis, and J. Francis. 2004. Professional service fees and auditor objectivity. *Auditing: A Journal of Practice & Theory* 23 (1): 29–52.
- Reynolds, J. K., and J. R. Francis. 2001. Does size matter? The influence of large clients on office-level auditor reporting decisions. *Journal of Accounting and Economics* 30 (3): 375–400.
- Rice, S., and D. Weber. 2012. How effective is internal control reporting under SOX 404? Determinants of the non-disclosure of existing material weaknesses. *Journal of Accounting Research* 50(3): 81–843.
- Rittenberg, L., K. Johnstone, and A. Gramling. 2010. *Auditing: A Business Risk Approach*. South-Western Cengage Learning.
- Roberts, M. L. 2010. Independence, impartiality, and advocacy in client conflicts. *Research in Accounting Regulation* 22 (1): 29–39.
- Securities and Exchange Commission (SEC). 2000. *Final Rule: Revision of the Commission's Auditor Independence Requirements*. Release Nos. 33-7919; 34-43602; 35-27279; IC-24744; IA-1911; FR-56. Washington, D.C.
- Securities and Exchange Commission (SEC). 2003. *Strengthening the Commission's Requirements Regarding Auditor Independence*. Release Nos. 33-8183A; 34-47265A; 35-27642A; IC-25915A; IA-2103A, FR-68, File No. S7-49-02. Washington, D.C.
- Simone, L. D., M. S. Ege, and B. Stomberg. 2015. Internal Control Quality: the Role of Auditor-Provided Tax Services. *The Accounting Review* 90 (4): 1469–1496.
- Srinidhi, B., and F. Gul. 2007. The differential effects of auditors' nonaudit and audit fees on accrual quality. *Contemporary Accounting Research* 24 (2): 595–629.

- Steinberg, R. 2006. Getting things right on Section 404. *Compliance Week*. June, 6.
- Stice, J. 1991. Using financial and market information to identify pre-engagement factors associated with lawsuits against auditors. *The Accounting Review* 66 (3): 516–533.
- Ye, M., and D. A. Simunic. 2013. The Economics of Setting Auditing Standards. *Contemporary Accounting Research* 30 (3): 1191-1215.
- U.S. House of Representatives. 2002. Sarbanes-Oxley Act of 2002 (SOX). Pub. L. 107-204, 116 Stat. 745. Washington, DC.
- U.S. House of Representatives. 2010. Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act). Pub. L. 111–203 [H. R. 4173] 124 Stat. 1376. Washington, DC.
- Willekens, M., and D. Simunic. 2007. Precision in auditing standards: effects on auditor and director liability and the supply and demand for audit services. *Accounting and Business Research* 37 (3): 217–232.
- Zhang, Y., J. Zhou, and N. Zhou. 2007. Audit committee quality, auditor independence, and internal control weaknesses. *Journal of Accounting and Public Policy* 26 (3): 300–327.
- Zmijewski, M. 1984. Methodological issues related to the estimation of financial distress prediction models. *Journal of Accounting Research* 22 (Supplement): 59–82.

Table 1 Variable Definitions

Variable	Definition
ADVERSE	indicator variable equal to 1 if the auditor issued an adverse SOX 404 opinion on the effectiveness of the client's internal control over financial reporting (ICFR) for the current year, 0 otherwise.
NAFEE/OFFREV	client nonaudit fees divided by total local office revenues for the current year.
AFEE/OFFREV	client audit fees divided by total local office revenues for the current year.
LNAT	natural logarithm of total assets at the end of current year.
LEV	total liabilities divided by total assets at the end of current year.
LOSS	indicator variable equal to 1 if client has negative net income at the end of current year, 0 otherwise.
GROWTH	sales growth from prior year to current year.
RECEIVABLE	total accounts receivables divided by total assets at the end of current year.
INVENTORY	total inventories divided by total assets at the end of current year.
SEGMENT	natural log of the number of client business segments in the current year.
RESTRUCT	indicator variable equal to 1 if the client had a restructuring in the current year, 0 otherwise.
FOREIGN	indicator variable equal to 1 if the client has foreign operations, 0 otherwise.
RESTATE	indicator variable equal to 1 if in the current year the client announced a restatement of previously issued financial reports, 0 otherwise.
GC	indicator variable equal to 1 if the client received a going concern auditor opinion on financial statements, 0 otherwise.
BIG4	indicator variable equal to 1 if the auditor is a Big 4 auditor in the current year, 0 otherwise.
OFFSIZE	audit office size calculated as the number of SEC clients for the local office (Francis <i>et al.</i> 2013).
LAGADVERSE	indicator variable equal to 1 if the client received an adverse SOX 404 opinion in the prior year, 0 otherwise. For 2004 (the first year of the SOX 404 audit), the prior year's SOX 302 opinion is used as a proxy.
AUDCHG	indicator variable equal to 1 if there is auditor change in the current year, 0 otherwise.
LNSOXYEAR	natural log of the number of years since the inception of SOX 404, to control for time trend in internal control audit reporting (Rice and Weber 2012).
AS5	indicator variable equal to 1 if the current year is 2007 or 2008 for which Auditing Standard No. 5 is effective, 0 otherwise.
NAFEE_NT/OFFREV	client nonaudit fees excluding tax fees divided by total local office revenues for the current year.
NAFEE_T/OFFREV	client tax fees divided by total local office revenues for the current year.

Table 2 Descriptive Statistics

N =	ADVERSE = 1		ADVERSE = 0		t-stat	p-value
	1680		15692			
	Mean	Median	Mean	Median		
NAFEE/OFFREV	0.031	0.006	0.030	0.006	-0.96	0.336
AFEE/OFFREV	0.207	0.078	0.147	0.049	-8.45	0.000
LNAT	6.406	6.248	7.092	6.993	14.67	0.000
LEV	0.575	0.554	0.568	0.565	-0.84	0.403
LOSS	0.420	0.000	0.224	0.000	-15.34	0.000
GROWTH	0.200	0.101	0.192	0.113	-0.70	0.484
RECEIVABLE	0.189	0.126	0.204	0.127	2.99	0.003
INVENTORY	0.087	0.028	0.071	0.016	-5.04	0.000
SEGMENT	0.738	0.693	0.651	0.000	-4.24	0.000
RESTRUCT	0.315	0.000	0.239	0.000	-6.29	0.000
FOREIGN	0.384	0.000	0.363	0.000	-1.64	0.100
RESTATE	0.123	0.000	0.034	0.000	-10.71	0.000
GC	0.058	0.000	0.015	0.000	-7.23	0.000
BIG4	0.742	1.000	0.827	1.000	7.52	0.000
OFFSIZE	47.51	21.00	52.76	21.00	2.48	0.013
AUDCHG	0.132	0.000	0.056	0.000	-8.87	0.000
LAGADVERSE	0.354	0.000	0.064	0.000	-24.08	0.000

Note: p-values are two-tailed. Variable definitions are provided in Table 1.

Table 3 Logistic Regression of SOX 404 Audit Opinions

Dep. Var = ADVERSE

	+/-	Coeff.	Chi-sqr.	p-value
NAFEE/OFFREV	-	-1.557	8.1435	0.002
AFEE/OFFREV	+	1.066	54.156	0.000
LNAT	-	-0.135	38.486	0.000
LEV	+	0.332	8.2423	0.002
LOSS	+	0.597	68.077	0.000
GROWTH	+	0.011	0.0362	0.425
RECEIVABLE	+	-0.081	0.2188	0.320
INVENTORY	+	0.761	10.670	0.001
SEGMENT	+	0.104	5.9738	0.007
RESTRUCT	+	0.171	6.0144	0.007
FOREIGN	+	0.172	6.4980	0.005
RESTATE	+	0.782	45.470	0.000
GC	+	0.471	8.1364	0.002
BIG4	+	0.010	0.0127	0.455
OFFSIZE	+	-0.0002	0.3054	0.290
AUDCHG	+	0.407	18.051	0.000
LAGADVERSE	+	1.844	517.35	0.000
YR05	-	-0.949	126.84	0.000
YR06	-	-1.171	202.03	0.000
YR07	-	-1.298	242.99	0.000
YR08	-	-2.160	420.38	0.000
Intercept		-1.485	89.238	0.000
N =			17372	
ADVERSE =			1680	
Chi-Square =			1951.8	
Pseudo R ² =			22.6%	

Note: p-values are one-tailed for signed expectations. Standard errors are clustered by company to correct time series dependence for a given company across years. Variable definitions are provided in Table 1.

**Table 4 Logistic Regression of SOX 404 Audit Opinions
– Comparison across Years**

Dep. Var = ADVERSE

	+/-	Coeff.	Chi-sqr.	p-value
NAFEE/OFFREV	-	-2.803	10.218	0.001
YR05 × NAFEE/OFFREV	+	0.986	0.543	0.493
YR06 × NAFEE/OFFREV	+	1.149	0.612	0.217
YR07 × NAFEE/OFFREV	+	2.077	2.418	0.060
YR08 × NAFEE/OFFREV	+	3.342	5.516	0.009
AFEE/OFFREV	+	1.067	54.038	0.000
LNAT	-	-0.134	38.137	0.000
LEV	+	0.333	8.309	0.002
LOSS	+	0.597	75.242	0.000
GROWTH	+	0.009	0.024	0.439
RECEIVABLE	+	-0.073	0.179	0.336
INVENTORY	+	0.749	10.339	0.001
SEGMENT	+	0.105	6.072	0.007
RESTRUCT	+	0.173	6.163	0.007
FOREIGN	+	0.171	6.444	0.006
RESTATE	+	0.782	56.306	0.000
GC	+	0.466	8.029	0.002
BIG4	+	0.005	0.003	0.479
OFFSIZE	+	-0.0003	0.397	0.264
AUDCHG	+	0.409	18.240	0.000
LAGADVERSE	+	1.853	678.540	0.000
YR05	-	-0.980	110.137	0.000
YR06	-	-1.207	171.059	0.000
YR07	-	-1.366	207.288	0.000
YR08	-	-2.279	361.141	0.000
Intercept		-1.447	83.896	0.000
N =			17372	
ADVERSE =			1680	
Chi-Square =			1957.5	
Pseudo R2 =			22.7%	

Test of NAFEE/OFFREV coefficient by year

	Sum of Coeff.	p-value
2004: NAFEE/OFFREV	-2.803	0.001
2005: NAFEE/OFFREV + YR05 × NAFEE/OFFREV	-1.817	0.042
2006: NAFEE/OFFREV + YR06 × NAFEE/OFFREV	-1.654	0.063
2007: NAFEE/OFFREV + YR07 × NAFEE/OFFREV	-0.726	0.250
2008: NAFEE/OFFREV + YR08 × NAFEE/OFFREV	0.538	0.327

Note: p-values are one-tailed for signed expectations. Standard errors are clustered by company to correct time series dependence for a given company across years. Variable definitions are provided in Table 1.

Table 5 Logistic Regression of SOX 404 Audit Opinions - Large and Small Offices

Dep. Var = ADVERSE					
	Exp.Sign	Large Offices		Small Offices	
		Coeff.	p-value	Coeff.	p-value
NAFEE/OFFREV	-	-6.446	0.009	-1.132	0.022
AFEE/OFFREV	+	2.563	0.001	1.230	0.000
LNAT	-	-0.161	0.000	-0.125	0.000
LEV	+	0.358	0.016	0.365	0.011
LOSS	+	0.355	0.001	0.754	0.000
GROWTH	+	-0.101	0.162	0.064	0.348
RECEIVABLE	+	0.018	0.473	-0.079	0.363
INVENTORY	+	0.159	0.350	1.091	0.000
SEGMENT	+	0.133	0.067	0.050	0.197
RESTRUCT	+	0.249	0.009	0.092	0.166
FOREIGN	+	0.187	0.033	0.164	0.036
RESTATE	+	0.915	0.000	0.689	0.000
GC	+	0.132	0.319	0.586	0.002
BIG4	+	0.081	0.383	0.031	0.385
OFFSIZE	+	-0.001	0.148	0.015	0.006
AUDCHG	+	0.459	0.005	0.396	0.000
LAGADVERSE	+	1.988	0.000	1.735	0.000
YR05	-	-0.925	0.000	-0.953	0.000
YR06	-	-1.149	0.000	-1.175	0.000
YR07	-	-1.255	0.000	-1.299	0.000
YR08	-	-2.489	0.000	-2.024	0.000
Intercept		-1.330	0.000	-1.867	0.000
N =		7119		10253	
ADVERSE =		652		1028	
Chi-Square =		760.4		1233.3	
Pseudo R2 =		22.1%		23.7%	

Note: Table 5 reports results for large and small local audit offices. Following Francis et al. (2013, p.1652), offices are large if they have 30 or more SEC clients, small otherwise. P-values are one-tailed for signed expectations. Standard errors are clustered by company to correct time series dependence for a given company across years. Variable definitions are provided in Table 1.

Table 6 Logistic Regression of SOX 404 Audit Opinions - Control for Time Trend and Analyses for Nontax/Tax Nonaudit Fees

Dep. Var = ADVERSE	+/-	All Nonaudit Fees		NonTax(NT)- Nonaudit Fees		Tax(T)- Nonaudit Fees	
		Coeff.	p-value	Coeff.	p-value	Coeff.	p-value
NAFEE/OFFREV	-	-2.216	0.000				
AS5 × NAFEE/OFFREV	+	1.924	0.024				
NAFEE_NT/OFFREV	-			-1.684	0.022		
AS5 × NAFEE_NT/OFFREV	+			1.543	0.123		
NAFEE_T/OFFREV	-					-3.429	0.002
AS5 × NAFEE_T/OFFREV	?					0.717	0.368
AS5	+	0.056	0.292	0.111	0.147	0.133	0.105
AFEE/OFFREV	+	1.078	0.000	1.012	0.000	1.089	0.000
LNAT	-	-0.133	0.000	-0.180	0.000	-0.179	0.000
LEV	+	0.320	0.003	0.675	0.000	0.673	0.000
LOSS	+	0.575	0.000	0.512	0.000	0.502	0.000
GROWTH	+	0.016	0.391	0.001	0.496	0.001	0.494
RECEIVABLE	+	-0.085	0.312	-0.345	0.033	-0.345	0.033
INVENTORY	+	0.701	0.001	0.650	0.004	0.643	0.004
SEGMENT	+	0.109	0.005	0.123	0.003	0.130	0.002
RESTRUCT	+	0.169	0.008	0.179	0.009	0.201	0.003
FOREIGN	+	0.165	0.007	0.143	0.021	0.134	0.029
RESTATE	+	0.790	0.000	0.756	0.000	0.749	0.000
GC	+	0.452	0.003	0.640	0.001	0.635	0.001
BIG4	+	0.000	0.499	0.043	0.330	0.048	0.310
OFFSIZE	+	-0.0003	0.264	0.0001	0.368	0.0001	0.411
AUDCHG	+	0.401	0.000	0.380	0.000	0.371	0.000
LAGADVERSE	+	1.836	0.000	1.823	0.000	1.819	0.000
LNSOXYEAR	-	-1.186	0.000	-1.183	0.000	-1.194	0.000
Intercept		-1.456	0.000	-1.344	0.000	-1.336	0.000
N =		17372		17329		17329	
ADVERSE =		1680		1673		1673	
Chi-Square =		1917.9		1937.9		1946.4	
Pseudo R2 =		22.2%		22.3%		22.4%	
Test of Combined Coefficients				Sum of	p-value		
				Coeff.			
NAFEE/OFFREV + AS5 × NAFEE/OFFREV				-0.292	0.362		
NAFEE_NT/OFFREV + AS5 × NAFEE_NT/OFFREV				-0.141	0.446		
NAFEE_T/OFFREV + AS5 × NAFEE_T/OFFREV				-2.712	0.075		

Note: Table 6 reports results controlling for time trend to proxy for auditor learning of the SOX 404 audit (variable LNSOXYEAR) following Rice and Weber (2012). Also, the left, middle and right columns report results for total nonaudit fees, nonaudit fees excluding tax fees, and nonaudit tax fees, respectively. The number of observations in the middle and right columns are smaller due to missing data for types of nonaudit fees. P-values are one-tailed for signed expectations. Standard errors are clustered by company to correct time series dependence for a given company across years. Variable definitions are provided in Table 1.