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HOW DO AUDITORS VIEW MANAGERS' DISCLOSURE STRATEGY? THE EFFECT OF EARNINGS GUIDANCE ON AUDIT FEES

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HOW DO AUDITORS VIEW MANAGERS' EARNINGS FORECASTING STRATEGY? THE EFFECT OF EARNINGS GUIDANCE ON AUDIT FEES

Abstract

This paper examines whether firms' earnings forecasting policy is associated with their audit fees. We find that firms that are more likely to issue earnings forecasts, and those that issue a greater number of earnings forecasts in a particular year, pay higher audit fees. Furthermore, we find that firms that make more precise forecasts also face higher audit fees. Finally, among the forecasting firms, we find some evidence that audit fees are higher when management earnings forecasts are more optimistically biased. These results are consistent with the argument that auditors view clients that make earnings forecasts to be associated with a greater risk of earnings management and litigation. These results highlight a potential cost of this particular form of voluntary disclosures.

Keywords: *Audit fees, Management Earnings forecasts, Litigation Risk, Fraud Risk*

Data Availability: All data employed in this study are commercially available from sources described in the text.

HOW DO AUDITORS VIEW MANAGERS' EARNINGS FORECASTING STRATEGY? THE EFFECT OF EARNINGS GUIDANCE ON AUDIT FEES

1. INTRODUCTION

The objective of this study is to examine a potential link between management's earnings forecasting strategy and audit pricing. Particularly we explore the existence of a cross-sectional association between audit fees and management's tendency to issue frequent, specific, and optimistic earnings guidance. Prior studies have suggested that earnings forecasts provide management with incentives to manage earnings to meet these forecasts (e.g., [Kasznik, 1999](#); [Graham et al. 2005](#)). Therefore, auditors can associate firms that issue earnings forecasts with higher risk of earnings management (risk of financial statements fraud).¹ Potential risks of earnings forecasts are highlighted in *Statement of Auditing Standards 99* which lists unduly aggressive expectations created by management through "overly optimistic press releases or annual report messages" (*SAS 99*, Section A.2, paragraph 86) as a factor to consider in the assessment of fraud risk. Examination of the transcripts of SEC's enforcement actions against firms also reveals numerous instances where the SEC alleges that companies provided misleading earnings guidance to prolong fraud. Based on these arguments we expect management's forecasting activity to be associated with higher earnings management risk or fraud risk.

In addition to fraud risk, management's earnings forecasting behavior has also been associated with higher litigation risk. [Francis et al. \(1994\)](#) and [Skinner \(1997\)](#) document that shareholder litigation is more likely to arise from management forecasts issued than from the final earnings announcements and more likely to occur in quarters when the company issued

¹ We use terms "earnings management risk" and "fraud risk" interchangeably in this paper. We assume that managers that intentionally manage earnings for opportunistic reasons commit financial statements fraud.

earnings forecasts. Furthermore, [Rogers et al. \(2008\)](#) shows that the frequency of earnings forecasts issued by a firm is positively associated with the probability of a lawsuit. Litigation is a major concern of auditors as they are often implicated in class action lawsuits against companies ([Kellogg, 1984](#); [Palmrose, 1988](#)). Therefore, if management's earnings forecasting tendencies capture aspects of litigation risk that are not captured by standard controls used in the audit fee model, an association between audit fees and management forecast properties will arise. Auditors are expected to examine various financial and non-financial factors to evaluate clients' risk ([Bell et al. 2002](#)), and thus an analysis of management's earnings forecast history can be useful for assessing earnings management risk and litigation risk of the engagement. If firms that are more likely to issue earnings forecasts and do so frequently, are perceived to be of higher risk, they would be charged higher audit fees.²

Beyond the propensity to issue earnings forecasts, other properties of earnings forecasts could also affect earnings management risk and litigation risk, and consequently audit fees. One of these properties is the specificity of earnings forecasts. A more specific forecast, such as a point forecast, may be more difficult to meet than a range forecast increasing the likelihood of a negative earnings surprise that can trigger litigation. Alternatively, such forecasts can increase the pressure on management to attain the forecast causing them to resort to earnings management. In support of these arguments, [Brown et al. \(2005\)](#) document that litigation risk is more strongly associated with point forecasts compared to other forms of forecasts. Auditors could also view the issuance of point forecasts as a sign of managerial aggressiveness, which can

² Litigation risk can arise not only from earnings management or fraud, but also arise from other factors such as inherent uncertainty about the firm's operations and the inability of the management to articulate its financial performance adequately to market participants. Thus, we treat fraud risk and litigation risk separately, even though we recognize that the two could overlap. In this paper, we do not seek to identify the *distinct* effects of these two constructs on audit fees, but rather their combined impact.

add to audit risk. To compensate for this risk, auditors may charge higher fees to firms that historically make more precise forecasts.

Finally, for a sub-sample of firms that make point earnings forecasts, we examine whether the ex-post error and bias in the earnings forecast affect audit fees. [Bell et al. \(2002\)](#) indicate that KPMG considers inaccurate forecasts made by managers as a risk factor to consider in client acceptance and continuance decisions. *SAS 99* urges auditors to consider overly optimistic forecasting behavior of managers as a fraud risk factor. Therefore, erroneous earnings forecasts, particularly optimistic ones, can increase the likelihood of earnings management and shareholder litigation resulting in higher audit fees.

Using a sample of annual and quarterly earnings forecasts from *First Call* over 2000-2006, and audit fee data from *Audit Analytics*, we find that the likelihood of issuing an annual or quarterly earnings forecast in prior period is positively associated with audit fees of the current period. These results are robust to controlling for the other determinants of audit fees identified in prior research and certain other measures used to capture litigation risk. We obtain similar results when we look at the contemporaneous association between the frequency of forecasts and audit fees. Furthermore, when we code forecasts based on their specificity with point forecasts as the most specific, we find audit fees to be positively associated with the specificity of the forecasts. These results hold irrespective of whether we examine annual earnings forecasts or quarterly earnings forecasts. Finally, when we examine the impact of forecast error and bias on audit fees for a sub-sample of firms that issue point forecasts, we find audit fees to be positively associated with the error in the forecasts and the bias (or optimism) in the forecasts for annual

forecasts only, not for quarterly forecasts.³ Overall, our findings are consistent with auditors viewing management's annual earnings forecasting tendency negatively. This could be either because auditors directly attribute such forecasts to be associated with higher risk of earnings management, or that they perceive forecasting firms to be associated with higher litigation risk, or both.

Our study makes a number of important contributions to the literature. First, it ties the literature on management's voluntary disclosure choices to audit pricing in a way that has not been done previously. Prior studies linking corporate disclosures to auditor decisions have largely suggested that better quality auditors should play a role in enhancing corporate disclosures (e.g. Clarkson 2000; [Dunn and Mayhew 2004](#)). In contrast, our study suggests that when it comes to issuing earnings forecasts, such forecasting behavior by management is considered risky by auditors. Therefore, it suggests that one potential reason why management's earnings forecasts are infrequent. Disclosure literature documents a number of benefits of voluntary disclosure, such as reduction in adverse selection costs, transaction costs, cost of capital and liquidity (e.g., [Welker 1995](#); [Botosan 1997](#); [Coller and Yohn 1997](#); [Sengupta 1998](#); [Graham et al 2005](#); [Pevzner 2007](#)), but provides rather limited evidence of the potential costs of disclosure. Our study contributes to this literature by documenting a potential cost of one form of voluntary disclosures – management's earnings forecasts – in the form of higher audit fees.⁴

Second, our study documents a novel way of capturing the effects of earnings management risk and litigation risk on audit pricing. Much of the literature on audit fees uses different financial measures to explain audit fees. Litigation risk and earnings management risk can be

³ Prior studies that examine annual and quarterly earnings forecasting behavior separately, such as [Ajinkya et al. \(2005\)](#) document a significantly weaker fit of the disclosure models using quarterly data, suggesting that quarterly forecasts are associated with greater noise.

⁴ We do not suggest that all forms of disclosures are perceived by auditors to be associated with higher risk; rather just management's earnings forecasts are.

reflective of managerial aggressiveness and risk-taking so the standard financial variables used in prior studies may not capture these factors completely. By exploring clients' propensity to issue earnings forecasts and the quality of such forecasts, we add a non-financial dimension to the audit fee model that helps improve our understanding of the implications of these risks on audit fees. This contributes to the literature attempting to understand the determinants of audit pricing and how auditors view and incorporate various risks in the fees they charge.

The rest of this paper is organized as follows. The next section develops the hypotheses. Section 3 describes our research design and data. Section 4 presents the results, and section 5 concludes.

2. HYPOTHESIS DEVELOPMENT

2.1 *The Audit Fee Model*

Under the basic audit fee model introduced by [Simunic \(1980\)](#), audit fees are given by:

$$E(c) = cq + E(d)*E(\theta) \tag{1}$$

where c is the auditor's per unit opportunity cost of conducting the audit, q is the number of resources the auditor utilizes for conducting the audit (audit effort); $E(d)$ is the expected present value of possible future losses to the client's stakeholders that may result from this period's audit of financial statements; and $E(\theta)$ is the likelihood that the auditor will have to pay for the losses arising from this period's financial statements. The component $E(d)*E(\theta)$, therefore, represents the present value of expected losses to the auditor from being involved with the company's audit. The higher the expected losses from being involved with the audit, the higher should be the fees.

Both the risk of earnings management and litigation increases auditors' expected losses from the audit through an increase in $E(d)*E(\theta)$. These losses usually are monetary in nature, generally arising from litigation against auditors. Auditors are particularly concerned with litigation risk and reputation loss arising from larger clients where litigation losses are expected to be more substantial, and thus tend to be extra-conservative with such clients (Reynolds and Francis, 2000). Fraud risk especially exposes auditors to higher future litigation losses, especially due to negative reputational affects of failure to catch clients' frauds. Thus, higher fraud risk affects both insurance risk premium $E(d)*E(\theta)$ and audit effort (q), as the auditor will have to switch from substantive tests of transactions to the substantive tests of account balances when fraud risk is high (Shibano 1990). Substantive tests of balances may require more experienced personnel, and take longer time to perform (Matsumura and Tucker 1992) and therefore will add to audit fees. In addition, higher risk of fraud will necessitate a move from more traditional audit risk model to the fraud risk audit model whereby the auditor will have to design specific audit procedures for fraud detection.⁵ Such procedures will probably be more costly, as auditors will have to take into account possible collusion among client's personnel, which requires more experienced staff and revision of audit programs in order to detect fraud, and might even require involvement of forensic auditors (Mock and Turner 2005; [Shelton et al. 2001](#)).

2.2 Audit fees and propensity to issue earnings forecasts

We argue that audit fees are linked to a firm's propensity to issue earnings forecasts due to auditors' higher perceived risk of earnings management and litigation associated with

⁵ Shibano (1990) also demonstrates that the traditional audit risk model, namely $Audit\ risk = Inherent\ risk * Control\ risk * Detection\ risk$ is not applicable in our situation as it does not take into account fraud risk and litigation risk. When an auditor is concerned with such risks, traditional probabilistic audit risk modeling approach is replaced by a game theoretic approach. Hence, in our paper, we do not attempt to link the components of the traditional audit risk model, such as inherent risk, control risk, or detection risk to earnings management risk and litigation risk.

propensity of firms to issue earnings forecasts. At the margin, presence of earnings forecasts could also lead to an increase in required audit effort. We develop each of these arguments in more details below.

Earnings Management (Fraud) Risk

The fact that auditors are concerned about clients' earnings management risk or fraud risk is well documented. Auditors are required to assess fraud risk under SAS 82/99, and design audit procedures to address risks of fraud (O'Reilly et al. 1998). The quality of earnings forecasts could be one of the many factors that auditors could consider for such an assessment. SAS 99 specifically states that auditors should consider whether management is creating unrealistic expectations through "overly optimistic press releases and annual report messages" (SAS 99, Section A.2, paragraph 86). Earnings forecasts could be viewed by auditors as *announced* internally-set earnings targets for the company and they may be concerned that these could provide incentives to manage earnings to meet these targets. Unduly aggressive internal earnings targets are another potential fraud risk factor (O'Reilly et al 1998). More direct evidence that audit firms are concerned about management forecasts comes from the following extracted from an audit manual of one of the Big 4 accounting firms, listing factors to examine in assessing client's audit risk:

"Undue emphasis placed on achieving *earnings per share forecasts* or on maintaining market value of capital stock, including overly optimistic news releases or communications to shareholders" (emphasis added).

Similarly, Bell et al. (2002) describe the K-Risk model employed by KPMG to assess client acceptance and continuance risk assessment. Among the various factors KPMG lists as important for this assessment, is whether management makes inaccurate estimates. Thus there is

anecdotal evidence that auditors consider management's forecasting behavior, particularly erroneous forecasts, to be a risk attribute.

Academic research also provides some evidence that management's forecasting behavior is associated with earnings management and thus possibly increases fraud risk. Thus, Jaggi and Sannella (1995) and Kasznik (1999) find that managers have incentives to manage earnings towards their earnings forecast. Such incentives would increase the risk of financial misstatements and therefore the auditors' risk assessment and fees charged.⁶ There is also a view that management forecasts contribute to managerial myopia, with tendencies to just beat short-term earnings targets, instead of focusing on long-term value creation (Jensen 2002). Such myopia can also create incentives to opportunistically manage earnings and, possibly, commit accounting fraud. Cheng et al. (2007) provide empirical evidence that frequent forecasting behavior is associated with a greater tendency to meet or beat analyst expectations and with cutting potentially valuable R&D expenditures.

Finally, a review of SEC's Accounting and Auditing Enforcement Releases (AAERs) reveal a number of instances where fraud allegations were related to earnings forecasts issued by management that were subsequently not met. For example, in the case against the executives of Waste Management, the complaint states:

“..... they made additional materially false or misleading statements in June and July 1999, about WMI's ability to *meet its previously announced second quarter 1999 earnings guidance* of \$0.78 to \$0.82 per share” (SEC Litigation release 18422, emphasis added).

In another case against Engineered Support System, the SEC charged its CEO Mr. Davis with using optimistic forecasts to hype its shares and use his broker Mr. Kopsky to trade on its shares:

⁶ Manry et al. (2007) find that the risk of earnings management is associated with preaudit engagement risk.

“...Engineered Support Systems announced earnings that beat analysts’ estimates and *raised its earnings guidance* above analysts’ estimates resulting in more than a 10% increase in stock price on the day of each announcement. The complaint alleges that Davis tipped Kopsky before each announcement.” (SEC Litigation Release 20019, emphasis added).⁷

The above discussion highlights some of the risks associated with management’s earnings forecasting activity. If auditors associate forecasting firms with higher risk of earnings management, then they would charge them higher fees either to compensate themselves for the higher risk or for the additional effort needed to mitigate some of these risks, or both.⁸

Litigation Risk

A number of studies have found a positive association between the likelihood and frequency of forecasts issued by management and litigation risk. Thus, Francis, Philbrick and Schipper (1994) and Skinner (1997) document that shareholder litigation is more likely to arise from earnings forecasts or earnings pre-announcements than from earnings announcements. Skinner (1997) also shows that earnings forecasts are more likely to occur in quarters that result in litigation than in other quarters. In a more comprehensive study of earnings forecasts issued over 1996-2002, Brown, Hillegeist and Lo (2005) find a positive association between ex-ante litigation risk and the likelihood of issuing an earnings forecast. Finally, Rogers et al. (2008) explore disclosure behavior during the damage period of class-action lawsuits and find the probability of a lawsuit to be positively associated with the frequency of earnings forecasts

⁷ Other examples include Biovail case (SEC Litigation Release 20506) where presence of earnings guidance is explicitly cited as an incentive to commit fraud, or Bally’s case (SEC Accounting and Auditing Enforcement Release 2886), where failure to correctly explain failure to meet earnings guidance is cited as evidence against the company’s managers.

⁸ Krishnan and Visvanathan (2009) find that for firms with high accounts receivables and inventories, their proxy for earnings management, audit fees are higher even when the audit committee has an accounting expert.

issued over the damage period.⁹ Lawsuits against the audit client have a direct bearing on the auditor's business risk, i.e., the risk that the auditor will suffer harm because of a client relationship (Arens and Loebbecke 2000). When faced with litigation, the auditor may suffer losses "by association" and also lose reputational capital if their client gets sued ([Reynolds and Francis, 2000](#)). The fact that the fear of legal liability is a concern to the auditor is well documented (e.g., Heninger 2001; Bell et al. 2001; Seetharaman et al. 2002; Gul et al. 2003). Thus, if earnings forecasts are associated with higher litigation risk, audit fees would be affected.¹⁰

Audit Effort in Reviewing Forecasts

Finally, management earnings forecasts are often made in press releases and are accompanied by other financial information. Even though the auditor is not responsible for the fairness of management forecasts, and does not opine on them, the auditor typically reviews this information as part of the press release. Consequently fees could be higher at the margin due to the additional effort involved in reviewing the forecasts.¹¹ We include client size and other determinants of client size to control for audit effort.

⁹ There is other research which suggests that companies issue earnings forecasts to reduce litigation risk (e.g., Skinner, 1994). However, these forecasting firms could be operating in a high litigation risk environment compared to non-forecasting firms. Some other studies argue that litigation risk *reduces* management's incentives to issue earnings forecasts. For example, Baginski, Hassel and Kimbrough (2002) shows that companies in Canada have a greater propensity to issue earnings guidance compared to US firms presumably because litigation risk is higher in the US.

¹⁰ As we also discuss above, we treat litigation risk and fraud risk concepts separately in this discussion. We do so primarily for clarity of exposition, and to highlight the existence of sources of litigation risk arising regardless of a client's tendency to commit fraud. However, we of course recognize that higher fraud risk leads to higher litigation risk. We do not seek to distinguish between the effects of audit risk and litigation risk on audit fees. Rather, we test a joint hypothesis that earnings forecasts affect audit fees by increasing fraud risk and/or litigation risk.

¹¹ The auditor is required to review voluntary disclosures under SAS 8. More specifically, SAS 8 states: "The auditor's responsibility with respect to information in a document does not extend beyond the financial information identified in his report, and the auditor has no obligation to perform any procedures to corroborate other information contained in a document. *However, he should read the other information and consider whether such information, or the manner of its presentation, is materially inconsistent with information, or the manner of its presentation, appearing in the financial statements. If the auditor concludes that there is a material inconsistency, he should determine whether the financial statements,*

In summary, going back to equation (1), taken together, the above arguments suggest that higher level of management earnings forecasting results in auditors' either increasing the amount of time spent on doing the audit due to either higher perceived earnings management risk and litigation risk and/or due to having to comply with SAS 8 review requirements, or increasing the insurance premium on their fees due to higher perceived risks, or both. These arguments suggest that management earnings forecasts are positively associated with audit fees. Our reasoning leads us to the first two hypotheses:

H1: Audit fees are higher for firms that issue management earnings forecasts, relative to firms that do not issue an earnings forecast.

H2: Audit fees are higher for firms that have a greater frequency of management earnings forecasts issued.

2.3 Forecast Specificity and Audit Fees

Next we examine whether audit fees are associated with the specificity or precision of management's earnings forecasts. A more specific forecast, such as a point forecast, leads to greater risk of litigation if not met and provides management with greater incentives to manage earnings compared to a qualitative forecast such as "we are not comfortable with previous projections", or "our earnings are expected to be lower this year". Consistent with these arguments, Brown et al. (2005) document those more precise forecasts are associated with greater litigation risk. Furthermore, Hribar and Yang (2006) find that over-confident CEOs are more likely to issue more precise forecasts and more likely to engage in earnings management. Consequently, auditors may look at the specificity of past earnings forecasts to assess its risk and

his report, or both require revision. If he concludes that they do not require revision, he should request the client to revise the other information (emphasis added). If the other information is not revised to eliminate the material inconsistency, he should consider other actions such as revising his report to include an explanatory paragraph describing the material inconsistency, withholding the use of his report in the document, and withdrawing from the engagement."

may charge clients making more precise forecasts higher audit fees to compensate for greater audit risk. This leads to the following hypothesis:

H3: Audit fees are higher for firms issuing more specific earnings forecasts.

2.4 Forecast Error and Bias and Audit Fees

Lastly, we examine whether the error and bias (optimism) in management forecasts impact audit fees. Optimistic earnings forecasts increase litigation risk as these are the forecasts that exceed actual earnings-per-share. Companies that fail to meet their forecasts often experience large drop in stock prices and the subsequent investor dissatisfaction can lead to litigation. Optimistic forecasts could also be a sign of managerial aggressiveness, and the auditor can associate this with greater managerial incentives to manage earnings. SAS 99 specifically mentions “a practice by management of committing to analysts, creditors and other third parties to achieve aggressive or unrealistic forecasts” as a fraud risk factor auditors must consider (Para 86). In addition, Hribar and Yang (2007) also find that over-confident CEOs are more likely to issue optimistic earnings forecasts, and that these CEOs are also more likely to engage in earnings management. Anecdotal evidence from the SEC enforcement releases discussed earlier are also consistent with the theory that more optimistic forecasts are associated with higher litigation risk. Taken together, this evidence suggests that a history of overly optimistic management earnings forecasting behavior should be associated with higher audit fees.

In addition, forecast error may also lead to information asymmetry in the market and such information asymmetry can trigger litigation. The litigation could be triggered by less sophisticated investors who suffer losses from trades in higher information asymmetry stocks. Forecast error may also be indicative of management’s inability or unwillingness to accurately

signal the market about its financial performance which again can increase the risk of shareholder litigation. These arguments lead us to the following two hypotheses:¹²

H4: Audit fees are positively associated with management earnings forecast bias.

H5: Audit fees are positively associated with management earnings forecast error.

3. RESEARCH DESIGN

3.1 Empirical Specification of the Audit Fee Regression

Our basic starting point is the standard audit fee model that has been used extensively in prior studies, such as Simunic (1980), Craswell et al. (1995), Ashbaugh et al. (2003), Whisenant et al. (2003), and Larker and Richardson (2004), to name just a few. This model explains audit fees in terms of a host of financial variables used to capture firm size, complexity, risk, and industry differences. We make two modifications to this model. First, we add management forecast properties as additional independent variables. Second, we add a few other financial variables that have been shown to be associated with litigation risk, primarily to alleviate the concern that management forecast properties might be picking up the effects litigation risk because of these omitted variables. The fee model then takes the following form:

$$\text{Log of audit fees} = f(\text{Management forecast properties, controls}) \quad (2)$$

Management forecast properties we examine are the likelihood of issuing a forecast, the frequency of forecasts issued over a period, the specificity or precision of the forecasts, and error and bias in the forecasts. All of these variables are measured in period t-1, whereas audit fees

¹² However, it is also possible that the stock market discounts the effects of the management earnings forecast bias (Williams (1996), Rogers and Stocken (2005), Hutton and Stocken (2007)), in which case litigation risk from such forecasts could be low and auditors may not be concerned about the bias. In such a case, management earnings forecast bias would have no impact on audit fees.

and other control variables are measured as of period t based on the premise that auditors set fees based on disclosure history. We also conduct separate analyses using annual and quarterly forecasts as these two types of forecasts could be driven by somewhat different objectives of a firm. In particular, quarterly earnings forecasts tend to have shorter horizon and could be issued very close to the official earnings announcements. As such, the precision of managerial beliefs underlying quarterly forecasts might be systematically different than that of annual forecasts, leading to systematic differences in fundamental characteristics of quarterly and annual management earnings forecasts.

We measure forecast likelihood by *FORECAST* which is an indicator variable that equals 1 if the company issued a forecast in period $t-1$ (fiscal year for annual forecasts and fiscal quarter for quarterly forecasts); 0 otherwise. *NFORECASTA* is the number of annual forecasts issued during the fiscal year $t-1$ and *NFORECASTQ* is the number of quarterly forecasts issued during year $t-1$.¹³ For tests of forecast specificity, we use the variable *SPECIFIC* which takes the value 4 if the company issued a point forecast, 3 if it issued a range forecast, 2 if it issued an open range forecast, 1 if it made any other types of forecasts, and 0 if it made no forecasts during fiscal period $t-1$. Finally, for forecast error and bias we look at the difference between the earnings forecast and actual EPS, deflated by stock price at the beginning of the period. Thus, *BIAS* is the difference between management's earnings forecast and actual EPS deflated by the stock price at the beginning of the fiscal period, whereas *ERROR* is the absolute value of *BIAS*. As in the case of all management forecast variables, *ERROR* and *BIAS* are calculated using forecasts of period $t-1$. The Appendix provides a complete listing of all variable definitions.

¹³ Non-forecasting firms are included and have a value of 0. If a company issues multiple forecasts on the same day we count them as one forecast.

Most of the control variables used in the fee model (equation 2) are derived from prior studies. These studies find *LAUDITFEE* (the log of total audit fees) to be associated with the following:

- LOGASSET* = log of total assets of the company (DATA6).
- BIG4* = 1 if the auditor is one of the current big 4 auditor; 0 otherwise.
- ROA* = Income before extraordinary items (data18), deflated by total assets.
- BTM* = the ratio of the book value of equity (DATA60) to the market value of equity (DATA199*DATA25), both measured at the end of the fiscal year.
- INVREC* = the sum of inventory (DATA3) and accounts receivable (DATA2) divided by total assets;
- LEVERAGE* = total liabilities (DATA181) divided by total assets;
- GRSALE* = change in annual sales (data12) divided by total assets;
- FOREIGN* = 1, if the company reported pretax foreign income or loss in year t; 0 otherwise.
- LOSS* = 1, if the company reported negative income before extraordinary items (DATA18) in year t; 0 otherwise.
- SQSEG* = the square root of the number of business segments reported by the company.
- SPECIAL* = 1, if the company's reported special items (DATA17) for period t is at least 2 percent of total assets; 0 otherwise;¹⁴
- MERGER* = 1, if the company experienced a merger in period t, per SDC database; 0 otherwise.
- ISSUE* = 1, if the company had an equity issue in year t as reported in the SDC database; 0 otherwise.
- QUALIFIED* = 1, if the company received a qualified opinion from its auditor; 0 otherwise.

¹⁴ Many papers use a dummy based on whether special items are reported or not. We found that some special items were reported for about 98 percent of our sample so there would be very limited variation across our sample for such a variable. Consequently we use a slightly different variable. Our results relating to forecast properties are robust to this choice.

One of our arguments in this paper is that management's propensity to issue earnings forecasts is indicative of a firm's litigation risk. Therefore, it is important to ensure that our results are not arising because we failed to adequately control for standard determinants of litigation risk. We examine prior research that attempts to estimate litigation risk using financial variables. Shu (2000), for example, develops a model of litigation risk. We find that a large number of financial variables used in her model, such as size, inventories, receivables, leverage, sales growth, return on assets, are already included in the fee model. Based on Shu (2000) we add the following variables to capture different aspects of litigation risk:

DLIST = 1, if the company experienced a delisting in year $t+1$; 0 otherwise.

LITI = 1, for all firms in the biotechnology (2833–2836 and 8731–8734), computers (3570–3577 and 7370–7374), electronics (3600–3674), and retail (5200–5961) industries, and 0 otherwise.

STDRET = the standard deviation of daily stock returns calculated over the company's fiscal year.

BHAR = annual buy-and-hold abnormal return estimated using size-adjusted portfolios from *CRSP*.

A complete listing of all variable definitions appears in the Appendix. To control for potential year and industry effects, we also include year dummies and separate industry dummies for each 2 digit SIC code. Based on prior research on audit fees, we expect positive coefficients on firm size (*LOGASSET*), auditor type (*BIG4*), type of audit opinion (*QUALIFIED*), client complexity (*SQSEG*, *SPECIAL*, *FOREIGN*, *MERGER*), financial distress (*LEV*, *LOSS*, and *QUALIFIED*), litigation risk and delisting risk (*LITI*, *DLIST*), and financial statement components (*INVREC*). On the other hand, we expect *LAUDIFEE* to be negatively associated with a firm's growth opportunities (*BTM*, *GRSALE*), and profitability (*ROA*, *BHAR*).

3.2 Data

Our sample is driven by the availability of audit fee data from *Audit Analytics*. Panel A of Table 1 summarizes our sample selection procedures and sample composition. We start with all available observations (79,156) on *Audit Analytics* over 2000-2006. Subsequently this sample gets reduced due to the availability of financial data from *Compustat* and *CRSP*, reducing the sample to 26,227. We match this sample with *First Call* that provides both financial analyst information and management forecast information and 6,382 observations for which no analyst following information were available, yielding a sample of 19,845 observations for tests of annual forecasts. Matching the audit fee sample with quarterly *First Call* data yields a sample of 18,581 observations. Tests of forecast accuracy and bias are based on a sub-sample of firms that issued point forecasts only. Therefore, these tests are based on a much smaller sample of 1,391 firm-year observations for annual forecasts, and 2,014 firm-year observations for quarterly forecasts, respectively.

For our analysis we retain all management earnings forecasts made within fiscal year $t-1$. If an annual forecast is made before the beginning of fiscal year $t-1$ or after the fiscal year end date, it is deleted. Because audit fee data along with other control data are available on an annual basis, our analyses using quarterly forecasts are based on all forecasts made over *fiscal year* $t-1$. As for annual forecasts, we delete forecasts made after the end of the quarter or before the beginning of the quarter. For quarterly analyses, *FORECAST* equals 1 if the company issued at least one quarterly forecast over fiscal year $t-1$; 0 otherwise. *NFORECASTQ* is the number of quarterly forecasts issued during fiscal year $t-1$. Tests of forecast specificity and error and bias, these are based on the *last* available quarterly forecast made during the fiscal year $t-1$.

Panel B of table 1 shows the year-by-year distribution of the annual forecast sample and it reveals no particular year concentration in the sample. Un-tabulated analysis of the quarterly forecasts shows a similar uniform distribution across the years. Panel C of table 1 provides the industry distribution of our sample of firm years with annual forecasts. Durable manufacturers and computers seem to be the two industries with the largest concentrations representing 21 and 18 percent of the sample respectively. The quarterly sample revealed similar patterns.

[Insert Table 1 here]

4. RESULTS

4.1 Descriptive Statistics

Table 2 summarizes the descriptive statistics of our sample. The mean value of *FORECAST* is 0.31, suggesting that only about 31% of firms in our sample issue any forecasts. This result agrees with previously documented evidence that many firms do not issue forecasts.¹⁵ The mean (median) value of *NFORECASTA* is 0.95 (0), suggesting that an average firm issues about one forecast per year, and that earnings forecasting is not a common occurrence. The mean (median) value of *NFORECASTQ* is 0.84 (0). Zero median values for both *NFORECASTA* and *NFORECASTQ* reflect that the majority of firms in our sample are non-forecasting firms. Mean of *SPECIFIC* is 0.97, which also reflects the fact that a large number of firms in our sample are non-forecasting firms and thus have this variable set to zero.

The mean (median) values of *AUDITFEE* is \$1.86 (\$0.62) million. The mean (median) *ASSET* is \$8.122 (\$0.585) billion, suggesting that our sample consists of the larger firms. Since *AUDITFEE* and *ASSET* are both highly skewed variables, we use a natural log of those variables in our analyses. The mean (median) of *BIG4* is 0.92 (1), suggesting that most of firms in our

¹⁵ Our sample size approximates those of prior studies (e.g. Anilowski and Skinner, 2007).

sample are audited by “Big” auditors. Mean (median) *ROA* in our sample is -0.03 (0.03). A substantial percentage of firms in our sample are loss firms, corresponding to mean value of *LOSS* of 0.31. A substantial percentage of firms also have foreign income, corresponding to a mean value of *FOREIGN* of 0.38. About 20% of firms in our sample undergo a *MERGER*, and about 8% of firms in our sample *ISSUE* stock or debt. About 44% of firms in our sample receive an audit opinion other an unqualified, corresponding to the mean value of 0.44 for *QUALIFIED*. Mean (median) stock volatility is about 3% (2%) for firms in our sample. Mean (median) *BHAR* of firms in our sample is 0.12 (0.02).

[Insert Table 2 here]

4.2 *Multivariate Analyses*

Table 3 summarizes the results of our tests of the potential association between the likelihood of issuing an earnings forecast (*FORECAST*) and audit fees (hypothesis *H1*). Column 3 reports the results using annual earnings forecasts whereas column 4 reports the results using quarterly forecasts. The results show that the coefficient for *FORECAST* is positive and statistically significant at the 0.01 level for both annual and quarterly forecasts. This is consistent with hypothesis *H1*. The signs of control variables’ regression coefficients, when significant, are generally in line with expectations.

[Insert Table 3 here]

Table 4 reports the results of the association between the frequency of management forecasts and audit fees (hypothesis *H2*). An examination of forecast frequency allows us to put more weight on firms that are frequent forecasters. If multiple forecasts increase auditors’

perception of risk, then we should see a positive association between forecast frequency and audit fees. If frequent forecasters are perceived to be of lower risk, we should not observe such an association. As in table 3, we report results for annual and quarterly forecasts separately. The results show that the coefficients for both *NFORECASTA* and *NFORECASTQ* are positive and statistically significant at the 0.01 level supporting our hypothesis *H2*. The signs of regression coefficients of control variables, when significant, are in line with expectations.

[Insert Table 4 here]

The results so far are supportive of the arguments that the propensity to issue earnings forecasts are associated with higher audit fees. If auditors examine a firm's forecasting history to determine audit prices, it is likely that they would examine the quality and accuracy of these forecasts since these can affect the associated earnings management risk and litigation risk. One of the forecast properties that may be of concern to the auditor is the specificity of the forecasts. Table 5 reports the results of the effects of forecast specificity on audit fees. The results show that audit fees are positively associated with forecast specificity with the coefficient for *SPECIFICITY* statistically significant at conventional levels for both annual and quarterly forecasts. This supports our hypothesis that more specific (or precise) forecasts are perceived to be of higher risk by auditors (hypothesis *H3*). The signs of control variables' regression coefficients, when significant, are in line with expectations.

[Insert Table 5 here]

Finally, Table 6 summarizes the results of analyses of forecast error and bias on audit fees. Columns 3 and 5 reports the results based on forecast error (*ERROR*) for annual and quarterly forecasts respectively, whereas columns 4 and 6 reports the results based on forecast

bias (*BIAS*). The results based on annual earnings forecasts document a statistically significant positive association between forecast error and bias and audit fees. However, a similar association is not found for quarterly forecasts. Thus, although the results based on annual forecasts support the hypothesis that auditors are concerned about forecasts that are erroneous and/or are optimistically biased, this is not true for quarterly forecasts. The lack of results in quarterly forecasts could be due to fundamental differences between annual and quarterly earnings forecasts. In addition to differences in sample sizes, quarterly management earnings forecasts might be systematically less biased than annual forecasts, the auditors may be less concerned with the impact of presence of quarterly forecasts on the audit risks. It is also possible that the lack of results in this case is driven by lower power of our tests due to smaller sample size dictated by choice of point forecasts only for our tests. This is also probably why several control variables significant in the other tests are not significant here. We leave finding the explanation for this difference in findings for future research.

[Insert Table 6 here]

4.3 *Additional Analyses*

4.3.1 *Heckman two-stage analysis*

Because the earnings forecasting decision is likely non-random (Ajinkya et al. 2005, Anilowski and [Skinner 2007](#)), a selection bias might affect our results. Hence, for our basic result we run following two-stage Heckman selection model:

1st stage: $Prob(FORECAST=1)=g(LOGASSET, STDRET, OUTDIR, ANAL_FOL, INST,$
 $LITIGATE, RD_INT, ABN_ROA, EVENT) + e$

2nd stage: $LAUDFEE=f(NFORRECASTA, LOGASSET, LEVERAGE, ROA, FOREIGN, LOSS,$

$$\begin{aligned}
& \text{BIG4, BTM, INVREC, SPECIAL, SQSEG, GRSALE, SQEMPL,} \\
& \text{MERGER, QUALIFIED, ISSUE2, Fama-French Industry Dummies, Year} \\
& \text{Dummies + IMR) + } e
\end{aligned}$$

Where, the following additional variables are present:

OUTDIR (percentage of outside directors on the board), *ANAL_FOL* (analyst following), *INST* (percentage ownership by institutions), *RD_INT* (R&D intensity, computed as total three-year R&D expense (data46) deflated by total assets in year $t-2$), *ABN_ROA* (industry-adjusted ROA), and *EVENT* (a dummy variable equal 1 if a firm reported a merger, acquisition or security issuance in SDC database).

The first state model is based on known determinants of forecasting ([Ajinkya et al. 2005](#)). We also controls for abnormal profits of a firm (*ABN_ROA*) and its R&D intensity (*RD_INT*) in order to control for proprietary costs of disclosure and effects of performance on disclosure ([Core 2001](#); [Miller 2002](#)). Hence, in addition to the other determinants of forecasting, such as size (*LOGASSET*), institutional ownership (*INST*) and percentage of outside directors on the board (*OUTDIR*), in our first stage model we also attempt to capture disclosure incentives identified in the literature, namely earnings performance, litigation risk and higher proprietary costs.

To conserve space, we do not tabulate the results of this analysis, and only report summary results in the text. Our results are generally consistent with those reported in Table 4. *NFORECASTA* has a positive significant coefficient 0.006 and z -statistic of 1.78 (p -value of 0.07). The loss of power in this regression coefficient is probably due to a smaller sample size of 4,385 (vs. 19,845 observations in Table 3 and 4). The reduction in sample size is mainly due to introduction of additional variables *OUTDIR*, *ANAL_FOL* and *INST*. Finally, Inverse Mills Ratio

is not significant with p-value of 0.2, suggesting that selection bias in our model is not a concern. The tabulated results are available upon request.

4.3.2 Robustness checks:

We conduct a number of additional tests to examine whether our results are sensitive to alternative specifications. First, in tests of forecast occurrence and forecast frequency we had retained only one of multiple forecasts made on the same day. We found that our results are not sensitive to this choice.

We also ran tests of forecast frequency and specificity using forecasting firms only. In tests of forecast frequency using annual forecasts, we still find a statistically significant (at the 0.01 level) positive association between forecast frequency and audit fees. For quarterly forecast frequency the effect disappears (coefficient is still positive but not statistically significant). Tests of forecast specificity are not statistically significant either for annual forecasts or quarterly forecasts.

We also used average disclosures over multiple years rather than one year (t-1). Results were similar to those reported. We further note that to control for the possible effects of Regulation FD and Sarbanes-Oxley Act, we include time-fixed effects in all of our regression models.

5. CONCLUSIONS

We study the association between audit fees and the properties of management earnings forecasts. Consistent with our expectations developed from extant research, auditing

practitioners' literature, the arguments used by SEC in some high profile accounting fraud cases, our findings indicate that auditors view management earnings forecasts as a risk-increasing factor, resulting in higher audit fees. We thus provide evidence on a potential cost of one form of voluntary disclosures – management earnings forecasts - that has not received much attention in the literature. These findings are important for two reasons. First, prior disclosure literature provides empirical evidence of various benefits of disclosures but show limited evidence of costs of disclosures. Second, audit literature analyzing audit fees examine a whole host of financial measures to explain audit fees. Although auditing standards suggest examining non-financial measures also to measure audit risk, there is relative less work done to identify the effects of such variables.

Future research could expand our analysis in a number of ways. One possibility is to explore how various other non-financial factors can play a role in assessing audit risk. Another possibility is to examine whether other forms of voluntary disclosures have negative or positive impact on audit fees.

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APPENDIX: Variables Definitions

<i>FORECAST</i>	An indicator variable that equals 1, if a firm issues at least one EPS forecast during fiscal year t-1, 0 otherwise. Data collected from First Call.
<i>NFORECASTA</i>	Number of annual EPS forecasts issued by a company during fiscal year t-1 (non-forecasting firms are coded 0). Data collected from First Call.
<i>NFORECASTQ</i>	Number of quarterly EPS forecasts issued during fiscal year t-1 (non-forecasting firms are coded 0). Data collected from First Call.
<i>SPECIFIC</i>	An indicator variable that equals 4 if the company issued a point forecast, 3 if it issued a range forecast, 2 if it issued an open range forecast, 1 if it made any other types of forecasts, and 0 if it made no forecasts during fiscal year t-1.
<i>HORIZON</i>	Number of days prior to fiscal year end the earnings forecast is issued.
<i>ERROR</i>	The absolute value of the difference between the management's earnings forecast and the actual EPS, deflated by the stock price at the beginning of the year.
<i>BIAS</i>	The difference between management's earnings forecast and actual EPS deflated by the stock price at the beginning of the fiscal year.
<i>LAUDITFEE</i>	Log of total fees paid to the auditor in year t for audit related services. Data obtained from <i>Audit Analytics</i>
<i>LOGASSET</i>	Log of total assets of the company (in \$ millions) at the end of year t.
<i>BIG4</i>	Indicator variable that equals 1, if a firm is audited by one of the "Big 4" auditors (data149) in year t; 0 otherwise.
<i>ROA</i>	Income before extraordinary items for year t divided by total assets at the end of year t.
<i>BTM</i>	The ratio of book value of equity (DATA60), to market value of equity (Data25*data199) both measured at the end of year t.
<i>INVREC</i>	Total inventories (DATA3) plus accounts receivable (DATA2) deflated by the average total assets, all measured at the end of year t.
<i>LEVERAGE</i>	Total liabilities (data181) divided by total assets both measured at the end of year t.
<i>LOSS</i>	An indicator variable that equals 1, if income before extraordinary items (DATA18) for year t is negative; 0 otherwise.
<i>SQSEG</i>	Square root of the number of business segments reported by the company for year t in the <i>Compustat</i> segment file.
<i>SPECIAL</i>	An indicator variable that equals 1 if the company's reported special items (data17) for year t is at least 2 percent of total assets; 0 otherwise.
<i>FOREIGN</i>	An indicator variable that equals 1 if the company reported pretax foreign income or loss in year t; 0 otherwise.
<i>ISSUE</i>	An indicator variable that equals 1 if the company had an equity issue in year t as reported in the SDC database; 0 otherwise.
<i>QUALIFIED</i>	An indicator variable that equals 1, if the company received a qualified opinion from the auditor in year t (DATA149); 0 otherwise.
<i>DLIST</i>	An indicator variable that equals 1 if the company's shares are delisted from the major stock exchanges in period t+1; 0 otherwise.
<i>LITI</i>	An indicator variable that takes the value 1 for all firms in the biotechnology (2833–2836 and 8731–8734), computers (3570–3577 and 7370–7374), electronics (3600–3674), and retail (5200–5961) industries, and 0 otherwise.
<i>STDRET</i>	Standard deviation of daily stock returns, estimated over the company's fiscal year.
<i>BHAR</i>	One year buy and hold return (in excess of the value weighted return) calculated over the company's fiscal year.
<i>OUTDIR</i>	Percentage of outside directors on the firm's board obtained from Compact Disclosure .
<i>ANAL_FOL</i>	Analyst following for a firm obtained from IBES
<i>INST</i>	Percentage of institutional ownership obtained from Thomson Financial
<i>RD_INT</i>	Research and development expense (data46) cumulated over three years and deflated by year t-2 total assets.
<i>ABN_ROA</i>	Abnormal ROA of a firm defined as a difference between firm ROA and median ROA of all firms in its 2 digit SIC code.

TABLE 1
Sample Selection and Distribution

PANEL A: Sample Selection Screens	<i>Observations</i>	
Initial sample on audit fees obtained from Audit Analytics for the period 2000-2006		79,156
Less: Observations not covered by <i>Compustat</i>		(29,458)
Missing data to calculate the financial variables		(23,471)
Missing analyst following information from First Call		<u>(6,382)</u>
Sample for tests using annual earnings forecasts		<u>19,845</u>
Sample for quarterly First Call tests (occurrence and frequency)		18,581
Sample for annual accuracy/bias		1,391
Sample for quarterly accuracy/bias		2,014
PANEL B: Year Distribution*	<u>Observations</u>	<u>%</u>
2001	3,215	16.20
2002	3,173	15.99
2003	3,312	16.69
2004	3,246	16.36
2005	3,422	17.24
2006	3,477	17.52
TOTAL	<u>19,845</u>	<u>100.00</u>
PANEL C: Industry Distribution*	<u>Observations</u>	<u>%</u>
Agriculture		
Mining & construction	413	2.08
Food	419	2.11
Textiles & printing/publishing	867	4.37
Chemicals	497	2.36
Pharmaceuticals	1,354	6.82
Extractive	697	3.51
Durable Manufacturers	4,117	20.75
Computers	3,570	17.99
Transportation	1,339	6.75
Utilities	624	3.14
Retail	1,875	9.45
Services	1,810	9.12
Financials	2,168	10.92
Other	133	0.67
TOTAL	<u>19,845</u>	<u>100.00</u>

*Year and industry distributions are based on the sample used in the analysis of annual forecast occurrence and frequency. Industry membership is determined by SIC code as follows: mining & construction (1000- 1999, excluding 1300-1399), food (2000-2111), textiles & printing/publishing (2200-2799), chemicals (2800-2824, 2840-2899), pharmaceuticals (2830-2836), extractive (2900-2999, 1300-1399), durable manufacturers (3000-3999, excluding 3570-3579 and 3670-3679), computers (7370-7379, 3570-3579, 3670-3679), transportation (4000-4899), utilities (4900-4999), retail (5000-5999), financials (6000-6999) and, services (7000-8999, excluding 7370-7379). Other includes the rest.

TABLE 2
Summary statistics

This table reports descriptive statistics based on samples used in the tests using annual management earnings forecasts. Variables are defined in the Appendix.

<i>Variable</i>	<i>N</i>	<i>Mean</i>	<i>Median</i>	<i>STD</i>	<i>Q1</i>	<i>Q3</i>
<i>FORECAST</i>	19,845	0.309	0.000	0.462	0.000	1.000
<i>NFORECASTA</i>	19,845	0.949	0.000	1.862	0.000	1.000
<i>NFORECASTQ</i>	19,845	0.841	0.000	1.638	0.000	1.000
<i>SPECIFIC</i>	19,845	0.971	0.000	1.490	0.000	3.000
<i>HORIZON</i>	6,367	151.894	83	124.915	64	244
<i>ERROR</i>	1,391	0.006	0.002	0.011	0.000	0.005
<i>BIAS</i>	1,391	0.002	0.000	0.011	-0.001	0.002
<i>AUDITFEE (in \$ millions)*</i>	19,845	1.860	0.620	4.950	0.258	1.568
<i>ASSET (in \$ billions)*</i>	19,845	8.122	0.585	60.107	0.157	2.290
<i>BIG4</i>	19,845	0.922	1.000	0.268	1.000	1.000
<i>ROA</i>	19,845	-0.032	0.031	0.234	-0.025	0.071
<i>BTM</i>	19,845	0.569	0.461	0.495	0.270	0.720
<i>INVREC</i>	19,845	0.227	0.190	0.181	0.081	0.329
<i>LEVERAGE</i>	19,845	0.493	0.490	0.251	0.296	0.657
<i>GRSALE</i>	19,845	0.156	0.091	0.411	-0.013	0.234
<i>LOSS</i>	19,845	0.311	0.000	0.463	0.000	1.000
<i>SQSEG</i>	19,845	3.417	3.464	1.157	2.449	4.243
<i>SPECIAL</i>	19,845	0.197	0.000	0.398	0.000	0.000
<i>FOREIGN</i>	19,845	0.383	0.000	0.486	0.000	1.000
<i>MERGER</i>	19,845	0.197	0.000	0.398	0.000	0.000
<i>ISSUE</i>	19,845	0.083	0.000	0.277	0.000	0.000
<i>QUALIFIED</i>	19,845	0.436	0.000	0.496	0.000	1.000
<i>DLIST</i>	19,845	0.003	0.000	0.058	0.000	0.000
<i>LITI</i>	19,845	0.350	0.000	0.477	0.000	1.000
<i>STDRET</i>	19,845	0.032	0.027	0.019	0.019	0.040
<i>BHAR</i>	19,845	0.125	0.027	0.599	-0.220	0.306

*In the regressions log of these values are used.

TABLE 3
The Likelihood of Management Earnings Forecasts and Audit Fees

This table reports the results of the regression of the log of audit fees (*LAUDITFEE*) on the likelihood of management issuing and earnings forecasts and other control variables. Column 3 reports the results of regressions using annual forecasts whereas column 4 reports the results using quarterly forecasts. *FORECAST* is a 0-1 variable according to whether the company issued an earnings forecast during fiscal period t-1 or not. All other variables are measured for period t. A complete listing of the variables appears in the Appendix. All regressions had year and industry (two digit SIC codes) dummies that are omitted for brevity. Standard errors are cluster-adjusted per Petersen (2007). *, **, *** denote two-tail significance levels of 0.1, 0.05, and 0.01, respectively. The sample spans 2000-2006.

	<i>Predicted Sign</i>	<u><i>Annual Forecasts</i></u> <i>Coefficient</i> <i>(t-stat)</i>	<u><i>Quarterly Forecasts</i></u> <i>Coefficient</i> <i>(t-stat)</i>
<i>INTERCEPT</i>	?	8.224 (141.550)***	8.281 (137.680)***
<i>FORECAST</i>	?	0.089 (6.140)***	0.035 (2.350)***
<i>LOGASSET</i>	+	0.483 (74.510)***	0.477 (70.370)***
<i>LEVERAGE</i>	+	0.283 (7.710)***	0.275 (7.380)***
<i>GRSALE</i>	-	-0.072 (-5.920)***	-0.081 (-6.500)***
<i>ROA</i>	-	-0.274 (-7.940)***	-0.261 (-7.410)***
<i>LOSS</i>	+	0.081 (4.810)***	0.074 (4.320)***
<i>INVREC</i>	+	0.472 (7.640)***	0.491 (7.800)***
<i>SQSEG</i>	+	0.123 (14.580)***	0.120 (13.920)***
<i>FOREIGN</i>	+	0.242 (13.070)***	0.260 (13.850)***
<i>BIG4</i>	+	0.251 (9.380)***	0.252 (9.000)***
<i>BTM</i>	-	-0.084 (-5.700)***	-0.095 (-6.110)***
<i>SPECIAL</i>	+	0.092 (6.600)***	0.101 (7.150)***
<i>MERGER</i>	+	0.088 (6.640)***	0.081 (6.000)***
<i>ISSUE</i>	+	0.000 (0.020)***	0.002 (0.080)***

<i>QUALIFIED</i>	+	0.089 (7.790)***	0.104 (8.900)***
<i>DLIST</i>	+	0.034 (0.500)	0.070 (0.900)
<i>LITI</i>	+	0.018 (0.630)	0.008 (0.270)
<i>STDRET</i>	+	6.354 (12.960)***	6.197 (12.300)***
<i>BHAR</i>	-	0.010 (1.320)	0.011 (1.440)
Number of observations		19,845	18,581
<i>Adjusted R²</i>		0.80	0.79

TABLE 4
Frequency of Management Earnings Forecasts and Audit Fees

This table reports the results of the regression of the log of audit fees (*LAUDITFEE*) on the frequency of management earnings forecasts issued and other control variables. Column 3 reports the results of regressions using annual forecasts (*NFORECASTA* is the number of annual forecasts issued during the fiscal year t-1; 0 for no forecasts) and column 4 reports the results using quarterly forecasts (*NFORECASTQ* is the number of quarterly earnings forecasts issued during the fiscal year t-1; 0 for no forecasts). All other variables are measured at period t. A complete listing of the variables appears in the Appendix. All regressions had year and industry (two digit SIC codes) dummies that are omitted for brevity. Standard errors are cluster-adjusted per Petersen (2007). *, **, *** denote two-tail significance levels of 0.1, 0.05, and 0.01, respectively. The sample spans 2000-2006.

	<i>Predicted Sign</i>	<i>Annual Forecasts Coefficient (t-stat)</i>	<i>Quarterly Forecasts Coefficient (t-stat)</i>
<i>INTERCEPT</i>	?	8.246 (141.170)***	8.233 (140.720)***
<i>NFORECASTA</i>	?	0.023 (6.390)***	
<i>NFORECASTQ</i>			0.009 (2.310)***
<i>LOGASSET</i>	+	0.481 (73.820)***	0.484 (74.080)***
<i>LEVERAGE</i>	+	0.284 (7.730)***	0.287 (7.790)***
<i>GRSALE</i>	-	-0.073 (-5.990)***	-0.075 (-6.160)***
<i>ROA</i>	-	-0.270 (-7.860)***	-0.272 (-7.890)***
<i>LOSS</i>	+	0.081 (4.770)***	0.073 (4.300)***
<i>INVREC</i>	+	0.475 (7.690)***	0.484 (7.800)***
<i>SQSEG</i>	+	0.123 (14.570)***	0.123 (14.570)***
<i>FOREIGN</i>	+	0.242 (13.100)***	0.244 (13.200)***
<i>BIG4</i>	+	0.251 (9.360)***	0.252 (9.330)***
<i>BTM</i>	-	-0.085 (-5.750)***	-0.087 (-5.860)***
<i>SPECIAL</i>	+	0.093 (6.680)***	0.096 (6.910)***
<i>MERGER</i>	+	0.089 (6.720)***	0.091 (6.850)***
<i>ISSUE</i>	+	0.001	-0.002

		(0.060)***	(-0.080)***
<i>QUALIFIED</i>	+	0.089	0.092
		(7.740)***	(7.970)***
<i>DLIST</i>	+	0.034	0.033
		(0.490)	(0.490)
<i>LITI</i>	+	0.018	0.018
		(0.630)	(0.620)
<i>STDRET</i>	+	6.271	6.263
		(12.800)***	(12.720)***
<i>BHAR</i>	-	0.010	0.008
		(1.300)	(1.000)
Number of observations		19,845	19,845
<i>Adjusted R²</i>		0.80	0.80

TABLE 5
Specificity of Management Earnings Forecasts and Audit Fees

This table reports the results of the regression of the log of audit fees (*LAUDITFEE*) on the specificity of management earnings forecasts issued and other control variables. Column 3 reports the results of regressions using annual forecasts and column 4 reports the results using quarterly forecasts. *SPECIFIC* equals 4 if the company issues a point forecast, 3 if the company issues a range forecast, 2 if the company issues an open range forecast, 1 for any other type of forecasts and 0 if the company issues no earnings forecasts. If the company issued multiple earnings forecasts during a fiscal year, the last forecast is retained. Specificity is measured using data for period t-1 whereas all other variables are calculated using period t data. The Appendix provides a complete listing of the variables. All regressions had year and industry (two digit SIC codes) dummies that are omitted for brevity. Standard errors are cluster-adjusted per Petersen (2007). *, **, *** denote two-tail significance levels of 0.1, 0.05, and 0.01, respectively. The sample spans 2000-2006.

	<i>Predicted Sign</i>	<i>Annual Forecasts Coefficient (t-stat)</i>	<i>Quarterly Forecasts Coefficient (t-stat)</i>
<i>INTERCEPT</i>	?	8.224 (141.580)***	8.281 (137.700)***
<i>SPECIFICITY</i>	?	0.027 (6.060)***	0.010 (2.140)**
<i>LOGASSET</i>	+	0.483 (74.400)***	0.478 (70.460)***
<i>LEVERAGE</i>	+	0.283 (7.700)***	0.275 (7.380)***
<i>GRSALE</i>	-	-0.072 (-5.930)***	-0.081 (-6.530)***
<i>ROA</i>	-	-0.275 (-7.970)***	-0.261 (-7.410)***
<i>LOSS</i>	+	0.082 (4.840)***	0.074 (4.320)***
<i>INVREC</i>	+	0.473 (7.670)***	0.491 (7.810)***
<i>SQSEG</i>	+	0.123 (14.570)***	0.120 (13.920)***
<i>FOREIGN</i>	+	0.242 (13.070)***	0.260 (13.860)***
<i>BIG4</i>	+	0.252 (9.400)***	0.252 (9.000)***
<i>BTM</i>	-	-0.084 (-5.670)***	-0.095 (-6.110)***
<i>SPECIAL</i>	+	0.092 (6.590)***	0.101 (7.160)***
<i>MERGER</i>	+	0.088 (6.620)***	0.081 (6.000)***

<i>ISSUE</i>	+	0.000 (0.000)***	0.001 (0.070)***
<i>QUALIFIED</i>	+	0.089 (7.790)***	0.104 (8.900)***
<i>DLIST</i>	+	0.034 (0.500)	0.070 (0.900)
<i>LITI</i>	+	0.018 (0.640)	0.008 (0.270)
<i>STDRET</i>	+	6.346 (12.950)***	6.201 (12.310)***
<i>BHAR</i>	-	0.010 (1.350)	0.011 (1.440)*
Number of observations		19,845	18,581
<i>Adjusted R²</i>		0.80	0.79

TABLE 6
Error and Bias in Management Earnings Forecasts and Audit Fees

This table reports the results of the regression of the log of audit fees (*LAUDITFEE*) on the error and bias in management earnings forecasts issued and other control variables. Columns 3 and 4 report the results of regressions using annual forecasts and columns 4 and 5 report the results using quarterly forecasts. *ERROR* equals the absolute value of the difference between the (management's) forecasted EPS and the actual reported EPS, deflated by stock price at the beginning of the year. *BIAS* equals the difference between the (management's) forecasted EPS and the actual reported EPS, deflated by stock price at the beginning of the year. If the company issued multiple earnings forecasts during a fiscal year, the last forecast is retained. *ERROR* and *BIAS* are calculated using period t-1 data whereas all other variables are calculated using period t data. The Appendix provides a complete listing of the variables. All regressions had year and industry (two digit SIC codes) dummies that are omitted for brevity. Standard errors are cluster-adjusted per Petersen (2007). *, **, *** denote two-tail significance levels of 0.1, 0.05, and 0.01, respectively. The sample spans 2000-2006.

	<i>Predicted Sign</i>	<i>Annual Forecasts</i>		<i>Quarterly Forecasts</i>	
		<i>ERROR Coefficient (t-stat)</i>	<i>BIAS Coefficient (t-stat)</i>	<i>ERROR Coefficient (t-stat)</i>	<i>BIAS Coefficient (t-stat)</i>
<i>INTERCEPT</i>	?	8.570 (35.050)***	8.562 (35.230)***	8.586 (40.950)***	8.588 (40.980)***
<i>ERROR</i>	+	4.488 (2.600)***		1.086 (0.560)	
<i>BIAS</i>	+		4.858 (3.630)***		1.578 (0.680)
<i>HORIZON</i>	+	0.000 (-2.630)***	0.000 (-2.470)***	0.000 (-1.330)	0.000 (-1.300)***
<i>LOGASSET</i>	+	0.521 (27.800)***	0.519 (27.830)***	0.501 (34.130)***	0.501 (34.270)***
<i>SQSEG</i>	+	0.135 (5.700)***	0.134 (5.640)***	0.135 (7.410)***	0.134 (7.390)
<i>LEVERAGE</i>	+	0.438 (3.340)***	0.446 (3.420)***	0.488 (5.060)***	0.490 (5.060)***
<i>FOREIGN</i>	+	0.287 (5.460)***	0.289 (5.520)***	0.257 (6.130)***	0.257 (6.160)**
<i>BTM</i>	-	-0.030 (-0.370)	-0.021 (-0.270)	-0.078 (-1.750)*	-0.077 (-1.730)***
<i>SPECIAL</i>	+	-0.157 (-1.460)	-0.173 (-1.590)	-0.042 (-0.350)	-0.042 (-0.360)***
<i>ROA</i>	+	0.024 (0.070)	-0.065 (-0.200)	-0.307 (-2.170)**	-0.325 (-2.330)***
<i>LOSS</i>	+	-0.031 (-0.410)	-0.043 (-0.580)	0.040 (0.850)	0.040 (0.840)
<i>BIG4</i>	+	0.152 (1.560)	0.161 (1.670)*	0.009 (0.100)	0.009 (0.090)
<i>INVREC</i>	+	0.147 (0.890)	0.129 (0.790)	0.587 (4.200)***	0.583 (4.170)

<i>GRSALE</i>	-	-0.157 (-1.720)*	-0.150 (-1.650)*	-0.163 (-2.260)**	-0.162 (-2.270)***
<i>QUALIFIED</i>	+	0.074 (1.870)*	0.078 (1.990)**	0.092 (2.980)***	0.093 (2.980)***
<i>MERGER</i>	+	0.011 (0.280)	0.014 (0.350)	0.024 (0.690)	0.024 (0.690)
<i>ISSUE</i>	+	-0.052 (-0.790)	-0.059 (-0.870)	0.037 0.550	0.035 (0.530)
<i>DLIST*</i>	+			0.152 (0.640)	0.157 (0.710)
<i>LITI</i>	+	0.029 (0.380)	0.026 (0.330)	-0.033 (-0.560)	-0.033 (-0.560)
<i>STDRET</i>	+	8.895 (4.070)***	10.189 (4.700)***	6.480 (4.010)***	6.592 (4.100)***
<i>BHAR</i>	-	-0.025 (-0.620)	-0.040 (-0.970)	0.026 (0.960)	0.027 (0.980)
Number of observations		1,391	1,391	2,014	2,014
<i>Adjusted R²</i>		0.81	0.81	0.80	0.80

**DLIST* was 1 for all observations using annual forecasts.