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Disclosure of fees paid to auditors and the market valuation of earnings surprises

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Abstract We investigate if the SEC's recently mandated disclosure of fees for audit and nonaudit services paid by firms to their incumbent auditors affected the market's perception of auditor independence and earnings quality. Following the initial fee disclosures in 2001, we find that the market valuation of quarterly earnings surprises (earnings response coefficient) was significantly lower for firms with high levels of nonaudit fees than for firms with low levels of such fees. In contrast, in the year prior to the new fee disclosures, there was no reduction in earnings response coefficients for firms that subsequently reported high nonaudit fees. Our evidence suggests that mandated fee disclosures provided new information that was viewed by the market as relevant to appraising auditor independence and earnings quality.

Keywords Nonaudit fees · Auditor independence · Earnings quality · Earnings response coefficients

JEL Classification G14 · G38 · M41 · M42

This paper examines if the mandated disclosure of fees paid to auditors for audit and nonaudit services provided new information that allowed capital market investors to re-assess the independence of auditors and, by implication, the quality of reported earnings. If the disclosures provided investors with new information, and if investors believed that high levels of nonaudit fees called

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auditor independence into question, then after the disclosures were made the earnings of firms with high nonaudit fees should be valued lower than earnings of firms with low nonaudit fees. To investigate this possibility, we examine the market's response to quarterly earnings surprises in the year before and the year after a firm's initial public disclosure of fees, and test if there is a differential response for firms with high versus low levels of nonaudit fees in each of the two periods. High nonaudit firms are defined as firms which paid their incumbent auditors nonaudit fees greater than the 75th percentile value in the sample ($1,074,000) and whose ratio of nonaudit fees to total fees is above the sample median (.574). Our definition of firms with high nonaudit fees incorporates *both* the relative and absolute magnitudes of nonaudit fees, although we obtain similar results when high nonaudit fees are defined using a dichotomous variable based on the dollar magnitude of nonaudit fees *alone* (see Section 4).

What do we find? In the year *after* fees were disclosed, the earnings response coefficient on quarterly earnings surprises is significantly lower for firms whose auditors received high nonaudit fees relative to firms with low nonaudit fees. In contrast, in the year *before* the fee disclosures, the earnings response coefficient on quarterly earnings surprises is never lower for firms that subsequently reported high nonaudit fees. These results are robust to controlling for the common determinants of the earnings response coefficient (earnings persistence, systematic risk, and growth opportunities). Our findings are consistent with the SEC's mandated disclosures providing new information to investors about auditor independence and earnings quality, and with investors perceiving that high levels of nonaudit fees may potentially compromise auditor independence. We further document that the post-disclosure negative shift in the earnings response coefficient is driven by a subset of firms with high nonaudit fees that also have large magnitudes of accruals. This result provides further evidence that investors believe the payment of high nonaudit fees to a firm's auditor may compromise the auditor's independence. This is because accruals are subject to greater managerial discretion than cash flows and therefore would be viewed with more suspicion if their quality were not verified by a credible independent auditor.

Prior studies have attempted to assess the impact of nonaudit services on auditor independence by examining the association of nonaudit services with earnings quality and earnings management behavior (e.g., Ashbaugh, LaFond, & Mayhew, 2003; Frankel, Johnson, & Nelson, 2002).[1] The implicit hypothesis

[1] Frankel et al. (2002) report evidence that clients are more likely to manage earnings to meet benchmark targets if they also pay their auditors high levels of nonaudit fees, implying that auditors may have compromised their objectivity and allowed clients greater discretion to manage earnings. However, Ashbaugh et al. (2003), Chung and Kallapur (2003), Francis and Ke (2003), Larcker and Richardson (2004), and Reynolds, Deis, and Francis (2004), report evidence that this is not the case, or that the results in Frankel et al. (2002) are driven by subsets of firms and do not generalize to a large set of companies. In related research, DeFond, Raghunandan, and Subramanyam (2002) and Craswell, Stokes, and Laughton (2002) document that nonaudit services have no effect on the auditor's likelihood of issuing a going concern opinion. Finally, Reynolds and Francis (2000) document that auditors treat "larger" clients more conservatively: that is, large clients are more likely to have smaller abnormal accruals and auditors are more likely to issue going concern reports, both of which are opposite to what would be expected if fee dependence from large clients reduces auditor independence.

in these studies is that clients paying their auditors high levels of nonaudit fees are allowed greater discretion which results in more aggressive earnings management behavior and lower earnings quality. This line of research reports mixed results which is not surprising because the impact of nonaudit services on auditor independence cannot be directly observed but instead can only be inferred indirectly from reported earnings. In addition, existing methods used to identify earnings quality and earning management generally have low power (Dechow, Sloan, & Sweeney, 1995).[2]

In contrast, our study reports direct evidence that the public disclosure of nonaudit fees negatively affected investors' perception of auditor independence and lowered the market valuation of earnings surprises for firms that paid their auditors high fees for other (nonaudit) work. Both the SEC and the accounting profession have recognized that a ''perception'' that the auditor's independence is impaired by high levels of nonaudit services is potentially as serious as direct evidence of factual impairment. For example, auditing standards (SAS No. 1) state ''Public confidence would be impaired by evidence that independence was actually lacking, and it might also be impaired by the existence of circumstances which reasonable people believe likely to influence independence.'' Thus a widely held perception by market participants that auditor independence is impaired by high levels of nonaudit fees could have just as far-reaching consequences in undermining confidence in audit quality as direct evidence that auditor independence is factually impaired by nonaudit services.

Two prior studies have examined market reactions to nonaudit fee disclosures. Frankel et al. (2002) report a negative market reaction to the initial disclosure of nonaudit fees reported in 2001 proxy statements. Their evidence is consistent with investors believing that high levels of nonaudit fees reduce auditor independence. However, they did not test how high levels of nonaudit fees affect investors' perception of accounting earnings, a key issue in the debate on nonaudit services and auditor independence. In addition, Ashbaugh et al. (2003) argue that the negative market reaction in Frankel et al. (2002) could be due to the disclosure of other negative information in proxy statements, and they find no market reaction after controlling for such information. Another alternative explanation for the result in Frankel et al. (2002) is that incumbent auditors are viewed as providing valuable services to their audit clients at low costs without compromising their independence (the accounting profession's position), but investors expect public pressure will force corporate boards to turn to less efficient consulting firms for the same services in the future; as a result, stock markets react negatively to the disclosure of high

[2] Despite the SEC's concern that nonaudit service fees have the potential to impair auditor independence, we know of no litigation or SEC actions that explicitly relate the provision of nonaudit services to poor audit quality or a deliberate violation of auditor independence. While auditor independence cannot be observed directly ex ante, the impairment of auditor independence is determinable ex post through litigation or SEC investigations. However, the deliberate violation of independence constitutes fraud and there are historically very few proven cases of auditor fraud.

nonaudit fees paid to incumbent auditors. Our study's research design avoids these alternative explanations. Since earnings surprises are usually the most significant news on earnings announcement dates, abnormal stock returns on earnings announcement dates are unlikely to be a response to other firm-specific news. In addition, if investors believe that fees paid for nonaudit services do not compromise auditor independence, we would not expect investors to discount the earnings of firms with high nonaudit fees (especially high-accrual firms) following the mandated public disclosure of such fees.[3] However, due to the inability to directly observe auditor dependence and the uniqueness of our sample period, we acknowledge the possibility of unidentified alternative explanations for our results.

1 Background and theoretical framework

1.1 Background

In November 2000, the Securities and Exchange Commission (SEC) mandated the disclosure of fees paid to auditors in proxy statements filed on or after February 5, 2001. The fee disclosures, along with new restrictions on certain nonaudit services, were adopted after an acrimonious battle with the accounting profession (Levitt & Dwyer, 2002).[4] The SEC was particularly concerned that nonaudit services had grown in importance to the point where they exceeded audit fees for large accounting firms, and that nonaudit fees therefore had greater potential to compromise the auditor's objectivity and independence than was the case in the past. The motivation for the SEC initiative stemmed from its belief that earnings quality had eroded in the 1990s, in part, because auditors allowed their clients to aggressively manage reported earnings, a practice SEC Chairman Arthur Levitt referred to as "the numbers game" in his 1998 speech at New York University (Levitt 1998). Levitt later observed (Levitt & Dwyer, 2002, p. 129):

> "No auditor would ever admit that he allowed bad numbers because he wanted to bring more consulting business to the firm. But the ascendancy of consulting and the coincidence of accounting misdeeds, company

[3] Our study assumes the disclosure of nonaudit fees allows investors to re-evaluate auditor independence. However, it is possible that fee disclosures do not change investors' perception of auditor independence but are instead correlated with other information that affects investors' valuation of accounting earnings such as restructuring activity. This limitation also applies to Frankel et al. (2002) and Ashbaugh et al. (2003). We have attempted to control for such alternative explanations by including control variables, and by examining the market valuation of earnings surprises for the period before and the period after the fee disclosures separately. Still, caution should be exercised when interpreting this study's empirical evidence.

[4] The initial proxy statement fee disclosures required the disclosure of three types of fees paid to auditors for the most recent fiscal year: (1) audit fees related to form 10-K and 10-Q filings; (2) financial information systems design and implementation fees; and (3) all other fees. See SEC (2000c).

> restatements, and billions in shareholders losses were too striking to dismiss as happenstance.''

In addition to the fee disclosures, the SEC proposed a broad ban on nonaudit services because of the potential conflict of interest if independent auditors have a business relationship with clients arising from economically significant nonaudit services (Biggs, 2000; SEC, 2000a, 2000b; Unger, 2001). The accounting profession countered that nonaudit services are valuable to clients and can increase the quality of audits as auditors become more knowledgeable about client operations. In addition, the profession argued that nonaudit fees do not compromise independence because auditors have economic and legal incentives to be independent and to protect their reputation for integrity (American Institute of Certified Public Accountants, 1997; Copeland, 2000).

The final rule issued by the SEC was a compromise. While the rule contained fewer restrictions on the provision of nonaudit services than originally proposed, it did retain the mandatory public disclosure of nonaudit fees in proxy statements (SEC 2000c). The SEC (2000b) had originally justified fee disclosures in terms of greater transparency, stating:

> ''Investors should have enough information to enable them to evaluate the independence of a company's auditors. The proposed rules would bring the benefits of sunlight to the auditor independence area by requiring companies to disclose in their annual proxy statement certain information about, among other things, the nonaudit services provided by their auditors.''

The SEC (2000c) reiterated this viewpoint in the final rule, concluding that ''with the disclosures we are adopting, investors will be better able to evaluate the independence of the auditors of the companies in which they invest.''[5] Our paper investigates if this is the case and if investors re-assessed the independence of auditors following the fee disclosures.

1.2 Theoretical framework

The study's objective is to examine if the initial public disclosure of nonaudit fees paid by firms to their auditors changed the capital market's belief about the uncertainty of a firm's accounting earnings (i.e., earnings quality) and thus the market valuation of the firm's earnings surprises. In this section, we use the analytical framework developed by Choi and Salamon (1989) and Holthausen and Verrecchia (1988) to explain why the disclosure of nonaudit fees affects the market's valuation of earnings surprises. Teoh and Wong (1993) developed a

[5] Transparency through disclosure is a feature of longstanding SEC policy as evidenced by timely reporting in forms 10-Q and 8-K, as well as the annual 10-K and registration statements, and prospectuses required under the 1933 Act. See Kripke (1979) and Seligman (1982).

similar analysis of the effect of differential audit quality by Big 6 and non-Big 6 auditing firms on the valuation of earnings surprises, and found that earnings surprises were valued more highly when audited by Big 6 auditors.

Both Choi and Salamon (1989) and Holthausen and Verrecchia (1988) model the stock price of firm j as a linear function of future random cash flows $\tilde{X}_j$, which are normally distributed with mean μ_j and variance σ_j^2. η_j is firm j's accounting information system that stochastically relates an outcome $\tilde{X}_j = X_j$ to an earnings signal $\tilde{Y}_j = \eta_j(X_j)$. The informativeness of a signal $\tilde{Y}_j$ with respect to the valuation-relevant future cash flows $\tilde{X}_j$ depends on the characteristics of the firm's information system as perceived by investors. Specifically, it is assumed that

$$\tilde{Y}_j = \tilde{X}_j + \tilde{\varepsilon}_j \tag{1}$$

where ε_j represents the noise in the earnings measurement process with variance $\phi^2(\varepsilon_j) = \phi_j^2$. The inverse of the variance, $1/\phi_j^2$, indicates the quality or informativeness of the accounting earnings signal. Assuming rational Bayesian investors, Choi and Salamon (1989) and Holthausen and Verrecchia (1988) derive the following equation:

$$\Delta P_j = \frac{\sigma_j^2}{\sigma_j^2 + \phi_j^2}(Y_j - \mu_j) \tag{2}$$

where ΔP_j is the amount of price change at the time of an earnings release and $(Y_j - \mu_j)$ is the deviation of the realized earnings from its expected value. Scaling both sides of the equation by the price immediately prior to the earnings release yields the following expression

$$\mathrm{UR}_{jt} = \frac{\sigma_j^2}{\sigma_j^2 + \phi_j^2}\mathrm{FERR}_{jt} \tag{3}$$

where $\mathrm{UR}_{jt} = \frac{\Delta P_{jt}}{P_{jt-1}}$ and $\mathrm{FERR}_{jt} = \frac{(Y_{jt} - \mu_{jt})}{P_{jt-1}}$. The expression $\frac{\sigma_j^2}{\sigma_j^2 + \phi_j^2}$ denotes the earnings response coefficient as a function of σ_j^2 and ϕ_j^2. It can be shown easily that

$$\frac{\partial \mathrm{ERC}}{\partial \sigma_j^2} > 0 \tag{4a}$$

$$\frac{\partial \mathrm{ERC}}{\partial \phi_j^2} < 0 \tag{4b}$$

The comparative statics in (4a) and (4b) state that for a given amount of earnings surprise FERR, the earnings response coefficient (ERC) increases with both the prior uncertainty of future cash flows and the perceived quality of the accounting information system or earnings signal.

If investors believe that high levels of nonaudit fees compromise auditor independence, then investors would become more uncertain about the quality

of reported earnings (i.e., ϕ_j^2 is increased) and therefore the earnings response coefficient (ERC) should be smaller for firms with high nonaudit fees. On the other hand, if investors believe that high levels of nonaudit fees increase the quality of audits without compromising auditor independence (the accounting profession's position), the ERC should be larger for firms with high nonaudit fees. In the next section, we use the analytic framework developed in this section to test whether the fee disclosures provide new information that allows investors to re-assess the degree of auditor independence and the quality of earnings.

The above analytic model does not consider other ERC determinants. Prior research (see Collins & Kothari, 1989; Easton & Zmijewski, 1989 e.g., Kormendi & Lipe, 1987) identifies four economic determinants of the ERC: earnings persistence, systematic risk, growth opportunities, and risk-free interest rate. To isolate the effect of the fee disclosures on the perceived quality of reported earnings (i.e., ϕ_j^2), we use empirical proxies to control for these common determinants of ERC, as explained in Section 2.[6]

2 Research design and sample

2.1 Regression model

To test whether the fee disclosures affected investors' perception of auditor independence and thus the valuation of earnings surprises, we estimate the following pooled cross-sectional regression model for a sample of quarterly earnings announcements made within 1 year before and 1 year after a firm's first disclosure of fees paid to auditors:

$$\begin{aligned} \mathrm{CAR3}_{it} = {} & \alpha + \beta_1 \mathrm{PERIOD} + \beta_2 \mathrm{FERR}_{it} + \beta_3 \mathrm{PERIOD}^{*} \mathrm{FERR}_{it} \\ & + \beta_4 \mathrm{FERR}_{it}^{*} \mathrm{NAS}_i + \beta_5 \mathrm{PERIOD}^{*} \mathrm{FERR}_{it}^{*} \mathrm{NAS}_i + \beta_6 \mathrm{FERR}_{it}^{*} X_{it} + \varepsilon_{it} \end{aligned} \tag{5}$$

where i, and t = firm subscript i and quarter subscript t; CAR3 = size-adjusted cumulative abnormal return in percentage over a 3-day window from 1 day before to 1 day after the quarterly earnings announcement; PERIOD = 1 if the quarterly earnings announcement date is after the date of the initial disclosure of audit and nonaudit fee data, and zero otherwise; FERR = earnings surprise, measured by analysts' forecast error and defined as actual quarterly earnings per share (from I/B/E/S) for firm i in quarter t minus the most recent median consensus analyst forecast, scaled by the fiscal year end stock price for

[6] In addition to influencing investors' beliefs on the quality of reported earnings (i.e., ϕ_j^2, the second moment), fee disclosures may also reveal information that alters investors' expectation on the earnings persistence, firm risk, and future growth opportunities (i.e., the first moment). We do not consider these effects in the paper because they are not our main interest and are difficult to isolate from the common ERC determinants using our research design.

quarter $t - 1$. The median analyst forecast is computed using each analyst's latest forecast before the earnings announcement, but after the prior quarter's earnings announcement date to control for stale forecasts;[7] NAS = 1 if the ratio of nonaudit fees to total fees (audit and nonaudit) received by the incumbent auditor from firm i is greater than the median sample value of .574 and if the dollar value of nonaudit fees is greater than the 75th percentile sample value of $1,074,000, and zero otherwise; X_{it} = a vector of control variables: GROWTH, STDRET, DE, LNMV, ABSFERR, LOSS, FQTR4, RESTRUCTURE, and INDUSTRY, which are defined as follows;[8]

- GROWTH = analysts' median 5-year long term earnings growth forecast in the fiscal quarter (in percentage);
- STDRET = the standard deviation of daily stock returns over a 90-day window ending 7 days prior to the earnings announcement date, with a required minimum of 10 nonmissing daily returns;
- DE = the ratio of total (short and long term) debt to total equity;
- LNMV = natural log of market value of common equity at the beginning of the quarter;
- ABSFERR = the absolute value of FERR;
- LOSS = 1 if the current quarter's earnings is negative, and zero otherwise;
- FQTR4 = 1 if the observation quarter is fiscal quarter 4, and zero otherwise;
- RESTRUCTURE = 1 if the special item (quarterly Compustat #32) as a percentage of total assets in the quarter is less than or equal to –5%, and zero otherwise;[9]
- INDUSTRY = a set of industry dummies, defined as in Frankel et al. (2002, p. 102).

The dependent variable CAR3 is the size-adjusted daily abnormal return accumulated over a 3-day window from 1 day before to 1 day after the earnings announcement date. Daily abnormal returns are computed as the differences between the daily raw returns and the NYSE/AMEX/NASDAQ value-weighted returns of the corresponding size deciles, based on January 1 market value of equity of the appropriate test year. The event window of –1 to +1 is commonly used in event studies to control for information leakage prior

[7] To control more explicitly for stale forecasts, we also measure FERR using only those analysts' forecasts issued within 60 days of earnings announcements, and the results using this alternative definition are qualitatively the same as those reported in the paper.

[8] We did not include X and NAS as main effects in order to be consistent with the ERC literature. However, including the control variables and NAS as main effects in the model, as well as the interaction terms, does not alter our inference. Following Collins and Kothari (1989), we also defined our control variables X using dummies to avoid potential measurement errors in X and obtained similar results.

[9] Elliott and Hanna (1996) also use –5% as the cutoff. Results are similar if we use a cutoff of 0%, –1%, or –2%.

to the event date and earnings announcements made after normal trading hours.[10]

The primary test variable NAS is dichotomous and is coded one for firms with ''high'' levels of nonaudit services. Our definition of NAS identifies observations with more extreme values of nonaudit services by considering *both* the absolute magnitude of nonaudit fees and relative magnitude of nonaudit fees. NAS is coded one if the dollar amount of nonaudit fees is greater than the 75th percentile value of sample firms ($1,074,000) *and* if the ratio of nonaudit fees to total fees is greater than the sample median (.574). This definition results in 27% of firm-quarter observations being classified as high NAS observations.[11] We also test alternative definitions of ''high'' nonaudit fees including the ratio of nonaudit fees to total fees (FEERATIO), and these results are reported in Section 4.[12]

The demand for nonaudit services is endogenously determined and therefore many of the determinants of nonaudit fees may also be determinants of the ERC (see Frankel et al., 2002; Whisenant, Sankaraguruswamy, & Raghunandan, 2003). For this reason, the coefficient on FERR*NAS is difficult to interpret without controlling for these omitted ERC determinants. Therefore, we also allow the coefficient on FERR to vary with a set of ERC determinants (denoted X) identified in prior research. However, we do not allow the coefficients on FERR*X to vary with PERIOD because there is no reason to expect the coefficients on FERR*X to change over time.[13]

As noted in Section 1, prior research identifies four ERC determinants: growth opportunities, risk, earnings persistence, and the risk-free interest rate. Analysts' consensus (median) long-term earnings growth forecast (GROWTH) controls for growth opportunities. Our inference is similar if we use the ratio of book value to market value of common equity as a proxy for growth opportunities. The standard deviation of daily stock returns (STDRET) and the ratio of total debt to total equity (DE) control for firm risk. STDRET is also a proxy for the uncertainty of future cash flows (i.e., σ_j^2) in Eq. 4a. We use LOSS and RESTRUCTURE to control for earnings persis-

[10] Results are similar if the abnormal return is measured over 5 days centered on the earnings announcement date.

[11] Frankel et al. (2002, p. 82) note that a large value in the ratio of nonaudit fees to total fees is unlikely to capture auditor independence problems unless the absolute dollar amount of the fees is also large. Ashbaugh et al. (2003) demonstrate this with two firms in their sample having an identical FEERATIO of 73%. Yet in one case total fees are only $71,000 and in the other case total fees are $5.7 million. It is difficult to imagine any scenario in which total fees of $71,000 would create an economic bond that threatens auditor independence even if virtually all fees were for nonaudit services.

[12] We do not differentiate among types of nonaudit services in defining NAS because the SEC's initial disclosure regulations did not mandate a detailed classification of nonaudit fees. In addition, existing auditor dependence theories focus on the magnitude of nonaudit fees rather than the type. There is no strong reason to believe that one type of nonaudit service might cause more auditor independence problems than another type.

[13] Allowing the coefficients on FERR*X to vary with PERIOD does not alter our basic inference, but there is some weak evidence that it induces multicollinearity.

tence because prior research indicates that earnings of loss firms and restructuring firms are less persistent (Hayn, 1995; Elliott & Hanna, 1996). We do not use a firm-specific time-series model to directly estimate the earnings persistence for the two periods because such estimates are likely very noisy. However, none of our results are negatively affected if a firm-specific measure of earnings persistence is included as an additional control. We do not control for the risk-free interest rate because our sample period is relatively short and in addition the difference in the risk-free interest rate between the pre- and post-fee disclosure periods is controlled implicitly by the time period indicator variable (PERIOD).

We also include the following additional controls. Based on past research, we include ABSFERR as a control for the nonlinearity in the ERC (Freeman and Tse, 1992) and FQTR4 as a control for the difference in the ERC for earnings in the first three quarters versus the last fiscal quarter (Cornell & Landsman, 1989; Mendenhall & Nichols, 1988). Finally, we allow the coefficient on FERR to vary with firm size (LNMV) and a set of industry dummies to control for size effects and industry effects. The definitions of the industries follow Frankel et al. (2002, p. 102). To avoid potential collinearity for industries with few observations, we allow the coefficient on FERR to vary across industries only for those industries with at least 1,000 quarterly observations in our sample period.[14]

Although our primary objective is to test whether the initial fee disclosures affected the capital market's assessment of subsequent quarterly earnings surprises, the regression model (5) is estimated using quarterly earnings surprises in both a 1-year period *before* the initial fee disclosure date and a 1-year period after the initial fee disclosure date.[15] The inclusion of earnings surprises before the initial fee disclosures serves two purposes. First, earnings surprises before the fee disclosure date control for unobservable ERC determinants not included in X. Because NAS might be correlated with these unobservable ERC determinants, the coefficient on FERR*NAS might not be totally attributable to the effect of the fee disclosures alone (i.e., ϕ_j^2) if estimated only with earnings surprises *after* the fee disclosure date. Therefore, contrasting the coefficients on FERR*NAS for the period before versus the period after initial fee disclosures (denoted by PERIOD*FERR*NAS) provides a stronger test of our research question.

Second, the use of observations prior to the fee disclosure date allows us to test how investors valued earnings surprises before the initial fee disclosures

[14] As a further sensitivity check, we also allowed the coefficient on FERR to vary with the variance of analysts' earnings forecasts. The coefficient on PERIOD*FERR*NAS remains significantly negative (–193, $p < .001$) and the coefficient on FERR*NAS is significantly positive (115, $p = .022$). However, because the variance of analysts' earnings forecasts is missing for 25% of our sample firms, we do not include this control variable in regression model specified in Eq. 5.

[15] Our sample includes only quarterly earnings announcements within 1 year of the fee disclosure date because we wish to study the initial effect of the fee disclosures on investors' perception of auditor independence. The fee disclosures began with proxy statements filed on or after February 5, 2001.

for firms that subsequently reported high nonaudit fees, and thus whether the fee disclosures provide incremental new information that enabled investors to assess the degree of auditor independence and earnings quality. If investors could use other information sources to privately estimate the magnitudes of our sample firms' audit and nonaudit fees, and if investors believe that high nonaudit fees compromise auditor independence, then we would expect investors to discount the earnings quality of firms paying high nonaudit fees *before* the SEC's mandatory disclosure date, as well as afterwards. However, if investors could not estimate the fees or if high nonaudit fees do not matter in assessing auditor independence, we would not expect investors to discount such firms' earnings quality before the SEC's mandatory disclosure date, after controlling for the common ERC determinants.[16] In addition, if the SEC's mandatory fee disclosures represent new information and the capital market perceived that auditors who receive high nonaudit fees from their audit clients are less independent, then the coefficient on PERIOD*FERR*NAS should be negative, ceteris paribus.

2.2 High- and low-accrual firms

A large body of accounting research documents that accounting accruals are more easily manipulated by management than cash flows in order to meet earnings management targets. Prior research also shows that high-accrual firms have a greater demand for credible auditing due to increased earnings uncertainty, and that firms with higher quality auditors have less earnings management through abnormal accruals (Becker, Defond, Jiambalvo, & Subramanyam, 1998; Francis, Maydew, & Sparks, 1999). Therefore, if the disclosure of high levels of nonaudit fees paid to firms' incumbent auditors increases investors' uncertainty over the quality of auditing and earnings, it is intuitive that this effect would be more pronounced for firms with higher levels of accruals. Therefore we re-estimate the model in Eq. 5 separately for high-accrual and low-accrual firms. Total accruals are defined as the difference between net income and operating cash flows before extraordinary items as reported in the cash flow statement. Firm-quarter observations are denoted high-accrual firms (HIACC) and coded one if the absolute value of the firm's quarterly total accruals, as a percentage of total assets, is more than the median of the sample, and are coded zero otherwise.

2.3 Sample and descriptive statistics

Our sample selection procedure begins with firms' first-time proxy statement fee disclosures on the SEC's Edgar online database. The data on the initial fee

[16] This test assumes that the magnitudes of audit and nonaudit fees are stable from year to year. Francis and Ke (2003) report that yearly correlations are in excess of .85 for audit fees and nonaudit fees based on a recent Australian data where fees are publicly reported. In addition, we also estimate the regression model (5) using only the two quarterly earnings surprises immediately before and immediately after the initial fee disclosure date and obtain similar results (see Section 3).

disclosures were primarily obtained from Standard and Poor's, supplemented by a commercial data base from The Emerson Company. We eliminated firms that were not available on CRSP, Compustat, or I/B/E/S, and that did not have the required quarterly data for the empirical models. We also limited our sample to earnings announcements made within 1 year of the date of a sample firm's initial proxy statement fee disclosures, because our interest is to examine how investors reacted to reported earnings immediately before and after the initial disclosure of fee data. The final sample contains 3,133 unique firms (16,910 firm-quarter observations) whose fiscal quarters end in calendar years 1999–2002 (93% of the observations fall within calendar years 2000 and 2001), with 8,559 firm-quarters prior to initial proxy statement fee disclosures and 8,351 firm-quarters after initial proxy statement fee disclosures. Note that some prior nonaudit fee studies such as Frankel et al. (2002) exclude the financial sector (SIC codes 6000–6999) because the focus is on the association between nonaudit fees and accounting accruals which are qualitatively different in the financial sector. However, given that our focus is on the market valuation of earnings surprises, no industries are excluded in deriving the sample used in the study.

Table 1, Panel A reports the fee data used in the study. Clearly, both the dollar amount of nonaudit fees and the ratio of nonaudit fees to total fees (FEERATIO) are large for a significant portion of the sample firms. The median dollar amount of nonaudit fees is $369,000 and the median FEERATIO is .574, which means that nonaudit fees are larger than audit fees for the majority of our sample firms. This is higher than the median FEERATIO value of .51 in Frankel et al. (2002) and .483 in Ashbaugh et al. (2003). In addition, the 75th percentile value of nonaudit fees is $1,074,000, larger than the 75th percentile value of $722,000 in Frankel et al. (2002). Thus our sample firms have somewhat larger levels of nonaudit fees than those in the other studies, which could be due to the fact our sample firms must have analysts' forecast data from I/B/E/S and therefore are likely to be larger in size relative to other studies.

Table 1, Panel B reports separate descriptive statistics for the regression model variables for firm-quarter observations before and after initial proxy statement fee disclosures. The test variable NAS is not significantly different between the two periods. Recall that NAS uses initial proxy statement fee disclosures and is coded one if FEERATIO (the ratio of nonaudit fees to total fees) is greater than the median value in the sample (.574) *and* if the dollar value of the nonaudit fees is greater than the 75th percentile value in the sample ($1,074,000), and zero otherwise. The dependant variable CAR3 is not significantly different between the two periods. Analysts' consensus forecast error (FERR) is significantly different between the two periods. The mean FERR is slightly negative (–.000) in the first period and slightly positive (.001) in the second period. All of the remaining control variables are significantly different between the two periods. In particular, the sample firms experience a lower forecasted earnings growth rate (GROWTH), more frequent restruc-

Table 1 Descriptive statistics[a]

PANEL A: FEES DATA FROM INITIAL PROXY STATEMENT DISCLOSURES (N = 3,133)					
	Mean	Standard deviation	25%	50%	75%
Nonaudit fees	1,725	5,576	126	369	1,074
Total fees	2,399	6.960	312	679	1,640
FEERATIO	.547	.225	.389	.574	.723
PANEL B: REGRESSION VARIABLES – Mean (median) [standard deviation]					
	The firm quarters whose earnings were announced before the initial fee disclosure date N = 8,559		The firm quarters whose earnings were announced after the initial fee disclosure date N = 8,351		p Values from two-sample t test (top) and ranksum test (bottom)
NAS	.222		.226		.541
	(0)		(0)		(.509)
	[.347]		[.350]		
CAR3	.427		.273		.350
	(.440)		(.394)		(.163)
	[11.333]		[10.049]		
FERR	–.000		.001		<.001
	(.000)		(.000)		(.002)
	[.011]		[.013]		
STDRET	.045		.038		<.001
	(.038)		(.033)		(<.001)
	[.025]		[.022]		
LNMV	6.771		6.683		.001
	(6.653)		(6.562)		(.004)
	[1.760]		[1.772]		
GROWTH	22.740		20.948		<.001
	(17.000)		(16.000)		(<.001)
	[19.000]		[16.669]		
DE	1.005		.950		.033
	(.470)		(.407)		(.006)
	[1.729]		[1.629]		

Table 1 continued

	The firm quarters whose earnings were announced before the initial fee disclosure date N = 8,559	The firm quarters whose earnings were announced after the initial fee disclosure date N = 8,351	p Values from two-sample t test (top) and ranksum test (bottom)
RESTRUCTURE	.034	.051	<.001
	(0)	(0)	(<.001)
	[.182]	[.221]	
LOSS	.194	.276	<.001
	(0)	(0)	(<.001)
	[.395]	[.447]	
FQTR4	.243	.226	.008
	(0)	(0)	(.008)
	[.429]	[.418]	
ABSFERR	.004	.005	<.001
	(.001)	(.001)	(.032)
	[.010]	[.012]	
HIACC[b]	.484	.516	<.001
	(0)	(1)	(<.001)
	[.500]	[.500]	

[a] Nonaudit fees represent total payments to the incumbent auditor for services unrelated to the audit in a firm's initial fee disclosures. Total fees represent total fees paid to the incumbent auditor. Nonaudit fees and Total fees are in thousands. FEERATIO is the ratio of nonaudit fees to total fees. NAS is equal to 1 if the ratio of nonaudit fees to total fees is greater than the median of the sample, and the dollar value of nonaudit fees is greater than the 75th percentile of the sample, and zero otherwise. CAR3 is size-adjusted cumulative abnormal return in percentage over a 3-day window from 1 day before to 1 day after the quarterly earnings announcement date. FERR is actual quarterly earnings per share for firm i in quarter t minus the most recent median consensus analyst forecast, scaled by the fiscal year end stock price for quarter $t-1$. The median analyst forecast is computed using each analyst's latest forecast before the earnings announcement. STDRET is the standard deviation of daily stock returns over a 90-day window ending seven days prior to the earnings announcement date. STDRET requires a minimum of 10 nonmissing daily returns. LNMV is natural log of the market value of common equity at the beginning of the quarter. GROWTH is analysts' median 5-year long term earnings growth forecast in the fiscal quarter (in percentage). DE is the ratio of short and long term total debts to total equity. RESTRUCTURE is 1 if the special item (quarterly Compustat #32) as a percentage of total assets in the quarter is less than or equal to –5%, and zero otherwise. LOSS is 1 if the current quarter's earnings is negative, and zero otherwise. FQTR4 is 1 if the observation quarter is fiscal quarter 4, and zero otherwise. ABSFERR is the absolute value of FERR. HIACC is 1 if the absolute value of a firm's quarterly total accruals as a percentage of its total assets is more than the median of the sample for the same quarter, and zero otherwise. Total accruals are the difference between net income and operating cash flows before extraordinary items per the cash flow statement

[b] Due to missing values, the sample size for HIAXCC is 7,170 and 6,866 in columns 2 and 3, Panel B, respectively

turing charges (RESTRUCTURE) and more losses (LOSS) in the second time period (post-disclosure) than in the first time period (pre-disclosure).

Table 2, Panel A reports Pearson and Spearman correlations among the regression variables. The correlations do not indicate any evidence of multicollinearity because the largest correlation is .597 between GROWTH and STDRET. NAS is significantly correlated with all of the control variables except for RESTRUCTURE and FQTR4, which underscores the importance of allowing the coefficient on FERR to vary with the control variables in order to isolate the effect of NAS alone on investors' valuation of earnings surprises. The correlations among the alternative nonaudit fee metrics in Panel B will be discussed in Section 4.

3 Results

Table 3 reports the results of estimating the regression model specified in Eq. 5. The interactions between FERR and the industry dummies are excluded in the table for brevity. Column (1) reports the regression result based on the full sample.[17] The negative coefficient on PERIOD*FERR*NAS (–156.064) is significant at $p < .01$ (two-tailed) indicating a lower ERC in the post-disclosure period for firms with high fees for nonaudit services relative to other firms. In contrast, in the pre-disclosure period, the coefficient on FERR*NAS (64.036) is weakly positive ($p < .10$, two-tailed), which indicates that prior to disclosure investors did not discount the earnings of firm which subsequently reported high nonaudit fees. We conclude from the results on these two coefficients that the SEC's mandatory disclosure of audit and nonaudit fees provides new information that investors could not obtain from other sources, and that investors perceived high nonaudit fees negatively after their disclosure.

The coefficients on the remaining control variables are generally consistent with expectations and are significant at the two-tailed 10% level or better. The ERC is lower for firms with low earnings persistence (LOSS and RESTRUCTURE), risky firms (DE), and firms with large magnitudes of FERR (ABSFERR), and higher for growth firms (GROWTH), and firms with greater uncertainty in future cash flows (STDRET). The ERC is lower in the last fiscal quarter than in the first three fiscal quarters. Prior studies have reported inconsistent evidence: Mendenhall and Nichols (1988) report a lower ERC in the fourth quarter while Cornell and Landsman (1989) find a higher ERC for fourth quarter earnings announcements. The consistently positive coefficient on PERIOD*FERR in Table 3 is likely due to Federal Reserve's interest rate cuts that began around February 2001 (the same time the initial

[17] To eliminate potential outliers, we deleted influential observations in each regression model in Tables 3, 4 and 5 based on Cook's (1977) distance statistic. In addition, the reported standard errors allow heteroskedasticity and any type of correlation for observations of the same firm but assume independence for observations across different firms (Rogers, 1993).

Table 2 Pearson and Spearman correlation matrix[a]

PANEL A. CORRELATIONS FOR THE 16,910 FIRM QUARTERS

	NAS	FERR	GROWTH	STDRET	DE	LNMV	RESTRUCTURE	LOSS	FQTR4	ABSFERR
NAS		–.024*	–.160*	–.140*	.177*	.484*	–.0004	–.086*	.005	–.130*
FERR	.004		.024*	.020*	–.006	–.046*	–.032*	–.081*	–.014	.289*
GROWTH	–.133*	.022*		.597*	–.501*	–.112*	.129*	.286*	–.032*	–.005
STDRET	–.122*	–.049*	.473*		–.419*	–.286*	.200*	.433*	–.045*	.204*
DE	.084*	–.015	–.199*	–.182*		.115*	–.127*	–.193*	.006	.022*
LNMV	.489*	.032*	–.102*	–.255*	.054*		–.087*	–.279*	–.017*	–.429*
RESTRUCTURE	–.0004	–.059*	.107*	.244*	–.069*	–.087*		.232*	.077*	.105*
LOSS	–.086*	–.134*	.310*	.460*	–.081*	–.277*	.232*		.023*	.339*
FQTR4	.005	–.029*	–.025*	–.020*	.004	–.016*	.077*	.023*		.037*
ABSFERR	–.055*	–.312*	.065*	.310*	0028*	–.339*	.193*	.382*	.067*	

PANEL B. CORRELATIONS FOR THE 3,133 UNIQUE FIRMS

	NAS	NAS1	NAS2	AUDIT
NAS		.531*	.920*	.506*
NAS1	.531*		.439*	.121*
NAS2	.920*	.439*		.604*
AUDIT	.506*	.121*	.604*	

[a] Spearman correlations are in the top diagonal and Pearson correlations are in the bottom diagonal. NAS1 is equal to 1 if the ratio of nonaudit fees to total fees is greater than the median of the sample, and zero otherwise. NAS2 is equal to 1 if the dollar value of nonaudit fees is greater than the 75th percentile of the sample, and zero otherwise. AUDIT is equal to 1 if the dollar value of audit fees is greater than the 75th percentile of the sample, and zero otherwise. See Table 1 for other variable definitions

*Significant at 5%, two-tailed

Table 3 OLS Regressions of size-adjusted quarterly earnings announcement period abnormal return (CAR3)[a]

	Dependent variable = CAR3							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Full sample	Proxy and earnings announcement dates before the Enron event (Oct. 15, 2001)	Require each firm to have observations in both periods	Match pairs of observations in the two periods by fiscal quarter	Include only the two observations immediately before and after the fee disclosure date	Exclude the two observations immediately before and after the fee disclosure date	Include only the observations for fiscal quarter 4	Include only the observations in the second period
PERIOD	–.270 (.144)*	–.113 (.193)	–.230 (.150)	–.356 (.165)**	.032 (.268)	–.404 (.172)**	.101 (.274)	N/A N/A
FERR	145.005 (44.386)***	16.930 (58.173)***	103.590 (57.361)*	15.208 (63.081)	123.051 (75.912)	142.157 (59.194)**	71.466 (77.645)	88.129 (57.322)
PERIOD*FERR	44.205 (14.750)***	24.096 (22.158)	52.309 (19.176)***	67.715 (24.512)***	64.865 (31.035)**	48.284 (19.117)**	47.829 (24.249)**	N/A N/A
FERR*NAS	64.036 (35.242)*	67.233 (37.134)*	63.339 (48.998)	77.613 (71.571)	121.010 (59.588)**	55.104 (67.667)	115.750 (51.591)**	–118.270 (23.098)***
PERIOD*FERR*NAS	–156.064 (39.452)***	–11.673 (51.605)**	–189.472 (54.072)***	–186.056 (75.501)**	–215.745 (78.190)***	–176.888 (70.373)**	–209.858 (64.779)***	N/A N/A
FERR*GROWTH	.682 (.380)*	.631 (.569)	1.455 (.386)***	2.860 (.746)***	–.209 (.559)	1.120 (.526)**	.476 (.510)	1.506 (.449)***
FERR*STDRET	1,386.825 (243.118)***	1,726.695 (394.881)***	2,226.401 (365.747)***	1,638.874 (440.060)***	1,996.572 (412.656)***	1,039.314 (354.479)***	1,226.841 (329.060)***	1,654.699 (310.107)***
FERR*DE	–9.104 (4.439)**	–10.154 (5.404)*	6.046 (4.244)	–4.767 (5.242)	6.315 (5.815)	–16.772 (5.465)***	–3.626 (7.282)	1.850 (5.345)
FERR*LNMV	37.098 (6.459)***	32.696 (8.313)***	43.798 (8.249)***	53.844 (8.956)***	24.057 (10.945)**	43.247 (8.403)***	27.518 (10.189)***	49.411 (8.188)***

Table 3 continued

	Dependent variable = CAR3							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Full sample	Proxy and earnings announcement dates before the Enron event (Oct. 15, 2001)	Require each firm to have observations in both periods	Match pairs of observations in the two periods by fiscal quarter	Include only the two observations immediately before and after the fee disclosure date	Exclude the two observations immediately before and after the fee disclosure date	Include only the observations for fiscal quarter 4	Include only the observations in the second period
FERR*ABSFERR	–2,551.373 (365.116)***	–3,293.967 (509.857)***	–3,428.155 (475.067)***	–3,720.987 (581.459)***	–2,780.476 (696.070)***	–2,320.238 (430.985)***	–1,544.286 (610.404)**	–2,638.641 (524.422)***
FERR*LOSS	–240.227 (20.411)***	–221.191 (25.706)***	–294.997 (23.947)***	–270.289 (26.959)***	–200.892 (31.891)***	–263.031 (25.613)***	–186.315 (39.853)***	–244.549 (28.184)***
FERR*FQTR4	–55.699 (12.208)***	–71.713 (22.657)***	–74.797 (15.988)***	–102.876 (21.690)***	–86.392 (31.051)***	–38.711 (15.528)**	N/A N/A	–55.328 (16.436)***
FERR*RESTRUCTURE	–53.880 (17.186)***	–87.447 (28.521)***	–11.111 (26.017)	–21.358 (29.062)	35.792 (34.536)	–72.953 (19.524)***	–41.707 (22.146)*	–17.681 (21.613)
Constant	.255 (.113)**	.262 (.122)**	.307 (.119)***	.395 (.132)***	.514 (.200)**	.172 (.137)	–.036 (.204)	–.029 (.097)
Observations Adjusted *R*-squared	16243 .032	10498 .031	14413 .035	11853 .032	4405 .031	11833 .031	3749 .020	7972 .035

[a] The regression model includes a set of interactions between FERR and industry dummies. The industries are defined following Frankel et al. (2002, p. 102). The coefficients on these variables are omitted from the table. Period is 1 if the quarterly earnings announcement date is after the initial disclosure of the audit and nonaudit fees data in proxy statement, and zero otherwise. See Table 1 for other variable definitions. The variables with "*" are interaction terms. Outliers are deleted using Cook's (1977) statistic. The reported standard errors allow heteroskedasticity and any type of correlation for observations of the same firm but assume independence for observations across different firms (Rogers, 1993)

All significance tests are two-tailed. *Significant at 10%; **Significant at 5%; ***Significant at 1%

fee disclosures began) in order to stimulate the economy (see Collins & Kothari, 1989).

We perform sensitivity checks in columns (2) through (8) of Table 3. These tests are important because they indicate that the basic result in column (1) holds under many different sets of samples that control for potential confounding effects. The regression in column (2) excludes observations with proxy statement fee disclosures and/or quarterly earnings announcements after Enron's earnings restatement on October 15, 2001, to control for any confounding effect the Enron event may have had on the market's general perception of auditor independence and earnings quality. The regression in column (3) requires each unique firm in the sample to have a minimum of one observation in both time periods to ensure that the result in column (1) is not due to changes in the mix of sample firms across the two periods. The regression in column (4) retains only the quarterly observations in the pre-disclosure period that have at least one matching observation of the same fiscal quarter in the post-disclosure period to more explicitly control for fiscal quarter effects on ERCs. The regression in column (5) includes only the two quarterly earnings surprise observations surrounding the proxy statement fee disclosure date in order to test the capital market's reaction to earnings surprises immediately before and after the initial fee disclosures, while the regression in column (6) excludes these two observations and examines the remaining observations in the sample. By using the two earnings announcements immediately before and after the initial fee disclosures, the regression in column (5) avoids the assumption that nonaudit and audit fees are stable from year to year (see footnote 16), and also mitigates the likelihood that the results are confounded by changing firm-specific circumstances that are correlated with nonaudit fees. The regression in column (7) restricts observations to only the fourth quarter (which is the equivalent to a test of annual earnings surprises) because outside auditors are more heavily involved in year-end audits, whereas they only provide more limited interim reviews in the first three quarters. Finally, the regression in column (8) limits the observations only to the post disclosure period, and the relevant test variable is FERR*NAS. This regression specification allows a simple test of high nonaudit fees restricted to the post-disclosure period. The results in Tables 3 are also robust to the following additional sensitivity checks: (1) exclude non-Big 5 accounting firms; (2) exclude each Big 5 accounting firm one at a time; and (3) exclude earnings announcements after September 11, 2001.

Across all of the sample restrictions imposed in columns (2) to (8) in Table 3, the coefficients on PERIOD*FERR*NAS, and FERR*NAS in the case of column (8), are always negative and significant at 5% or better, two-tailed. This evidence suggests that, on average, earnings surprises are discounted in the post-disclosure period for firms whose auditor provide high levels of nonaudit services. In contrast, the coefficient on FERR*NAS in columns (1) to (7) is *never* negative and is in fact significantly positive in four of the seven regressions. While we use a substantially different research design

than that in Frankel et al. (2002, see Table 3), nevertheless our results are consistent with theirs in documenting a negative market reaction to the disclosure of nonaudit fees paid to a firm's incumbent auditors. In the next subsection, we show that these results are driven by the subset of high-accrual firms in the sample.

3.1 Analysis of high- and low-accrual firms

We conjectured that the negative impact of nonaudit fees may be more pronounced for firms with high accruals, and Table 4 reports the results of estimating the model in Eq. 5 separately for high- and low-accrual firms. A firm-quarter observation is classified as a high-accrual firm if the *absolute value* of the observation's quarterly accruals, as a percentage of total assets, is more than the median of the sample.[18] Total accruals are the difference between quarterly net income and operating cash flows before extraordinary items. Due to missing observations on accruals, the combined sample size before deleting outliers in Table 4 is slightly smaller than the full sample in column (1) of Table 3, i.e., a total of 13,476 firm-quarter observations in Table 4 compared to 16,910 in Table 3.

As conjectured, the coefficient on PERIOD*FERR*NAS (–183.813) is significantly negative ($p < .01$, two-tailed) only for the high-accrual firms reported in column (1). This result suggests that after fee disclosures became public, high-accrual firms that paid their auditors high fees for nonaudit services had significantly lower ERCs relative to high-accrual firms with low levels of nonaudit fees, which is consistent with increased uncertainty over the earnings quality of these firms. Also note that the positive and significant coefficient on FERR*NAS in column (1) indicates that prior to the proxy statement fee disclosures, investors did not discount the earnings of high-accrual/high NAS firms relative to those of high-accrual/low NAS firms. The estimation in column (2) for low-accrual firms indicates that the coefficients on FERR*NAS and PERIOD*FERR*NAS are both insignificant, indicating that the fee disclosures had no effect on the perceived earnings quality and the ERCs of low-accrual firms.

As a robustness test, we re-estimated the seven models in columns (2) through (8) of Table 3 for the separate samples of high- and low-accrual firms in Table 4. For the subsample of low-accrual firms, in *all* seven estimations the test variables of interest are statistically insignificant at $p > .10$ (two-tailed).[19] For the sample of high-accrual firms, the test variables of interest are negative and statistically significant at $p = .10$ or less (two-tailed) for six of seven models (and $p < .05$ (two-tailed) for five of the seven models). The only exception is the estimation of the model in

[18] Untabulated regression results indicate that the results in Table 4 hold for both positive and negative accruals.

[19] The test variables of interest are PERIOD*FERR*NAS for the models in columns (2) through (7) of Table 3, and PERIOD*NAS for the model in column (8) of Table 3.

Table 4 The effect of fee disclosures on the capital market's reevaluation of the earnings for high- and low-accrual firms[a]

	Dependent variable = CAR3	
	(1)	(2)
	High-accrual firm quarters	Low-accrual firm quarters
PERIOD	–.094	–.719
	(.258)	(.213)***
FERR	246.831	–21.966
	(57.880)***	(87.544)
PERIOD*FERR	18.995	65.721
	(16.885)	(35.393)*
FERR*NAS	116.751	–46.015
	(44.242)***	(93.971)
PERIOD*FERR*NAS	–183.813	–7.149
	(48.422)***	(107.605)
FERR*GROWTH	.323	2.930
	(.460)	(1.357)**
FERR*STDRET	1,033.272	1,995.199
	(244.849)***	(720.610)***
FERR*DE	–6.604	–10.402
	(5.237)	(9.559)
FERR*LNMV	31.434	59.254
	(7.774)***	(13.121)***
FERR*ABSFERR	–1,794.355	–4,573.662
	(443.430)***	(762.069)***
FERR*LOSS	–279.401	–222.262
	(32.143)***	(36.458)***
FERR*FQTR4	–54.703	–71.005
	(14.570)***	(38.023)*
FERR*RESTRUCTURE	–59.937	890.457
	(16.910)***	(798.040)
Constant	.118	.636
	(.200)	(.165)***
Observations	6673	6803
Adjusted *R*-squared	.034	.032

[a] The regression model includes a set of interactions between FERR and industry dummies. The industries are defined following Frankel et al. (2002, p. 102). The coefficients on these variables are omitted from the table. High-accrual firms are those observations with HIACC equal to one, and low-accrual firms are those with HIACC equal to zero. See Tables 1 and 3 for other variable definitions. The variables with "*" are interaction terms. Due to missing values on HIACC, the sample size for the two periods before outlier deletions is reduced from 16,910 to 14,036. Outliers are deleted using Cook's (1977) statistic. The reported standard errors allow heteroskedasticity and any type of correlation for observations of the same firm but assume independence for observations across different firms (Rogers, 1993)

All significance tests are two-tailed. *Significant at 10%; **Significant at 5%; ***Significant at 1%

column (4) of Table 3 for high accrual firms where the test variable of interest is –133.96 (p = .171, two-tailed). Overall, these various subsample estimations are consistent with the full sample estimations in Table 4 and indicate that the results in Table 3 are driven by the subsample of high-accrual firms.

In sum, the findings in Table 4 and the associated robustness checks above for high- and low-accrual firms indicate that the proxy statement fee disclosures appear to have affected the market's perception of earnings quality primarily for firms with high levels of nonaudit fees that also have high levels of accruals. This result is consistent with the explanation that earnings of firms with greater accruals are more subject to managerial discretion and therefore in greater need of verification by independent auditors. If, after the proxy statement fee disclosure, a firm's auditor is perceived to be less independent due to receiving high levels of nonaudit fees, then the firms' earnings quality will also be perceived to be more uncertain, leading to a lower ERC. The economic intuition of this result also makes it less likely that the results in Table 3 are due to spurious correlations.

3.2 Magnitude of the market's discount in ERC due to fee disclosures

The tests in Table 3 show that earnings surprises of firms with high NAS are valued lower following the initial disclosure of fees paid to auditors, and the results in Table 4 indicate this result is driven by the subset of high-accrual firms in the sample. To gauge the economic magnitude of this effect, we compare the earnings response coefficient in column (1) of Table 3 for a median firm with high nonaudit fees (i.e., NAS = 1) in the second period for two situations: (1) the effect of fee disclosures (i.e., PERIOD*FERR*NAS) is excluded; and (2) the effect of fee disclosures is included. We repeat the same calculation for the regression in column (1) of Table 4 for a median firm with high nonaudit fees and high accruals in the second period. For the sample in column (1) of Table 3, 26.7% of the observations in the post-disclosure period are firms with high nonaudit fees, and for the sample in column (1) of Table 4, 23.3% of the observations in the post-disclosure period are firms with high nonaudit fees. Thus for both tests around one-quarter of the sample observations have significantly discounted ERCs.

Based on the regression coefficients in column (1) of Table 3, the earnings response coefficient *excluding* the effect of fee disclosures is 592 for the median firm with high nonaudit fees in the post-disclosure period, and the earnings response coefficient *including* the effect of fee disclosures is 436 for the median firm with high nonaudit fees in the post-disclosure period. Thus, fee disclosures resulted in a reduction of the earnings response coefficient for the median firm with high nonaudit fees by 26% (1-436/592). A similar calculation for the regression in column (1) of Table 4 indicates that the fee disclosures resulted in an even larger reduction of 43% (1-380/673) in the earnings response coefficient for the median firm with both high nonaudit fees and high accruals. Thus the magnitude of the valuation discount is economically significant, in addition to the statistical significance reported in Tables 3 and 4.

4 Other sensitivity analyses

4.1 Alternative nonaudit fee variables

High levels of nonaudit fees (NAS) have been defined up to this point using a joint cutoff of .574 (median) for the relative magnitude of nonaudit fees and $1,074,000 (75th percentile) for the absolute magnitude of nonaudit fees. Because high nonaudit fees have been measured in different ways in prior research, we examine the sensitivity of our regression results to alternative definitions. The first alternative specification is NAS1, which is a dummy variable that equals one if the ratio of nonaudit fees to total fees (FEERATIO) is greater than the sample median (.574). A continuous measure of FEERATIO is also tested and reported below. The second alternative is NAS2, which is a dummy that is coded one if the nonaudit fees are above the 75th percentile of the sample firms ($1,074,000). Because levels of nonaudit fees and audit fees are correlated and high audit fees may also affect auditor independence, we also include AUDIT, a dummy variable that equals one if the dollar value of audit fees is above the 75th percentile of the sample firms ($557,000), as a control variable in the regression when NAS2 is used as a proxy for high nonaudit fees.

Table 2, Panel B shows the correlations for alternative nonaudit fee specification and audit fees. As expected, the correlations for NAS, NAS1, and NAS2 are all positive and significant. However, the correlation between NAS1 and NAS2 is only .531, which indicates these two dimensions of NAS are capturing different facets of nonaudit fees. The correlation between NAS and NAS2 is very high (.920), suggesting that NAS and NAS2 are almost identical in our sample.

Table 5 reports the results using alternative definitions of nonaudit fees. In column (1), using NAS1 to proxy for high nonaudit fees, the coefficient on PERIOD*FERR*NAS1 is negative but insignificant. Thus firms above the median ratio of nonaudit fees to total fees, by itself, do not have a reduction in the ERC. Unreported results also indicate that the continuous measure FEERATIO is also insignificant. When using NAS2 alone as a proxy for high nonaudit fees in column (2), the coefficient on PERIOD*FERR*NAS2 is significantly negative, indicating that high absolute magnitudes of nonaudit fees alone are associated with a reduction in the ERC. Given the high correlation between NAS and NAS2 (.92), this result is not surprising. Based on these analyses we conclude that the *absolute* magnitude of nonaudit fees appears to matter more than the *relative* magnitude in explaining the ERC results in our study.[20]

[20] We also use a cutoff of 67th ($738,000) and 50th ($369,000) percentiles in defining NAS2, the absolute magnitude of nonaudit fees. The coefficient on PERIOD*FERR*NAS2 remains significantly negative for the 67th percentile cutoff, but not for the 50th percentile cutoff. This sensitivity analysis suggests that nonaudit fees start to cause perceived auditor dependence once they reach a material dollar threshold somewhere between $369,000 and $738,000 for our sample firms.

Table 5 OLS Regressions of size-adjusted quarterly earnings announcement period abnormal return (CAR3) using alternative definitions of nonaudit fee dependence[a]

	PROXY=		
	(1)	(2)	(3)
	NAS1	NAS2	NAS2
PERIOD	–.291	–.268	–.276
	(.145)**	(.144)*	(.144)*
FERR	178.504	145.827	122.838
	(40.108)***	(43.854)***	(43.965)***
PERIOD*FERR	30.870	45.658	39.034
	(18.033)*	(14.755)***	(15.380)**
FERR*PROXY	–12.583	42.030	70.077
	(19.403)	(24.699)*	(29.463)**
PERIOD*FERR*PROXY	–32.163	–125.116	–154.819
	(25.791)	(28.857)***	(35.308)***
FERR*AUDIT			–79.558
			(27.725)***
PERIOD*FERR*AUDIT			48.113
			(33.819)
Constant	.269	.254	.255
	(.114)**	(.113)**	(.114)**
Observations	16248	16253	16251
Adjusted *R*-squared	.030	.032	.033

[a] The regression model is the same as that in Table 3. The coefficients on the control variables are omitted for brevity. Period is 1 if the quarterly earnings announcement date is after the initial disclosure of the audit and nonaudit fees data in proxy statement, and zero otherwise. See Tables 1 and 2 for other variable definitions. The variables with ''*'' are interaction terms. Outliers are deleted using Cook's (1977) statistic. The reported standard errors allow heteroskedasticity and any type of correlation for observations of the same firm but assume independence for observations across different firms (Rogers, 1993)

All significance tests are two-tailed. *Significant at 10%; **Significant at 5%; ***Significant at 1%

Frankel et al. (2002, p. 82) suggest that all fees paid to auditors, for both audit and nonaudit services, should be included when analyzing the influence of high fee levels on earnings quality. The first reason is that FEERATIO is invariant to the magnitude of fees as already noted. The second reason is that cross-sectional variation in FEERATIO could be due to either the level of nonaudit fees or the level of audit fees. As a result, we also include both NAS2 and AUDIT in column (3) as a sensitivity check. Recall that NAS2 and AUDIT are coded one if observations are above the 75th percentile value of nonaudit and audit fees, respectively, and zero otherwise. The coefficient on PERIOD*FERR*NAS2 remains significantly negative. The coefficient on PERIOD*FERR*AUDIT is insignificant, suggesting the disclosure of high audit fees does not cause a reduction in the ERC. However, this insignificant result does not necessarily mean that high audit fees do not compromise auditor independence. The reason is that investors previously could have been aware of the magnitude of the audit fees and

thus the SEC mandated disclosure did not change their assessment of auditor independence.[21]

In sum, the sensitivity analyses in Table 5 indicate that it is the disclosure of high dollar levels of nonaudit fees that is associated with a reduction in the ERC, rather than the magnitude of nonaudit fees relative to total fees as measured by FEERATIO or NAS1. Thus unlike Frankel et al. (2002), who report that abnormal accruals are positively associated with high levels of nonaudit fees relative to total fees, measured by the continuous variable FEERATIO, we find no such effects on the ERCs in our study. Rather, it appears that ERCs are sensitive primarily to the dollar magnitude of nonaudit fees. Based on our analysis, the dollar threshold at which the magnitude of nonaudit fees are perceived negatively occurs between the 50th ($369,000) and 67th ($738,000) percentile values.

4.2 Possible omitted determinants of NAS

Whisenant et al. (2003) find that the magnitude of nonaudit fees paid by firms to their auditors is significantly positively associated with firm size, the number of employees, institutional ownership percentage, foreign operations, loss, firm growth, return volatility, extraordinary items and discontinued operations, and new debt or equity issuance, and significantly negatively associated with financial leverage, change in bankruptcy probability, and firm performance. We have already controlled for firm size, loss, firm growth, return volatility, and financial leverage in the regression model specified in Eq. 5 because they are previously identified as ERC determinants. However, we did not include in Eq. 5 the other NAS determinants from Whisenant et al. (2003) because it is not obvious why these other NAS determinants are necessarily ERC determinants. In addition, we compare the coefficient on FERR*NAS for the pre- and post-disclosure periods for our hypothesis test, which should mitigate any problems associated with omitted ERC determinants.

In spite of the above compelling arguments, we re-estimate Eq. 5 by including these additional NAS determinants interacted with FERR as a further sensitivity check. Note that we do not include institutional ownership data because it is unavailable to us, although we do include firm size which is highly correlated with institutional ownership. Also, we do not include the change in bankruptcy probability because other variables in the model capture financial distress.[22]

[21] As an additional sensitivity check, we also define high levels of nonaudit fees using the natural log of one plus the dollar amount of nonaudit fees, and high levels of audit fees using the natural log of one plus the dollar amount of audit fees. The coefficients on PERIOD*FERR interacted with these continuous measures of nonaudit fees and audit fees are never significant.

[22] The bankruptcy probability used in Whisenant et al. (2003) is from a model in Zmijewski (1984) and is based on bankruptcy data from the 1970s which may not apply to our sample period. However, the two key variables in Zmijewski's model, firm performance and financial leverage, are directly included as controls in our model.

Following Whisenant et al. (2003), the number of employees is defined as the square root of the number of employees in the prior year (annual Compustat #29); foreign operations is a dummy that is equal to one if the firm has foreign operations in the current quarter as indicated by foreign currency adjustments to income (quarterly Compustat #34); extraordinary items and discontinued operations is a dummy that is equal to one if the firm reports extraordinary items or discontinued operations in the current quarter (quarterly Compustat #26); new debt or equity issuance is a dummy that is equal to one if the firm issues equity (quarterly Compustat #84 > $1 million) or long-term debt (quarterly Compustat #86 > $1 million) in either the current or subsequent fiscal quarter; and firm performance is the firm's raw stock return over the current fiscal quarter.

Untabulated results which incorporate all of the above additional control variables indicate that the coefficient on PERIOD*FERR*NAS remains significantly negative (coefficient = –145, $p < .001$, two-tailed). In addition, for completeness we re-estimated the same regression model for all of the subsamples in columns (2) through (7) of Table 3, and the coefficient on PERIOD*FERR*NAS is always negative and statistically significant at $p = .056$ or less. Therefore, we conclude that the coefficient on PERIOD*FERR*NAS in Table 3 is unlikely to be the result of omitted determinants of NAS in the model.

5 Discussion and conclusion

The purpose of this study is to evaluate if the mandated disclosure of fees paid to auditors required by new SEC rules for proxy statements filed on or after February 5, 2001 affected the market's valuation of earnings surprises. We find consistent evidence that quarterly earnings surprises following the initial proxy statement fee disclosures were significantly discounted for firms that paid high levels of nonaudit fees to their auditors. In addition to a statistically significant discount, the economic magnitude is also large. For the median firm in the sample with high nonaudit fees, there is a 26% reduction in the market's valuation of earnings surprises in the post-disclosure period. The reduction is even larger (43%) for the subsample of high-accrual firms that also have high levels of nonaudit fees. While our design is different, the results are consistent with Frankel et al. (2002) in showing a negative market reaction to the disclosure of high fees paid to auditors for nonaudit services.

It is very important to reiterate that an event study of this type cannot determine if auditor independence is factually impaired in cases where auditors also provide clients with high levels of nonaudit services. However, our results suggest that a negative investor perception exists toward high levels of nonaudit fees, and that this negative perception reduces investor confidence in the quality of reported earnings, particularly for high-accrual firms, which in turn leads to the discounting of earnings surprises. As the profession has frequently stated, if there is a perception that certain circumstances impair

auditor independence, even if there is no direct evidence of factual impairment, then there is a genuine credibility problem for the profession. This appears to be the case when auditors receive high levels of nonaudit fees, particularly when their clients also have high levels of accounting accruals.

Our results suggest the SEC's mandatory fee disclosures are warranted because firms and their auditors did not previously provide such information and investors appear to find the information incrementally useful in assessing auditor independence and earnings quality. At face value, our results also imply that a restriction on the level of nonaudit services provided by incumbent auditors might be beneficial to shareholders, although our study is silent on whether government agencies are in a better position than shareholders or boards of directors to impose such restrictions. The public policy implications nevertheless are of continuing importance because the Public Company Accounting Oversight Board (PCAOB) has the authority to further limit nonaudit services provided by auditors to their clients. Indeed, the PCAOB recently reviewed the appropriateness of auditors providing tax consulting services in light of the aggressive tax advice by several large accounting firms.[23]

Although we cannot completely rule out that high nonaudit fees paid to incumbent auditors are correlated with other unobservable firm characteristics that are driving the market's negative response (a classic correlated omitted variables problem), our research design controls for such effects through control variables and by comparing the earnings response coefficients in the pre- and post-disclosure periods. Finally, since our results are driven by high-accrual firms, and given that earnings of high-accrual firms have greater uncertainty if auditor independence is in doubt, it is difficult to attribute our results to alternative explanations.

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[23] The Sarbanes–Oxley Act of 2002 authorizes the Public Company Accounting Oversight Board to determine the list of ''impermissible'' nonaudit services. At a day-long roundtable discussion on July 14, 2004, PCAOB Chairman William J. McDonough stated: ''New concerns relating to auditor independence have come to the public's attention.... These concerns relate to tax services and products that audit firms provide to their clients and the senior executives of those clients, including extremely aggressive, if not abusive, tax strategies that may, by their nature, impair the objectivity of the auditor'' (as reported in *Accounting Today*, August 9–22, 2004, p. 1 and p. 38). With the elimination of other nonaudit services, taxation is now the largest sources of nonaudit service revenue for most accounting firms. While the PCAOB is allowing auditors to continue providing most taxation services to their audit clients, it is clear from the PCAOB roundtable discussion that the appropriateness of nonaudit services is being viewed with increasing skepticism in terms of their impact on both actual and perceived auditor independence.

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