

DETERMINANTS AND CONSEQUENCES OF AUDITOR CONSERVATISM

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Key Words: Auditor conservatism, Determinants of auditor conservatism, Consequences of auditor conservatism, Auditor conservatism measures

JEL Classifications: M42

Abstract

Lu and Sapra (2009) provide a theoretical framework to investigate the causes and effects of auditor conservatism. They refer to the attestation of an auditor who, when in doubt, disapproves a favorable client report as auditor conservatism. In this paper I examine several factors that affect auditor conservatism. The majority of the extant research in this area uses accounting conservatism measures, such as the level of discretionary accruals or the Basu (1997) model to measure auditor conservatism. In this paper I use a new measure of auditor conservatism based on issuing an adverse internal control report for clients with no financial statements restatements, and I examine the effect of client's business risk, litigation risk, and client pressure on auditor conservatism. In addition, I examine the effect auditor conservatism has on information risk and audit fees. Data are collected over the period of 2004 to 2012, from Audit Analytics, Compustat, the Stanford Securities Class Action Clearinghouse website, and CRSP. The results show that auditor conservatism is positively affected by client business risk and the litigation

risk, and negatively affected by client pressure. In addition, the results show that auditor conservatism reduces the information asymmetry and leads to an increase in audit fees.

INTRODUCTION

Auditor conservatism is a subject of several studies. In this paper, I examine determinants and consequences of auditor conservatism. Most articles addressing auditor conservatism utilize measures that are not unique to auditor conservatism such as Basu's (1997) model or discretionary accruals; that is, they use measures of accounting conservatism or audit quality, neglecting the fact that there is a difference between accounting conservatism, audit quality and auditor conservatism.

Basu (1997) defines accounting conservatism as "reflecting bad news more quickly than good news."¹ Lu and Sapa (2009) differentiate between audit quality and audit conservatism. They define audit quality as "the probability that an auditor will detect misstatements in financial statements." On the other hand, they define auditor conservatism as "... the attestation of an auditor who, when in doubt, disapproves a favorable client report."

In this article, I use a measure that is consistent with Lu and Sapa's (2009) definition, in which the auditor prefers to commit a Type I error and be inefficient, rather than committing a Type II error and be ineffective. Feldmann and Read (2010) describe the case of issuing an unqualified opinion to a firm that subsequently files for bankruptcy as a Type II error. My measure of a Type I error is issuing an adverse report on the internal control over financial reporting for firms that do not have financial statements restatement. The logic behind using this model is explained in greater detail in the literature review and hypotheses development section under the heading, "measures of auditor conservatism."

¹ Watts (2003) defines accounting conservatism as the differential verifiability required for recognition of profits versus losses.

Data are collected from Compustat, CRSP, Audit Analytics, and the Stanford Securities Class Action Clearinghouse website over the period of 2004 to 2012. I examine whether client business risk, client pressure, and litigation risk affect auditor conservatism, and whether auditor conservatism affects the risk of information asymmetry and audit fees. The Lu and Sapa (2009) model provides a theoretical explanation for a positive relationship between client business risk and auditor conservatism. In this paper I provide empirical evidence for the positive association between these two variables.

DeAngelo (1981) indicates that the value of an audit does not depend only on the auditor's ability to discover errors, but also on his/her ability to withstand the client's pressure against the disclosure these errors. Several articles address the effect of client pressure on audit quality, audit opinion, auditor desire to avoid litigation, and auditor independence.

The authors use several measures to proxy for the client pressure, including the proportion of total local office revenue received from a client, non-audit fees, and the ratio of non-audit fees to total audit fees (e.g., Reynolds and Francis, 2001; Li, 2009; Craswell, 1999). Lu and Sapa (2009) indicate that the effect of client pressure on audit quality depends on the level of auditor conservatism. If the auditor is conservative, client pressure leads to improved audit quality. On the other hand if the auditor is aggressive, client pressure impairs audit quality. In this article, I provide evidence on whether client pressure affects auditor conservatism.

The last determinant of auditor conservatism I examine is the litigation risk. DeFond and Subramanyam (1998) find a positive association between litigation risk and auditor conservatism, measured by the level of discretionary accrual. Using data from the Stanford Securities Class Action Clearinghouse website and following Houston et al. (2010) in estimating the litigation risk, I examine its effect on auditor conservatism.

It is known from auditing literature that audits reduce information risk (Arens et al., 2014). Clinch et al. (2012) find that

higher quality audits result in lower information asymmetry between traders. I hypothesize that auditor conservatism lowers the level of materiality, increases the amount of evidence collection and, eventually, provides higher audit quality and better disclosure, which are noticed and relied on by the market participants. This leads to a decrease in information asymmetry risk. In the meantime, lowering levels of materiality and collecting more evidence leads to exerting more effort and charging more fees. Therefore, I hypothesize that there is a positive association between auditor conservatism and audit fees.

The results of the Logit regression models provide support for my hypotheses; they show that the auditor conservatism has a positive and significant association with client business risk, a client pressure, and the auditor litigation risk. The results are significant whether or not we control for size, profitability, growth, and leverage. Also, the results provide significant evidence on the negative association between the auditor conservatism and information asymmetry. Finally, the results support my hypothesis of the positive relationship between auditor conservatism and audit fees.

The remainder of the paper is structured as follows: the second section contains the literature review and hypotheses development. In the third section, I present the sample, the models, and methods. The final section includes the results and conclusions. Following the references are two appendices: the first presents a list of variables with their definitions; the second presents the estimation of litigation risk following Houston et al. (2010).

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Auditor conservatism is addressed in different ways in prior research. Cahan and Zhang (2006) examine whether successor auditors required more conservative accounting from ex-Andersen clients after Andersen's demise. The authors use unadjusted and performance-adjusted measures of abnormal accruals to examine the level and changes of ex-Andersen clients in comparison with a

control group of non-Andersen clients. Patterson and Smith (2003) study, in a game-theoretic model, how uncertainty about materiality threshold affects the auditor's evaluation of audit evidence and a manager's choice of earnings. They find that when the expected cost of audit failure is large, relative to the expected cost of rejection that includes extending the audit procedures and the resulting loss of a client, an increase in materiality uncertainty results in a more conservative auditor evaluation of the audit evidence and a decrease in the amount of intentional overstatement. They explain that uncertainty about materiality arises from the judgmental nature of the materiality. That is, while the managers and auditors have expectations about the materiality levels, the actual materiality level depends on qualitative factors such as the quality of accounting estimates.

Kim et al. (2003) define auditor conservatism as “preference for income-decreasing accounting choices.” Francis and Krishnan (1999) are more precise as they address auditor reporting conservatism defining it as the higher likelihood of issuing a modified opinion for high accruals firms. They describe auditor conservatism as a compensation for the auditor's inability to assess the accuracy of reported accruals, as well as the potential effect that accruals may have on asset realization and going-concern problems.

In addition, they find that high-accrual firms are more likely to receive a modified opinion for assets realization uncertainty and for going-concern. However, their results are significant only for Big N firms. Lai (2009) also uses the term auditor reporting conservatism but uses accruals to measure it. Lai differentiates between auditor independence and conservatism. He uses DeAngelo's (1981) definition of independence as “the likelihood that auditors report detected material misstatements in audited financial statements,” on the other hand; conservatism affects the materiality threshold to define what constitutes material errors. In other words, conservatism influences the finding of material errors, but independence is the reporting of those errors as determined by conservatism. Thus, conservative auditors will adopt a lower

materiality threshold to define what constitutes material errors, but they may not report the detected errors because of various forces that induce them to remain silent (e.g., fear of losing clients). Lee et al. (2006) refer to a potential conflict between accuracy and conservatism, since conservatism implies a directional bias. They examine the accuracy of financial forecasts in Australian IPO and the level of optimistically biased financial forecasts, and find that Big 6 firms are more conservative.

Measures of Auditor Conservatism:

Lu and Sapa (2009) argue that prior research provides little evidence on the determinants and consequences of auditor conservatism. Therefore, they develop a framework that investigates the causes and effects of auditor conservatism and the implication of the increased auditor conservatism after the Sarbanes Oxley Act of 2002 (SOX). Lu and Sapa define auditor conservatism as the case when "... the attestation of an auditor who, when in doubt, disapproves a favorable client report." On the other hand, they describe auditor aggressiveness as "the attestation of an auditor who, when in doubt, approves a favorable client report." They indicate that their definition of auditor conservatism is consistent with that used in the auditing profession. When in doubt, a conservative auditor requires her client to make a downward adjustment to the financial statements or else she will issue a qualified or adverse opinion. If the auditor knows her client's financial condition without doubt, a request for a downward adjustment is viewed as a "correction," not as "conservatism."

Antle and Nalebuff (1991) study auditor conservatism during the client-auditor negotiation process. They address auditor conservatism as different construct from accounting conservatism. In accounting, conservatism leads to anticipating no profit; however all losses are anticipated. Antle and Nalebuff indicate that auditor conservatism emerges in the process of negotiation with the client. Intuitively, the auditor requests restatements of overstatements. However, the client tries to negotiate that, and

will not point out other overstatements unnoticed by the auditor. The final result is that the auditor's initially conservative stance does not necessarily lead to conservative final report. The authors suggest that the initial stance of the auditor during an auditor-client negotiation may appear conservative; however, the management may make the adjustments related to understatements more than those of overstatements. Therefore, they demonstrate that the expected ex-post bias is always upward.

Feldmann and Read (2010) study auditor conservatism after Enron to find whether auditor conservatism—measured by the propensity to issue a going-concern opinion—continues to be high after several years of SOX. They describe the case of issuing an unqualified opinion to a firm that subsequently filed for bankruptcy as a Type II error and examine whether the reported decrease of Type II errors in the 2002-2003 period continued in subsequent timeframes. Their conclusion is that the probability of this type of error returns to pre-Enron levels. Using the same measure of auditor conservatism, propensity to issue a going-concern opinion, Fargher and Jiang (2008) also examine auditor conservatism around the SOX period and find that auditor conservatism increased but not beyond the year 2003. Kirshnan (1994) explains that while conservatism refers to a number of accounting and auditing issues, the overall conservatism of the auditor is assumed to be reflected in the tendency to issue a qualified opinion. He examines whether auditor switching is triggered not by issuing a qualified opinion, but rather by the auditor's use of conservative measures in interpreting accounting and auditing issues.

Cahan and Zhang (2006) study whether auditors are more conservative with ex-Andersen clients. They use abnormal accruals as a measure of auditor conservatism. In their article, they indicate that the literature on auditor conservatism considers accrual choices (and accounting choices more generally) as being jointly affected by the client's and auditor's preferences.

In this paper, I use an auditor conservatism indicator that isolates and measures the auditor's preference and decision. This

is because accounting conservatism and auditor conservatism are two different concepts and it is not appropriate to use the same measure for both of them. In accounting, conservatism refers to reflecting bad news more quickly than good news (Basu, 1997). In auditing, however, conservatism relates to the auditor's behavior. That is, auditor's tendency to be more effective than efficient, i.e., preferring to commit a Type I than a Type II error. Type I error here happens when an auditor rejects the hypothesis that there is no deficiencies in internal control, and as a result she lowers the level of materiality and increases the audit efforts. While Type II error happens when she accepts that the internal control is effective while it is not. The studies that use the Basu (1997)² accounting conservatism measure or discretionary accruals to proxy for auditor conservatism (e.g., Herrmann et al., 2008; and Cahan and Zhang 2006, respectively) ignore the role that management plays in affecting the level of conservatism in the financial statements.

To explain this point further, consider a scenario where management is conservative and the auditor is not. The financial statement will still show conservatism, since it is unlikely that an auditor will ask management to be less conservative. In this scenario, the financial statement will show a high level of conservatism, even though the auditor might have been aggressive in conducting the audit. Therefore, in this article I introduce a new measure of auditor conservatism, which is based on auditor preference of committing a Type I over a Type II error as explained above. I operationalize this measure by a dummy variable that equals one if the auditor gives a negative internal control report, for a firm that does not have financial statements restatements within a three-year period of the negative internal control report. Issuing a negative internal control report means that the auditor's assessment of the control risk is high. This in turn leads to an increase in the planned detection risk, a decrease in the

² The Basu (1997) model is a reverse regression model, where the earnings amount is regressed on a dummy for a negative stock return and stock return and their interaction. A positive coefficient on the interaction means that earnings are more sensitive to bad news than good news.

level of materiality, and an increase in the extent of evidence collection and audit, according to the audit planning model. Also, similar to issuing a going-concern report, an adverse report on internal control may negatively affect the relationship with the client and increase the auditor's business risk of losing a client, especially if the financial statements are fairly stated.

Determinants of Auditor Conservatism:

Client Business Risk. Prior auditing research addresses the association of client business risk with audit fees, audit specialization, and audit reporting. Koh and Tong (2013) investigate the effects of clients' involvement in controversial corporate activities on audit pricing. They hypothesize and find that audit fees increase for clients involved in controversial activities relating to customers, employees, the community and the environment. They also find that clients involved in such activities report higher abnormal accruals, and are more likely to receive going-concern opinion. Also regarding the association between client business risk and audit fees, Stanley (2011) provides evidence that audit fees disclosure is an indicator of future client operating performance. He indicates that client business risk, i.e., the risk that the client's business condition will deteriorate in the future, is a critical risk assessed by the auditor because it affects the audit risk.

Bruynseels et al. (2011) investigate whether auditor industry specialization or an increased focus on business risk auditing methodologies improve audit-reporting accuracy. They find that specialist auditors are more likely than non-specialist auditors to issue a going-concern opinion when management undertakes strategic initiatives in response to financial distress. On the other hand, they find that auditors who use a business risk methodology are, to a large extent, less likely to issue a going-concern opinion for a firm that subsequently goes bankrupt when a client undertakes operating initiatives in response to financial distress. Bruynseels et al. explain that under the business risk approach, the auditor investigates whether the client's strategic

objectives are being met in order to assess the client's business environment and risk, then use this assessment in audit planning. Hogan and Martin (2009) focus on the audit client portfolio risk of "second tier" audit firms. They find that recently these firms are accepting clients with potentially increased audit and business risk, but they are also shedding the same kind of clients.

Except for Lu and Sapra's (2009) theoretical evidence, to the best of our knowledge, this will be the first paper to empirically address the association between client business risk and auditor conservatism, and to provide evidence on it. Based on Lu and Sapra's conclusions, I expect that auditors are more conservative with high risk clients.

H1: The higher the business risk the higher the level of auditor conservatism.

Client Pressure. DeAngelo (1981) indicates that the ex-ante value of an audit to the users of the audit services depends on the auditor's perceived ability to discover errors or breaches in the accounting systems, and to withstand the client's pressure to disclose selectively in the event that a breach is discovered. Several articles discuss the association between client pressure, or fee dependency, and the ability of the auditor to issue unbiased reports. Reynolds and Francis (2001) find that Big 5 auditors do not report more conservatively on their large clients, however, they do not report more favorably either.

Legislatively, SOX section 201 prohibits auditors of public companies from providing many other non-audit services because of the perception that offering other non-audit service can present pressure on auditors that may lead to independence impairment. Li (2009) examines whether there is an association between the importance of a client and the desire of an auditor to be protected against litigations and negative reputation effects, measured by the propensity to issue a going-concern opinion. Also, he examines whether auditors are less lenient towards influential clients after SOX. Li measures the importance of a client as the proportion of total local office revenue received from this client. He does not

find a significant association between audit fees and the going-concern opinions before SOX. However, there is a positive association between these two variables after SOX. Kao et al. (2014) revisit the Li's (2009) results and find that the rise of auditor conservatism after SOX shown by Li is likely to be a temporary reaction to the public scrutiny surrounding the passage of SOX. Measuring auditor independence by the propensity to issue going-concern opinions, DeFond et al. (2002) do not find an association between non-audit fees and impaired auditor independence. They explain that their results indicate that the reputation loss and litigation cost outweigh the economic benefits expected from compromising auditor independence.

Craswell (1999) finds no association between the ratio of non-audit fees to total fees, a measure of fee dependence, and the issuance of qualified opinions for a sample of Australian firms. Similarly, Craswell et al. (2002) do not find that the level of auditor fee dependence affects auditor propensity to issue unqualified audit opinions. On the other hand, Habib (2012) uses a meta-analysis approach of the literature related to the association between audit quality and the level of non-audit fees. The results suggest that the level of client-specific non-audit fees is associated with reduced financial reporting quality.

On the association between fee dependency and auditor conservatism, Ruddock et al. (2006) use the Basu (1997) model on a sample of Australian firms and do not find that non-audit fees are associated with reduced accounting conservatism. Commenting on their research, Francis (2006) shows skepticism that their results can be generalized directly on the U.S. market. However, he indicates that the study provides evidence on the issue in a country with common law institutions similar to those in the U.K. and the U.S.

In a non-common law setting, Liao et al. (2013) focus on the Taiwanese market, an emerging market, where the litigation risk for the auditor is relatively low, and examine the effect of the provision of non-audit fees, or fee dependence, on an auditor's tendency towards conservatism. They also use the Basu (1997)

measure for conservatism and find negative association between the two variables.

This review of the literature shows that the evidence on the effect of client pressure on audit quality, auditor independence or conservatism is mixed. These mixed results lead me to reexamine the association between client pressure, measured by the level of non-audit fees, and auditor conservatism. I postulate the following hypothesis:

H2: The higher the non-audit fees, the lower the level of conservatism.

Litigation Risk. Articles on litigation risk address the association between litigation risk and auditor characteristics, auditor size, client characteristics, and auditor conservatism. Chung et al. (2003) find that Big 6 firms require their clients to adopt more conservative accounting than non-Big 6 firms when the clients' financial performance is worse than expected. They use stock prices to measure the clients' performance. Also, on the Big N, Kim et al. (2003) argue that Big 6 auditors, in particular, have more incentive to constrain income-increasing abnormal accruals because they face higher potential litigation costs. Additionally, considering abnormal accruals, Heninger (2001) finds that the risk of auditor litigation is positively associated with income increasing abnormal accruals.

Similarly, DeFond and Subramanyam (1998) find that auditors are motivated to prefer conservative accounting choices when litigation risk is high. They indicate that when there is a high risk of litigation, a predecessor auditor becomes more conservative in terms of accounting choices and prefers income decreasing accruals. As a result, clients often switch to another auditor. DeFond and Subramanyam provide evidence that in the year before the switch, the accruals are at lower (most negative) levels.

Lys and Watts (1994) examine variables associated with bringing lawsuits against auditors. Relating lawsuits against auditors to auditor and client characteristics, Lys and Watts find that these lawsuits are more likely to be filed when clients are

larger, going through financial difficulties and poor stock price performance, and receive qualified audit reports if the reports indicate that auditor failed to discover a problem in previous year. They also find that these lawsuits are more likely to happen if the auditor employs an unstructured audit technology and if the client represents a relatively larger proportion of the auditor's revenues. The authors use Kinney's (1986) index to measure audit structure, which takes into consideration the use of statistical sampling, having formal means of integrating test results, having fewer audit staff per partner, and implementing structured internal control evaluation that leads to prescribed audit plan.

Herrmann et al. (2008) study the reporting conservatism during and after the Asian crisis using a sample from Thailand. They find that conservatism increased after the crisis and that Big 4 firms are more conservative especially during the crisis period. The authors use the Basu (1997) model to estimate conservatism. Basu (1997) explains that since the legal liability exposure of auditors and managers for tardy disclosure of "bad news" has increased significantly over the last three decades, conservatism reduces the auditors' liability disclosure, and as a result, auditors are expected to have increased the asymmetric timeliness of earnings in response to increases in their legal liability exposure.

Krishnan and Krishnan (1997) examine whether auditors respond to high levels of litigation risk by resigning. They find that variables such as client financial distress, variability in stock returns, a modified audit opinion, auditor independence and auditor tenure differentiate auditor resignations from auditor dismissals. Conservatism reduces auditors' liability exposure, and auditors are thus expected to have increased the asymmetric timeliness of earnings in response to exogenous increases in their legal liability exposure. Alternatively, it is possible that the courts enforce increased conservatism because contracting parties have increased their demand for conservatism.

In their article about auditor conservatism, asymmetric monitoring and earnings management, Kim et al. (2003) define auditor conservatism as the "auditors' preference of income-

decreasing accounting choices.” They argue that auditors' concerns over potential litigation costs motivate them to prefer conservative (or income-decreasing) accounting choices, which in turn creates auditors' incentives to monitor managers' income-increasing accrual choices more closely than income-decreasing accrual choices. Using a measure unique to auditor conservatism, I postulate a positive association between auditor conservatism and litigation risk.

H3: The higher the litigation risk, the higher the level of conservatism.

Consequences of Auditor Conservatism:

Information Asymmetry Risk. Clarkson et al. (2003) examine auditor conservatism by considering the amount of voluntary disclosure in company annual reports. They focus on the amount of information disclosed in the annual report on the Year 2000 remediation. This issue presented auditors with the difficult task of assessing whether clients' remediation programs were adequate, and whether they could convince possible litigants that they acted with due care. Clarkson et al. argue that one way auditors can avoid litigation is to encourage their clients to disclose more information about the threats they face from the Year 2000 systems issues and the steps they are undertaking to address them. They find that disclosure made by firms with the Big 6 auditors is greater than those with non-Big 6 auditors.

Employing three measures of information asymmetry -- absolute price differences, absolute volatility differences, and absolute differences in the long/short ratio of trades -- Clinch et al. (2012) measure the association between audit quality and information asymmetry between informed and uninformed traders. They focus on information asymmetry between investors in two connected markets – the stock and option markets – and investigate whether audit quality is linked to lower information asymmetry between informed and uninformed investors across these markets. Their conclusion is that higher quality audits (proxied by using Big N auditors and industry specialists) result in lower information

asymmetry between traders. Along the same lines, Choi and Lee's (2014) results suggest that Big 4 auditors choice mitigate information asymmetry between shareholders and managers. Also, Gul et al. (2013) find that firms with higher information asymmetry problems benefit more from Big N auditors in terms of lower cost of debt only in countries with stronger investor protection. They use three proxies to measure information asymmetry: firm size, firm age and number of analysts following. Using bid-ask spread as a measure of information asymmetry, I hypothesize that the higher the level of auditor conservatism, the lower the level of materiality, the larger the amount of evidence collected, the better disclosure, and, as a result, the lower the level of information asymmetry between investors and management.

H4: The higher the level of auditor conservatism the lower the level of information risk / asymmetry.

Audit Fees. Several articles address factors affecting the amount of audit fees (e.g., Zerni, 2012); others use audit fees as a proxy for effort (e.g., Blankley et al., 2012) or audit risk (e.g., Kannan et al., 2014). Thoman (1996) examines whether an auditor's increased legal exposure leads to an increase in efforts to find errors in the client's financial reports. He finds that an auditor can reduce his/her legal exposure by reporting more conservatively. Additionally, Thoman explains that an auditor faces two types of risks: audit risk and business risk. Audit risk occurs if the auditor proposes releasing financial statements that are overstated and as a result, gets sued. On the other hand, if he proposes a conservative report, the client may look for another auditor, and he incurs business risk. Facing stiff penalties, an auditor prefers to be more conservative even if it results in losing clients with overstated financial statements.

Therefore, reporting conservatively is an alternative to increasing the efforts in facing audit risk. Eshleman and Guo (2014) provide evidence that audit fees are associated with audit quality. Specifically, they find a negative relationship between abnormal audit fees and the level of discretionary accruals.

Blankley et al. (2012) investigate the association between audit fees and subsequent restatements following SOX; they find that abnormal audit fees, representing the level of service provided, are negatively associated with subsequent financial statement restatement.

I hypothesize that auditor conservatism leads to exercising more effort since, as indicated by Lu and Saprà (2009), conservatism is related to lowering the level of materiality, leading to more evidence collection, and more efforts as a result. Therefore, I postulate the following hypothesis:

H5: When auditor conservatism increases, audit fees increase as a result.

METHODS

Data

Data are first collected from the Compustat database over the period of 2003 to 2012. The original number of observations, after removing those with missing variables, is 64,721 observations. Data are then collected from CRSP, and after removing observations with missing variables and observations with prices less than one dollar, 45,085 CRSP observations are left. Compustat observations are then matched with market data from CRSP. After matching, 34,601 observations remain. The litigation data were obtained from the Stanford Securities Class Action Clearinghouse website. 931 firms were sued during this period.

The litigation data were merged with the data obtained from Compustat and CRSP. Data on internal control adverse opinions are obtained from Audit Analytics over the period of 2004 to 2012 and merged with the other data. To eliminate the outliers, I removed the upper and lower one percent, which left 22,498 observations. Then I removed observations that belong to financial institutions (firms with SIC codes between 6000 and 6999). As a result, the final sample size is 18,913 observations.

Models

To test the first three hypotheses, I use the following Logit regression model

$$\text{NICNOR (1/0)}_{it} = \alpha_0 + \alpha_1 \text{BETA}_{it} + \alpha_2 \text{NA_FEES}_{it} + \alpha_3 \text{LIT_RISK}_{it} + \alpha_4 \text{A_FEES}_{it} + \alpha_5 \text{SIZE}_{it} + \alpha_6 \text{ROA}_{it} + \alpha_7 \text{BKMK}_{it} + \alpha_8 \text{LEV}_{it} + \varepsilon_{it} \quad (1)$$

Where for firm i in year t , NICNOR (1-4) is a dummy variable that measures auditor conservatism. It is defined as an adverse opinion on the effectiveness of the internal control over financial reporting, not followed by financial statement restatement in the year of the report (or within 1, 2, or 3 years of the report). BETA is a measure of client business risk calculated using a market model by regressing value-weighted market returns on daily stock returns over the past three years. NA_FEES is the amount of non-audit fees in millions received by the auditor and is used to measure client pressure. LIT_RISK is a measure of litigation risk which is the probability of litigation as of the end of the most recent calendar year estimated using the Probit model following Houston et al. (2010) (see Appendix 2 for more details).

A_FEE is the audit fees in millions. SIZE is the firm size defined as the natural logarithm of the market value of equity as of the fiscal period end. ROA is the return on assets, defined as net income divided by total assets as of the fiscal period end. BKMK is the book-to-market ratio, to control for firm growth. It is defined as the book value of shareholders' equity divided by the market value of equity as of the fiscal period end. LEV is firm leverage, defined as total liabilities divided by shareholders' equity as of the fiscal period end. The first three variables are the variables of interest. Hypotheses one through three postulate a significant and positive coefficient on the first and third variable and a negative coefficient on the second.

To test the fourth hypothesis, I use the following model:

$$\text{INFO_RISK}_{it} = a_0 + a_1 \text{NICNOR}_{it} + a_2 \text{SIZE}_{it} + a_3 \text{VOLUME}_{it} + a_4 \text{VOLATILITY}_{it} + a_5 \text{RET}_{it} + a_6 \text{INDUSTRY}_{it} + e_{it}. \quad (2)$$

Where for firm i in year t , INFO_RISK is a measure of information asymmetry risk operationalized as bid-ask price spread. Bid-ask price spread is calculated, following Leuz (2003), as follows: $(\text{Ask_average} - \text{Bid_average}) / ((\text{Ask_average} + \text{Bid_average})/2)$. Where the average bid and ask prices are calculated over 100 days starting ninety days after the fiscal year end. Prior studies suggest that the spread is negatively associated with trading volume, firm size, market maker competition, and positively associated with price volatility and insider presence (e.g., Stoll, 1978; Chiang and Venkatesh, 1988; Glosten and Harris, 1988; Leuz, 2003). SIZE is the natural log of the market value of equity at the end of the fiscal year. VOLUME is stock trading volume over 300 days preceding year fiscal end. VOLATILITY is measured as the standard deviation of stock returns starting 300 days preceding fiscal year end. RET is stock return over the fiscal year, and the INDUSTRY is to control for the industry effect. Hypothesis four predicts a negative relationship between auditor conservatism and information risk. That is the higher the level of auditor conservatism the lower the information risk as measured by the bid-ask spread.

The fifth hypothesis postulates a positive association between auditor conservatism and the amount of audit effort exerted, measured by the amount of audit fees. Research by Carson et al. (2012) confirms that audit fee models are generally well specified, and explanatory models have adjusted R^2 s in the seventy to eighty percent range (e.g., Simon and Francis 1988). Following the above studies, I include control variables for size, complexity, financial health, governance structures, and auditor type. I control for size by including the natural log of total assets (LN_ASSETS). The client complexity is controlled by including the square root of the number of consolidated subsidiaries (SQRTSEGMENT), the existence of foreign subsidiaries (FOREIGN), and the existence of mergers or restructuring events, (MERGER) and (RESTRUCTURE). In addition to including return on assets (ROA), I use an indicator variable (LOSS) to

control for client financial health. LOSS is coded “1” if the client has experienced a loss (Compustat item 18) in two of the prior three years. And the percentage of shares held by institutional ownership (INSTITOWN), to control for the governance structure. Also, variables on whether the auditor is a Big 4 (BIG4) and whether the auditor was changed (AUD_CH) are included to control for auditors characteristics.

To test H5, I follow Hoitash et al. (2008) in determining the control variables and run the following regression:

$$\begin{aligned} \text{LN_AFEE}_{it} = & a_0 + a_1 \text{NICNOR}_{it} + a_2 \text{LN_ASSETS}_{it} + a_3 \\ & \text{STD_ROA}_{it} + a_4 \text{STD_SALES}_{it} + a_5 \text{STD_CFO}_{it} + a_6 \\ & \text{SQRTSEGMENT}_{it} + a_7 \text{FOREIGN}_{it} + a_8 \text{LOSS}_{it} + a_9 \text{INV}_{it} + a_{10} \\ & \text{REC}_{it} + a_{11} \text{NEW_FIN}_{it} + a_{12} \text{MERGER}_{it} + a_{13} \text{RESTRUCTURE}_{it} + \\ & a_{14} \text{INSTITOWN}_{it} + a_{15} \text{BIG } 4_{it} + a_{16} \text{AUD_CH}_{it} + a_{17} \text{RESTAT}_{it} + \\ & a_{18} \text{LITIGATION}_{it} + a_{19} \text{LN_NA_FEE}_{it} + a_{20} \text{INDUSTRY}_{it} + e_{it} \quad (3) \end{aligned}$$

In this model, for firm *i* in year *t*, LN_AFEE is the natural log of audit fees, NICNOR is the auditor conservatism as defined previously, LN_ASSETS is the natural log of total assets at the fiscal year end, STD_ROA is the standard deviation of ROA over the past five years, with a minimum of three years of data, STD_SALES is the standard deviation of sales over the past five years, with a minimum of three years of data, STD_CFO is the standard deviation of cash flows from operation over the past five years, with a minimum of three years of data, SQRTSEGMENT is the squared root of the number of business segments, FOREIGN is an indicator variable equal to one if the audit client has foreign operations and zero otherwise, LOSS is an indicator variable equal to one if there was a net loss in either of the last two years and zero otherwise, INV is the amount of inventory, REC is the amount of trade account receivables, NEW_FIN an indicator variable that equals one if the client issues long-term equity (Compustat #108) greater than five percent of beginning total assets and zero otherwise, MERGER is an indicator variable equal to one for a merger in the past two years and zero otherwise, RSTRUCTURE is an indicator variable equal to one if the client took a

restructuring charge and zero otherwise, INSTITOWN is percentage of shares held by institutional ownership, BIG 4 is a dummy variable that equals one when the auditor is a Big 4 firm and zero otherwise, AUDCHANG is equal to one if the company changed auditors from the previous year and zero otherwise, RESTAT is an indicator variable that is equal to one if the company disclosed a restatement of previously reported earnings during the current year and zero otherwise, LITIGATION equals one if the company operates in a high-litigation industry and zero otherwise. Following Ashbaugh-Skaife, et al. (2009) I define high-litigation industries as those with SIC codes of 2833–2836, 3570–3577, 3600–3674, 5200–5961, and 7370, LN_NA_FEE is the natural logarithm of the sum of fees for non-audit services paid to the auditor, Industry is controlled by using a four digit SIC code.

RESULTS

Table 1 shows the descriptive statistics of the sample. On average, the market value of a firm is \$2 billion. The firm net sales amount is \$1.9 billion with total assets of \$2.1 billion. Even though the net income on average is positive at \$89.42 million, and only 28% of the firms incurred losses; average ROA is negative at -\$0.84, which indicates that smaller companies in this sample are making larger losses relative to their investments. Most of the firms in the sample are audited by one of the Big 4 firms. On average, firms in this sample rely more on debt financing relative to equity financing as the debt-to-equity ratio is 55.41%.

TABLE 1
Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
BETA	18913	1.06	0.55	-0.35	2.70
AUDIT_FEES	18913	1,535,778	2,098,382	13,325	21,313,700
N-AUDIT-FEES	18913	337,100	653,241	0	6,600,000

TOTAL_FEES	18913	1,872,878	2,574,096	15,825	24,792,000
LIT_RISK	18913	0.02	0.02	-0.07	0.17
MKVAL	18913	1,994.39	4,485.95	1.62	44,770.01
ROA	18913	-0.84	24.37	-1,233.10	38.22
MKBK	18913	2.91	4.28	-42.69	58.54
INSTIT	18913	51.81	40.48	-3.00	154.00
LEV	18913	1.21	2.06	-14.23	27.61
ASK	18913	21.72	19.17	1.22	105.99
BID	18913	21.67	19.16	1.17	105.83
SPREAD	18913	0.01	0.01	0.00	0.27
STD_RET	18913	0.03	0.01	0.01	0.10
CUM_RET	18913	0.24	0.48	-1.13	2.04
MIN_RET	18913	-0.13	0.07	-0.43	-0.03
TURNOVER	18913	728,450	1,359,413	874	12,753,631
RET	18913	0.00	0.02	-0.07	0.12
AT	18913	2,118.42	5,229.13	0.98	67,801.00
SALE	18913	1,911.00	5,807.37	-7.24	125,095.00
CFO	18913	201.18	549.68	-3,703.00	9,408.00
INVT	18913	176.52	596.43	0.00	12,366.00
RECT	18913	228.98	695.92	0.00	24,310.30
INVREC	18913	0.24	0.19	0.00	0.96
NEW_FIN	18913	32.22	109.08	-64.19	2,829.66

NI	18913	89.42	363.07	-11,673.40	5,944.00
DTEQ	18913	55.41	125.73	-767.76	1,430.38
TL	18913	1,272.83	3,484.17	0.17	42,245.00

Number of Observations where NICNOR1 = 1	1761
Number of Observations where NICNOR2 = 1	1859
Number of Observations where NICNOR3 = 1	1844
Number of Observations where NICNOR4 = 1	1839

Please see Appendix 1 for definition of variables.

Table 2 shows the Pearson correlation on the upper and right hand side and the Spearman correlation on the lower and left side. The correlation results provide support for H1, H3, H4, and H5. That is, there is a significant and positive correlation between NICNOR (1-4) and Beta, Litigation Risk, the Spread, and Audit Fees. On the other hand, the results in Table 2 do not show the expected negative correlation between NICNOR (1-4) and non-audit fees. The results are all insignificant, whether under the Person or Spearman correlation.

Tables 3 to 6 show the results of the Logit regression analysis for hypotheses 1 to 3. The results support all of the three hypotheses. Each of the coefficients on the independent variable—Beta, Non-Audit Fees, and Litigation Risk—are all highly significant and in the predicted directions, whether they are regressed on the conservatism measure individually or with the other two variables. These results provide support for H1 through H3, which basically indicate that auditors act more conservatively in audit engagements where the client business risk is high and where the litigation risk is high. One the other hand, when client

pressure, measured by the amount of non-audit fees, is high, auditors act in a less conservative way.

TABLE 2
Correlations

	Spread	BIG4	AU_CH	RET	ADJVO	BETA	NICOR1	NICOR2	NICOR3	NICOR4	LET_RISK	RESTAT	LN_AFEE	LN_NAFEE
Spread	1	-0.37262	0.06337	0.11872	-0.19304	-0.38624	-0.03215	-0.03417	-0.03431	-0.03444	-0.12343	0.00106	-0.44313	-0.29001
		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	0.8846	<.0001	<.0001
BIG4	-0.45861	1	-0.10909	-0.08379	0.20472	0.27047	0.0108	0.00901	0.01396	0.01596	0.16899	-0.01719	0.51699	0.35425
	<.0001		<.0001	<.0001	<.0001	<.0001	0.1376	0.2152	0.055	0.0282	<.0001	0.0181	<.0001	<.0001
AU_CH	0.07291	-0.10909	1	0.00247	-0.02688	-0.02654	0.018	0.01819	0.01119	0.01109	-0.02306	0.02827	-0.05737	-0.06063
	<.0001	<.0001		0.7338	0.0002	0.0003	0.0133	0.0124	0.124	0.1272	0.0015	0.0001	<.0001	<.0001
RET	0.142	-0.07245	0.00483	1	0.01227	-0.12169	-0.01392	-0.01757	-0.01222	-0.01217	0.02486	-0.00778	-0.09038	-0.04837
	<.0001	<.0001	0.5061		0.0916	<.0001	0.0556	0.0157	0.0929	0.0942	0.0006	0.2844	<.0001	<.0001
ADJVOL	-0.68919	0.39824	-0.05158	-0.03961	1	0.17265	-0.0195	-0.02238	-0.02099	-0.02068	0.34575	-0.00907	0.39496	0.28261
	<.0001	<.0001	<.0001	<.0001		<.0001	0.0073	0.0021	0.0039	0.0045	<.0001	0.2125	<.0001	<.0001
BETA	-0.36955	0.26847	-0.02555	-0.13748	0.41219	1	0.06028	0.0627	0.06325	0.06123	0.15625	0.0082	0.29814	0.1533
	<.0001	<.0001	0.0004	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	0.2592	<.0001	<.0001
NICOR1	0.03595	0.0108	0.018	-0.01014	0.01118	0.05765	1	0.91255	0.86521	0.86422	0.03433	0.16015	0.08952	0.00404
	<.0001	0.1376	0.0133	0.1631	0.124	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	0.6003
NICOR2	0.04164	0.00901	0.01819	-0.01297	0.01421	0.05952	0.91255	1	0.9495	0.93935	0.04529	0.18198	0.09566	0.00747
	<.0001	0.2152	0.0124	0.0746	0.0506	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	0.3331
NICOR3	0.04035	0.01396	0.01119	-0.00805	0.01646	0.0599	0.86521	0.9495	1	0.98521	0.04787	0.1885	0.10083	0.00905
	<.0001	0.055	0.124	0.268	0.0236	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	0.2408
NICOR4	0.04008	0.01596	0.01109	-0.00733	0.01648	0.05786	0.86422	0.93935	0.98521	1	0.04819	0.19262	0.10411	0.0094
	<.0001	0.0282	0.1272	0.3138	0.0234	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	0.2227
LET_RISK	-0.28236	0.19124	-0.0214	0.00523	0.41788	0.16427	0.02549	0.03351	0.03552	0.03564	1	0.00715	0.28625	0.17541
	<.0001	<.0001	0.0033	0.4723	<.0001	<.0001	0.0005	<.0001	<.0001	<.0001		0.3252	<.0001	<.0001
RESTAT	0.04413	-0.01719	0.02827	-0.00322	-0.0086	0.0089	0.16015	0.18198	0.1885	0.19262	-0.00079	1	0.02573	-0.00219
	<.0001	0.0181	0.0001	0.6579	0.2372	0.2209	<.0001	<.0001	<.0001	<.0001	0.9139		0.0004	0.7765
LN_AFEE	-0.65098	0.50408	-0.06288	-0.07913	0.60588	0.29549	0.09321	0.09991	0.10541	0.10865	0.33007	0.02866	1	0.60018
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
LN_NAFEE	-0.47514	0.37258	-0.06182	-0.02849	0.42714	0.15767	0.00792	0.01228	0.01387	0.01466	0.22269	-0.00115	0.62028	1
	<.0001	<.0001	<.0001	0.0002	<.0001	<.0001	0.3045	0.1115	0.0722	0.0573	<.0001	0.8819	<.0001	

Please see Appendix 1 for definition of variables.

TABLE 3
Regression Analysis of the Association between the
Conservatism Measure NICNOR1 and Business Risk, Audit
Fees, and Litigation Risk

Variables	Prediction		NICNOR1 (1)	NICNOR1 (2)	NICNOR1 (3)	NICNOR1 (4)
Intercept			-2.508 (-16.35)	-2.3876 (-16.65)	-0.9822 (-4.05)	-1.6029 (-6.26)
Beta	H1	+	0.6686 (10.61)			0.6224 (9.34)
NA_Fees	H2	-		-0.33888 (-4.33)		-0.3013 (-3.84)
LitRisk	H3	+			0.2055 (6.62)	0.1500 (4.72)
A_Fees			0.1670 (10.66)	0.1891 (10.36)	0.1392 (8.98)	0.2058 (11.00)
Size			-0.2606 (-9.12)	-0.1414 (-5.51)	-0.2162 (-8.01)	-0.2789 (-9.20)
ROA			-0.00016 (-0.12)	0.0009 (-0.73)	-0.0005 (-0.30)	0.0005 (0.31)
BKMK			-0.00077 (-0.09)	0.00347 (-0.40)	0.0025 (0.28)	0.0025 (0.29)
Lev			-0.00896 (-0.55)	-0.00457 (-0.27)	-0.0075 (-0.44)	-0.0087 (-0.52)
McFadden's Adjusted R ²			2.07	1.45	1.73	3.27
N			18913	18913	18913	18913

Please see Appendix 1 for definition of variables.

TABLE 4
Regression Analysis of the Association between the
Conservatism Measure NICNOR2 and Business Risk, Audit
Fees, and Litigation Risk

Variables	Prediction	NICNOR2 (1)	NICNOR2 (2)	NICNOR2 (3)	NICNOR2 (4)
Intercept		-2.3876 (16.26)	-2.2664 (-16.50)	-2.1888 (-16.08)	-2.4469 (-16.48)
Beta	H1 +	0.6909 (11.11)			0.6509 (10.32)
NA_Fees	H2 -		-0.3282 (-4.42)		-0.2903 (-3.90)
LitRisk	H3 +			8.2473 (6.22)	6.8228 (5.13)
A_Fees		0.1717 (11.42)	0.1927 (10.94)	0.1409 (9.45)	0.2075 (11.47)
Size		-0.2674 (-9.75)	-0.1481 (-6.02)	-0.1900 (-7.70)	-0.2662 (-9.49)
ROA		0.00005 (0.04)	-0.0007 (-0.60)	-0.0001 (-0.10)	0.0006 (0.42)
BKMK		0.0003 (0.03)	-0.0024 (-0.29)	0.0015 (0.18)	0.0025 (0.29)
Lev		-0.0053 (-0.34)	-0.0006 (-0.04)	-0.0020 (-0.12)	-0.0041 (-0.26)
McFadden's Adjusted R ²		2.85	1.54	1.72	3.42
N		18913	18913	18913	18913

Please see Appendix 1 for definition of variables.

TABLE 5
Regression Analysis of the Association between the
Conservatism Measure NICNOR3 and Business Risk, Audit
Fees, and Litigation Risk

Variables	Prediction	NICNOR3 (1)	NICNOR3 (2)	NICNOR3 (3)	NICNOR3 (4)
Intercept		-2.4225 (-16.47)	-2.2952 (-16.69)	-2.2172 (-16.28)	-2.4885 (-16.73)
BETA	H1 +	0.6961 (11.15)			0.6535 (10.32)
NA_FEES	H2 -		-0.3442 (-4.636)		-0.3071 (-4.11)
LIT_RISK	H3 +			8.5463 (6.45)	7.0885 (5.33)
A_FEES		0.1749 (11.92)	0.2005 (11.44)	0.1456 (9.93)	0.2153 (1195)
SIZE		-0.2677 (9.78)	-0.1482 (-6.01)	-0.1912 (-7.76)	-0.2655 (-9.49)
ROA		-0.0010 (-0.89)	-0.0016 (-1.52)	-0.0011 (-0.98)	-0.0006 (-0.48)
BKMK		0.0010 (0.12)	-0.0018 (-0.22)	0.0021 (0.25)	0.0031 (0.38)
LEV		-0.0002 (-0.0)	0.0053 (0.34)	0.0037 (0.23)	0.0012 (0.08)
McFadden's Adjusted R ²		3.03	1.73	1.91	3.66
N		18913	18913	18913	18913

Please see Appendix 1 for definition of variables.

TABLE 6
Regression Analysis of the Association between the
Conservatism Measure NICNOR4 and Business Risk, Audit
Fees, and Litigation Risk

Variables	Prediction	NICNOR4 (1)	NICNOR4 (2)	NICNOR4 (3)	NICNOR4 (4)
Intercept		-2.4009 (-16.30)	-2.2838 (-16.57)	-2.2030 (-16.13)	-2.4652 (-16.55)
Beta	H1 +	0.6784 (10.86)			0.6354 (10.03)
NA_Fees	H2 -		-0.3471 (-4.70)		-0.3113 (-4.20)
LitRisk	H3 +			8.5491 (6.45)	7.14 (5.37)
A_Fees		0.1815 (12.31)	0.2058 (11.81)	0.1504 (10.37)	0.2203 (12.30)
Size		-0.2684 (-9.78)	-0.1509 (-6.12)	-0.1946 (-7.87)	-0.2666 (-9.50)
ROA		-0.0002 (-0.16)	-0.0009 (-0.79)	-0.0003 (-0.26)	0.0003 (0.24)
BKMK		0.0001 (0.02)	-0.0026 (-0.31)	0.0014 (0.17)	0.0024 (0.29)
Lev		0.0017 (0.11)	0.0071 (0.45)	0.0054 (0.35)	0.0030 (0.20)
McFadden's Adjusted R ²		3.02	2.51	1.99	3.66
N		18913	18913	18913	18913

Please see Appendix 1 for definition of variables.

Table 7 shows the results of the regression analysis which demonstrates the effect of auditor conservatism on information risk. The results provide support to H4, which postulates that auditor conservatism reduces the amount of information asymmetry risk. The coefficients on NICNOR(1-4) are all negative and significant. The Adjusted R²s of the four models in Table 7 are all above 32%.

TABLE 7
Regression Analysis of the Association between the
Conservatism Measures NICNOR1-4 and Information Risk

Variables	Prediction	NICNOR1	NICNOR2	NICNOR3	NICNOR4
Intercept		0.0342 (70.08)	0.0343 (70.12)	0.0343 (70.10)	0.0343 (70.10)
NINCOR (1-4)	H4 -	-0.0023 (-6.656)	-0.0023 (-7.02)	-0.0023 (-6.93)	-0.0022 (-6.82)
Size		-0.0044 (-80.03)	-0.0044 (-80.05)	-0.0044 (-80.04)	-0.0044 (-80.40)
AdjVol		0.0016 (18.19)	0.0016 (18.18)	0.0016 (18.18)	0.0016 (18.19)
Stand		-0.0383 (-6.57)	-0.0384 (-6.58)	-0.0383 (-6.58)	-0.0386 (-6.62)
Ret		0.0152 (5.11)	0.0151 (5.09)	0.0152 (5.13)	0.0153 (5.13)
Ind		-0.0096 (-2.72)	-0.0095 (-2.70)	-0.0094 (-2.66)	-0.0094 (-2.67)
Adj R ²		32.81	32.83	32.82	32.82
N		18913	18913	18913	18913

Please see Appendix 1 for definition of variables.

Table 8 shows the results related to H5 that postulates a positive relationship between auditor conservatism and the amount of effort exerted in the engagement, measured by the amount of audit fees. The coefficients on NICNOR(1-4) are all positive and significant, indicating that auditors exert more effort in collecting evidence, and as a results charge more fees, when they are more conservative. The Adjusted R²s in all four models in Table 8 are very high which is common in models where audit fees are the dependent variable, as they are well specified models (Carson et al., 2012).

TABLE 8
Regression Analysis of the Association between the
Conservatism Measures NICNOR1-4 and Audit Fees

Variables	Prediction	NICNOR1	NICNOR2	NICNOR3	NICNOR4
Intercept		0.1626 (5.96)	0.1671 (6.11)	0.1697 (6.20)	0.1712 (6.25)
NICNOR	H5 +	0.0600 (7.88)	0.0603 (8.19)	0.0630 (8.38)	0.0633 (8.54)
SIZE		0.0052 (3.18)	0.0525 (3.21)	0.0053 (3.25)	0.0054 (3.28)
STD_ROA		-0.3776 (-1.92)	-0.3960 (-2.02)	-0.3984 (-2.03)	-0.3970 (-2.02)
STD_SALE		0.0396 (1.82)	0.0395 (1.81)	0.0389 (1.79)	0.0398 (1.78)
STD_CFO		0.0362 (0.27)	0.0409 (0.31)	0.0429 (0.32)	0.0433 (0.33)
SEGNUM		0.0077 (7.75)	0.0079 (7.84)	0.0080 (7.92)	0.0080 (7.93)

FCA	-0.0067 (-1.97)	-0.0065 (-1.93)	0.0064 (-1.89)	-0.0065 (1.90)
LOSS	0.0226 (6.15)	0.0224 (6.09)	0.0223 (6.07)	0.0224 (6.08)
INV	-0.0575 (-1.67)	-0.569 (-1.65)	0.0566 (-1.64)	-0.0565 (-1.64)
REC	0.0618 (2.10)	0.0628 (2.13)	0.0632 (2.14)	0.0635 (2.15)
NEW_FIN	-0.0284 (-6.85)	-0.0285 (-6.88)	-0.028 (-6.90)	-0.0288 (-6.93)
Merger	-0.163 (-3.30)	-0.0161 (-3.26)	-0.0157 (-3.19)	-0.0156 (-3.17)
RESTRUCTRE	0.01207 (3.20)	0.0121 (3.21)	0.0121 (3.21)	0.0122 (3.22)
INSTITUT	0.0002 (4.66)	0.0002 (4.72)	0.0002 (4.71)	0.0002 (4.71)
BIG 4	-0.0076 (-1.69)	-0.0073 (-1.63)	-0.0073 (-1.64)	-0.0073 (-1.64)
AU_CH	0.0425 (4.58)	0.0424 (4.58)	0.0429 (4.63)	0.0429 (4.63)
RESTAT	0.0014 (0.24)	0.0002 (0.03)	-0.0003 (-0.05)	-0.0006 (-0.11)
LIT	-0.0006 (-0.50)	0.0012 (-0.15)	-0.0017 (-0.14)	-0.0018 (-0.14)
LN_NA_FEE	0.9718 (399.59)	0.9714 (398.63)	0.9712 (398.11)	0.9711 (397.90)

Adj R ^{2*}	96.61	96.61	96.62	96.62
N	18913	18913	18913	18913

Please see Appendix 1 for definition of variables.

*Adjusted R² is high mainly because of the very high correlation between LN_NA_FEE and LN_AFEE. When LN_NA_FEE is removed from the model, the Adjusted R² is 68.00%, 68.14%, 68.22%, and 68.26%, respectively.

CONCLUSIONS

Most of the prior research uses accounting conservatism and auditing quality measures to proxy for auditor conservatism. Using a unique measure for auditor conservatism, I extend the literature, especially Lu and Sapra's (2009) theoretical model and examine the determinants and consequences of auditor conservatism. For the determinants of auditor conservatism, I hypothesize and find that auditors act in a more conservative way when client's business risk is high and when they are faced with high litigation risk. On the other hand, client pressure, measured here by the amount of non-audit fees, lessens auditor conservatism. I also find that auditor conservatism reduces the level of information asymmetry measured by the bid-ask price spread. In the meantime, the results show a positive association between auditor conservatism and audit fees.

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Appendix 1

Variables Definition

Variables in Table 1 and 2

BETA	Beta from a market model regressing value-weighted market returns on daily stock returns over the past three years.
AUDIT-FEES	Audit fees.
N-AUDIT-FEES	Non audit fees.
TOTAL_FEES	Total audit and non-audit fees.
LIT_RISK	Litigation risk estimated using the Houston et al. (2010) model.
MKVAL	Market value of equity as of the fiscal period end.
ROA	Firm performance defined as net income divided by total assets as of the fiscal period end.
MKBK	Firm growth defined as book value of shareholders' equity divided by market value of equity as of the fiscal period end.
INSTIT	Percentage of shares held by institutional owners.
LEV	Firm leverage defined as total liabilities divided by shareholders' equity as of the fiscal period end.
ASK	Average ask price over one hundred days starting at the ninetieth day after fiscal year end.
BID	Average bid price over one hundred days

starting at the ninetieth day after the fiscal year end.

SPREAD	Bid-ask price spread is calculated using Leuz's (2003) model as follows: $\frac{(\text{Ask_average} - \text{Bid_average})}{((\text{Ask_average} + \text{Bid_average})/2)}$
STD_RET	The standard deviation of daily returns over 300 days ending on the fiscal year end.
CUM_RET	The sum of daily returns over 300 days ending on the fiscal year end.
MIN_RET	The minimum daily return over 300 days ending on the fiscal year end.
TURNOVER	The average daily trading volume deflated by the number of shares outstanding.
RET	Annual stock return.
AT	Total assets.
SALE	Net sales.
CFO	Operating cash flows.
INT	Total inventory.
RECT	Total accounts receivables.
INVREC	Inventory-to-receivables ratio.
NEW_FIN	An indicator variable equal to one if the client issues long-term equity (Compustat #108) greater than five percent of beginning total assets and zero otherwise.
NI	Net income.

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DTEQ	Debt-to-equity ratio.
TL	Total liabilities.
AU_CH	An indicator variable equal to one if auditor is changed in the current year.
ADJVOL	Adjusted stock trading volume.
RESTAT	An indicator variable equal to one if financial statements are restated.
LN_AFEE	Natural log of audit fees.
LN_NA_FEE	Natural log of non-audit fees.

Model (1) Variables

NICNOR1	Auditor Conservatism defined as an adverse opinion on the effectiveness of internal control over financial reporting, not followed by restatement in the year of the report.
NICNOR2	Auditor Conservatism defined as an adverse opinion on the effectiveness of internal control over financial reporting, not followed by restatement within 1 year of the report (including the year of the report).
NICNOR3	Auditor Conservatism defined as an adverse opinion on the effectiveness of internal control over financial reporting, not followed by restatement within 2 years of the report (including the year of the report).
NICNOR4	Auditor Conservatism defined as an adverse opinion on the effectiveness of internal control over financial reporting, not followed by restatement within 3 years of the report (including the year of the report).

BETA	Beta from a market model regressing value-weighted market returns on daily stock returns over the past three years.
A_FEES	Audit fees (in millions).
NA_FEES	Non audit fees (in millions).
LIT_RISK	Probability of litigation as of the end of the most recent calendar year estimated using the Probit model of Houston et al. (2010) explained in Appendix 2.
SIZE	Firm size defined as the natural logarithm of the market value of equity (MKVAL) as of the fiscal period end.
ROA	Firm performance defined as net income divided by total assets as of the fiscal period end.
BKMK	Firm growth defined as book value of shareholders' equity divided by market value of equity as of the fiscal period end.
LEV	Firm leverage defined as total liabilities divided by shareholders' equity as of the fiscal period end.

Model (2) Variables

ASK	Average ask price over one hundred days starting at the ninetieth day after fiscal year end.
BID	Average bid price over one hundred days starting at the ninetieth day after fiscal year end.
INFO_RISK	Bid-ask price spread is calculated using Leuz's (2003) model as follows:

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$$\frac{(\text{Ask_average} - \text{Bid_average})}{((\text{Ask_average} + \text{Bid_average})/2)}$$

SIZE Natural log of market value of equity.

VLOUME Standard deviation of stock volume during the 300 days preceding fiscal year end.

VOLATILITY Standard deviation of stock return during the 300 days preceding fiscal year end.

RET Annual stock return.

INDUSTRY SIC code.

Model (3) Variables

LN_ASSETS The natural logarithm of total assets (in thousands).

STD_ROA Standard deviation of ROA over the preceding five years, with a minimum of three years of data, scaled by average assets. Following Dechow and Dichev (2002).

STD_SALES Standard deviation of sales over the preceding five years, with a minimum of three years of data, scaled by average assets. Following Dechow and Dichev (2002).

STD_CFO Standard deviation of cash flow from operation over the preceding five years, with a minimum of three years of data, scaled by average assets. Following Dechow and Dichev (2002).

SQRTSEGMENT The square root of the number of business and geographical segments.

FOREIGN An indicator variable equal to one if the audit client has foreign operations and zero

	otherwise.
LOSS	An indicator variable equal to one if there was a net loss in either of the last two years and zero otherwise.
INV	Inventory balance at year end.
REC	Accounts receivables at year end.
NEW_FIN	An indicator variable equal to one if the client issues long-term equity (Compustat #108) greater than five percent of beginning total assets and zero otherwise.
MERGER	An indicator variable equal to one for a merger in the past two years and zero otherwise.
RESTRUCTURE	An indicator variable equal to one if the client took a restructuring charge and zero otherwise.
INSTITOWN	Percentage of shares held by institutional owners.
BIG 4	An indicator variable equal to one when the auditor is a Big 4 firm; zero otherwise.
AUD_CH	An indicator variable equal to one if the company changed auditors from the previous year, zero otherwise.
RESTAT	An indicator variable equals one if the company disclosed a restatement of previously reported earnings during the current year; zero otherwise.
LITIGATION	An indicator variable equals one if the company operates in a high-litigation industry; zero otherwise.*

LN_NA_FEE The natural logarithm of the sum of fees for non-audit services paid to the auditor.

INDUSTRY A series of indicator variables representing two-digit SIC codes is also included, but results for those variables are not tabled.

Model (4) Variables

LAWSUIT An indicator variable equals one for a firm-year if the firm is the defendant in a class-action lawsuit filed in that year and zero otherwise.

LN_MVE The log transformation of average daily market value of equity (in millions of dollars).

TURNOVER The average daily trading volume deflated by the number of shares outstanding.

BETA The coefficient on market returns in the market model.

CUM_RET The sum of daily returns over 300 days ending on the fiscal year end.

STD_RET The standard deviation of daily returns over 300 days ending on the fiscal year end.

MIN_RET The minimum daily return over 300 days ending on the fiscal year end.

BIO-TECH An indicator variable equal to one if the firm's SIC is between 2833–2836 and zero otherwise.

COMP_HARD An indicator variable equal to one if the

	firm's SIC is between 3570–3577 and zero otherwise.
COMP_SOFT	An indicator variable equal to one if the firm's SIC is between 7371–7379 and zero otherwise.
ELECTRONIC	An indicator variable equal to one if the firm's SIC is between 3600–3674 and zero otherwise.
RETAIL	An indicator variable equal to one if the firm's SIC is between 5200–5961 and zero otherwise.

* Following Ashbaugh-Skaife, Collins, and Kinney (2007) we define high-litigation industries as those with SIC codes of 2833–2836, 3570–3577, 3600–3674, 5200–5961, and 7370.

Appendix 2 The Calculation of the Litigation Risk

Following Houston et al. (2010), litigation risk is measured as the probability of litigation as of the end of the most recent calendar year estimated using the following Probit model:

$$\Pr(\text{LAWSUIT}_i = 1) = U(a_0 + a_1 \text{LN_MVE}_i + a_2 \text{TURNOVER}_i + a_3 \text{BETA}_i + a_4 \text{CUM_RET}_i + a_5 \text{STD_RET}_i + a_6 \text{MIN_RET}_i + a_7 \text{BIO_TECH}_i + a_8 \text{COMP_HARD}_i + a_9 \text{COMP_SOFT}_i + a_{10} \text{ELECTRONICS}_i + a_{11} \text{RETAIL}_i + e_i) \quad (4)$$

Where LAWSUIT equals one for a firm-year if the firm is the defendant in a class-action lawsuit filed in that year, and zero otherwise (LAWSUIT = 1 in 293 cases after cleaning outliers), LN_MVE is the natural log transformation of average daily market value of equity (in millions of dollars), TURNOVER is the average daily trading volume deflated by the number of shares

outstanding, calculated over 300 days, BETA is the coefficient on market returns in the market model, CUM_RET is the sum of daily returns over 300 days, STD_RET is the standard deviation of daily returns over 300 days, MIN_RET is the minimum daily return over 300 days, BIO, COMP_HARD, COMP_SOFT, ELECTRONICS, and RETAIL are dummy variables for biotech (SIC 2833–2836), Computer Hardware (SIC 3570–3577), computer software (SIC 7371–7379), electronics (SIC 3600–3674), and retail (SIC 5200–5961) industries, respectively.

Variable	Coefficient	P-value
INTERCEPT	-8.55342	<.0001
SIZE	0.395696	<.0001
TURNOVER	13.336316	<.0001
BETA	0.025838	0.8454
CUM_RET	-0.980131	0.8454
STAND	-16.473389	0.0066
MINIMUM	-13.659791	<.0001
BIO	0.082028	0.7120
COMP_HARD	-0.235280	0.5292
COMP_SOFT	0.348843	0.0939
ELECTRON	0.042807	0.8493
RETAIL	0.367123	0.0927
McFadden's R ²	17.42	
N	18,913	

LIT = 1 in 293 cases after cleaning outliers