Types of non-audit services and the value relevance of earnings

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ABSTRACT

The Securities and Exchange Commission (SEC) updated its disclosure rules regarding fees paid to the independent auditor. Disclosures now offer more detailed information about the different types of non-audit services provided by the auditor. The motivation for this update, as asserted by the SEC, was that by providing more finely partitioned fee data, it allowed investors to more accurately assess the auditor's independence. The SEC suggested there is a difference in perceptions among the three types of non-audit service categories: audit-related services, tax services, and other services. This paper tested the association between each type of non-audit service and the value relevance of earnings using the more finely partitioned fee data that was available after FRR No. 68. The results suggested, despite the partitioning of each category of non-audit services, each fee ratio was negatively associated with the value relevance of earnings. The results supported the stream of literature that non-audit services did in fact impair auditor independence, which effected financial statement earnings. The results are useful to client audit committees considering the purchase of non-audit services from auditors.

Keywords: non-audit services, value-relevance, earnings, auditor independence

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INTRODUCTION

Although regulation has extremely limited the amount and types of non-audit services (NASs) that are permitted, NASs still play a role in many firms. There continues to be widespread controversy surrounding the benefits and threats of NASs. The objective of this study is to examine whether different types of NASs impact the value relevance of earnings. This study adds to prior literature by using more finely partitioned NAS fee data that was made available since the SEC's FRR No. 68. The motivation for this research comes from the contention that different types of NASs have different potentials to impact auditor independence (SEC 2002, 2003).

The speculation is that NAS impairs investor confidence in auditor independence because NAS could make an audit firm economically dependent on the client. This reduces the willingness of the auditor to challenge possible misstatements of the client's financial statements. Chairman Levitt of the SEC stated, "The audit function is simply being used as a springboard to more lucrative consulting service" (Levitt, 2000). A recent report shows the cost of non-audit fees paid for every million dollars in revenue was $386 in 2002, after which there has been an overall decline to the 2013 figure of $126 for every million dollars in revenue (Audit Analytics, 2014). This is the lowest value calculated for the twelve years under review (Audit Analytics, 2014), and it lends support to the perceived threat of NASs on auditor independence. Even more so is the fact that in 2002 NAS fees represented 51% of total fees paid and in 2013, this percentage dropped to approximately 20.8% of total fees paid (Audit Analytics, 2014).

Despite these trends, several firms still continue to hire the auditor for a number of permitted NASs. The potential benefits associated with NASs could positively impact how investors perceive NAS. For example, claims have been made that some NASs improve audit effectiveness through knowledge spillover. For instance, having knowledge of a client's tax accounting could spill over to the audit and improve audit quality, which in turn, would increase financial reporting quality. In addition, claims are made that NASs may increase the audit firm's reputation capital, which would increase the incentive for audit thoroughness and independence in reporting decisions (Kinney, Palmrose, & Scholz, 2004).

The effect of knowledge spillover and increased reputational capital may enhance the value-relevance of earnings, but NAS also increases the speculations surrounding the auditor's independence, thus reducing investor's perceptions of value-relevant earnings. Although Krishan, Visvanathan, and Yu (2012) examine auditor provided tax services and the value relevance of earnings, the larger issue remains unknown as to which types of NASs affect the value relevance of earnings and the nature of these effects. Given the SEC's actions in FRR No. 68 and the increased scrutiny of the auditing profession after the scandals of the 2000s, SOX, and the 2008-2009 financial crisis, this study is able to use more finely partitioned data to expand the knowledge of the influence of the different types of NASs on auditor independence and ultimately financial statement quality. The results presented provide empirical evidence useful for client management and audit committees when assessing whether to engage the auditor for different types of NASs.

LITERATURE REVIEW

Originally, FRR No. 56 required disclosure in the proxy statements filed with the SEC about fees paid to auditors under three categories: audit fees, financial information systems

design and implementation fees (FIS), and other fees (Huang, Mishra, & Raghunandan, 2007). Due to the Sarbanes-Oxley Act of 2002 (SOX), the SEC further revised reporting requirements related to the disclosure of non-audit fees and changed the fee categories into four different types: audit fees, audit related fees, tax fees, and other fees. The latter three comprise total NAS fees. Although the services provided under each category can differ across firms, the SEC presented guidance on how to categorize the legal NASs. In general, the audit related fee category covers "assurance and due diligence services, including, employee benefit plan audits, due diligence related to mergers and acquisitions, consultations and audits in connection with acquisitions, internal control reviews and consultations concerning financial accounting and reporting standards" (SEC, 2003). The tax service fee category includes tax compliance, tax planning and tax advice services. Tax compliance generally involves "preparation of original and amended tax returns, claims for refund, and tax payment-planning services. Tax planning and tax advice includes assistance with tax audits and appeals, tax advice related to mergers and acquisitions, employee benefit plans and requests for rulings or technical advice from taxing authorities" (Audit Analytics, 2012). The "other" fee category captures routine, recurring services that companies incur that would not impair the independence of the auditor, and that are consistent with SEC's rules on auditor independence. Examples of "other" services could include, but are not limited to, technology and security risk advisory services (e.g., assessment and testing of security infrastructure controls), and risk management advisory services (e.g., assessment and testing of market, credit or operational risk management controls). The move in fee disclosure regulation is an attempt by the SEC to provide more complete, transparent information to investors so they can determine whether there are auditor independence concerns in the face of the different types of NASs. The SEC notes that investors' perceptions may not be the same for the different types of NASs, thus implying the existence of differences in terms of the impact on auditor independence.

A large amount of research has been conducted examining the controversy over auditors providing NASs to clients. These studies argue that clients who pay their auditors higher levels of non-audit fees are allowed greater discretion, resulting in more earnings management behaviors and lower earnings quality. The results of this line of research are somewhat mixed. Some studies suggested NASs impaired earnings quality (Frankel, Johnson, & Nelson, 2002; Hoitash, Markelevich, & Barragato, 2007; Choi, Kim, & Zang, 2010; Kanagaretnam, Krishnan, & Lobo, 2010; Gupta, Krishnan, & Yu, 2011). Other studies contradicted these findings and failed to find any association between fees paid to the auditor and abnormal accruals, partly because of the omitted controls for other variables which could have affected the non-audit fee and financial reporting quality relationships (Ashbaugh, LaFond, & Mayhew, 2003; Reynolds, Deis, & Francis, 2004; Larcker & Richardson, 2004).

Further studies also examined how investors perceived the provision of NASs, which again produced mixed results. For example, Krishnan, Sami, and Zhang (2005), used 2001 data, found the non-audit fee ratio (total non-audit fees divided by total fees) was negatively associated with the earnings response coefficients. Khurana and Raman (2006) used client-specific ex ante cost of equity capital as a proxy for investor perceptions and found non-audit fees were perceived negatively. Similarly, Francis and Ke (2006) examined if the mandated disclosure of audit and non-audit fees provided information to investors, allowing them to assess the independence of auditors and the quality of reported earnings. Examination of the market's response to quarterly earnings surprises one year before, and one year after the public fee disclosures (years 2001 and 2002), Francis and Ke (2006) concluded investors perceived high

levels of NASs potentially compromised auditor independence. Contrary to previously mentioned studies, Ghosh, Kallapur, and Moon (2009) used a large sample for years 2001-2006 and did not find a relationship between stock returns and the non-audit fee ratio. Although, for what Ghosh et al. (2009) defined as important clients, Earnings Response Coefficients (ERCs) were negatively associated with the non-audit fee ratio.

With respect to the previous studies, each of these studies and the majority of prior audit fee research in general, focused on the aggregate level of NASs by using a single composite of the non-audit fee metric, such as total non-audit fees over total fees. However, as discussed earlier, changes in the regulatory environment, namely FRR No. 68, created the necessary disclosure of different types of NASs, which could have differential impacts on earnings and investor perceptions about auditor independence.

Only a few other studies, based on current knowledge, used a "drilled down" approach when examining non-audit fees and financial reporting quality. Huang, Mishra, and Raghunandan (2007), followed Ashbaugh, LaFond, and Mayhew's (2003) research, and analyzed the effects of different types of non-audit fees on two measures of financial reporting quality—namely abnormal accruals and meeting earnings benchmarks. Huang et al. (2007) used fee data for 6,891 SEC filings in 2003 and 2004, and found marginal evidence that biased financial reporting was lower in clients with high values of the tax fee ratio or the "other" non-audit fee ratio.

Mishra, Raghunandan, and Rama (2005) tested the SEC's assertion that investors perceived the types of NASs differently by examining the different NAS fees paid to the auditor in the context of shareholder voting related to auditor ratification. Using a sample from the year 2003, it was determined that contrary to the SEC assertions, both the tax fee ratio and the "other fee" ratio had a positive association with the proportion of votes against auditor ratification. This implied investors are more likely to vote against auditor ratification when the tax fee ratio and other fee ratio are high, signaling a negative perception of these types of NASs. The audit-related fee ratio, however, was perceived positively as indicated in the negative association between audit-related fee ratio and proportion of votes against auditor ratification.

Kinney, Palmrose, and Scholz (2004) used a matched sample of hand collected audit firm fee data from seven of the largest audit firms, for the years 1995 – 2000, and examined the empirical association between types of NAS fees and restatements. Kinney et al. (2004) did not find any significant association between fees for FIS or internal audit services. However, there was evidence of a significant positive association between audit-related fees and unspecified (other) NAS fees and restatement. This provided evidence that these types of NASs created an economic dependence that led to more restatements. The study by Kinney et al. (2004) took place before any disclosure regulation, and some of the types of the NAS fees that were studied are now banned under the SOX regulation.

Krishnan, Visvanathan, and Yu (2012) specifically examined the association between the tax services fee and the value relevance of earnings. Using data from 2000 to 2008, the study revealed the value relevance of earnings was increased in the ratio of tax fees over total fees paid to the auditor. This implied that on average, investors perceived the benefits of auditor provided tax services to be greater than the costs.

This study differs from previous research in the following ways: First, the study uses more finely partitioned data and applies the approach taken by Krishnan et al. (2012) to assess whether the different types of NASs affect the value relevance of earnings differently. Second, Huang et al. (2007) and Mishra et al. (2005) used 2003 and 2004 data, which was situated near

major regulation changes, such as SOX and SOX404. Krishnan et al. (2012) used data from 2000 to 2008. This study uses a different sample from the years 2009 to 2014. The increased scrutiny of the auditing profession within these current years, coupled with exogenous shocks, such as the financial crisis and the Dodd Frank Act of 2010, may provide updated perceptions of investors regarding NASs. This casts new light on unknown issues, such as which types of NASs affect the value relevance of earnings.

HYPOTHESES

The contradictory arguments of NASs found in the previously discussed literature can be summarized by two viewpoints. One view is NASs can pose a threat to auditor independence because it creates an economic dependency of auditors on their clients. This in turn, could inappropriately influence the audit. The second view is market-based incentives, such as the auditor's concern for personal reputation or the risk of potential litigation, provides an incentive for the auditor to act independently. Also, the existence of knowledge spillover suggests enhanced auditor independence from providing NASs. It is however, unknown whether or not these different perspectives apply to each type of NAS.

SEC's fee disclosure regulations further disaggregate the types of services auditors are performing, signifying each type has some relevance. Furthermore, based on the report from Audit Analytics (2012), non-audit fees have steadily declined over the past thirteen years. The year 2014 reached an all-time low with the percentage of non-audit fees dropping below ten percent (Audit Analytics, 2012). Thus, gathering insight from prior literature and examining the current state of the auditing profession, the following hypotheses are presented:

H1: The value relevance of earnings is negatively related to auditor provided tax services.

H2: The value relevance of earnings is negatively related to auditor provided "audit-related" services.

H3: The value relevance of earnings is negatively related to auditor provided "other" services.

METHODOLOGY

Empirical Model

Prior research found the decision to purchase NASs was not random and was driven by several factors (Whisenant, Sankaraguruswamy, & Raghunandan, 2003). Using two-stage least squares regression modeling, endogeneity issues and control for the influence of other determinants associated with the decision to purchase NASs were addressed (Heckman, 1979). Model estimated values were pulled from the first stage equations (1 – 3) to compute an OLS model (4) for the response of interest.

(1) $ARR = \beta_0 + \beta_1 SIZE + \beta_2 LOSS + \beta_3 LITIG + \beta_4 AUD + \beta_5 MERACQ + \varepsilon$

(2) $TAX = \beta_0 + \beta_1 SIZE + \beta_2 LOSS + \beta_3 LITIG + \beta_4 AUD + \beta_5 MERACQ + \varepsilon$

(3) $OTH = \beta_0 + \beta_1 SIZE + \beta_2 LOSS + \beta_3 LITIG + \beta_4 AUD + \beta_5 MERACQ + \varepsilon$

Following the study conducted by Krishnan et al. (2012), Ohlson's (1995) model is used to examine the impact the different types of NASs have on the value relevance of earnings. This model estimates a regression of stock price per share as a function of book value of equity per

share, earnings per share, growth in book value of equity, and the ratio of each type of NAS fee over total fees paid to the auditor (Krishan, Visvanathan, & Yu, 2012).

$$(4)\ PRICEDIV = \beta_0 + \beta_1 BVE + \beta_2 EARN + \beta_3 GROW + \beta_4 TAXF_{RAT} + \beta_5 OTH_{RAT} + \beta_6 ARR_{RAT} + \beta_7 TAXF_{RAT}\ x\ EARN + \beta_8 OTH_{RAT}\ x\ EARN + \beta_9 ARR_{RAT}\ x\ EARN + \beta_{10} SIZE + \varepsilon$$

To control for time-specific effects and industry-specific effects, included are year-dummy and industry-dummy variables. The industry dummy variables are based on the Fama-French classification. IMR_ARR, IMR_TAX, and IMR_OTH are the inverse mills ratios obtained from the first stage models (1), (2), and (3). Prior research suggested a positive coefficient on β_1, β_2, and β_3 (Krishnan et al., 2012). If the different NASs result in greater financial reporting quality, then the coefficients on β_4, β_5, and β_6 should have a positive effect on market valuation. If however, the threat of impaired auditor independence is too high from obtaining these services, it would be expected to have negative coefficients on those variables. The variables of interest however (β_7, β_8, and β_9) are the interaction terms between each of the fee ratios and earnings. A positive coefficient on any of these would signify that non-audit service leads to more value-relevant earnings. The argument for this is, due to knowledge spillover, earnings management is constrained. A negative coefficient on any would signify less relevant earnings, perhaps due to impaired auditor independence.

Sample

The sample in this study utilized a merged set of firms from Audit Analytics and Compustat spanning the years 2009 to 2014. After merging and deleting missing information from each of the datasets, the final sample consisted of 6,370 firm-year observations, as indicated in Table 2 (Appendix).

Table 3 (Appendix) presents the Fama-French industry distribution for the sample. The top three industries represented were “business equipment”, “money/finance”, and “other”, respectively. These three industry types accounted for approximately 50% of the sample.

Descriptive and variable statistics for the sample are presented in Table 4 (Appendix). The mean and median values of the earnings variable (*EARN*) were $1.15 and $0.63, respectively: values slightly higher than Krishnan et al. (2012). The mean and median values of the amount of audit related fees were $212.327 thousand and $20.00 thousand, respectively. The mean value of other fees were $36.065 thousand and the mean and median values of the tax related fees were $233.948 thousand and $40.375 thousand, respectively. The mean and median values of the ratio of audit related fees over total fees paid to the auditor were .07 and .03, respectively. The mean and median values of the ratio of other fees over total fees paid to the auditor were .02 and .00, respectively. The mean and median values of the ratio of tax related fees over total fees paid to the auditor were .10 and .06, respectively. Overall, these statistics were consistent with prior research. Approximately 67% of the same statistics reported purchasing audit-related services, 79% reported purchasing tax-related services, and 37% reported purchasing services in the “other” category of NASs.

Table 5 (Appendix) presents the correlation coefficients for the variables in the model. The correlations between *PRCDIV* and *ARR_RAT* and *OTH_RAT* were negative and significant at the .01 level. This indicated that on average, market valuation was decreasing in the ratio of audit related fees and other fees over total fees paid to the auditor. The coefficient on *TAXF_RAT* was positive but not significant. This was different from the results presented by Krishnan et al. (2012). The correlations between *PRCDIV* and *BVE, EARN,* and *GROW* were .690, .218, and

.017, respectively. These were generally consistent with the results in the Krishnan et al. (2012) study. *SIZE, AUD, and MERACQ* had a significant positive correlation with *PRCDIV*, indicating the larger the firm (firms with a Big4 auditor and firms engaged in merger/acquisition activity), had a higher market valuation.

RESULTS

Table 6 (Appendix) presents the results of the first stage model for each of the different types of NAS fees. Panel A, B, and C present the determinants of audit-related service fees, tax service fees, and other service fees, respectively. There are observable differences between the three types. Audit-related services are present for larger firms outside the litigious industries that are involved in merger/acquisition activity. If a large firm is engaged in merger/acquisition activity, and if the firm has a Big 4 auditor, tax service fees seem to be present. The other service fees are present in larger firms that report a net loss, and those involved in mergers/acquisitions.

Table 7 (Appendix) presents the second stage regression results of whether investor valuation of earnings is related to the different types of NASs. The signs of the coefficients on *GROW*, *EARN*, and *BVE* are positive and significant. This is consistent with prior research indicating the book value of equity, the growth in the book value of equity, and earnings are all value-relevant. The coefficients on ARR_RAT and OTH_RAT are negative and significant. The TAX_RAT coefficient is positive and insignificant. This suggests that stock market valuation is decreasing in the ratio of audit-related and other service fees over total fees paid to the auditor. The variables of interest however, are the interactions between each fee ratio and earnings. The interaction between audit-related services and earnings, as well as, tax-related services and earnings, is negative and significant. This indicates value relevance is decreasing with each of the ratios of audit-related and tax-related services. This lends support for the notion that investors perceive NASs, especially audit-related and tax services, as a threat to auditor independence. Consistent with the findings of Mishra et al. (2005), investors perceive tax service fees and audit related fees negatively. Evidence also suggests that audit-related service fees are more negatively associated with the valuation of earnings than either the tax service fees or other service fees, as indicated by the larger coefficient in Table 7 (Appendix).

DISCUSSION AND CONCLUSION

The SEC in 2003, suggested that shareholders would view the various types of NASs differently; hence the requirement for disclosure of fee data in a more finely subdivided manner (FRR No. 68). Few studies in the previous literature regarding the different types of NASs provided evidence that, in fact, there is a difference in how investors view the different types of NASs. Even fewer studies provide solid evidence of how the different types of NASs would be associated with the value relevance of earnings. Therefore, this study examined whether investors assigned a lower valuation to firms that had the different types of NASs.

This study adds to the previous literature by examining whether the different types of NASs moderate investors' perceptions of earnings. The hypotheses predicted negative associations between each type of the NAS fees and the value relevance of earnings. Using data from 6,370 observations, from the years 2009 to 2014, the findings mostly confirmed these predictions. One possible explanation is the increasing scrutiny surrounding the auditing profession. The sample covered the time period immediately after the great financial crisis and

the Great Recession, as well as further regulation of the Dodd Frank Act of 2010—all of which greatly impacted investors' perceptions of the auditing profession. The heightened scrutiny of the auditing profession and the decreasing trend of the use of NASs, perhaps, set the overall tone of investors' perceptions of the different NASs. More detailed analysis, however, is required to see if these findings hold true for different models of valuation of earnings, as well as different indicators of investor perceptions.

Overall, the results of this paper confirmed the stream of literature with the perspective that NASs negatively affect auditor independence. This has important implications for management and audit committees of clients that may be considering purchasing NASs from the auditor. This paper also has implications for auditing research. Many of the previous studies in the literature used aggregate levels of fee data from the years 2001 to 2003. There is evidence that a new wave of audit fee studies, using more finely partitioned data, is warranted to gather comprehensive evidence of the effects of each type of NAS on different aspects of financial reporting quality.

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Appendix

Table 1: Variable Descriptions

PRCDIV	stock price per share for firm *i* at the end of the first quarter following the fiscal year *t* - 1 plus dividends per share for the fiscal year *t* – 1;
BVE	book value of common equity per share;
EARN	income before extraordinary items available for common shareholders per share;
GROW	one year growth in BVE;
ARR	1 if the firm purchases audit-related services from the auditor and 0 otherwise;
TAX	1 if the firm purchases tax-related services from the auditor and 0 otherwise;
OTH	1 if the firm purchases other-related services from the auditor and 0 otherwise;
ARR_RAT	audit-related services fee ratio (total audit related fees / total fees);
OTH_RAT	other services fee ratio (total other fees / total fees); and
TAX_RAT	tax services fee ratio (total tax fees / total fees).
ARR_FEES	fees paid to the auditor for audit-related services (in thousands of dollars)

OTHER_FEES	fees paid to the auditor for other-related services (in thousands of dollars)
TAX_FEES	fees paid to the auditor for tax-related services (in thousands of dollars)
SIZE	natural log of market value of equity (in millions of dollars)
IMR_ARR	inverse mills ratio obtained from Model (1)
IMR_TAX	inverse mills ratio obtained from Model (2)
IMR_OTH	inverse mills ratio obtained from Model (3)
LOSS	1 if the firm reported a net loss, 0 otherwise;
LITIG	1 if the firm is in a highly litigious industry (SIC codes: 2833-2836, 3570-3577, 3600-3674, 5200-5961, and 7370), and 0 otherwise
AUD	1 if the firm's auditor is one of the Big 4, 0 otherwise
MERACQ	1 if the firm is involved in any merger/acquisition activity, 0 otherwise.

Table 2: Sample Selection

Merged Audit Analytics and Compustat for period Jan 1, 2009 to Dec 31, 2014	13,802
Less: Firms for which variables could not be computed	(5,443)
Less: Firms with missing data	(1,989)
Total Sample Size	6,370

Table 3: Industry Distribution

Fama-French Industry Classification	Observations	Percent
Consumer Nondurables	243	3.81
Consumer Durables	169	2.65
Manufacturing	649	10.19
Oil, Gas and Coal Extraction	309	4.85
Chemicals and Allied Products	141	2.21
Business Equipment	1,309	20.55
Telephone and Television Transmission	118	1.85
Utilities	228	3.58
Wholesale, Retail, and Services	541	8.49
Healthcare, Medical Equipment, Drugs	799	12.54
Money/Finance	952	14.95
Other	912	14.32
TOTAL	6,370	100.00

Table 4: Descriptive Statistics

Panel A: Descriptive Statistics for Continuous Variables

Variable Name	Mean	Standard Deviation	25th	Median	75th
PRCDIV	29.65	49.26	4.77	17.13	40.12
GROW	0.09	3.87	-0.02	0.02	0.12
EARN	1.15	3.60	-0.08	0.63	1.97
BVE	11.95	19.89	2.15	8.24	16.00
SIZE (in millions)	6.16	2.44	4.43	6.33	7.86
AUDIT_RELATED_FEES (in thousands)	212.327	941.688	0.00	20.000	108.886
OTHER_FEES (in thousands)	36.065	198.217	0.00	0.00	3.000
TAX_FEES (in thousands)	233.948	650.267	5.000	40.375	175.000
ARR_RAT	0.07	0.11	0.00	0.03	0.09
OTH_RAT	0.02	0.07	0.00	0.00	0.00
TAX_RAT	0.10	0.13	0.01	0.06	0.14

Panel B: Descriptive Statistics for Dichotomous Variables

Variable Name	Mean	Standard Deviation	Num of Obs Coded '1'	Num of Obs Coded '0'
LOSS	0.31	0.46	1,998	4,372
LITIG	0.20	0.40	1,298	5,072
MERACQ	0.31	0.47	1,960	4,410
AUD	0.67	0.46	4,297	2,073
ARR	0.68	0.47	4,256	2,114
TAX	0.79	0.40	5,060	1,310
OTH	0.36	0.48	2,303	4,067

PRCDIV = stock price per share for firm i at the end of the first quarter following the fiscal year t – 1 plus dividends per share for the fiscal year t – 1;

BVE = book value of common equity per share;
EARN = income before extraordinary items available for common shareholders per share;
GROW = one year growth in BVE;
ARR = 1 if the firm purchases audit-related services from the auditor and 0 otherwise;
TAX = 1 if the firm purchases tax-related services from the auditor and 0 otherwise;
OTH = 1 if the firm purchases other-related services from the auditor and 0 otherwise;
ARR_RAT = audit-related services fee ratio (total audit related fees / total fees);
OTH_RAT = other services fee ratio (total other fees / total fees); and
TAX_RAT = tax services fee ratio (total tax fees / total fees).
ARR_FEES = fees paid to the auditor for audit-related services (in thousands of dollars)
OTHER_FEES = fees paid to the auditor for other-related services (in thousands of dollars)
TAX_FEES = fees paid to the auditor for tax-related services (in thousands of dollars)
SIZE = natural log of market value of equity (in millions of dollars)
LOSS = 1 if the firm reported a net loss, 0 otherwise;
LITIG = 1 if the firm is in a highly litigious industry (SIC codes: 2833-2836, 3570-3577, 3600-3674, 5200, 5961, and 7370), and 0 otherwise
AUD = 1 if the firm's auditor is one of the Big 4, 0 otherwise
MERACQ = 1 if the firm is involved in any merger/acquisition activity, 0 otherwise.

Table 5: Pearson (Spearman) Correlation Coefficients, n = 6,370

	PRCDIV	*GROW*	*EARN*	*BVE*	*SIZE*	*LOSS*	*LITIG*	*AUD*	*MERACQ*	*ARR_RAT*	*OTH_RAT*	*TAX_RAT*
PRCDIV		0.01705	**0.21774**	**0.69075**	**0.45243**	**-0.28757**	**-0.03351**	**0.24104**	**0.15524**	**-0.03033**	**-0.04903**	0.01195
GROW	**0.28316**		-0.00615	-0.01373	0.01662	-0.01701	-0.01062	0.01493	0.00217	-0.00311	-0.01551	0.00491
EARN	**0.68968**	**0.37646**		**0.16413**	**0.33548**	**-0.14240**	0.00815	**0.11268**	**0.08214**	**0.04003**	*-0.02195*	**-0.03340**
BVE	**0.79091**	**0.25656**	**0.60558**		**0.32010**	**-0.29417**	**-0.11922**	**0.15531**	**0.11447**	-0.01486	-0.01610	0.00073
SIZE	**0.80792**	**0.19674**	**0.70153**	**0.59328**		**-0.43970**	**-0.04904**	**0.62736**	**0.35070**	**0.04073**	**-0.10503**	**-0.03435**
LOSS	**-0.56735**	**-0.43357**	**-0.78985**	**-0.55806**	**-0.43800**		**0.16537**	**-0.20782**	**-0.21169**	**0.04029**	**0.06129**	*-0.02229*
LITIG	**-0.10366**	-0.01373	**-0.13861**	**-0.19325**	**-0.05772**	**0.16537**		0.00450	**-0.06112**	**-0.02471**	0.00644	*-0.02241*
AUD	**0.47700**	**0.09011**	**0.36592**	**0.34349**	**0.64064**	**-0.20782**	0.00450		**0.28228**	-0.00172	**-0.10678**	*-0.02073*
MERACQ	**0.32996**	**0.12342**	**0.28645**	**0.25701**	**0.35991**	**-0.21169**	**-0.06112**	**0.28228**		-0.00156	**-0.03454**	0.01064
ARR_RAT	**0.13330**	0.01429	**0.15181**	**0.14020**	**0.20445**	**-0.08318**	**-0.06716**	**0.10053**	**0.07861**		**-0.03958**	**-0.12293**
OTH_RAT	**0.05306**	-0.00273	**0.04642**	**0.07058**	**0.08097**	*-0.02152*	-0.00313	**0.03907**	**0.04741**	**-0.05007**		**-0.07680**
TAX_RAT	**0.04677**	**0.02738**	**0.03982**	**0.04019**	0.00255	**-0.06145**	**-0.02916**	**0.02643**	**0.03720**	**-0.14717**	**-0.09853**	

Pearson (Spearman) coefficients are reported above (below) the diagonal. Correlations significant at the p <.01 and p <.05 level are in bold, and p <.10 level are italicized.

Table 6: Results of First Stage Model of Determinants to Purchase Non-Audit Services

Panel A: log(ARR_FEES)

Parameter	Estimate	Standard Error	t value
Intercept	1.831417	0.208856	8.77***
SIZE	0.907891	0.035959	25.25***
LOSS	0.121943	0.150183	0.81
LITIG	-0.83560	0.154721	-5.40***
AUD	-0.02977	0.169816	-0.18
MERACQ	0.423082	0.143035	2.96***

Panel B: log(TAX_FEES)

Parameter	Estimate	Standard Error	t value
Intercept	6.168617	0.193932	31.81***
SIZE	0.296992	0.033390	8.89***
LOSS	-0.48899	0.139452	-3.51***
LITIG	-0.37302	0.143666	-2.60***
AUD	1.423438	0.157682	9.03***
MERACQ	0.553274	0.132815	4.17***

Panel C: log (OTH_FEES)

Parameter	Estimate	Standard Error	t value
Intercept	1.058654	0.198448	5.33***
SIZE	0.372675	0.034167	10.91***
LOSS	0.339142	0.142700	2.38**
LITIG	-0.12442	0.147011	-0.85
AUD	-0.11587	0.161354	-0.72
MERACQ	0.317373	0.135907	2.34**

*, **, *** indicate significance at the 0.10, 0.05, and 0.01 levels, respectively
log(ARR_FEES) = natural log of fees paid to the auditor for audit-related services
log(TAX_FEES) = natural log of fees paid to the auditor for tax-related services
log(OTHER_FEES) = natural log of fees paid to the auditor for other-related services)
SIZE = natural log of market value of equity (in millions of dollars);
LOSS = 1 if the firm reported a net loss, 0 otherwise;
LITIGATION = 1 if the firm is in a highly litigious industry (SIC codes: 2833-2836, 3570-3577, 3600-3674, 5200-5961, and 7370), and 0 otherwise.
AUD = 1 if the firm's auditor is one of the Big 4, 0 otherwise;
MERACQ = 1 if the firm is involved in any merger/acquisition activity, 0 otherwise.

Table 7: Results of Value Relevance of each Type of Non-audit Service

	Predicted Sign	Parameter Estimate	Standard Error	t Value
Intercept		10.82280	2.123558	5.10***
GROW	+	0.338418	0.112960	3.00***
EARN	+	0.005913	0.000507	11.65***
BVE	+	1.654621	0.022310	74.17***
ARR_RAT		-8.08868	4.182464	-1.93**
OTH_RAT		-22.5781	5.875213	-3.84***
TAXF_RAT		4.862522	3.521565	1.38
ARR * EARN	-	-0.02295	0.002889	-7.94***
TAXF * EARN	-	-0.00890	0.003981	-2.24**
OTHER * EARN	-	-0.01724	0.013365	-1.29
Adjusted R^2		.501		
N		6,370		

*, **, *** indicate significance at the 0.10, 0.05, and 0.01 levels, respectively

PRCDIV = stock price per share for firm i at the end of the first quarter following the fiscal year t –1 plus dividends per share for the fiscal year t – 1;
BVE = book value of common equity per share;
EARN = income before extraordinary items available for common shareholders per share;
GROW = one year growth in BVE;
ARR_RAT = audit-related services fee ratio (total audit related fees / total fees);
OTH_RAT = other services fee ratio (total other fees / total fees); and
TAX_RAT = tax services fee ratio (total tax fees / total fees).