Misstatement Direction, Litigation Risk, and Planned Audit Investment

ORIE BARRON, * JAMIE PRATT, † AND JAMES D. STICE ‡

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ABSTRACT

This study reports the results of an experiment showing that auditor assessments of litigation risk and planned audit investments are higher when potential errors overstate financial performance than when those errors understate performance. This result is much stronger in the presence of high levels of litigation risk in the client’s industry. These results suggest that in industries where litigation risk is high audited financial statements may contain more unintentional material understatement errors than overstatement errors. Thus, litigation risk—through its effect on auditors—may encourage financial statements that understate firm performance.

1. Introduction

In this study, we report the results of an experiment which shows that auditor assessments of litigation risk and planned audit investments are higher when potential errors overstate financial performance than when potential errors understate performance. 1 We also provide evidence that this relationship is stronger when the risk of litigation in the client’s industry is

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1 In this study we use the term “error” to mean unintentional misstatement, which is consistent with how the term is used in the professional audit literature.

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high and weaker when the risk of litigation in the client’s industry is low. We demonstrate these findings in a setting where the risk of undetected material misstatements is controlled, and perceived by subjects to be equal across potential overstatements and understatements. If the risk faced by auditors is asymmetric with regard to the direction of misstatements, such behavior seems rational. However, the behavior is inconsistent with professional audit standards, and likely to result in financial statements containing a disproportionate number of material understatements.

Audit research shows that auditors correct overstatements of financial performance more often than they correct understatements (Kinney and Martin [1994]). Auditors also express more concern about overstatements (Hirst [1994]). One potential explanation for these findings is that overstatements in financial performance are more common. Management may have more incentive to overstate performance, leading to pre-audit financial reports that are biased toward overstatement. McConomy [1998], for example, shows that audited forecasts contain significantly less positive bias than reviewed forecasts (see also Becker et al. [1998]).

In this study, we contend that the relative emphasis on overstatements reflects more than a response to a management bias; it also reflects an auditor reaction to litigation risk. We argue that even in settings where material over- and understatements are equally likely, auditors are more likely to detect and correct overstatements. Healy [1985], for example, argues that auditors are willing to accept questionable income-decreasing accruals, but are likely to challenge income-increasing accruals; and Hirst [1994] notes, “Because uncorrected material overstatements of earnings are particularly risky to auditors, they may become highly skeptical and therefore closely investigate such differences.”

Greater concern with overstatements appears to be a rational response by auditors given the nature of the litigation environment in which they operate. Undetected overstatements are more costly to auditors than are undetected understatements because overstatements lead to out-of-pocket losses to investors that can be recouped through litigation. However, to favor the detection and correction of overstatements over understatements in settings where they are equally likely results in audit outcomes that are inconsistent with the wording of the standard audit report, which states that the audit was performed “...to obtain reasonable assurance about whether the financial statements are free of material misstatement [and to] present fairly [the client’s financial position and results of operations] in conformity with generally accepted accounting principles.”

Favoring the correction of overstatement errors at the expense of understatement errors also can lead to financial statements that impose costs on certain financial statement users. Consider, for example, a banker who refuses a profitable loan on the basis of understated financial performance. Similarly, managers compensated on the basis of income may suffer when financial statements understate firm performance.

Finally, auditors who fail to correct understatements invite management to use accounting discretion to understate firm performance by making reporting strategies such as “building hidden reserves” or “taking a bath”—which
are often used to smooth fluctuations in reported earnings across time—relatively easy to practice. If managers are aware that auditors allow understatements, they may be more likely to create reserves intentionally. These practices are inconsistent with the expressed goal of the Securities and Exchange Commission to encourage full disclosure and accounting practices that result in “true and fair” measurement. Understatements create the type of hidden—or “cookie jar”—reserve that Harvey Goldschmid, general counsel of the SEC, believes should be eliminated because they make it difficult for investors to fairly value companies, making it easier for managers to “dim the signals” when business turns down (Loomis [1999]).

In sum, our findings suggest that the litigation environment creates an incentive for auditors to focus more attention on detecting unintentional errors that overstate financial performance, which is inconsistent with the wording of the standard audit report, professional audit standards, and the goals of the Securities and Exchange Commission. Importantly, the conservative bias we demonstrate is not an expression of the concept of financial reporting conservatism as it is normally defined. This concept encourages understatement only in cases where there is doubt about the correct method of accounting for an item. It does not encompass cases, such as the one we examine, where a potentially material understatement results from a failure to adjust for an accounting method that is undoubtedly incorrect.

2. Hypotheses

We posit that auditor litigation risk assessments and planned audit investments are a function of three factors: the external litigation environment and two client-specific factors—the risk of an error in the financial statements (i.e., inherent and control risk), and the nature of the error (overstatement or understatement). These factors can affect planned audit investments either directly or through their effect on litigation assessments, which in turn affects planned audit investments. In this study we show that the nature of the error (unintentional overstatement or understatement) affects both auditor assessments of litigation risk and planned audit investments, while controlling for the risk of a material error. We also show that the relationship between the nature of the error and planned audit investment is stronger when litigation risk in the client’s industry is high and weaker when litigation risk is low.

Previous empirical work suggests that the nature of auditor litigation creates incentives for auditors to invest heavily in the detection and correction of overstatements of financial performance. St. Pierre and Anderson [1984], for example, examine 129 cases of litigation against auditors, noting that “none of the suits concerned errors in under valuing assets, recognizing inadequate amounts of revenue, or recognizing excessive expenses” (emphasis added). Overstatements can cause investors to overvalue firms, paying prices that are too high, which in turn can lead to out-of-pocket losses when actual values are ultimately realized. Such losses may be recovered through litigation against auditors. Understatements, on the other hand, lead to
financial statements that discourage capital providers from investing or causing them to sell at prices that are too low. While understatements may lead to missed opportunities for profitable investments (i.e., opportunity costs), they are less likely to generate out-of-pocket losses that can be recovered through litigation against auditors. As a result, uncorrected overstatements lead to greater litigation exposure than do uncorrected understatements, leading to the first hypothesis.

H1: The discovery of a material error that overstates financial performance will cause auditors to assess higher levels of litigation risk than will the discovery of a material error that understates financial performance.

Several studies find that auditors increase the investment in the audit as litigation exposure increases (Simunic [1980]; Pratt and Stice [1994]; Houston, Peters, and Pratt [1999]). These studies rely on a model, originally introduced by Simunic [1980], which demonstrates that audit investments reduce the litigation costs associated with the audit. To demonstrate that these findings can be replicated in our setting, we make the following prediction.

H2: Auditor assessments of litigation risk will relate positively to planned levels of audit investment.

Since we predict that overstatement errors introduce greater litigation risks than understatement errors and that litigation risk relates positively to planned levels of audit investment, we also predict that auditors will plan higher levels of audit investment to detect and correct overstatements.

H3: The discovery of a material error that overstates financial performance will cause auditors to plan higher levels of audit investment than will the discovery of a material error that understates financial performance.

We argue in the development of H3 that the litigation environment is the primary reason overstatements lead to higher levels of audit investment. Any difference in audit investment between over- and understatement errors, therefore, should be related to the level of litigation risk in the client’s industry. Consequently, we hypothesize the following interaction.

H4: The extent to which audit investment in the presence of overstatement errors exceeds audit investment in the presence of understatement errors is positively related to the level of litigation risk in the client’s industry.

3. Experimental Design

To test the hypotheses we conducted an experiment in which sixty-eight managers and thirty-four partners from two “Big Six” accounting firms provided complete responses to one of eight cases, each describing
• Introductory letter and instructions

Part 1: General description of client (including summary of business operations, directors, and management, predecessor auditor, financial information, relevant industry information, and a preliminary review and opinion of audit staff)

Part 2: Questions about preliminary risk assessments, and planned audit investment

Part 3: Information obtained after client acceptance (including manipulations of independent variables)—the external litigation environment risk (high/low) and discovery of an inventory over/understatement

Part 4: Questions about final risk assessments and planned audit investment, and questions about the exercise and the participants

Fig. 1.—Summary of experimental case.

a prospective audit client (Manufacture Incorporated). The eight cases were created by crossing two levels of misstatement direction (overstatement/understatement), two levels of litigation risk in the client’s industry (high/low), and two levels of audit fee structure (fixed/variable).2

We obtained participants by identifying key representatives at the firms, and asking them to distribute and collect the research instruments, returning them to the experimenter. Individual participants and the firms were assured complete anonymity. The mean age of the participants was thirty-five years and, on average, the respondents had thirteen years of experience in public accounting. In supplementary (unreported) tests these demographic variables were included as control variables (covariates), and the results were not substantively different from those reported later in the paper.

3.1 AUDIT CASE

The cases were based on the instrument used by Pratt and Stice [1994], which resulted from discussions with partners at major accounting firms. The content and format were modeled after the methods used by the participating firms in evaluating prospective audit clients. Each case contained an introductory letter, instructions, and four separate parts. The introductory letter, instructions, and parts 1, 2, and 4 were exactly the same for all participants; the manipulations of the independent variables were contained in Part 3. Figure 1 provides a summary description of the case.

Part 1 contained information about a recently accepted client’s operations, directors, management, predecessor auditor, financial statements

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2 Misstatement direction and litigation risk in the client’s industry serve as independent variables, while audit fee structure tests the boundary conditions of the results (i.e., to see if the results were robust in the presence of both fixed and variable audit fees). The audit fee variable was insignificant in all tests, suggesting that our results extend across audit fee structures. Consequently, we collapsed the audit fee partition into the two remaining treatment variables, and report only $2 \times 2$ ANCOVA tests later in the paper.
and supporting footnotes, and relevant industry comparisons. It also briefly described a lawsuit filed against a competitor (Production, Inc.) and its auditor. The lawsuit concerned a possible inventory misstatement and, as of the date of client acceptance, the case was unresolved. The resolution of this case, which is disclosed in part 3, served as the manipulation of litigation risk in the client’s industry.

Parts 2 and 4 contained questions asking the respondent to assess different types of risk presented by the client, and to make an assessment of the amount of audit evidence to be collected. Part 2 contained preliminary assessments of these measures (before manipulations—referred to hereafter as “Initial”), while part 4 contained post assessments (after manipulations—referred to hereafter as “Final”). Before responding to the “Final” questions, subjects were told to assume that the client is a going concern, normal materiality thresholds should be used, and the risk of intentional misstatement is unchanged by the information presented in part 3. The measures used in the analysis are listed below, and each was assessed on a nine-point Likert scale ranging from (1) “much lower than normal” to (9) “much higher than normal.”

Risk of a material misstatement—What is the risk that this client’s inventory contains a material misstatement?

Litigation risk—Assess the exposure to litigation associated with auditing this client.

Audit investment—How much audit evidence must be collected to ensure that the risk of a material misstatement in the financial statements of this client is reduced to an acceptable level?

Part 4 also solicited demographic information and contained questions about the exercise.

The assessment of Litigation risk served as the dependent variable in the test of H₁, and was also used as the independent variable in the test of H₂. The assessment of Audit investment served as the dependent variable in the tests of H₂, H₃, and H₄.

3.2 INDEPENDENT VARIABLE—MISSTATEMENT DIRECTION

Part 3 of the case contained information obtained after the client was accepted, concerning the discovery of inventory reporting errors and litigation risk in the client’s industry. It contained the following paragraph, which served as the misstatement direction manipulation.

“There was, however, an unexpected finding concerning inventory. An inquiry of the Corporation’s accounting personnel revealed an accounting treatment, instituted near the beginning of the current fiscal year, that is inconsistent with GAAP. Further inquiry and two internal memos verify that the treatment was unintentional and resulted from a miscommunication within the controller’s office that was passed along to regional accounting departments. Competent audit staff has concluded that it is highly unlikely
that management was aware of this error. Nevertheless, the error has had at least a small effect on all the different segments of the Corporation’s geographically dispersed inventory and may pervade as many as two-thirds of the Corporation’s inventory items. If so, inventory is likely to be (understated or overstated) by a material amount.”

Three points about the misstatement manipulation deserve emphasis. First, participants were told that the misstatement was simply an unintentional error and that the audit staff concluded that management was unaware of it. The unintentional nature of the misstatement should have decreased the likelihood that participants would think management incentives have come into play. This feature is important because it helps to ensure that the perceived likelihood of material misstatements was equal across treatment groups, which in turn ensures that the cost of detecting and correcting an overstatement was perceived to be equal in cost to detecting and correcting an understatement. An intentional misstatement would have introduced a variety of issues and additional risks (Houston, Peters, and Pratt [1999]) that could have added noise or bias to our tests.

Second, the misstatement involves inventory. Research suggests that auditors tend to find and correct an equal number of inventory overstatements and understatements, whereas the misstatements found (and corrected) in other accounts have tended to have an overwhelmingly positive effect on net assets (Kinney and Martin [1994]). Thus, inventory is an account less likely to be viewed by subjects ex ante as having a different risk of overstatement than risk of understatement.

Third, this manipulation concerns the extent to which an overstatement or understatement error has affected inventory items known to exist. It does not concern the extent to which reported inventory exists or the extent to which existing inventory has been completely reported. Thus, there is no reason to suspect that the direction of inventory error influenced differences in perceptions about the type or cost of audit evidence necessary to gain more knowledge about the error.

3.3 INDEPENDENT VARIABLE—EXTERNAL LITIGATION ENVIRONMENT

Part 3 of the case also contained the following information, which served to manipulate the litigation environment. Note that Production is a competitor in the audit client’s industry.

“We have now learned that Production’s audit firm (won or lost) the case. According to legal counsel, this case has set major legal precedents for the industry. These precedents greatly (decrease or increase) the risk of successful lawsuits based on inventory misstatements, with the risk to auditors now being very (low or high).”

This manipulation, which is new to the literature, allows us to analyze the auditor’s litigation exposure independent of the client’s inherent and control risk. Numerous studies (Pratt and Stice 1994; Cohen and Kida 1989; Biggs, Mock, and Watkins [1988]; Kaplan [1985]) have examined the relationships among client characteristics, litigation risk, and the collection of
audit evidence, but these relationships have not been examined in settings where client specific risks (e.g., inherent and control risk) are held constant. A change in the litigation risk of the client’s industry directly affects the likelihood of neither a material misstatement in the client’s financial statements (inherent risk), nor the prevention or detection of an error by the client’s system of internal controls (control risk).

4. Results

4.1 PRELIMINARY ANALYSES

We included two questions asking the participants to assess the clarity of the instructions and relevance of the exercise to auditing issues in the post experiment questions (part 4). On a nine-point Likert scale, ranging from Very Unclear/Irrelevant (1) to Very Clear/Relevant (9) the means of the responses were 6.88 and 6.25, respectively.

4.2 MANIPULATION CHECKS

To check the effectiveness of manipulating litigation risk in the client’s industry, we compared the changes in the auditor litigation risk assessments (Final less Initial) for the high and low litigation risk conditions. The mean change for the high condition (+1.53) was significantly higher (p = .00) than the mean change for the low condition (−0.17). In addition, the initial auditor litigation risk assessments were not significantly different across conditions (p = .48), while the final auditor litigation risk assessment under the high litigation exposure condition was significantly higher than that under the low condition (p = .01). Finally, the mean increase in the perceived risk of material misstatement was significantly greater than zero for all experimental cells, indicating that the participants recognized the inventory error described in part 3.

It is also possible that misstatement direction could differentially affect the perceived likelihood of a material error—that is, the discovery of a potential overstatement may lead to a higher likelihood of additional inventory errors than the discovery of a potential understatement. There was, however, no significant difference (p = .53) in the perceived increase of material errors between the under- and overstatement groups, suggesting that the participants judged the direction of the error, in and of itself, to be unrelated to the likelihood of material errors.

4.3 HYPOTHESES TESTS

In H1 we predicted that the discovery of an overstatement error would lead to higher auditor litigation risk assessments than the discovery of an understatement error. The results are reported in table 1, where panel A includes ANCOVA test statistics and panel B includes cell means, standard errors, and sample sizes. Final auditor litigation risk assessments served as the dependent variable, and manipulated variables include misstatement
**TABLE 1**

**Auditor Litigation Risk Assessment as a Function of Misstatement Direction and Litigation Risk in the Client’s Industry**

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum-of-Squares</th>
<th>F-ratio</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Misstatement Direction (MD)</td>
<td>5.28</td>
<td>4.10</td>
<td>.02</td>
</tr>
<tr>
<td>Litigation Risk in the Client’s Industry (LR)</td>
<td>72.30</td>
<td>56.11</td>
<td>.00</td>
</tr>
<tr>
<td>Initial Auditor Litigation Risk Assessment</td>
<td>10.95</td>
<td>8.50</td>
<td>.00</td>
</tr>
<tr>
<td>Initial Auditor Misstatement Risk Assessment</td>
<td>2.03</td>
<td>1.57</td>
<td>.11</td>
</tr>
<tr>
<td>MD * LR</td>
<td>0.64</td>
<td>0.50</td>
<td>.24</td>
</tr>
<tr>
<td>Error</td>
<td>123.71</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Panel B: Cell Means (M), Standard Deviations (SD), and Sample Sizes (N)**

<table>
<thead>
<tr>
<th></th>
<th>Overstatement Error</th>
<th>Understatement Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Litigation Risk in the Client’s Industry—High</td>
<td>M = 7.19</td>
<td>M = 6.46</td>
</tr>
<tr>
<td></td>
<td>SD = 1.10</td>
<td>SD = .88</td>
</tr>
<tr>
<td></td>
<td>N = 26</td>
<td>N = 24</td>
</tr>
<tr>
<td>Litigation Risk in the Client’s Industry—Low</td>
<td>M = 5.21</td>
<td>M = 5.07</td>
</tr>
<tr>
<td></td>
<td>SD = 1.44</td>
<td>SD = 1.33</td>
</tr>
<tr>
<td></td>
<td>N = 24</td>
<td>N = 28</td>
</tr>
</tbody>
</table>

Misstatement Direction: 0 = inventory understatement; 1 = inventory overstatement.
Litigation Risk in the Client’s Industry: 0 = low; 1 = high.
Initial Auditor Litigation Risk Assessment: scale of 1–9; 1 = much lower than normal and 9 = much higher than normal.
Initial Auditor Misstatement Risk Assessment: scale of 1–9; 1 = much lower than normal risk of a material misstatement in inventory and 9 = much higher than normal risk of a material misstatement in inventory.

direction (over-/understatement) and litigation risk in the client’s industry (high/low). Initial auditor litigation risk assessments and initial auditor misstatement risk assessments were included to control for effects due to idiosyncratic differences in how participants responded to information in Part 1 of the exercise.

As predicted in H1, misstatement direction is significant (p = .02). Panel B shows that the means in the overstatement conditions (7.19 and 5.21) exceed the respective means in the understatement conditions (6.46 and 5.07). This result supports H1, and these findings emerge after controlling for litigation risk in the client’s industry (p = .00), initial auditor litigation risk assessments (p = .00), and initial auditor misstatement risk assessments (p = .11). Note also that the level of litigation risk in the client’s industry related positively to final auditor litigation risk assessments, and the interaction between misstatement direction and litigation risk in the client’s industry is not significant (p = .24).

H2 states that auditor litigation risk assessments relate positively to the level of audit investment. The test for this hypothesis is in table 2, which consists of a regression model where final planned audit investment served as the dependent variable, and final auditor litigation risk assessment, litigation
Table 2

Planned Audit Investment as a Function of Final Auditor Litigation Risk Assessment

Panel A: Regression Analysis (Dependent Variable = Final Planned Audit Investment); N = 102

<table>
<thead>
<tr>
<th>Source</th>
<th>Coefficient</th>
<th>T</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Litigation Risk in the Client’s Industry</td>
<td>.14</td>
<td>.69</td>
<td>.25</td>
</tr>
<tr>
<td>Initial Auditor Misstatement Risk Assessment</td>
<td>-.01</td>
<td>-.61</td>
<td>.27</td>
</tr>
<tr>
<td>Initial Planned Audit Investment</td>
<td>.46</td>
<td>4.38</td>
<td>.00</td>
</tr>
<tr>
<td>Final Auditor Litigation Risk Assessment</td>
<td>.24</td>
<td>3.62</td>
<td>.00</td>
</tr>
</tbody>
</table>

Litigation Risk in the Client’s Industry: 0 = low; 1 = high.
Final Auditor Litigation Risk Assessment: scale of 1–9; 1 = much lower than normal and 9 = much higher than normal.
Initial Auditor Misstatement Risk Assessment: scale of 1–9; 1 = much lower than normal risk of a material misstatement in inventory and 9 = much higher than normal risk of a material misstatement in inventory.
Initial and Final Planned Audit Investment: scale of 1–9; 1 = much lower than normal and 9 = much higher than normal.

Risk in the client’s industry, initial auditor misstatement risk assessment, and initial planned audit investment served as explanatory variables. Final auditor litigation risk assessment is clearly significant (p = .00) after controlling for the remaining explanatory variables. This result supports H2 and is consistent with prior research.

H3 states that the discovery of an overstatement error will lead to higher levels of audit investment than the discovery of an understatement error, and H4 states that the difference in audit investment between over- and understatements is greater when litigation risk is high and less when litigation risk is low. The results of these two tests are reported in table 3, where panel A includes ANCOVA test statistics and panel B includes cell means, standard errors, and sample sizes. The dependent variable is final planned audit investment, and the manipulated variables include misstatement direction (over-/understatement) and litigation risk in the client’s industry (high/low). Initial auditor misstatement risk assessment, initial auditor litigation risk assessment, and initial planned audit investment were included as covariates.

Misstatement direction is again significant (p = .00), and panel B shows that the audit investment means in the overstatement condition (8.00 and 7.29) exceed the respective audit investment means in the understatement condition (7.33 and 7.07). This result supports H3 after controlling for litigation risk in the client’s industry (p = .00), initial auditor litigation risk assessment (p = .26), initial auditor misstatement risk assessment (p = .36), and the initial level of planned audit investment (p = .00). Misstatement direction is significant even after including initial auditor litigation risk assessment in the model. This result suggests that a portion of the effect of misstatement direction on planned audit investment is independent of its effect on auditor litigation risk assessments.

Comparing respective means in panel B suggests that the difference in audit investment between the over- and understatement conditions is greater when litigation risk in the client’s industry is high (8.00 − 7.33 = 0.67)
Table 3

Planned Audit Investment as a Function of Litigation Risk Assessment and Misstatement Direction

Panel A: Analysis of Covariance (Dependent Variable = Final Planned Audit Investment); N = 102

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum-of-Squares</th>
<th>F-ratio</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Misstatement Direction (MD)</td>
<td>4.88</td>
<td>7.45</td>
<td>.00</td>
</tr>
<tr>
<td>Litigation Risk in the Client’s Industry (LR)</td>
<td>7.10</td>
<td>10.83</td>
<td>.00</td>
</tr>
<tr>
<td>Initial Auditor Litigation Risk Assessment</td>
<td>0.26</td>
<td>0.40</td>
<td>.26</td>
</tr>
<tr>
<td>Initial Auditor Misstatement Risk Assessment</td>
<td>0.15</td>
<td>0.23</td>
<td>.32</td>
</tr>
<tr>
<td>Initial Planned Audit Investment</td>
<td>13.14</td>
<td>20.04</td>
<td>.00</td>
</tr>
<tr>
<td>MD * LR</td>
<td>1.07</td>
<td>1.63</td>
<td>.10</td>
</tr>
<tr>
<td>Error</td>
<td>62.29</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Panel B: Cell Means (M), Standard Deviations (SD), and Sample Sizes (N)

<table>
<thead>
<tr>
<th></th>
<th>Overstatement</th>
<th>Understatement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Litigation Risk in the Client’s Industry—High</td>
<td>M = 8.00</td>
<td>M = 7.33</td>
</tr>
<tr>
<td></td>
<td>SD = .69</td>
<td>SD = 1.01</td>
</tr>
<tr>
<td></td>
<td>N = 26</td>
<td>N = 24</td>
</tr>
<tr>
<td>Litigation Risk in the Client’s Industry—Low</td>
<td>M = 7.29</td>
<td>M = 7.07</td>
</tr>
<tr>
<td></td>
<td>SD = .95</td>
<td>SD = 1.05</td>
</tr>
<tr>
<td></td>
<td>N = 24</td>
<td>N = 28</td>
</tr>
</tbody>
</table>

Panel C: Percentage of Subjects Indicating an Increase in Audit Investment

<table>
<thead>
<tr>
<th></th>
<th>Overstatement</th>
<th>Understatement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Litigation Risk in the Client’s Industry—High</td>
<td>.96 (25/26)</td>
<td>.63 (15/24)</td>
</tr>
<tr>
<td>Litigation Risk in the Client’s Industry—Low</td>
<td>.50 (12/24)</td>
<td>.46 (13/28)</td>
</tr>
</tbody>
</table>

Misstatement Direction: 0 = inventory understatement; 1 = inventory overstatement.
Litigation Risk in the Client’s Industry: 0 = low; 1 = high.
Initial Auditor Litigation Risk Assessment: scale of 1–9; 1 = much lower than normal and 9 = much higher than normal.
Initial Auditor Misstatement Risk Assessment: scale of 1–9; 1 = much lower than normal risk of a material misstatement in inventory and 9 = much higher than normal risk of a material misstatement in inventory.
Final Planned Audit Investment: scale of 1–9; 1 = much lower than normal and 9 = much higher than normal.

...than when it is low (7.29 − 7.07 = 0.22). However, the interaction between misstatement direction and litigation risk in the client’s industry is only marginally significant (p = .10), providing limited support for H4.

To further explore this interaction, we conducted an additional test using an alternative form of dependent variable that equals one (1) if participants chose an increased level of audit investment (i.e., final audit investment less initial audit investment > 0) and zero (0) otherwise. In this test the interaction between misstatement direction and litigation risk in the client’s industry was much stronger (p = .02). Data summarizing the dependent variable are reported in panel C of table 3. Of the twenty-six participants who faced both a material overstatement and high litigation risk in the client’s industry, twenty-five (96%) indicated an increased level of planned...
TABLE 4
Planned Audit Investment as a Function of Auditor Litigation Risk Assessment and Misstatement Direction
Analysis of Covariance (Dependent Variable = Final Planned Audit Investment); N = 102

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum-of-Squares</th>
<th>F-ratio</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Misstatement Direction (MD)</td>
<td>2.85</td>
<td>4.72</td>
<td>.02</td>
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<tr>
<td>Litigation Risk in the Client’s Industry (LR)</td>
<td>0.47</td>
<td>0.77</td>
<td>.19</td>
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<tr>
<td>Initial Auditor Litigation Risk Assessment</td>
<td>.02</td>
<td>0.03</td>
<td>.43</td>
</tr>
<tr>
<td>Initial Auditor Misstatement Risk Assessment</td>
<td>.32</td>
<td>0.53</td>
<td>.23</td>
</tr>
<tr>
<td>Initial Planned Audit Investment</td>
<td>12.30</td>
<td>20.38</td>
<td>.00</td>
</tr>
<tr>
<td>Final Auditor Litigation Risk Assessment</td>
<td>5.54</td>
<td>9.18</td>
<td>.00</td>
</tr>
<tr>
<td>MD * LR</td>
<td>0.72</td>
<td>1.19</td>
<td>.14</td>
</tr>
<tr>
<td>Error</td>
<td>56.75</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Misstatement Direction: 0 = inventory understatement; 1 = inventory overstatement.
Litigation Risk in the Client’s Industry: 0 = low; 1 = high.
Initial and Final Auditor Litigation Risk Assessment: scale of 1–9; 1 = much lower than normal and 9 = much higher than normal.
Initial Auditor Misstatement Risk Assessment: scale of 1–9; 1 = much lower than normal risk of a material misstatement in inventory and 9 = much higher than normal risk of a material misstatement in inventory.
Initial and Final Planned Audit Investment: scale of 1–9; 1 = much lower than normal and 9 = much higher than normal.

Audit investment. In contrast, less than half of the subjects (46%) faced with neither of these conditions indicated an increase in planned audit investment, even though they were confronted with a material understatement. Similarly, of the subjects confronted with one (but not both) of these conditions, only fifty-six percent (56%) indicated an increase in audit investment. This evidence provides strong support for H4.

Finally, we conducted a test to examine whether the effects of misstatement direction and litigation risk in the client’s industry on audit investment are direct or are indirect through the auditors’ litigation risk assessments. The test of H3 clearly suggests that misstatement direction and litigation risk in the client’s industry affect audit investments (both variables are highly significant), but do the significance levels hold if final auditor litigation risk assessment is included in the model? If so, the effects appear to be largely direct; if not, the effects appear to be largely indirect. Table 4 contains the ANCOVA test statistics.

Misstatement direction remains significant (p = .02) even after final audit litigation risk assessment is included in the model, but litigation risk in the client’s industry is not (p = .19). It appears, therefore, that much of the effect of misstatement direction on audit investment is direct, while much of the effect of litigation risk in the client’s industry comes through the auditor’s litigation risk assessment, which is highly significant in the model (p = .00).

5. Conclusions

In an experiment, using audit partners and managers as participants, we find that unintentional overstatements give rise to higher assessments of
litigation risk and larger audit investments than do unintentional understatements. The effect of misstatement direction on audit investment appears to be both direct and indirect (through auditor assessments of litigation risk), and this effect is larger when litigation risk in the client's industry is high and smaller when litigation risk is low. These results are obtained after controlling for the likelihood of misstatements.

An additional finding of interest is that audit-planning decisions are sensitive to risks outside those determined by client characteristics. In our experiment, a change in the litigation environment—indeed of client characteristics—causes auditors to adjust planned investment. This finding suggests that auditors are sensitive to business risk, which may or may not be captured in their implementation of the audit risk model.4

The major implication of our findings concerns whether audited financial statements provide an objective and unbiased assessment of financial performance and condition. In an experimental setting where the risk of material misstatements is controlled and perceived by subjects to be equal across over- and understatements, we show that auditors plan larger investments directed at discovering and correcting material overstatement errors. This finding suggests that in cases where the occurrence of under- and overstatement errors is equally likely, the possibility of undetected understatement errors in the audited financial statements is greater than the possibility of undetected overstatement errors. In such cases audited financial statements are likely to contain a disproportionate number of uncorrected understatement errors.

The audit behavior observed in this study appears to be rational, if litigation costs are asymmetric, but it also appears to be inconsistent with auditing and accounting standards. For example, the conservatism principle does not mean that auditors should allow material understatement errors to go uncorrected. Further, it is possible that this behavior allows managers to use accounting discretion to understate firm performance, which is directly at odds with the intention of the S.E.C. to promote full disclosure and unbiased financial reporting.

REFERENCES


4 See Houston, Peters, and Pratt [1999] for a discussion of these issues.


