Journal of Accounting Research

DOI: 10.1111/j.1475-679X.2010.00380.x
Journal of Accounting Research
Vol. 48 No. 4 September 2010
Printed in U.S.A.

CHICAGO BOOTH

The Regulation of Public Company Auditing: Evidence from the Transition to AS5

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Received 9 March 2009; accepted 14 February 2010

ABSTRACT

The replacement of Auditing Standard No. 2 (AS2) by Auditing Standard No. 5 (AS5) creates a natural experiment that sheds light on (1) potential inefficiencies caused by regulatory responses to a political crisis and (2) audit efficiency and effectiveness improvements resulting from the risk-based approach embodied in AS5. We study these effects by examining the impact of AS5 on audit fees. We find that AS5 audit fees are aligned with auditee fraud risk, but not AS2 audit fees. Second, relative to AS2 benchmark levels, AS5 audit fees are, on average, lower for all auditees. Third, relative to AS2 benchmarks, AS5 fees are lower for lower-fraud-risk auditees but greater for higher-fraud-risk auditees. Overall, the evidence is consistent with (1) initial overregulation (via AS2) followed by reform (via AS5) and (2) auditors deploying a risk-based audit approach to obtain both efficiency and potential effectiveness gains in audit production.

1. *Introduction*

In response to a political crisis brought on by a string of highly visible financial frauds and alleged audit failures, Congress created the Public

*University of Illinois. We thank Robert E. Moritz (Chairman and Senior Partner, PricewaterhouseCoopers LLP) for stimulating our interest in this topic. We also thank A. Rashad Abdel-Khalik, Susan Krische, Marion E. McHugh III, Bill Messier, Mark Peecher, Paul Polinski, Rachel Schwartz, Theodore Sougiannis, I-Ling Wang, William F. Wright, Steve Wu, and seminar participants at the University of Illinois for helpful comments.

Company Accounting Oversight Board (*Board*), thereby ending an era of self-regulation by the U.S. public-company auditing profession.[1] Ball [2009, p. 290] characterizes the Board as "... legislator, policeman, judge and jury." He further observes that it "... has the capacity to regulate the audit industry with an iron fist." The Board's first substantive regulation, Auditing Standard Number 2 (AS2), was widely criticized as an example of *regulatory overreach* (see e.g., SEC [2005]) and was soon replaced by Auditing Standard Number 5 (AS5). The replacement of AS2 by AS5 creates a natural experiment: the new regulation changed the audit approach prescribed in AS2 but left largely unchanged the institutional context of public company audits, including the attendant auditor liability regime.[2]

An analysis of the impact of AS5 is informative on at least two counts. First, it sheds light on the economic impact of regulation resulting from a political crisis. Scholars contend that crisis often triggers overregulation or overreaction by the regulatee, or both (Aizenman [2009], Coates [2009], Hart [2009], Mahoney [2009]). Further, once adopted, a status quo bias often impedes the repeal of inefficient regulation (Fernandez and Rodrik [1991]). The costs of crisis-induced overreactions, however, seldom are discernible (since the inefficiency is relative to an unobserved benchmark). The adoption of AS5 offers a rare opportunity to estimate such costs, that is, the costs of potential overregulation in, or auditor overreaction to, AS2.[3]

Second, AS2 and AS5 both specify standards for *audits of internal controls over financial reporting*, an antifraud measure mandated by Section 404 of the Sarbanes-Oxley Act of 2002 (PL 107–204, 116 Stat. 745).[4] Relative to AS2, AS5 prescribes a more flexible, top-down risk-based audit approach and encourages auditors to incorporate their professional judgments about auditee risk of material misstatement, particularly fraud risk, in determining the extent of audit procedures.[5] Skepticism about auditors' ability to implement AS5 led both the Board and the SEC to promise to monitor the

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[1] Title 1 of the Act defines the Board's charge as both enacting auditing standards and enforcing compliance with those standards by conducting periodic inspections of public company auditors.

[2] We use the terms *auditor* and *firm* interchangeably to refer to public accounting firms. We refer to individual auditors by name, to Deloitte LLP, Ernst and Young LLP, KPMG LLP, and PricewaterhouseCoopers LLP collectively as the *Big Four* auditors, and to all other auditors as *non–Big-Four* auditors.

[3] If, however, AS5 were to eliminate only part of the AS2 costs, our estimate would understate the true cost of AS2.

[4] AS2 (PCAOB [2004]), titled "An Audit of Internal Control over Financial Reporting Performed in Conjunction With an Audit of Financial Statements" applied to audits for fiscal years ending on or after November 15, 2004 and before November 15, 2007. AS5 (PCAOB [2007]), titled "An Audit of Internal Control over Financial Reporting That Is Integrated with an Audit of Financial Statements and Related Independence Rule and Conforming Amendments" was adopted on June 12, 2006 and applies to all audits for fiscal years ending on or after November 15, 2007.

[5] The appendix summarizes other key differences between AS2 and AS5.

impact of AS5 (Olson [2007], Cox [2007a]). Another reason to study the impact of AS5, therefore, is to shed light (albeit indirectly) on auditors' ability to judge auditee risk, particularly fraud risk, and to enhance audit efficiency and audit effectiveness by allocating audit labor in line with such judgments. In this paper, we present the first systematic evidence on the impact of AS5 on audit fees and, thus, on the realignment of audit labor usage and auditee fraud risk.[6]

Using a sample of 3,023 U.S.-based Big Four accelerated filer auditees and measures of auditee fraud risk proposed by Dechow et al. [2008] as proxies for auditors' fraud risk assessments, we investigate three research questions pertaining to the transition from AS2 to AS5.[7] First, does the *within-period* association between audit fees and auditee fraud risk increase after AS5? We find that during the AS5 period, higher-fraud-risk auditees pay higher fees (by about 11%, p-value < 0.01) than do lower-fraud-risk auditees. By contrast, AS2 fees do not exhibit systematic association with auditee fraud risk. Thus, AS5 appears to have met the regulatory goal of better directing audit resources to higher-fraud-risk settings.

The next two questions compare AS5 audit fees to AS2 benchmarks, that is, they address *between-period* changes in audit fees. Our second research question is: Are AS5 audit fees, on average, lower than AS2 benchmarks? We find AS5 fees to be lower (by about 4%, p-value < 0.05) than AS2 benchmarks. By contrast, AS2 fees do not differ from their corresponding benchmarks. The decline in AS5 fees is not, therefore, reflective of a preexisting trend.[8] Consistent with regulatory intent, AS5 appears, on average, to reduce audit fees.

Third, how does AS5 affect fees for higher-fraud-risk auditees?[9] We find that, relative to AS2 benchmarks, AS5 fees for higher-fraud-risk auditees increase (by about 5%, p-value < 0.10). Lower-fraud-risk auditees, by contrast, experience an 8% year-to-year decline during this period. We find no

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[6] Prior research shows that audit fees largely are a function of audit labor usage (O'Keefe, Simunic, and Stein [1994a], Bell, Landsman, and Shackelford [2001], Bell, Doogar, Solomon [2008]). In a competitive audit market—a maintained hypothesis throughout this study—labor savings resulting from AS5 can be expected to lead to audit fee reductions.

[7] AS2 applied only to accelerated filers, most of which are Big Four auditees. As we discuss later, our principal conclusions are insensitive to (1) use of the Beneish [1999] fraud risk measure in lieu of the Dechow et al. fraud risk score and (2) the inclusion of non–Big-Four auditees in the analysis (see the related discussion in section 4.4).

[8] By verifying that our findings do not reflect a preexisting trend we, in effect, implement a difference-in-differences design recommended for studies of natural policy experiments (Cameron and Trivedi [2005]).

[9] For higher-risk auditees, AS5 may, by directing greater audit attention to higher-fraud-risk areas, increase both labor usage and audit effectiveness (we discuss such substitution effects in more detail in section 2). By contrast, for lower-fraud-risk auditees, there is no theoretical ambiguity with respect to AS5 outcomes relative to AS2: if AS5 is more efficient than AS2, AS5 fees should be lower than AS2 levels. For completeness, we report and discuss throughout the paper results with respect to both higher- and lower-fraud-risk auditees.

comparable pattern of changes during the last two years of AS2. This finding is consistent with auditors improving audit effectiveness (and thus, audit quality) by reallocating audit labor savings from lower-fraud-risk engagements to higher-fraud-risk engagements.

We present the rest of the paper as follows. In section 2, we review prior related research and spell out our research expectations. In section 3, we describe the sample and the research method. We present results in section 4 and provide concluding comments in section 5.

2. *Prior Research, Research Questions, and Expectations*

Auditing, like may other professional services, is often characterized as a credence good (i.e., the quality of an external audit is difficult to determine). Darby and Karni [1973] observe that in the presence of *quality uncertainty*, regulation can improve market functioning.[10] Auditing standards play such a role by providing floors for acceptable quality: failure to meet these standards leads to professional and legal penalties, including and up to the forfeiture of the entire bond posted by the firm.[11] For auditors, the need to meet standards dictates labor usage and changes in standards can be expected to lead to changes in audit labor usage.

While the Securities Act of 1933 formally empowers the Securities and Exchange Commission (SEC) to set standards for public company audits, in practice, the SEC had delegated the task to the American Institute of Certified Public Accountants. This arrangement of professional self-regulation was ended by the Sarbanes-Oxley Act of 2002 (hereafter, *the Act*). Most notably, the Act created a new statutory entity, the Board, and charged it with both setting standards for audits of public companies and monitoring compliance with those standards.

A shift from professional self-regulation to standard setting and monitoring by a statutory regulator ultimately answerable to the legislature can be expected to significantly alter the nature of the resulting standards. Driven by incentives to preserve reputation, authority, or political credibility, such regulators can be expected to act differently from self-interested market participants who internalize all of the costs—including the

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[10] Several alternatives to regulation as the solution to quality uncertainty problems have been discussed in the literature. Akerlof [1970] argues that counteracting institutions, for example, brand names or professional licensing, can help overcome market failures stemming from quality uncertainty. Klein and Leffler [1981] demonstrate that sunk costs, such as investments in brand names (or in acquiring costly professional certification), can serve as bonds that motivate the producer to provide a desired level of quality. DeAngelo [1981] and Dopuch and Simunic [1982] build upon these ideas by arguing that large audit firms' investment in brand names represents an effort to credibly position themselves as producers of quality-differentiated (i.e., higher quality) audits.

[11] The circumstances of Arthur Andersen LLP's withdrawal from the audit market provide an example.

opportunity costs—of the standard. Statutory regulation, therefore, may result in either over- or underregulation (Kane [1990], Boot and Thakor [1993], Goodhart [1996], Goodhart et al. [1998]). Aizenman [2009], however, argues that regulation following a costly political crisis is especially likely to result in overregulation. Hart [2009, p. 444] notes that the Act that created the Board was a response to crisis-induced political pressure on Congress "... so great that nonintervention was not an option." Given this historical context, there are reasons to expect the Board's first substantive standard, AS2, to result in overregulation.

Even if AS2 were efficient per se, it is possible that auditors, subjected for the first time to a statutory monitoring process, may have overaudited (e.g., to reduce the risk of being second-guessed during the Board's postaudit inspections) (SEC [2005], Coates [2009], Mahoney [2009]). Overall, either because it was poorly designed or because of the manner in which it was implemented, or both, AS2 very well may have stimulated inefficient auditing.

Costs imposed by inefficient standards usually are hard to measure. Fernandez and Rodrik [1991] argue that inefficient regulation, once adopted, is difficult to measure and reverse: the harm caused is relative to an unobserved benchmark (a hypothetical efficient regulation). Consequently, the replacement of AS2 by AS5 offers a rare opportunity to present empirical evidence on potential regulatory overreach.

How might AS5 affect audit labor usage, and thus, audit fees? Extant research suggests that audit labor usage varies systematically with auditee riskiness (Davis, Ricchiute, and Trompeter [1993], O'Keefe, Simunic, and Stein [1994a], Bell, Landsman, and Shackelford [2001], Bell, Doogar, and Solomon [2008]) and that auditor liability regimes affect auditor conduct (e.g., Choi, Doogar, and Ganguly [2004]). A key objective of AS5 was to encourage auditors to use greater professional judgment—relative to AS2—in assessing auditee fraud risk and to incorporate those risk assessments in their choice of audit procedures. AS5 did not, however, alter much of the extant institutional context of public company auditing, including, in particular, the public-company auditor liability regime. Overall, therefore, we expect AS5 to affect audit labor usage primarily through its impact on auditors' risk assessments (particularly, fraud risk).

Bell, Doogar, and Solomon [2008] argue that a risk-based audit approach is more likely to yield efficiency gains on less risky engagements (by helping the auditor eliminate redundant audit procedures) and to improve audit effectiveness on more risky engagements (by better focusing the auditor's attention on key risks). Consequently, we predict that for less risky auditees AS5 labor usage and audit fees, on average, will be lower than their AS2 levels. For more risky auditees, however, a risk-based approach may reveal fewer areas of redundancy or reveal new areas of concern. For such auditees, the shift in AS5 labor usage and audit fees, therefore, is ambiguous: depending on how AS5 affects task (or labor) substitution rates in the audit

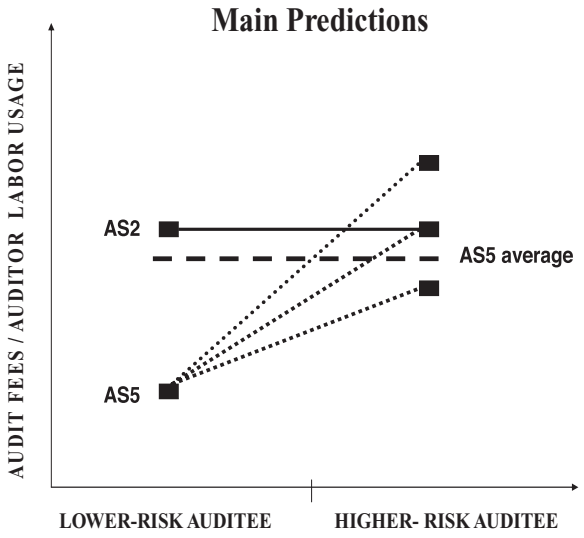

FIG. 1.—The first research question addresses whether AS5 adoption shifts labor usage from the *AS2* line to one of the three *AS5* lines, that is, increases the slope of audit fees in auditee fraud risk. The second research question addresses whether, after the transition, the average fee shifts from the *AS2* line to the *AS5 average* line. The third research question addresses whether, for higher risk auditees, AS5 fees are lower, not different from or higher than, their AS2 benchmarks, that is, which of the three AS5 lines obtains after the transition to AS5.

production function, AS5 labor usage and fees may be lower, the same as, or higher than, their AS2 levels.[12]

This line of reasoning leads us to investigate three research questions with respect to AS5 audit fees (and labor usage). First, relative to AS2, does AS5 increase the association between audit fees and auditee fraud risk? Second, are AS5 audit fees, on average, lower than AS2 benchmarks? Third, how does AS5 affect fees for higher-fraud-risk auditees?

Figure 1 sets out, graphically, our expectations with respect to the three research questions. The *AS2* line (solid) depicts a setting in which the extant standard is such that audit effort does not vary with auditee riskiness (a one-size-fits-all setting). The three *AS5* lines (dotted) depict our expectations with respect to possible outcomes under a standard that encourages a closer alignment of audit labor usage with auditee riskiness. The top-most line depicts the case in which, possibly due to substitution effects, labor

[12] An informal characterization of such substitution effects is as follows. In a competitive audit market, subject to the frictions imposed by auditor-switching costs, currently lower-risk auditees would defect were the auditor not to charge a competitive fee (and by implication, to allocate labor efficiently). Such market discipline, coupled with binding capacity constraints and an unchanged auditor liability constraint, would lead auditors to reallocate AS5 labor savings from lower-fraud-risk auditees to higher-fraud-risk auditees.

usage on lower-fraud-risk auditees is lower, while usage for higher-fraud risk auditees is higher, under the new standard than under the earlier standard. The line in the middle depicts the case in which the new standard reduces audit labor usage on lower-fraud-risk auditees but leaves unchanged usage on higher-fraud-risk auditees. The lower line depicts a setting in which, for all auditees, the new standard reduces audit labor usage, with greater reductions for lower-fraud-risk auditees than for higher-fraud-risk auditees. Finally, the *AS5 average* line (dashed) depicts our expectations about average AS5 audit fees.

Figure 1 relates to the three research questions as follows. The first research question addresses *whether* AS5 shifts labor usage from the *AS2* line to one of the three *AS5* lines, that is, increases the *within-period* slope of audit fees in auditee fraud risk. The second research question addresses whether, after the transition, the average fee shifts from the *AS2* line to the *AS5 average* line. The magnitude of the change in fees for higher-fraud-risk auditees is, as noted earlier, theoretically ambiguous. The third research question sheds light on this ambiguity by addressing *which* of the three AS5 lines obtains after the transition to AS5.

3. Sample and Research Method

3.1 SAMPLE SELECTION CRITERIA

AS2 was applicable only to accelerated filers (publicly traded companies with end-of-fiscal-year market value of equity in excess of $75 million) for fiscal years ending on or after November 15, 2004 and before November 15, 2007, AS5 to all fiscal years thereafter. Big Four auditees comprise about 83% of all accelerated filer auditees for which we could obtain data. Since Big Four and Non-Big-Four auditors differ vastly in size and have very different production functions, we base our conclusions on the sample of Big Four auditees. Our final sample, therefore, consists of public company accelerated filer Big Four auditees for which financial and audit fee data are available in the Compustat and AuditAnalytics databases and the auditee:

1) is an accelerated filer in both the current and immediately preceding periods,
2) has been audited by the same, sole, Big Four auditor in both the current and immediately preceding periods,
3) is a U.S.-domiciled entity,
4) has a primary Standard Industrial Classification (SIC) code other than 4400–4999 or 6000–6999 (both inclusive),
5) has a fiscal year length not less than 340 days and not greater than 390 days, and,
6) does not report a material weakness in internal controls over financial reporting.

TABLE 1
Sample Selection Criteria

U.S. domiciled auditees not operating primarily in financial and regulated sectors[a] with all relevant data available in Audit Analytics and Compustat for fiscal years ended between November 15, 2005 and June 30, 2008, both inclusive.	7,662
Less Observations pertaining to	
1. Auditees that are not accelerated filers (afiler)[b]	2,268
2. Auditees that are audited by non-Big Four auditors	1,023
3. Auditees that change filing status (nonafiler to afiler)	973
4. Auditees that change auditors	49
5. Auditees with material internal control weaknesses	326
Number of observations available for estimating the basic fee model	3,023

[a]Firms for which Compustat reports a primary SIC code (*sic*) between 4,400 and 4,999 (both inclusive) or between 6,000 and 6,999 (both inclusive).

[b]Accelerated filers are defined as publicly traded companies with end-of-fiscal-year market value of equity in excess of $75 million.

Restrictions (1) and (2) control for potential confounds stemming from year-to-year changes in the auditee's accelerated filer status or auditor affiliation. Restriction (3) controls for international differences in audit production functions while restriction (4) controls for differences in the audit production function for auditees operating in financial or regulated industries (O'Keefe, Simunic, and Stein [1994b]). Restriction (5) controls for potential confounds due to significant changes in auditee fiscal period length. Finally, restriction (6) controls for potential confounds stemming from weak auditee internal controls over financial reporting, a factor that prior research suggests affects audit labor usage (Hogan and Wilkins [2008]).[13] After applying these restrictions, we obtain a final sample of 3,023 observations pertaining to auditee fiscal years ended between November 15, 2005 and June 30, 2008 (both inclusive). These observations span the last two years of AS2 and the first year of AS5. Table 1 details the loss of observations due to application of these filters.

3.2 RESEARCH METHOD

To address our first research question, we estimate separately, for each of three periods (*the AS2a period*, *the AS2b period*, and *the AS5 period*), the cross-sectional association between audit fees and an indicator of auditee fraud risk and test whether this association increases during the AS5 period.[14] Following prior research (e.g., Simunic [1980], Francis [1984], Davis, Ricchiute, and Trompeter [1993], O'Keefe, Simunic, and Stein [1994a], Bell,

[13] As discussed in section 4.4, including these observations does not qualitatively alter our principal inferences.

[14] The three periods are as follows: the AS2a period is the period between November 15, 2005 and November 14, 2006, the second-to-last year during which AS2 was applicable; the AS2b period is the period between November 15, 2006 and November 14, 2007, the last year during which AS2 was in effect; and the AS5 period is the period after November 15, 2007, the date AS5 came into effect. We refer to labor usage and fees for auditee fiscal years ended during a period as labor usage and fees for that period (e.g., *AS2a fees*, *AS5 labor usage*).

Landsman, and Shackelford [2001], Hay, Knechel, and Wong [2006], Bell, Doogar, and Solomon [2008]), we model auditee fees as a function of auditee size, complexity, operating risk, and financial risk. To shed light on the impact of AS5 on audit fees, we add to the model a measure of auditee fraud risk (*FRSK*). Specifically, we estimate the model:

$$\begin{aligned} LNAFEE = {} & b_0 + b_1 LNTA + b_2 LNSEG + b_3 FOROPS + b_4 ROA + b_5 LOSS \\ & + b_6 INVREC + b_7 LEV + b_8 BUSY + b_9 DELAY + b_{10} GCO \\ & + b_{11} FRSK + \varepsilon, \end{aligned} \tag{1}$$

where *LNAFEE* is the natural logarithm of the audit fee (*AFEE*) paid to the sole external auditor for the fiscal year in question expressed in constant 2006 U.S. dollars using the U.S. Bureau of Labor Statistics (BLS) CPI series as deflator.

The explanatory variables in this model are as follows. *LNTA* is the natural logarithm of auditee total assets (*TA*) expressed in constant 2006 U.S. dollars using the BLS CPI series deflator. *LNSEG* is the natural logarithm of auditee segments.[15] *FOROPS* takes the value of 1 if the auditee reports a foreign currency translation adjustment. *ROA* is auditee return on assets computed as operating income after depreciation divided by total assets. *LOSS* is equal to 1 if the company reports negative net income. *INVREC* is the sum of auditee inventory and receivables divided by auditee total assets. *LEV* is the ratio of total liabilities to total assets. *BUSY* takes the value 1 if the auditee fiscal year ends in December or January, 0 otherwise. *DELAY* is equal to 1 if the number of calendar days elapsed between the auditee's fiscal year end and the date of the audit opinion exceeds the statutory filing period, 0 otherwise. *GCO* is equal to 1 if the auditor opinion for the fiscal year includes a going concern qualification, 0 otherwise.

Our measure of auditee fraud risk, *FRSK*, takes the value 1 for more risky auditees and 0 for less risky auditees. We use the Dechow et al. [2008] financial statement manipulation risk score (*F*-score) to specify the indicator variable *FRSK* and, following their recommended cutoff, treat auditees with an *F*-score greater than 1 as higher-risk auditees.[16] Since the auditee fraud

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[15] Unlike some previous studies (e.g., Hogan and Wilkins [2008], Choi et al. [2008]), we use the sum of auditee business segments, geographic segments and operating segments because each of these represents a valid dimension of auditee complexity. Our results are materially unaltered if we substitute in lieu of *LNSEGT*, the natural log of the number of business segments.

[16] Dechow et al. [2008] use Accounting and Auditing Enforcement Releases (AAERs) issued between 1982 and 2005 to identify firms alleged to have manipulated their financial statements. They compare the characteristics of these alleged manipulators to that of the general population of firms and develop a model to predict accounting manipulations. The model is used to construct a scaled logistic probability score, the *F*-score, higher values of which indicate greater probability of manipulation. The *F*-score builds on and updates the Beneish [1999] fraud risk metric often used to identify potential financial statement fraud (Harrington [2005], Bay et al. [2006]).

risk indicator, *FRSK*, takes the value 1 for higher-risk auditees, we expect the coefficient for that measure to be positive. The *F*-score is computed as $e^{PV}/[0.00345(1 + e^{PV})]$ where

$$PV = -6.789 + 0.817Rsst\_acc + 3.230\Delta Rec + 2.436\Delta Inv + 0.122\Delta CS - 0.992\Delta Earn + 0.972Issue$$

and *Rsst_acc* is auditee abnormal accruals computed following Richardson et al. [2005], ΔRec is change in auditee receivables, ΔInv is change in auditee inventory, ΔCS is change in auditee cash sales, $\Delta Earn$ is change in auditee earnings, and *Issue* is an indicator variable for actual issuance of securities by the auditee during the year (see table 2 for formal definitions of all variables).

To investigate research questions two and three, addressing shifts in audit production functions and audit pricing, we compute AS5 and AS2b benchmark fees ($BFEE_5$ or $BFEE_{2b}$) as follows:

$$BFEE_5 = b_0 + b_1 LNTA_5 + b_2 LNSEG_5 + b_3 FOROPS_5 + b_4 ROA_5 + b_5 LOSS_5 + b_6 INVREC_5 + b_7 LEV_5 + b_8 BUSY_5 + b_9 DELAY_5 + b_{10} GCO_5 + b_{11} FRSK_5 + \varepsilon \quad (2a)$$

$$BFEE_{2b} = b_0 + b_1 LNTA_{2b} + b_2 LNSEG_{2b} + b_3 FOROPS_{2b} + b_4 ROA_{2b} + b_5 LOSS_{2b} + b_6 INVREC_{2b} + b_7 LEV_{2b} + b_8 BUSY_{2b} + b_9 DELAY_{2b} + b_{10} GCO_{2b} + FRSK_{2b} b_{11} + \varepsilon, \quad (2b)$$

where the coefficients b_0 through b_{11} in model (2a) are estimated from model (1) using AS2b data and the $BFEE_5$ computation uses AS5 values of the determinants $LNTA_5 \ldots FRSK_5$. Consistently, $BFEE_{2b}$, the benchmark for the AS2b period, is computed using coefficients estimated from AS2a data and the values of the determinants from the AS2b period. For each auditee, the difference ($DFEE_5$ or $DFEE_{2b}$) between the natural logarithm of the actual AS5 (AS2b) audit fee ($LNAFEE_5$ or $LNAFEE_{2b}$) and the corresponding benchmark ($BFEE_5$ or $BFEE_{2b}$) speaks to the shift in audit pricing between the AS2b and AS5 regimes. Formally:

$$DFEE = LNAFEE - BFEE. \quad (3)$$

To investigate research question two, we test whether the mean of $DFEE_5$ is less than zero, that is, is consistent with an overall decline in AS5 audit fees relative to AS2b benchmarks. To investigate if the decline observed after the transition to AS5 is the continuation of a trend (i.e., to

TABLE 2
Descriptive Statistics

	N	Mean	Standard Deviation	Minimum	25th Percentile	Median	75th Percentile	Maximum
AFEE (in millions)	3,023	2.50	3.79	0.10	0.74	1.31	2.56	47.08
LNAFEE	3,023	14.18	0.97	11.47	13.51	14.08	14.76	17.67
TA (in millions)	3,023	3,985	13,000	10.30	285.95	803.01	2,474.41	240,000
LNTA	3,023	20.63	1.62	16.15	19.47	20.50	21.63	26.18
LNSEG	3,023	1.40	0.68	0	0.69	1.39	1.95	3.26
FOROPS	3,023	0.30	0.46	0	0	0	1	1
ROA	3,023	0.06	0.19	−1.67	0.04	0.09	0.14	0.85
LOSS	3,023	0.21	0.41	0	0	0	0	1
INVREC	3,023	0.24	0.16	0.00	0.12	0.23	0.34	0.91
LEV	3,023	0.48	0.27	0.01	0.30	0.47	0.61	6.16
BUSY	3,023	0.78	0.42	0	1	1	1	1
DELAY	3,023	0.07	0.26	0	0	0	0	1
GCO	3,023	0.01	0.08	0	0	0	0	1
FRSK	3,023	0.42	0.49	0	0	0	1	1

AFEE is all audit and audit-related fees paid to the (sole) external auditor for the fiscal year (Audit Analytics data item *matchfy_sum_afee*), while *LNAFEE* is the natural logarithm of *AFEE*. *TA* is auditee total assets (Data6, *AT*) while *LNTA* is the natural logarithm of *TA*. Both *AFEE* and *TA* are expressed in constant 2006 U.S. dollars (using the BLS CPI series as deflator). *LNSEG* is natural logarithm of auditee segments (sum of Compustat data items *nseg_bus*, *nseg_geo*, and *nseg_op* from Compustat segment data). *FOROPS* is equal to one if the auditee reports a foreign currency translation (Data150, *FCA*) value other than zero, zero otherwise. *ROA* is auditee return on assets, computed as operating income after depreciation (Data178, *OIADP*) ÷ Total assets (Data6, *AT*). *LOSS* is equal to one if net income (Data172, *NI*) is negative, zero otherwise. *INVREC* is computed as (Total receivables (Data2, *RECT*) + Total inventories (Data3, *INVT*)) ÷ Total assets (Data6, *TA*). *LEV* is the ratio of total liabilities (Data181, *LT*) to total assets (Data6, *AT*). *BUSY* is equal to one if the auditee fiscal year ends in December or January, zero otherwise. *DELAY* is equal to one if the number of calendar days elapsed between the auditee's fiscal year end and the date of the audit opinion (Audit Analytics audit opinion data set item *date_aud_op* minus Audit Analytics fee data set item *fiscal_year_ended*) exceeds the statutory filing period (75 days for all auditee fiscal years ending prior to December 15, 2006 and, for all auditee fiscal years ending on or after that date, 60 days for accelerated filers with end-of-fiscal-year market capitalization in excess of $700 million, and 75 days for accelerated filers with end-of-fiscal-year market capitalization less than $700 million), zero otherwise. *GCO* is equal to one if the auditor opinion for the fiscal year includes a going concern qualification, zero otherwise (Audit opinion from Audit Analytics Audit Opinion Database). *FRSK* is equal to one if *F*-score ≥ 1, zero otherwise. *F*-score is computed as $e^{PV}/[0.00345(1 + e^{PV})]$ where $PV = -6.789 + 0.817\ Rsst\_acc + 3.230\ \Delta Rec + 2.436\ \Delta Inv + 0.122\ \Delta CS - 0.992\ \Delta Earn + 0.972\ Issue$. Here, $Rsst\_acc = [(WC_t - WC_{t-1}) + (NCO_t - NCO_{t-1}) + (FIN_t - FIN_{t-1})] \div [0.5(AT_t + AT_{t-1})]$ where *WC* = [Current Assets (Data4, *ACT*) – Cash and Short-Term Investments (Data1, *CHE*)] *minus* [Current Liabilities (Data5, *LCT*) –Short-Term Debt (Data34, *DLC*)], *NCO* = [Total Assets (Data6, *AT*) – Current Assets (Data4, *ACT*) – Long-Term Investments (Data32, *IVAO*)] *minus* [Total Liabilities (Data181, *LT*) – Current Liabilities (Data5, *LCT*) – Long-Term Debt (Data9, *DLTT*)], and, *FIN* = [Short-Term Investments (Data193, *IVST*) + Long-Term Investments (Data32, *IVAO*)] *minus* [Long-Term Debt (Data9, *DLTT*) + Short-Term Debt (Data34, *DLC*) + Preferred Stock (Data130, *PSTK*)]. $\Delta Rec = [Rec_t - Rec_{t-1}] \div [0.5(AT_t + AT_{t-1})]$ where *Rec* is total receivables (Data2, *RECT*) and *AT* is total assets (Data6, *AT*). $\Delta Inv = [Inv_t - Inv_{t-1}] \div [0.5(AT_t + AT_{t-1})]$ where *Inv* is total inventory (Data3, *INVT*) and *AT* is total assets (Data6, *AT*). $\Delta CS = (CS_t - CS_{t-1}/CS_{t-1}) * 100$ where *CS* is sales (Data12, *SALE*) less change in accounts receivable (Data2, *RECT*). $\Delta Earn = [Earn_t \div AT_t] - [Earn_{t-1} \div AT_{t-1}]$ where *Earn* is earnings (Data18, *IB*) and *AT* is total assets (Data6, *AT*). *Issue* = 1 if firm issued securities during the year ((Data 108, *SSTK*) > 0 or (Data111, *DLTIS*) > 0), zero otherwise. For each variable we provide (within parentheses) the Compustat legacy version data item number followed by Compustat Xpressfeed data mnemonic.

implement a difference-in-differences design), we investigate whether the mean of $DFEE_{2b}$ shows a similar pattern of decline in AS2b audit fees relative to AS2a benchmarks.[17]

[17] Textbook treatments of difference-in-differences designs generally assume a balanced panel of data and specify the test statistic in terms of second differences, in our terminology,

To address the third research question, we examine how the mean of *DFEE* varies with auditee fraud risk, *FRSK*. More specifically, we partition the sample, by *FRSK*, into lower-fraud-risk and higher-fraud-risk subsamples and investigate whether the mean of $DFEE_5$ varies systematically with auditee fraud risk levels. As with the second research question, to verify that the effects observed after AS5 adoption do not reflect a preexisting trend, we conduct similar tests for $DFEE_{2b}$.

4. Results

4.1 SAMPLE DESCRIPTION

Table 2 presents measures of central tendency and dispersion for key variables used in the analysis. Consistent with the accelerated filer restriction, our sample consists of larger auditees with a mean audit fee of $2.5 million, and a mean of auditee total assets of $3,985 million.[18] The distributions of both variables are negatively skewed: in each case, the mean is much larger than the median. Logarithmic transformations reduce this distributional asymmetry: the means of both *LNAFEE* and *LNTA* (14.18 and 20.63) are close to their respective medians (14.08 and 20.50). Among other salient features of the sample, the mean of *LNSEG* is 1.4 (about four segments in natural units) and about the same as the median while the mean of *FOROPS* is 0.30, indicating that about 30% of the sample has significant foreign operations.

Three other sample features are worthy of note. First, about 78% of the sample consists of auditees with fiscal years ending in December or January (the mean of *BUSY* is 0.78).[19] Second, about 7% of sample audit opinions are filed after the statutory filing period (the mean of *DELAY* is 0.07). Third, about 42% of our sample observations pertain to auditees with higher fraud risk as measured by the Dechow et al. [2008] index: the *FRSK* mean of 0.42 is comparable to the 37% figure reported by Dechow et al.

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as $DFEE_5 - DFEE_{2b}$ (cf. Cameron and Trivedi [2005, p. 56, equation (3.8)]). In our setting, using a balanced panel of observations would (a) significantly reduce sample size (and test power) due to data requirements (1), (2), and (3) described in section 3.1 and (b) restrict the estimation sample to firms to which the model would be fit (albeit in a subsequent period). Such a restriction would yield an overfitted model and, therefore, potentially suspect inferences. Using an unbalanced panel of data eliminates potential confounds stemming from model overfit (and increases degrees of freedom, permitting more powerful tests). However, it also precludes testing based on second differences. Instead we test, both before and after the transition to AS5, whether the mean of *DFEE* is significantly different from zero.

[18] Unless otherwise specified, all monetary values are expressed in constant 2006 dollars. Both means and medians of *LNAFEE* and *LNTA* are, after adjusting for differences in price indices, larger than those reported by Bell, Doogar, and Solomon [2008] and Hogan and Wilkins [2008].

[19] Due to Compustat data availability restrictions, our sample only includes fiscal years ended before June 30, 2008.

TABLE 3

Determinants of Audit Fees During the AS5 and AS2 Periods, Big Four Auditees

		AS5		AS2b		AS2a	
Variable and Predicted Sign		(1) Coefficient	(2) *Z*-value	(3) Coefficient	(4) *Z*-value	(5) Coefficient	(6) *Z*-value
LNTA	+	0.456***	28.46	0.454***	23.08	0.438***	18.56
LNSEG	+	0.274***	7.29	0.324***	11.11	0.323***	9.44
FOROPS	+	0.224***	6.92	0.154***	3.39	0.198***	5.12
ROA	−	−0.624***	−2.54	−0.719***	−3.52	−0.680***	−2.52
LOSS	+	0.074*	1.29	0.062	1.22	−0.033	−0.38
INVREC	+	0.618***	3.55	0.537***	3.05	0.474***	2.41
LEV	+	0.171**	1.98	0.178***	2.82	0.270***	2.62
BUSY	+	0.109***	2.40	−0.004	−0.15	0.021	0.57
DELAY	+	0.085**	1.94	0.222***	2.77	0.023	0.18
GCO	+	0.081	0.97	−0.043	−0.28	0.168	0.36
FRSK	+	0.103***	2.85	−0.027	−0.82	−0.027	−0.81
CONSTANT	?	3.953***	12.46	4.136***	10.42	4.443***	8.79
Adjusted R^2		0.75		0.74		0.75	
N		938		1,075		1,010	
N(Cluster)		52		51		54	

The dependent variable in each of the three regressions is *LNAFEE*, the natural logarithm of all audit and audit-related fees paid to the (sole) external auditor for the fiscal year (Audit Analytics data item *matchfy_sum_afee*), while *LNTA* is the natural logarithm of auditee total assets (Data6, *AT*) both expressed in constant 2006 U.S. dollars (using the BLS CPI series as deflator). *LNSEG* is natural logarithm of auditee segments (sum of Compustat data items *nseg_bus*, *nseg_geo*, and *nseg_op* from Compustat segment data). *FOROPS* is equal to one if the auditee reports a foreign currency translation (*Data150, FCA*) value other than zero, zero otherwise. *ROA* is auditee return on assets, computed as operating income after depreciation (Data178, *OIADP*) ÷ Total assets (Data6, *AT*). *LOSS* is equal to one if net income (Data172, *NI*) is negative, zero otherwise. *INVREC* is computed as (Total receivables (Data2, *RECT*) + Total inventories (Data3, *INVT*)) ÷ Total assets (Data6, *TA*). *LEV* is the ratio of total liabilities (Data181, *LT*) to total assets (Data6, *AT*). *BUSY* is equal to one if the auditee fiscal year ends in December or January, zero otherwise. *DELAY* is equal to one if the number of calendar days elapsed between the auditee's fiscal year end and the date of the audit opinion (Audit Analytics audit opinion data set item *date_aud_op* minus Audit Analytics fee data set item *fiscal_year_ended*) exceeds the statutory filing period (75 days for all auditee fiscal years ending prior to December 15, 2006 and, for all auditee fiscal years ending on or after that date, 60 days for accelerated filers with end-of-fiscal-year market capitalization in excess of $700 million, and 75 days for accelerated filers with end-of-fiscal-year market capitalization less than $700 million), zero otherwise. *GCO* is equal to one if the auditor opinion for the fiscal year includes a going concern qualification, zero otherwise (Audit opinion from Audit Analytics Audit Opinion Database). *FRSK* is equal to one if *F*-score ≥ 1, zero otherwise. The sample for the AS5 period consists of all sample auditees with fiscal years ending after November 15, 2007 while that for the AS2b (AS2a) period consists of auditees with fiscal years ending on or after November 15, 2006 (November 15, 2005) and on or before November 15, 2007 (November 15, 2006). *FRSK* is recomputed each period (AS5, AS2b, AS2a). For each variable, we provide (within parentheses) the Compustat legacy version data item number followed by Compustat Xpressfeed data mnemonic. *Z*-values are based on bootstrapped, industry-clustered standard errors (5,000 replications).

*, **, and *** indicate significance at the 10%, 5%, and 1% levels for one-tailed tests when the expected sign is determinate and for two-tailed tests otherwise.

4.2 RESEARCH QUESTION ONE

We report in table 3 results related to our first research question. Columns 1, 3, and 5 report, respectively, the AS5, AS2b, and AS2a coefficients estimated from model (1) while columns 2, 4, and 6 report the associated *Z*-values. As a preliminary, note that in all three periods many of the traditional determinants of labor usage (*LNTA*, *LNSEG, FOROPS*, *ROA*, and *INVREC*) are significant in the expected direction at the 1% level of

TABLE 4
Tests of Mean Abnormal Audit Fees, AS5, and AS2b Periods

Subgroup and Expected Sign		(1) *N*	(2) Mean	(3) *t*
Panel A: AS5 period (*DFEE*$_5$)				
1. All	–	938	−0.037	−2.26**
2. Lower Risk	–	595	−0.085	−4.13***
3. Higher risk	?	343	0.047	1.83*
Panel B: AS2b period (*DFEE*$_{2b}$)				
1. All	–	1,075	0.001	0.04
2. Lower Risk	–	588	−0.001	−0.06
3. Higher risk	?	487	0.003	0.14

DFEE$_5$ (*DFEE*$_{2b}$) is the difference between the actual AS5 (AS2b) audit fee and the predicted fee under the previous year's benchmark reported in table 3. The AS5 period consists of all auditee fiscal years ending after November 15, 2007 while that for the AS2b (AS2a) period consists of fiscal years ending on or after November 15, 2006 (November 15, 2005) and on or before November 15, 2007 (November 15, 2006). Auditees are classified as *Lower* (*Higher*) *Risk* if their *F*-score exceeds one.

*, **, and *** indicate significance at the 10%, 5%, and 1% levels for one-tailed tests when the expected sign is determinate and for two-tailed tests otherwise.

significance while *LEV* is significant in the expected direction at the 5% level (or better). The overall goodness of fit for each of the models in columns 1, 3, and 5 also is comparable to prior research (model adjusted R^2 is about 0.75 in each case).

The key finding in table 3 is that more risky auditees pay higher AS5 fees: the coefficient on *FRSK* in column 1 (0.103, *p*-value < 0.01) is positive and significant and translates to a fee increment of about 11% ($e^{0.103} - 1$) for higher-fraud-risk auditees.[20] There is, however, no such association during the AS2 period: risk is *not* significantly associated with audit fees in either column 3 or column 5 (the coefficient on *FRSK* in either column is much smaller than that in column 1 and is statistically indistinguishable from zero, two-tail *p*-values = 0.41 and 0.42). A chi-square test further confirms that the coefficient of *FRSK* is not the same in the AS5 and AS2b periods ($\chi^2 = 13.0$, *p*-value < 0.01). Consequently, consistent with regulatory intent and relative to AS2, AS5 appears to more effectively align labor usage with auditee fraud risk.

4.3 RESEARCH QUESTIONS TWO AND THREE

Table 4 reports the results of the test of the mean of *DFEE* for the AS5 and AS2b periods. Panel A reports results for *DFEE*$_5$, while panel B reports analogous results for *DFEE*$_{2b}$. The first row of both panels provides evidence relevant to our second research question, that is, do audit fees, on average, decline after AS5 adoption? Row one of panel A shows that, consistent with regulatory intent, AS5 fees are, on average, lower than their AS2b

[20] Multicollinearity between *FRSK* and the other model variables is not likely to explain our findings: estimating model (1) excluding *FRSK* from the specification yields coefficient values identical (to one decimal place) to those reported in table 3. In addition, the highest variance inflation factor (*vif*) is 2.2 (between *ROA* and *LOSS*).

counterparts (mean value −0.037, *t*-value −2.26, one-tail *p*-value < 0.05). Overall, therefore, AS5 fees are, on average, 4% ($1 - e^{-0.037}$) lower than AS2b benchmarks. Row one of panel B, however, shows no evidence that AS2b audit fees differ from their AS2a benchmarks. The contrast between the results in the two panels suggests that post-AS5 fee changes do not reflect the continuation of a prior trend (and, therefore, reflect the effect of AS5).[21]

The second and third rows of table 4, panels A and B, address our third research question. Row two of panel A shows that for lower-fraud-risk auditees, the mean of $DFEE_5$ is negative (mean value −0.085, *t*-value −4.13, one-tail *p*-value < 0.01). Row three, however, reveals that for higher-fraud-risk auditees, the mean of $DFEE_5$ is positive (mean value 0.047, *t*-value 1.83, two-tail *p*-value < 0.10). In sum, the economic impact of AS5 was to reduce, on average, fees for lower-fraud-risk auditees by about 8% ($1 - e^{-.085}$) while increasing fees, on average, for higher-fraud-risk auditees by about 5% ($1 - e^{0.047}$). These findings suggest that the risk-based approach in AS5 unlocked efficiency gains for lower-fraud-risk auditees and potential effectiveness (audit quality) improvements for higher-fraud-risk auditees. By contrast, rows two and three of panel B show that AS2b and AS2a fees are about the same. Once again, we conclude that the pattern of post-AS5 changes is quite dissimilar to its pre-AS5 counterpart and reflects the impact of AS5.[22]

In an additional analysis, we investigate the timeliness of auditor responses to AS5. Dividing the *Lower risk* auditees in row 2 of panel A, table 4 into two groups based on their fraud risk level during the *preceding* period (*Lower* or *Higher* fraud risk) reveals no difference in the mean AS5 fee declines for the two groups (mean difference about 3%, *p*-value = 0.77). Similarly, dividing the *Higher risk* group in row 3 of panel A based on past fraud risk levels reveals no difference in the mean AS5 fee increase for the two groups (mean difference about 3%, *p*-value = 0.54).[23] We, therefore, conclude that under AS5 auditors responded to changes in auditee fraud risk in a timely fashion.

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[21] Untabulated analyses further show that for the sample of firms analyzed in table 4, the mean year-to-year change in fees per dollar of assets audited (*AFEE/TA*) between the AS5 and AS2b periods is –5.2% while the analogous change between the AS2b and AS2a periods is +1.8%. These year-to-year changes differ from those reported in the table in that they represent univariate results (i.e., before adjusting for changes in auditee characteristics other than auditee total assets) whereas those reported in the table control for changes in multiple auditee characteristics.

[22] Nonparametric (Wilcoxon sign-rank) tests yield qualitatively similar results except in the case of the *Higher risk* auditees (line 3 of table 4, Panel A, where the Wilcoxon *Z*-statistic value is 1.50, two-tail *p*-value = 0.132).

[23] Specifically, we partition the *Lower Risk* (*Higher Risk*) auditees into *LL* and *HL* (*HH* and *LH*) subgroups (in each case the first letter refers to preceding-period and the second letter to current-period auditee fraud risk levels). We then test whether the mean of *DFEE* differs systematically across the *LL* and *HL* (*HH* and *LH*) subgroups.

4.4 SENSITIVITY ANALYSES

We performed a number of sensitivity analyses to investigate the extent to which our principal conclusions are robust to alternative specifications of the model, sample, and variables.

First, replicating the analyses in table 3 using the Beneish [1999] score in lieu of *FRSK* reveals that AS5 fees for higher-fraud-risk auditees are about 9% (one-tail p-value < 0.05, comparable increment using *FRSK*, 11%) higher than fees for lower-fraud-risk auditees, while AS2 fees are not significantly associated with auditee fraud risk. Replicating the analysis of table 4 using the Beneish measure reveals that, relative to AS2 fees, mean AS5 fees: (1) decline by about 4% for all auditees (one-tail p-value < 0.05, comparable decline using *FRSK*, 4%); (2) decline by about 6% for lower-risk auditees (one-tail p-value < 0.01, comparable decline using *FRSK*, 8%); and (3) increase by about 6% for higher-risk auditees (two-tail p-value $= 0.23$, comparable increase using *FRSK* 5%).

Second, prior research suggests that material weakness in auditee internal controls over financial reporting may alter the audit production function (Raghunandan and Rama [2006], Hogan and Wilkins [2008]). Similarly, as noted earlier, non-Big–Four audit production functions may differ from those of Big Four auditors. We, therefore, excluded such auditees from the analyses reported to this point. In additional untabulated analyses, we replicated the analyses in tables 3 and 4 after including such auditees. In each case, the results yield mean fee declines for lower risk auditees and mean fee increases for higher risk auditees that are comparable in magnitude to the results documented in table 4 (fee declines for lower-fraud-risk auditees of about 8% after including auditees reporting material internal control weaknesses, about 6% after including non-Big–Four auditees, one-tail p-value < 0.01 in both cases; fee increases for higher-fraud-risk auditees of about 3% and 1% respectively, two-tail p-value > 0.10 in both cases).[24]

Third, we reestimated model (1) using the values of $DFEE_5$ as the dependent variable. This multivariate analysis sheds further light on the univariate tests reported in table 4. The coefficient on *FRSK* was positive and significant (p-value < 0.01). Our principal conclusions are, therefore, not sensitive to the univariate nature of the tests reported in table 4. Replacing the binary specification of FRSK by its rank, *FRank* does not materially alter any of our principal conclusions: the coefficient of *FRank* is significant (p-value < 0.01).

Fourth, following Francis et al. [2005] and Hogan and Wilkins [2008], we add performance-adjusted modified Jones model accruals (Jones [1991],

[24] The levels of *ICWEAK* are independent of *FRSK* (|pair-wise correlation| ≤ 0.02). Consistent with prior research (Hogan and Wilkins [2008]), the coefficient of *ICWEAK* is positive and significant in both the AS2 and AS5 periods (AS2b coefficient 0.33, significant at 1%, AS5 coefficient 0.31, significant at 1%) and does not differ significantly between the two periods (F-value 0.08, p-value 0.78).

Kothari, Leone, and Wasley [2005]) as an explanatory variable in model (1) and replicate the analyses reported in tables 3 and 4. We find no significant association between auditee abnormal accruals and audit fees and our principal inferences are not affected by the inclusion of this variable.

5. Concluding Remarks

Some key limitations of our analysis are worthy of note. Since audit labor usage data are proprietary to audit firms, we use publicly available data on audit fees as a proxy for audit labor usage. Consequently, we cannot disentangle the effects of changes in total labor hours, changes in audit labor mix, and changes in either the pricing of audit labor or risk premiums. Our inference that reductions in audit fees reflect corresponding reductions in audit labor usage, therefore, may be sensitive to changes in the per-hour pricing of audit labor and in audit risk premiums. Additionally, our inability to control for fee realization rates may bias downward our estimates of the change in labor usage on higher risk auditees.

Our key findings are that (1) AS5 audit fees are aligned with auditee fraud risk while AS2 fees are not; (2) AS5 audit fees are, on average, lower than AS2 fees; and (3) AS5 audit fees are, on average, lower for lower-fraud-risk auditees and higher for higher-fraud-risk auditees than are AS2 fees. We also document that these changes are not the continuation of a preexisting trend, reinforcing the conclusion that the changes we document reflect the impact of AS5.

Overall, our evidence is consistent with the proposition that AS2induced inefficiencies and that AS5 eliminated at least some of those inefficiencies. Further, the evidence is consistent with a substitution effect whereby labor savings on lower-risk auditees enables auditors to increase labor allocations to higher-risk engagements. The finding that AS5 better aligned audit resources with auditee fraud risk, in tandem with the increased labor usage on higher-fraud-risk auditees, suggests that AS5 increased audit quality. Our evidence also speaks to the extent to which auditors are able and willing to use their professional judgment in assessing auditee riskiness to efficiently allocate audit resources. Our findings, therefore, should be of interest to regulators as they deliberate on how to extend the scope of AS5 to smaller, nonaccelerated filers.

APPENDIX

Key Differences Between AS2 and AS5

Cox [2007b] summarizes the key differences between AS5 and AS2 under four major headings:

1) The new standard is shorter, less prescriptive, and easier to read.
2) AS5 makes the audit scalable—so it can change to fit the size and complexity of any company.

3) The new standard directs auditors to focus on what matters most and eliminates unnecessary procedures from the audit.
4) Finally, AS5 includes a principles-based approach to determining when and to what extent the auditor can use the work of others.

Specifically, with respect to the first key difference listed above, Cox notes that AS5 was about half as long as AS2, imposed significantly fewer mandatory requirements (*shoulds*) and was designed to focus auditor attention on "... what matters—risk and materiality ...," thereby avoiding some of the inefficiencies allegedly stemming from the more-prescriptive approach embodied in AS2. The second key difference stems from clarification in AS5 of how to scale the audit to particular settings: "For example, the standard explains that for audits of smaller and less complex companies, the auditor can appropriately reduce the amount of internal control testing." The third innovation in AS5 is the emphasis on directing audit attention to "... areas that present the highest risk, such as the financial statement close process and controls designed to prevent fraud by management." The fourth element of the reforms incorporated in AS5 is to "... allow auditors to use professional judgment in determining the extent to which they'll use the work of other auditors." In addition to these four differences summarized by Cox, AS5 eliminates the auditor's report on management's statements about the effectiveness of internal controls.

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