



**Audit and Non-audit Fees and Capital Market Perceptions
of Auditor Independence**

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Abstract

This study investigates investor perceptions, proxied by earnings response coefficients (ERCs), of auditor independence-in-appearance as a function of audit and non-audit fees. For a sample of 8,940 firm-years over the 2000-2002 period, we find in separate regressions that ERCs are negatively associated with the ratio of non-audit to total fees (non-audit fee ratio) and with client importance (auditors' fees from a given client divided by auditor's total revenues). When we include both in the same regression however, only client importance remains significantly associated with ERCs. Our results are robust to the inclusion of fixed firm effects to control for correlated omitted variables. Thus our results contradict the commonly-held belief (SEC 1978, 1979; Earncliffe Research and Communications, 1999) that perceived auditor independence is a function of the non-audit fee ratio.

Audit and Non-audit Fees and Capital Market Perceptions of Auditor Independence

1. Introduction

Several recent papers examine the relationship between audit and non-audit fees and auditor independence.¹ However, these studies provide evidence on independence-in-*fact*, and not on independence-in-*appearance* or perceived auditor independence.

Moreover, the studies disagree on whether auditor independence is a function of non-audit fee ratios (ratio of non-audit to total fees from a client), or client importance (the ratio of fees from a given client to the total revenues of the audit firm). For instance, Frankel, Johnson, and Nelson (2002) find a positive association between earnings management (proxy for lack of auditor independence-in-fact) and the non-audit fee ratio.

However, other studies (Ashbaugh, LaFond and Mayhew, 2003; Chung and Kallapur, 2003) question whether high non-audit fee ratios give auditors incentives to compromise their independence. Economic theory (DeAngelo, 1981) suggests auditors' incentives to compromise their independence depend on client importance and not on the non-audit fee ratio. Notwithstanding economic theory, auditors' independence-in-*appearance* has long been thought to be affected by non-audit fee ratios (Securities and Exchange Commission, 1978, 1979; Earncliffe Research and Communications, 1999). Accordingly in this paper we provide evidence on whether perceived auditor independence is a function of client importance or the non-audit fee ratio.

¹ See for example, DeFond, Raghunandan and Subramanyam (2002), Frankel, Johnson and Nelson (2002), Ashbaugh, LaFond and Mayhew (2003), Chung and Kallapur (2003), and Larcker and Richardson (2004).

Independence-in-appearance has long been a concern of the SEC. For example, *Accounting Series Release (ASR) 264: Scope of Services by Independent Accountants* (Securities and Exchange Commission, 1979) asserts:

The [auditor independence] issue is both one of appearance and of fact; if public confidence in the integrity of financial reporting is to be maintained, it is of the utmost importance that public confidence in the objectivity of independent auditors be similarly maintained.

ASR 264 also approvingly cites from the report of the Public Oversight Board of the American Institute of Certified Public Accountants (Public Oversight Board, 1979):

While it is, of course, essential that an auditor preserve his objectivity and integrity from his own viewpoint, commonly called "independence in fact," it is also important that the auditor appear independent to all users of the financial information he provides. This latter concept is a key ingredient to the value of the audit function, since users of audit reports must be able to rely on the independent auditor. If they perceive that there is a lack of independence, whether or not such a deficiency exists, much of that value is lost.

Recently SEC re-asserted that it has a duty to make policies addressing independence in appearance (Securities and Exchange Commission, 2000 paragraph III C 3 and 4, and footnote 127).² Thus, it is worthwhile to examine whether capital markets perceive auditor independence as being impaired by audit and non-audit fees.

Several SEC rules reflect or state the view that auditors' independence-in-appearance is affected by non-audit fee ratios. In 1978 the SEC issued *ASR 250* (Securities and Exchange Commission, 1978) requiring client firms to disclose ratios of fees for certain non-audit services to the audit fee, but not the fee magnitudes; thus

² Also, the importance of public confidence in financial reporting was underscored recently by stock market fluctuations in the wake of Enron's bankruptcy and revelation of document shredding by Andersen. For example, on 1/29/2002 the Dow Jones average declined 2.51 percent on worries about accounting events (Browning and Weil, 2002).

implying that information about the ratio suffices for investors to form judgments about possible auditor independence impairment. *ASR 264* (Securities and Exchange Commission, 1979) set forth SEC's view that in determining whether auditor independence is impaired in fact *or appearance*, client firms' audit committees, boards, and management should "consider the relationship of the aggregate amount of nonaudit service fees to audit fees" (*ASR 264* makes no mention of client importance as a factor). A recent survey (Earncliffe Research and Communications, 1999) also indicates the public *perception* that auditor independence is impaired when the ratio of non-audit to audit fees is high.

Following previous work (Teoh and Wong, 1993; Hackenbrack and Hogan, 2002; Francis and Ke, 2004; Ghosh and Moon, 2005) we use earnings response coefficients (ERCs) as our measure of investors' perceptions of audit quality.³ After controlling for other determinants of ERCs, we find that the magnitude of ERCs decreases as either the non-audit fee ratio or client importance increases. However, when we examine the relative importance of non-audit fee ratio and client importance by including both measures in the same regression, we find that only client importance remains statistically significant. Thus, our results indicate that investors perceive client importance, and not non-audit fee ratio, as compromising auditors' independence.

Our results are robust to several sensitivity checks. They hold after controlling for fixed firm effects, which control for any omitted variable that are firm-specific (Himmelberg, Hubbard and Palia, 1999); thus the association between ERC and client importance is not attributable to correlated omitted variables. Also, when we split the

sample by size into three groups, our results regarding the lack of a statistically significant association between ERC and the non-audit fee ratio (after controlling for client importance) hold for each size group.

Our paper adds to the literature by examining auditor independence-in-appearance, and by examining whether it is affected by non-audit fee ratio or client importance or both. Other papers that examine independence-in-appearance include Francis and Ke (2004) and Krishnan et al. (2005). However, neither study compares the relative importance of the non-audit fee ratio and client importance as determinants of ERCs. Moreover, Francis and Ke (2004) set the non-audit fee ratio to zero if the dollar amount of non-audit fees is less than \$1 million. Thus their non-audit fee ratio measure has elements of client importance as well; their evidence accordingly fails to address our research question, namely whether perceived auditor independence is a function of client importance or the non-audit fee ratio. Our findings question the long-held belief that higher non-audit to total fee ratios are perceived by investors to compromise auditor independence.

We organize the rest of the paper as follows. Section 2 describes the sample selection procedure and data. Section 3 discusses the research design and reports the results and Section 4 concludes the paper.

2. Data

We begin our sample selection with the audit fee data from *Standard & Poor's* for the years 2000, 2001, and 2002. *Standard and Poor's* examined the proxy statements for

³ Audit quality refers to the probability of detecting and reporting a breach (DeAngelo, 1981). Independence is the probability of reporting a detected breach, and is thus a component of audit quality.

the largest 5,000 companies in the *Compustat* database for the year 2000, and found 3,428 firms that disclosed audit fees paid to external auditors. For the years 2001 and 2002, *Standard and Poor's* examined proxy statements for all firms listed in *Compustat's* active and research files, and reported audit fee data available for 5,988 firms in 2001 and 4,982 firms in 2002. We match audit fee data with financial data from the *Compustat* annual files (active and research) and stock return data from the *CRSP* files. Because the non-audit fee ratio and client importance measures differ systematically between clients of Big 5 and non-Big 5 audit firms (Chung and Kallapur, 2001), we restrict our sample to clients of the Big 5 auditors. From our initial sample of 14,398 firm years (3,428 + 5,988 + 4,982), we exclude 3,823 firm-year observations with non-Big 5 audit firms and 1,635 observations that did not have data required for estimating the dependent and independent variables. Our resulting final sample consists of 8,940 firm-year observations.

Panel A of Table 1 provides the descriptive statistics for the sample. Consistent with a declining trend (Plitch and Rapoport, 2004), the mean (median) ratios of non-audit fees to total fees (NAF/TF), 0.4659 (0.4729), are slightly lower than those reported by previous studies such as Frankel, Johnson, and Nelson (2002). We calculate client importance (TF^C/TF^{AC}) as total fees received from a client divided by the auditor's total revenues from all clients, summed across the Standard and Poor's database. The mean (median) value of client importance is 0.0014 (0.0003).

The mean (median) cumulative market-adjusted stock returns (*Returns*) measured over a twelve-month period ending three months after the fiscal year-end is 0.2553 (0.0744). The mean (median) E and ΔE , levels of and changes in earnings before

extraordinary items deflated by market value of equity at the beginning of the year, are -0.0645 (0.0304) and 0.0802 (0.0062), respectively.

Panel B of Table 1 provides Pearson correlations among the variables. Consistent with previous research (Chung and Kallapur, 2003), the correlation between the non-audit fee ratio (NAF/TF) and client importance (TF^C/TF^{AC}) is low: 0.24. The variable with the highest correlations with NAF/TF and TF^C/TF^{AC} is size (MV)—the correlations are 0.13 and 0.54. Among the other variables, the dummy variables for loss and restructuring have -0.38 and -0.29 correlations with the level of earnings. The dummy for loss also has high correlations with the dummy for restructuring and the standard deviation of monthly returns. These correlations are 0.42 and 0.45 respectively and are higher than any of the other correlations. Overall, multicollinearity does not seem to be severe (this is also confirmed by the condition indexes as described later).

3. Research Design and Empirical Findings

3.1. ERC as a Function of the Non-audit Fee Ratio and Client Importance

To examine whether non-audit-fee ratio and client importance affect earnings response coefficients (ERCs), we regress market-adjusted returns on earnings levels and changes, following Easton and Harris (1991) and Ali and Zarowin (1992), and earnings levels and earnings changes interacted with non-audit fee ratio, client importance, and the other determinants of ERC.⁴

⁴ Ali and Zarowin (1992) note that earnings changes proxy for unexpected earnings when annual earnings are assumed to be purely permanent. However, if earnings contain both transitory and permanent components, including earnings changes and levels in the same regression increases the explanatory power and magnitude of earnings response coefficients (Easton and Harris, 1991; Ali and Zarowin, 1992).

Francis and Ke (2004) use an alternative research design: they examine changes in ERCs before and after disclosure of audit fees. We do not use their research design because we wish to compare non-audit fee ratio and client importance as determinants of perceived auditor independence, and prior to disclosure, non-audit fee ratios were less predictable than client importance. The disclosed magnitude of non-audit fee ratios was described as surprising (Hilzenrath, 2001), while a sales-based proxy (specifically, client sales divided by sales of all clients audited by the given auditor) has 0.67 correlation (not reported in any table) with client importance. To the extent that client importance was predictable, it would affect ERCs even before audit fees were disclosed, and changes in ERCs subsequent to disclosures would be unrelated to client importance.

Our specification is as follows:

$$\begin{aligned}
 \text{Returns} = & \beta_0 + \beta_1 E + \beta_2 \Delta E + \beta_3 E \cdot \% \text{NAF} / \text{TF} + \beta_4 \Delta E \cdot \% \text{NAF} / \text{TF} + \beta_5 E \cdot \% \text{TF}^C / \text{TF}^{AC} + \\
 & \beta_4 \Delta E \cdot \% \text{TF}^C / \text{TF}^{AC} + \sum_i \beta_{5+2i} E \cdot X_i + \sum_i \beta_{6+2i} \Delta E \cdot X_i + \varepsilon
 \end{aligned}
 \tag{1}$$

where:

Returns are market-adjusted returns from month $t-9$ to month $t+3$, where t represents the end of the fiscal-year. Market-adjusted returns are the difference between stock returns and value-weighted *CRSP* market returns;

E and ΔE represent levels of and changes in earnings before extraordinary items, both deflated by market value of equity at the beginning of the year;

$\% \text{NAF} / \text{TF}$ and $\% \text{TF}^C / \text{TF}^{AC}$ represent percentile ranks of the non-audit fee ratio, the ratio of non-audit to total (audit+non-audit) fees from a client, and client importance, total fees received from a client (denoted with superscript C) divided by the auditor's total

revenues from all clients (denoted with superscript AC) for a given year, respectively.

Conversion to percentile ranks deals with outliers as well as possible non-linearities in the relationship between audit fee measures and ERCs (Iman and Conover, 1979; Frankel, Johnson and Nelson, 2002).

Following Francis and Ke (2004), we include the following control variables (X_i):

Loss, a dummy variable that equals 1 for years in which a firm reports negative earnings,

Restructure, an dummy variable that equals 1 if special items as a percentage of total assets are less than or equal to -5 percent, and 0 otherwise,

STDRET, the standard deviation of monthly stock returns over the previous 60 months,

DE, the ratio of short and long term debt to total equity,

Growth, the sum of the market value of equity and the book value of debt divided by the book value of total assets,

LNMV, the natural log of the market value of equity at the end of the prior fiscal year, and

Industry dummies for each of the 13 industry groups identified in Frankel, Johnson, and Nelson (2002).

ERC is measured as the sum of the coefficients on E and ΔE . Thus $\beta_1 + \beta_2$ represents the ERC for firms whose $\%NAF/TF$ and $\%TF^C/TF^{AC}$ equal zero (those in the lowest percentile group). For firms with non-zero values of $\%NAF/TF$ and $\%TF^C/TF^{AC}$, ERC equals $\beta_1 + \beta_2 + \%NAF/TF (\beta_3 + \beta_4) + \%TF^C/TF^{AC} (\beta_5 + \beta_6)$. If ERC is negatively associated with $\%NAF/TF$ ($\%TF^C/TF^{AC}$), then $\beta_3 + \beta_4$ ($\beta_5 + \beta_6$) will be negative and significant. As controls for the determinants of ERC, we include dummy variables for loss and restructuring, returns volatility, debt-to-equity ratio, growth, size, and industry

dummies (Collins and Kothari, 1989; Barth, Beaver and Landsman, 1998; Francis and Ke, 2004). We perform an OLS regression to estimate the equation, using panel data. From the full sample consisting of 8,940 observations from 2000 to 2002 (as described in section II), we delete a few outliers, observations having DFBETAS exceeding 1 in absolute value (Belsley, Kuh and Welsch, 1980); as a result the different regressions have 8,935-8,938 observations. We use F-statistics to test whether the sum of two regression coefficients differs from zero.

Regression results reported in Columns (1) and (2) of Table 2 indicate that considered separately, $\%NAF/TF$ and $\%TF^C/TF^{AC}$ are negatively associated with ERCs: $\beta_3 + \beta_4$ is negative and significant (-0.0041, F -stat=12.03), and so is $\beta_5 + \beta_6$ (-0.0044, F -stat=9.80). However, results in Column (3) indicate that when interactions of both $\%NAF/TF$ and $\%TF^C/TF^{AC}$ with earnings (E and ΔE) are included in the same regression, $\beta_3 + \beta_4$ becomes insignificant while $\beta_5 + \beta_6$ remains significant. Our results therefore suggest that it is client importance, rather than the non-audit fee ratio, that is negatively associated with investor perceptions of earnings.⁵

$\beta_1 + \beta_2$ ranges from 1.01 to 1.97 in the different models. In each of the regressions, coefficients β_3 and β_5 involving interactions of $\%NAF/TF$ and $\%TF^C/TF^{AC}$ with E are smaller (and have insignificant t-values) than β_4 and β_6 involving interactions with ΔE . The weight on earnings levels (earnings changes) in determining ERCs is increasing in the extent to which earnings are transitory (permanent) (Easton and Harris,

⁵ It is possible that non-audit fee ratio affects perceived auditor independence but also has other favorable effects on ERCs (because firms' future profitability or growth increases by the purchase of non-audit services), resulting in an insignificant coefficient on average. This does not invalidate our conclusion—our research question deals with the overall perception of non-audit fee ratios.

1991; Ali and Zarowin, 1992); the higher value and β_6 compared to β_5 therefore suggests that ERC's negative association with $\%TF^C/TF^{AC}$ is largely attributable to investor perceptions of the permanent components of earnings.

The signs of the coefficients on the interactions between earnings and most of the significant control variables (*Loss*, *Growth*, *Size*) are consistent with prior studies (Collins and Kothari, 1989; Hayn, 1995; Francis and Ke, 2004).⁶ Only the sign of coefficient on *Restructure* differs from that in Francis and Ke (Ibid.); this is attributable to the coefficient on the interaction between earnings *level* (not reported separately in Table 2) and *Restructure*. Francis and Ke (Ibid.) include only the earnings surprise term, and our coefficient on earnings change interacted with restructure is negative, consistent with theirs.

3.2. Robustness Checks and Additional Analyses

Our findings are unlikely to be affected by multicollinearity: the condition indexes (Belsley, Kuh and Welsch, 1980) in the three regressions range from 26.0 to 28.1, which do not indicate severe multicollinearity. Our results are also unaffected by the particular cutoff points used to delete outliers ($|DFBETAS| > 1$)—our results are unchanged when we delete observations whose $|DFBETAS|$ lies in the top 0.5 percent, 1 percent and 2 percent. Our results are also unchanged when we extend the returns cumulation window to include the proxy statement filing date (in some cases the proxy filing date is beyond the end of the returns-cumulation window, three months after the fiscal year end). We also examined whether the client importance findings were driven by

⁶ To conserve space, we do not report the individual coefficients on the interactions between each control variable and $E/\Delta E$. Instead, we report the sum of the two interaction coefficients.

audit or non-audit fees: instead of a single measure, we included ERC (i.e., E and ΔE) interacted with $\%AF^C/TF^{AC}$ and $\%NAF^C/TF^{AC}$. Both audit and non-audit fees have statistically significant negative effects on ERCs of approximately equal economic magnitude.

One concern in cross-sectional studies is that the association between the variables of interest and the dependent variable could be attributable to correlated omitted variables. Himmelberg, Hubbard, and Palia (1999) argue that the inclusion of fixed firm effects largely addresses the concern because the firm effects control for all firm-specific omitted variables. When we include fixed firm effects (instead of industry effects, because industry effects being firm-specific are controlled for by firm effects) our results are unchanged. The non-audit fee ratio by itself is significantly associated with ERCs ($\beta_3 + \beta_4 = -0.0037$, F -stat=6.11, $p < 0.01$), and so is client importance ($\beta_5 + \beta_6 = -0.0067$, F -stat=13.61, $p < 0.01$). However, when interactions of both $\%NAF/TF$ and $\%TF^C/TF^{AC}$ with earnings (E and ΔE) are included in the same regression, non-audit fee ratio becomes insignificant ($\beta_3 + \beta_4 = -0.0006$, F -stat=0.21, $p = 0.82$) while client importance remains significant ($\beta_5 + \beta_6 = -0.0062$, F -stat=10.34, $p < 0.01$).

Size could be correlated with non-audit fee ratio and client importance, particularly the latter, and the inclusion of $\log(\text{size})$ as a control variable may not control fully for size's effect on ERCs (Conrad, Cornell and Landsman, 2002). Moreover, Reynolds and Francis (2000) and Chung and Kallapur (2003) argue that the relation between client importance and auditor independence could differ for different size groups—large firms are more important to audit firms and therefore auditors are more likely to compromise their independence with respect to large clients. However, audit

failure in larger clients is also more likely to be detected and to result in higher litigation and reputation losses. Therefore we estimate our regressions separately for three groups of firms (small, medium, and large, having equal number of observations) partitioned by size to examine whether non-audit fee ratio is associated with perceived auditor independence in any subgroup. To investigate whether the insignificance of $\%NAF/TF$ is driven by pooling different-sized firms together, we divide the sample into three equal-sized groups by the market value of equity at the beginning of the year.⁷

Results of estimating regression Equation (1) on each size group separately are presented in Table 3. Consistent with results in Table 2 (Model 3), ERC's association with $\%NAF/TF$ ($\beta_3 + \beta_4$) is statistically insignificant in every size group. Thus our results about the insignificance of the non-audit fee ratio are robust to partitioning the sample by size. ERC's association with $\%TF^C/TF^{AC}$ is negative and significant for small and medium-sized firms; it is insignificant for large firms. It appears that auditors' concern for their reputation in the case of large clients is perceived by investors as being strong enough to prevent them from compromising their independence.

4. Conclusions

In this paper we provide evidence on determinants of auditor independence-in-appearance using earnings response coefficients (ERCs) as a proxy for investor perceptions of earnings, and therefore audit, quality. For a sample of 8,940 firm-year observations over the 2000-2002 period we find that the non-audit fee ratio (ratio of non-audit to total fees from given client) is negatively associated with ERCs. However, client importance (the ratio of fees from a given client to the total revenues of the audit firm)

⁷ Results were similar when we divided the sample into four or five groups.

also is negatively associated with ERCs, and when we include both non-audit fee ratio and client importance in the same regression, only the latter is significantly negatively associated with ERCs. Our results are robust to the inclusion of fixed firm effects to control for correlated omitted variables. Our results on the statistical insignificance of the non-audit fee ratio as a determinant of ERCs also holds within size groups.

Our study contributes to the literature on auditor independence. Previous studies (DeFond, Raghunandan and Subramanyam, 2002; Ashbaugh, LaFond and Mayhew, 2003; Chung and Kallapur, 2003; Larcker and Richardson, 2004) with the exception of Frankel, Johnson, and Nelson (2002) have concluded that non-audit fees do not impair auditor independence-*in-fact*. However, an examination of auditor independence-*in-appearance* is also important because regulators and the AICPA have emphasized that auditors should be independent not only in fact but also in appearance. Moreover, despite economic theory's implication that auditor incentives to compromise their independence depend on client importance, SEC rules and public surveys indicate that perceived auditor independence is a function of the non-audit fee ratio. By examining the relative importance of client importance and non-audit fee ratio as determinants of perceived auditor independence, our paper provides market-based empirical evidence on the determinants of perceived auditor independence. The only other paper on perceived auditor independence, Francis and Ke (2004), does not examine the relative importance of the non-audit fee ratio and client importance; Francis and Ke use a measure that combines the non-audit fee ratio and client importance.

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Table 1
Descriptive Statistics and Correlation Matrix

Panel A: Descriptive Statistics for Sample Firms

Variable	Mean	Std. Dev.	Q1	Median	Q3	Observation
<i>NAF/TF</i>	0.4659	0.2242	0.2975	0.4729	0.6403	8,940
<i>TF^C/TF^{AC}</i>	0.0014	0.0045	0.0001	0.0003	0.0009	8,940
<i>Returns</i>	0.2553	1.1058	-0.1960	0.0744	0.3854	8,940
<i>E</i>	-0.0645	0.4998	-0.0688	0.0304	0.0703	8,940
<i>ΔE</i>	0.0802	0.8755	-0.0327	0.0062	0.0463	8,940
<i>Loss</i>	0.3718	0.4833	0	0	1	8,940
<i>Restructure</i>	0.1463	0.3534	0	0	0	8,940
<i>STDRET</i>	0.1919	0.1146	0.1109	0.1636	0.2418	8,940
<i>DE</i>	1.6518	14.3553	0.0119	0.3375	0.9650	8,940
<i>Growth</i>	1.6241	1.9542	0.7669	1.0967	1.7890	8,940
<i>MV (\$billion)</i>	3.3844	17.2290	0.0855	0.3377	1.2924	8,940

Panel B: Pearson Correlations Matrix for Sample Firms

Variable	1	2	3	4	5	6	7	8	9	10	11
1. <i>NAF/TF</i>	1.00										
2. <i>TF^C/TF^{AC}</i>	0.24	1.00									
3. <i>Returns</i>	-0.08	-0.04	1.00								
4. <i>E</i>	0.03	0.02	0.03	1.00							
5. <i>ΔE</i>	-0.01	-0.01	0.11	0.04	1.00						
6. <i>Loss</i>	-0.05	-0.06	-0.04	-0.38	0.01	1.00					
7. <i>Restructure</i>	0.07	0.01	-0.08	-0.29	-0.02	0.42	1.00				
8. <i>STDRET</i>	-0.11	-0.13	0.08	-0.21	0.11	0.45	0.26	1.00			
9. <i>DE</i>	-0.01	-0.00	-0.01	-0.00	-0.00	0.01	0.02	-0.00	1.00		
10. <i>Growth</i>	-0.03	-0.04	0.16	-0.01	-0.01	0.05	-0.03	0.16	-0.00	1.00	
11. <i>MV</i>	0.13	0.54	-0.04	0.03	-0.01	-0.09	-0.01	-0.12	-0.00	0.04	1.00

Notes: The sample consists of firms with audit fee data between the years 2000 and 2002. The two audit fee measures are non-audit fee ratio (*NAF/TF*) and client importance (*TF^C/TF^{AC}*). Non-audit fee ratio is non-audit fees to total fees from a client, while client importance is the ratio of total fees from a client to total revenue from all clients. *Returns* are market-adjusted returns over a twelve-month period ending three months after the end of the fiscal year. Market-adjusted returns are the difference between stock returns and value-weighted *CRSP* market returns. *E* and *ΔE* are levels and changes of earnings before extraordinary items, deflated by market value of equity at the beginning of the year. *Loss* is an indicator variable that equals 1 for years in which a firm reports negative earnings. *Restructure* is an indicator variable that equals 1 if the special item as a percentage of total assets is less than or equal to -5 percent, and 0 otherwise. *STDRET* is the standard deviation of monthly stock returns over the previous 60 months. *DE* is the ratio of short and long term debt to total equity. *Growth* is the sum of market value of equity and book value of debt divided by the book value of total assets. *MV* is the market value of equity at the end of the prior fiscal year.

Table 2
Audit Fees and Earnings Response Coefficients

Variable	(Coefficient)	(1)	(2)	(3)
<i>Intercept</i>	(β_0)	0.1340 (10.32)**	0.1034 (7.76)**	0.1015 (7.63)**
<i>E</i>	(β_1)	1.4516 (8.38)**	2.1501 (11.85)**	2.1449 (11.86)**
ΔE	(β_2)	-0.4428 (-4.28)**	-0.1797 (-1.74)	-0.2122 (-2.05)*
	($\beta_1 + \beta_2$)	1.0088	1.9704	1.9327
	F test: $\beta_1 + \beta_2 = 0$	[32.76]**	[108.31]**	[105.61]**
<i>E*%NAF/TF</i>	(β_3)	0.0003 (0.29)		0.0003 (0.33)
$\Delta E*%NAF/TF$	(β_4)	-0.0044 (-5.93)**		-0.0027 (-2.37)*
	($\beta_3 + \beta_4$)	-0.0041		-0.0024
	F test: $\beta_3 + \beta_4 = 0$	[12.03]**		[2.70]
<i>E*%TF^C/TF^{AC}</i>	(β_5)		-0.0008 (-0.70)	-0.0002 (-0.18)
$\Delta E*%TFC/TFAC$	(β_6)		-0.0036 (-4.19)**	-0.0031 (-3.62)**
	($\beta_5 + \beta_6$)		-0.0044	-0.0033
	F test: $\beta_5 + \beta_6 = 0$		[9.80]**	[4.20]*
<u>Control variables</u>				
<i>E*Loss</i> (β_7)/ $\Delta E*Loss$ (β_8)	($\beta_7 + \beta_8$)	-1.4885	-2.1834	-2.1797
	F test: $\beta_7 + \beta_8 = 0$	[135.29]**	[239.87]**	[235.86]**
<i>E*Restructure</i> (β_9)/ $\Delta E*Restructure$ (β_{10})	($\beta_9 + \beta_{10}$)	0.2823	0.2141	0.1593
	F test: $\beta_9 + \beta_{10} = 0$	[14.43]**	[8.37]**	[4.62]*
<i>E*STDRET</i> (β_{11})/ $\Delta E*STDRET$ (β_{12})	($\beta_{11} + \beta_{12}$)	0.2969	-0.3856	-0.1713
	F test: $\beta_{11} + \beta_{12} = 0$	[0.76]	[1.26]	[0.25]
<i>E*DE</i> (β_{13})/ $\Delta E*DE$ (β_{14})	($\beta_{13} + \beta_{14}$)	0.0000	0.0001	0.0001
	F test: $\beta_{13} + \beta_{14} = 0$	[1.31]	[0.95]	[1.12]
<i>E*Growth</i> (β_{15})/ $\Delta E*Growth$ (β_{16})	($\beta_{15} + \beta_{16}$)	0.3749	0.3643	0.3824
	F test: $\beta_{15} + \beta_{16} = 0$	[704.81]**	[638.14]**	[690.47]**
<i>E*LNMV</i> (β_{17})/ $\Delta E*LNMV$ (β_{18})	($\beta_{17} + \beta_{18}$)	0.0819	0.0383	0.0400
	F test: $\beta_{17} + \beta_{18} = 0$	[15.41]**	[2.88]	[3.13]
<i>E, ΔE * Industry dummies</i>		Included	Included	Included
N		8,938	8,935	8,935
Adjusted R ²		13.64%	15.22%	15.84%

Notes: The dependent variable *Returns* is market-adjusted returns cumulated over a 12-month period ending 3 months after fiscal year-end. Market-adjusted returns are the difference between stock returns and returns to the CRSP value-weighted index. *E* and ΔE are levels and changes of earnings before extraordinary items, deflated by market value of equity at the beginning of the year. *%NAF/TF* and *%TF^C/TF^{AC}* are percentile ranks of the ratios of non-audit fees to total fees from a client (non-audit fee ratio) and of total fees from a client to auditor's total revenue from all clients (client importance). *Loss* is an indicator variable that equals 1 for years in which a firm reports negative earnings. *Restructure* is an indicator variable that equals 1 if the special item as a percentage of total assets is less than or equal to -5 percent, and 0 otherwise. *STDRET* is the standard deviation of monthly stock returns over the previous 60 months. *DE* is the ratio of short and long term debt to total equity. *Growth* is the sum of market value of equity and book value of debt divided by the book value of total assets. *LNMV* is natural log of the market

value of equity at the end of the prior fiscal year. The regression model also includes industry dummies interacted with E and ΔE . The reported coefficients and the corresponding t -statistics in parentheses are based on pooled cross-sectional regressions. F -statistic reported in brackets tests the significance of the sum of the two coefficients $\beta_i + \beta_j$. * and ** denote statistical significance at the 5% and 1% level, respectively, for a two-tailed test.

Table 3
Audit Fees and Earnings Response Coefficients Across Firm Size

Variable	(Coefficient)	Firm Size		
		Small	Middle	Large
<i>Intercept</i>	(β_0)	0.3614 (10.20)**	0.0541 (3.22)**	-0.0459 (-4.25)**
<i>E</i>	(β_1)	1.5270 (4.92)**	2.5206 (3.08)**	2.9213 (4.86)**
ΔE	(β_2)	-0.4975 (-2.80)**	0.3402 (0.79)	-0.3797 (-0.69)
	($\beta_1 + \beta_2$)	1.0295	2.8608	2.5416
	<i>F test: $\beta_1 + \beta_2 = 0$</i>	[10.82]**	[10.27]**	[14.60]**
<i>E*%NAF/TF</i>	(β_3)	-0.0020 (-0.94)	0.0067 (2.99)**	0.0028 (1.00)
$\Delta E*%NAF/TF$	(β_4)	-0.0004 (-0.27)	-0.0032 (-2.51)*	-0.0030 (-1.17)
	($\beta_3 + \beta_4$)	-0.0024	0.0035	-0.0002
	<i>F test: $\beta_3 + \beta_4 = 0$</i>	[0.85]	[1.97]	[0.00]
<i>E*%TF^C/TF^{AC}</i>	(β_5)	-0.0025 (-1.08)	-0.0144 (-4.49)**	-0.0121 (-2.37)*
$\Delta E*%TFC/TFAC$	(β_6)	-0.0058 (-4.21)**	-0.0036 (-1.78)	0.0005 (0.11)
	($\beta_5 + \beta_6$)	-0.0083	-0.0180	-0.0116
	<i>F test: $\beta_5 + \beta_6 = 0$</i>	[9.32]**	[25.06]**	[3.11]
<u>Control variables</u>				
<i>E*Loss</i> (β_7)/ $\Delta E*Loss$ (β_8)	($\beta_7 + \beta_8$)	-1.4413	-2.6713	-1.8951
	<i>F test: $\beta_7 + \beta_8 = 0$</i>	[34.66]**	[89.53]**	[39.91]**
<i>E*Restructure</i> (β_9)/ $\Delta E*Restructure$ (β_{10})	($\beta_9 + \beta_{10}$)	0.1136	0.1157	-0.3903
	<i>F test: $\beta_9 + \beta_{10} = 0$</i>	[0.78]	[0.41]	[4.97]*
<i>E*STDRET</i> (β_{11})/ $\Delta E*STDRET$ (β_{12})	($\beta_{11} + \beta_{12}$)	0.1895	3.1186	0.1627
	<i>F test: $\beta_{11} + \beta_{12} = 0$</i>	[0.11]	[16.68]**	[0.03]
<i>E*DE</i> (β_{13})/ $\Delta E*DE$ (β_{14})	($\beta_{13} + \beta_{14}$)	0.0033	0.0000	0.0023
	<i>F test: $\beta_{13} + \beta_{14} = 0$</i>	[1.91]	[0.80]	[0.39]
<i>E*Growth</i> (β_{15})/ $\Delta E*Growth$ (β_{16})	($\beta_{15} + \beta_{16}$)	0.4166	-0.1032	0.5251
	<i>F test: $\beta_{15} + \beta_{16} = 0$</i>	[290.03]**	[2.18]	[23.04]**
<i>E*LNMV</i> (β_{17})/ $\Delta E*LNMV$ (β_{18})	($\beta_{17} + \beta_{18}$)	0.1421	0.0529	0.0364
	<i>F test: $\beta_{17} + \beta_{18} = 0$</i>	[7.14]**	[0.12]	[0.20]
<i>E, ΔE * Industry dummies</i>		Included	Included	Included
N		2,976	2,980	2,976
Adjusted R ²		15.06%	13.89%	11.95%

Notes: Firms are partitioned into three groups based on market value of equity at the beginning of the year. The dependent variable *Returns* is market-adjusted returns cumulated over a 12-month period ending 3 months after fiscal year-end. Market-adjusted returns are the difference between stock returns and returns to the CRSP value-weighted index. *E* and ΔE are levels and changes of earnings before extraordinary items, deflated by market value of equity at the beginning of the year. %*NAF/TF* and %*TF^C/TF^{AC}* are percentile ranks of the ratios of non-audit fees to total fees from a client (non-audit fee ratio) and of total fees from a client to auditor's total revenue from all clients (client importance). *Loss* is an indicator variable that equals 1 for years in which a firm reports negative earnings. *Restructure* is an indicator variable that equals 1 if the special item as a percentage of total assets is less than or equal to -5 percent, and 0 otherwise. *STDRET* is the standard deviation of monthly stock returns over the previous 60 months. *DE* is the ratio of short and long term debt to total equity. *Growth* is the sum of market value of equity and book value of debt divided

by the book value of total assets. $LNMV$ is natural log of the market value of equity at the end of the prior fiscal year. The regression model also includes industry dummies interacted with E and ΔE . The reported coefficients and the corresponding t -statistics in parentheses are based on pooled cross-sectional regressions. F -statistic reported in brackets tests the significance of the sum of the two coefficients $\beta_i + \beta_j$. * and ** denote statistical significance at the 5% and 1% level, respectively, for a two-tailed test.