

THE EFFECTS OF UNCERTAINTY AND DISCLOSURE ON AUDITORS' FAIR VALUE  
MATERIALITY DECISIONS

by

JEREMY BRIAN GRIFFIN

(Under the Direction of E. Michael Bamber)

ABSTRACT

This study investigates how auditors decide whether to require their clients to adjust fair value measurements. Using auditor participants, I experimentally manipulate two types of uncertainty, input *subjectivity* and outcome *imprecision*, and one reporting choice, *supplemental disclosure*, to examine how these factors influence auditors' decisions to require fair value adjustments. As expected, I find that these variables interact. Auditors are most likely to require adjustments under conditions of highest uncertainty, that is, when fair values are both more subjectively-determined and more imprecise in outcomes; however this tendency disappears when clients supplement recognized fair values with additional disclosure. My finding suggests that the SEC's preference for supplemental disclosure has the unintended consequence of impacting fair values recognized in the body of the financial statements. Finally, although imprecision sometimes makes it more likely that auditors will require an adjustment, the dollar amount of adjustment is smaller.

INDEX WORDS: Fair Value; Materiality; Audit Adjustments; Uncertainty; Disclosure; Subjectivity; Imprecision

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## CHAPTER 1

### INTRODUCTION

“The minute you start introducing ranges and judgments, it’s a fertile area for opportunistic behavior. I’m not against it, but we need to understand there will be instances of inappropriate or fraudulent behavior.”

— James D. Cox, Brainerd Currie Professor of Law, Duke University  
(as quoted in *The Wall Street Journal*, 2008)

SFAS No. 157 *Fair Value Measurements* requires financial statement preparers to report certain assets and liabilities at current market prices on the balance sheet date (FASB 2006). Measuring fair values is straightforward when markets are operating smoothly and quoted prices are readily available. However, when market prices are either unavailable or unreliable preparers must estimate fair values using their judgment. Measuring fair values in the absence of reliable market prices is difficult because the estimation process depends on relatively subjective information inputs, and typically generates imprecise ranges of possible outcomes. Investor advocates warn that financial statement preparers could use this uncertainty to opportunistically bias fair value estimates (Reilly and Scannell 2008). The SEC has responded to these concerns by encouraging preparers to increase their voluntary disclosures regarding fair value estimates (SEC 2008b, 2008a). Meanwhile, auditors must assess the reasonableness of their clients’ measurements and, when they deem it necessary, require their clients to adjust fair value estimates before reporting them in the financial statements.

I study how two types of uncertainty, *subjectivity* and *imprecision*, and one reporting choice, *supplemental footnote disclosure*, influence auditors’ decisions to require fair value

adjustments.<sup>1</sup> I propose that subjectivity and imprecision are more prevalent in fair value accounting than in historical cost accounting and test whether subjectivity, imprecision, and disclosure interact to influence an auditor's fair value adjustment decisions. For example, under SFAS No. 157, the reliability of a fair value method is reported in three hierarchical levels (subjectivity), financial statement preparers select the amounts recognized from a range of possible values (imprecision), and may voluntarily provide additional information about the measures used to arrive at fair value in a footnote (disclosure). However, it is unclear whether auditors will rely on footnote disclosure to compensate for management's potentially opportunistic use of subjective and imprecise measures. Although subjectivity, imprecision, and disclosure all bear crucially on management's fair value estimates—and, correspondingly, on an auditor's adjustment decisions—their potential interactive effect has not yet been studied.

Studying the role of uncertainty in auditors' fair value adjustment decisions is important for a number of reasons. First, little is known about how auditors make decisions in complex settings such as fair value measurement (Martin et al. 2006). SAB No. 99 requires auditors to look beyond a misstatement's dollar amount, or quantitative materiality, to also consider its qualitative materiality, and it specifically identifies subjectivity and imprecision as qualitative materiality factors.<sup>2</sup> Fair value accounting is a unique setting to study the interaction of subjectivity and imprecision. SFAS No. 157 rates the subjectivity (i.e., Levels 1, 2, and 3) of the inputs managers must use to estimate a range of possible future values,<sup>3</sup> and managers must then

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<sup>1</sup> Auditors' adjustment decisions reflect their judgments about the materiality of detected misstatements at the evaluation stage of the audit (Iceman and Hillison 1991). Material misstatements are those that the auditor perceives would affect the judgment of a reasonable user of the financial statements (FASB 1980; Messier et al. 2008).

<sup>2</sup> Qualitative materiality factors are "the surrounding circumstances that inform an investor's evaluation of financial statement entries" independent of dollar amount (SEC 1999, fn. 5).

<sup>3</sup> Level 1 inputs are quoted prices in active markets for identical assets or liabilities, Level 2 inputs are observable but do not meet the criteria for Level 1 (e.g., quoted prices in active markets for *similar* items), and Level 3 inputs

choose a single dollar amount from the range to recognize in the financial statements. Managers can exploit the imprecision of estimates to mislead financial statement users (e.g., Bamber et al. 2010).<sup>4</sup> Auditors play a critical role in this setting because they can constrain management's opportunistic use of imprecision by requiring adjustments. When studied in isolation, the literature suggests that auditors are *less* likely to require adjustment of more subjectively-determined amounts (e.g., Libby and Kinney 2000; Wright and Wright 1997), but *more* likely to require adjustment of imprecise amounts (Nelson et al. 2005). The interaction of subjectivity and imprecision is prominent in the fair value setting, however its effect on auditors' adjustment decisions is an open question.

Second, understanding how supplemental footnote disclosures affect auditors' adjustment decisions is important because regulators encourage financial statement preparers to provide more information about fair value calculations to users in footnotes. In 2008, the SEC asked companies to begin disclosing key assumptions and ranges of possible values for balance sheet items measured at fair value (Reilly and Scannell 2008). Prior research shows that auditors are less likely to require adjustment of disclosed (versus recognized) amounts (Libby et al. 2006), but it is not clear that this finding will hold for fair value accounting where footnotes *supplement*, rather than *substitute for*, recognition in the body of the financial statements. This question is important to financial statement users and regulators, because if auditors view footnote disclosure as a "hedge" against possible misstatement of recognized amounts, they will be less likely to require adjustment to the body of the financial statements when preparers supplement recognized fair values with footnote disclosure.

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are unobservable but based on the best information available. SFAS No. 157 requires preparers to give highest priority to Level 1 inputs and lowest priority to Level 3 inputs (FASB 2006, par. 22).

<sup>4</sup> For a more complete discussion of the methods by which preparers exercise discretion to manage earnings, see Nelson et al. (2002).

I experimentally examine the effects of subjectivity, imprecision, and disclosure on auditors' adjustment decisions in a fair value measurement setting. I employ a  $2 \times 2 \times 2$  between-participants design in which I manipulate the subjectivity and imprecision of a likely misstatement, as well as the presence of supplemental footnote disclosure, to elicit auditors' likelihood of requiring an adjustment. First, I manipulate subjectivity by providing fair value measurement inputs at two levels prescribed by SFAS No. 157: (1) Level 2 (low subjectivity), and (2) Level 3 (high subjectivity). Second, I manipulate imprecision by providing auditors with either a narrow (precise), or wide (imprecise) range estimate of likely misstatement. Finally, I manipulate footnote disclosure by making supplemental fair value information either present or absent from the client-prepared financial statements. I measure auditors' adjustment decisions using two dependent variables: (1) the auditor's assessed likelihood of requiring a client to adjust the financial statements, and (2) the dollar amount of the adjustment.

I find that subjectivity and imprecision interact to increase the likelihood that auditors will require their clients to adjust recognized fair value estimates. I also find that supplemental footnote disclosure negates this interaction. In contrast to the non-fair value settings examined in prior literature, auditors are *not* less likely to require adjustment of more subjectively-determined fair values when their amounts are precisely-defined. Taken together, my findings reveal that imprecision critically influences how auditors assess the reasonableness of subjectively-determined fair value estimates. Although subjectivity and imprecision interact to increase the likelihood that auditors will require an audit adjustment, the dollar amount of that adjustment is influenced by imprecision alone. Consistent with psychology theory on decision makers' use of reference points (Kahneman 1992), I find that auditors use the parameters of imprecise ranges to calculate the dollar amount of required adjustments. Specifically, auditors use the lower

bound—rather than the midpoint—of the range of possible misstatement to calculate the size of their required adjustments.

My study contributes to our understanding of how auditors evaluate fair value measurements. There has not yet been any study of auditors' judgments in a fair value setting, which the PCAOB has distinguished from other types of accounting estimation because of the increased reliance on market inputs and valuation skills from outside the audit team (PCAOB 2007a). Fair value measurements often require valuation skills that are beyond the scope of auditors' training (AICPA 2003; Martin et al. 2006). This means that auditors will frequently rely on experts outside the engagement team for valuation expertise, but must still evaluate the reasonableness of management's assumptions and disclosure choices (Martin et al. 2006). SFAS No. 157 prescribes a specific hierarchy of input subjectivity (i.e., Levels 1, 2, and 3), but auditors do not respond to this type of uncertainty as they have in earlier research of non-fair value decisions. My findings reveal that auditors have a multi-dimensional view of the uncertainty that features prominently in fair value settings, with complex interactions influencing their judgments.

I also contribute to the literature on auditors' materiality judgments. Though the materiality literature finds that auditors are generally *less* likely to require adjustment of subjectively-determined misstatements (Braun 2001; Wright and Wright 1997) but *more* likely to require adjustment of imprecisely-expressed misstatements (Nelson et al. 2005), these findings do not generalize to the fair value setting for several reasons. First, previous tests of subjectivity compare perfectly objective misstatements (e.g., cutoff errors) to subjective misstatements (e.g., bad debt reserve); such tests essentially compare known misstatements to likely misstatements. In the fair value setting, known misstatements are unusual when objective information is absent

and inputs vary in their *degrees* of subjectivity. Second, although prior research shows that subjectivity and imprecision have opposite effects on auditors' materiality judgments in isolation, I study their interaction and find that judgments vary depending on the combination of multiple qualitative materiality characteristics. Third, earlier materiality studies examine more straightforward GAAP judgments, where the underlying nature and range of possible outcomes are usually better understood by auditors than market-driven fair value measurements.<sup>5</sup>

Finally, my study is the first to examine how supplemental disclosures affect auditor decision making. Hoping to make recognized fair value information more useful to users, the SEC encourages financial statement preparers to provide supplemental disclosures explaining their fair value estimates, for instance by providing the range of possible outcomes from which a recognized amount was chosen (Reilly and Scannell 2008). Prior research indicates that auditors are less likely to require adjustments when preparers disclose, rather than recognize, possible misstatements (Libby et al. 2006). However, earlier literature only considers disclosure as a *substitute* for recognition. My study is the first to examine auditor decisions when disclosure *supplements* amounts recognized in the body of the financial statements. I find that auditors are less likely to require adjustment of highly uncertain amounts when preparers supplement recognition with footnote disclosure. My study suggests that the SEC's preference for supplemental disclosure may have the unintended consequence of changing recognized financial statement amounts. Although auditors apparently share the SEC's view that supplemental disclosure is useful to users, empirical evidence indicates that market participants treat disclosures as less reliable than recognized amounts (e.g., Davis-Friday et al. 2004). If

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<sup>5</sup> For instance, the most commonly examined subjective misstatements involve asset valuation reserves: the allowances for doubtful accounts receivable and inventory obsolescence (e.g., Nelson et al. 2005; Ng and Tan 2007). These estimates are usually based on established criteria such as historical experience. Fair value measurements, in contrast, depend more heavily on unpredictable, external, market forces.

supplemental disclosures indirectly change recognized fair values, they could lead to distortion in the relationship between accounting information and security prices.



## **CHAPTER 2**

### **BACKGROUND**

#### **Fair Value Measurement**

SFAS No. 157 defines fair value as “the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date” (FASB 2006). SFAS No. 157 does not prescribe fair value treatment for any additional assets or liabilities beyond those covered by previous standards, but it does clarify fair value’s definition and application, and expands required disclosure (FASB 2006). The critical difference between fair value measurements and other accounting estimates is that fair value should be based on market (rather than entity-specific) information whenever possible (FASB 2006; PCAOB 2007a). Fair value measurement assumes that the transaction to sell an asset or transfer a liability takes place in the “principal or most advantageous market” at the measurement date (FASB 2006).

SFAS No. 157 prescribes a three-level hierarchy to prioritize fair value measurement inputs according to their reliability (FASB 2006). The hierarchy is designed to compel the use of observable inputs (e.g., a security price quoted on NASDAQ) over unobservable inputs (e.g., internal estimates based on the firm’s past experience) (FASB 2006). Level 1 inputs are readily observable and reside at the top of the hierarchy, Level 2 inputs are less directly observable, and Level 3 inputs are unobservable; thus the level of judgment required increases from Level 1 to Level 3. A summary of the three-level input hierarchy follows:

- **Level 1** inputs are quoted prices in active markets for identical assets or liabilities.

- **Level 2** inputs are not quoted prices on active markets, but are observable either directly or indirectly, such as
  - the quoted price of *similar* assets or liabilities in active markets or
  - the quoted price for identical or similar assets in inactive markets or
  - inputs other than quoted prices which are observable (e.g., interest rates) or
  - other inputs corroborated by observable market information.
- **Level 3** inputs are unobservable inputs based on the best information available.

The PCAOB responded to the issuance of SFAS No. 157 with new guidance for auditors in Staff Audit Practice Alert No. 2 (PCAOB 2007b). The PCAOB distinguishes fair value measurements from other types of accounting estimates, and states that less reliable inputs (e.g., Level 3) may be more susceptible to preparer bias (PCAOB 2007b). Although the PCAOB stresses the importance of ensuring that preparers use the appropriate level of inputs so that financial statements conform to SFAS No. 157, the Board does not provide specific guidance on how input reliability affects either audit testing or the evaluation of misstatements. Staff Audit Practice Alert No. 2 states that fair value measurements may often require the use of specialists by either the auditor or client management (PCAOB 2007b). To rely on the work of a specialist for audit evidence, the auditor must consider both the materiality of the fair value measurement and the specialist's assumptions (PCAOB 2007b).

Financial statement preparers, particularly banks, criticize SFAS No. 157, arguing that the market for fair value assets may not always accurately reflect value at a given measurement date (Rapoport 2009). In the midst of the 2007-2008 subprime lending crisis, the SEC began encouraging registrants to disclose ranges of possible outcomes surrounding the fair value estimates recorded in the financial statements, and to explain the rationale for choosing a particular point for recognition (Reilly and Scannell 2008). Investor protection groups

immediately voiced concern that preparers could use such disclosures to mislead investors by presenting overly optimistic ranges (Reilly and Scannell 2008). Proponents of these disclosures insist that the benefits of providing additional information to investors outweigh the risks of possible abuse (Reilly and Scannell 2008).

To date, the literature offers no evidence on auditors' fair value materiality decisions. Professional standards (e.g., SFAC No. 2) provide that, due to unreliability, uncertain amounts may be disclosed rather than recognized (FASB 1980). But Libby et al. (2006) argue that there are often unrelated reasons for choosing disclosure over recognition (e.g., political considerations). Libby et al. (2006) find that, when presented with historical-cost misstatements that are either recognized in financial statements or disclosed in footnotes, auditors are more likely to require adjustment of recognized amounts, regardless of whether the misstatement is determined objectively or subjectively. Libby et al. (2006) suggest that the lower reliability of disclosed amounts relative to recognized amounts observed in prior research (e.g., Davis-Friday et al. 2004) may be caused by auditors' increased materiality thresholds for amounts disclosed than for amounts recognized (Libby et al. 2006). Whereas prior research studies the choice *between* recognition and disclosure, I study disclosures that *supplement* recognition with additional information. Prior research does not address the role of supplemental footnote disclosure on auditors' materiality decisions.

## **Materiality**

Statement of Financial Accounting Concepts (SFAC) No. 2 defines materiality as “the magnitude of an omission or misstatement of accounting information that, in the light of surrounding circumstances, makes it probable that the judgment of a reasonable person relying on the information would have been changed or influenced by the omission or misstatement”

(FASB 1980, 10). Auditors are required by professional standards to consider materiality at both the planning and evidence evaluation stages of an audit engagement (AICPA 2006). At the planning stage, auditors consider materiality when they determine the appropriate scope of audit testing (Messier et al. 2005). After testing is performed, auditors must reconsider the appropriateness of the assessed planning materiality level in light of additional factors learned during the course of the engagement, and then evaluate detected known and likely misstatements (AICPA 2006). Auditors present detected misstatements to client management in the form of proposed adjusting journal entries. The client and auditor then typically negotiate for the client to record in full (“book”), in part (“partially adjust”), or not record (“waive”) each of the proposed adjustments (Braun 2001; Wright and Wright 1997). The auditor may choose not to issue an unqualified report if the client refuses to adjust detected misstatements that are deemed material (AICPA 2006). Auditors are required by SAS No. 89 to communicate all unadjusted misstatements to the client’s audit committee (AICPA 1999; Libby and Kinney 2000).

Evaluative materiality has received considerable attention from standard setters due to the significant professional judgment that it requires. Though SFAC No. 2 specifically states that materiality cannot be judged in exclusively quantitative terms, such as percentage-of-income rule of thumb, during the 1990s prominent regulators charged that auditors were not giving adequate consideration to the *qualitative* nature of detected misstatements (FASB 1980; Levitt 1998). In his 1998 “Numbers Game” speech, SEC Chairman Arthur Levitt charged that companies and their auditors use quantitative thresholds to justify uncorrected misstatements, even when those misstatements bear important qualitative characteristics, such as permitting a company to meet its consensus analyst earnings forecast (Levitt 1998).

Since the time of Levitt's "Numbers Game" speech, experimental research has identified a number of factors that affect how auditors make qualitative materiality judgments and decisions (illustrated in Figure 1). In addition to monetary magnitude (i.e. quantitative materiality), researchers have empirically shown that auditors' materiality decisions are affected by a misstatement's directional impact on net income (Braun 2001; Wright and Wright 1997), subjectivity (Braun 2001; Libby and Kinney 2000; Wright and Wright 1997), level of aggregation (Braun 2001), impact on ability to meet analysts' expectations (Libby and Kinney 2000; Ng 2007; Ng and Tan 2007), location in the financial statements (Libby et al. 2006), and precision (Nelson et al. 2005). In general, auditors have been shown to be more tolerant (more willing to waive adjustment) of understatements of net income, subjective misstatements, and misstatements located in the footnotes of the financial statements (Braun 2001; Libby et al. 2006). In contrast, auditors are less tolerant (more likely to require adjustment) of overstatements of net income and misstatements of imprecise amounts (Braun 2001; Nelson et al. 2005; Wright and Wright 1997). No study to date has measured the interaction of multiple qualitative materiality factors.

### **Auditing Literature on Uncertainty**

Prior auditing studies have examined the role of uncertainty in reporting judgments, auditor-client negotiations, and materiality decisions. The auditing research has focused almost exclusively on the effect of uncertainty in terms of subjectivity, which has typically been operationalized as uncertainty about the probability that a given future event will occur. Consistent with Einhorn and Hogarth's (1985) ambiguity model, Nelson and Kinney (1997) report that both auditors and users tend to overestimate the likelihood of low probability outcomes and underestimate the likelihood of high probability outcomes when uncertainty is

present. Nelson and Kinney (1997) manipulated uncertainty about the probability of a contingent loss (subjectivity), but not uncertainty about the dollar amount of the outcome should it occur (imprecision). Zimbelman and Waller (1999) found that ambiguity about an asset's true value caused auditors to 1) increase their testing sample sizes, and 2) increase the rate at which they rejected the client's recorded asset value. They further found that, in anticipation of auditors' ambiguity aversion, clients reduced their intentional misstatements, especially when their incentives to misstate were low (Zimbelman and Waller 1999). In sum, prior research on reporting and negotiation suggests that uncertainty affects auditors' judgments, and leads to more conservative decisions about the quantity and evaluation of audit evidence.

There have been a number of studies that examine the effect of a single source of uncertainty on auditors' materiality decisions.<sup>6</sup> Staff Accounting Bulletin No. 99 provides guidance to help identify characteristics that could render quantitatively small amounts material to the financial statements (i.e., *qualitatively* material misstatements). More recent professional guidance, Statement on Auditing Standards (SAS) No. 107, includes similar criteria for evaluating qualitative materiality (AICPA 2006).<sup>7</sup> Two qualitative characteristics of misstatements mentioned in SAB No. 99 are (1) "whether it arises from an estimate," and (2) "the degree of imprecision inherent in the estimate" (Nelson et al. 2005; SEC 1999). The first SAB No. 99 characteristic, which I have labeled 'subjectivity,' has received considerable attention in materiality research (Messier et al. 2005). Studies have consistently found that the presence of subjectivity reduces the likelihood that auditors will require their clients to record adjustments (e.g., Braun 2001; Libby and Kinney 2000; Wright and Wright 1997). These

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<sup>6</sup> For a complete review of the literature on materiality, see Messier et. al (2005).

<sup>7</sup> Other examples of qualitative characteristics mentioned in SAB No. 99 and SAS No. 107 include whether the misstatement (1) masks a change in a financial statement trend (e.g., EPS), (2) allows the company to meet analysts' expectations, (3) has an effect on management compensation, (4) involves fraud, or (5) allows the company to satisfy loan covenants or regulatory requirements (AICPA 2006; SEC 1999).

studies' tests of subjectivity have always compared perfectly non-subjective amounts (e.g., cutoff errors) to subjective amounts (e.g., bad debt reserve); such tests essentially compare known misstatements to likely misstatements. In the fair value setting, known misstatements are rare, and there is great subtlety in the *degree* of subjectivity required to compute estimates. Further, in previous studies subjectivity is examined while holding other qualitative characteristics (e.g., imprecision) constant. How auditors respond to more subtle changes in subjectivity, especially when other qualitative misstatement characteristics are salient, remains an open question. Auditors may not respond to incremental changes in subjectivity, or their response to subjectivity may be mediated by other factors.

Nelson et al. (2005) provide the only investigation of the role of imprecision in auditors' materiality decisions to date.<sup>8</sup> In their study, the authors presented auditor participants with either a point estimate or a range of misstatement for a contingent liability (the bad debt reserve) and elicited their decision of whether to book or waive the associated audit adjustments. While the point estimate and range were equivalent under GAAP, auditors were significantly more likely to require adjustment when presented with a range-defined misstatement (Nelson et al. 2005). The authors conclude that ranges suggest uncertainty, and lead to more conservative responses from auditors (Nelson et al. 2005). In sum, prior research suggests that subjectivity and imprecision have opposite effects on auditors' adjustment decisions in isolation, but provides no insight about how multiple simultaneous sources of uncertainty interact.

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<sup>8</sup> The main focus of Nelson et al. (2005) is the effect of auditors' *quantitative* materiality approach (cumulative versus current-period), in conjunction with various qualitative characteristics, on the book-or-waive decision. The quantitative materiality approach affected auditors' adjustment decisions for point estimates, but not for ranges. Subsequent to Nelson et al's (2005) study, the SEC issued SAB No. 108 which eliminates auditors' choice of quantitative materiality approach (SEC 2006).

## CHAPTER 3

### THEORY AND PREDICTIONS

Wallsten and Budescu (1995) provide a taxonomy of the sources of uncertainty<sup>9</sup> that distinguishes between (1) the nature and inherent uncertainty surrounding an event (i.e., subjectivity), and (2) the manner in which the uncertainty is presented (i.e., imprecision).<sup>10, 11</sup> Although people express uncertainty when it is feasible to do so, certain tasks, such as the recognition of an account balance in the body of the financial statements, require that their beliefs be reduced to a single point (Wallsten and Budescu 1995).

Most psychology research examines uncertainty about the probability of a future event's occurrence in the context of gambles (e.g., Einhorn and Hogarth 1985; Ellsberg 1961), but exact probability information is rarely available when making risky choices. Shapira (1993) argues that when probability information is so vague that it becomes useless, decision makers shift their focus to outcome information. For example, insurance executives ignore the highly-uncertain probability of potential losses, and base decisions instead on the magnitude of possible outcomes (Shapira 1993; March and Shapira 1987). As one manager put it, "I take large risks regarding the probability, but not the amounts." (Shapira 1993, p. 90). In sum, managers appear to place

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<sup>9</sup> Uncertainty is also sometimes labeled 'ambiguity' or 'vagueness' in the psychology literature.

<sup>10</sup> I have labeled these characteristics 'subjectivity' and 'imprecision' in order to be consistent with the prior research in accounting and auditing.

<sup>11</sup> To illustrate the distinction between the inherent uncertainty of an event versus how that uncertainty is expressed, consider the case of a meteorologist predicting whether it will rain on a given day. The event itself, rainfall, cannot be predicted with certainty. The meteorologist expresses her uncertainty by providing a probability (e.g., "30% chance of rain") that any single point in the forecast area will receive rain during a given timeframe. A "90% chance of rain" expresses less uncertainty than a "30% chance of rain." Similarly, forecasting "one to two inches of rain" expresses less uncertainty than "one to three inches of rain." But regardless of how the uncertainty is expressed, the nature of the event itself (rain) means that there will always be a lack of perfect knowledge about what will actually happen.



more weight on the monetary amount of possible outcomes when the probability of an event occurring is highly uncertain: as the probability of occurrence becomes more uncertain, the weight placed on outcomes increases.

Tversky and Kahneman (1991) and Kahneman (1992) provide evidence that decision makers evaluate possible outcomes relative to situation-specific reference points. “Reference points are important because other outcomes are compared to them, and are coded and evaluated in terms of this comparison” (Kahneman 1992, p. 296). Outcomes better than a given reference point are coded as gains and outcomes worse than a given reference point are coded as losses.<sup>12</sup> Most decision settings involve multiple reference points (e.g., “bid” versus “ask” prices), so whether an outcome is coded as a gain or a loss depends upon which particular reference point is chosen for comparison (Kahneman 1992). The gain or loss characterization is important because Prospect Theory (Kahneman and Tversky 1979; Tversky and Kahneman 1992) predicts that changes in possible losses are weighted more heavily than changes in possible gains.

Applied to the audit setting, losses occur when auditors fail to either detect or require adjustment of misstatements. A range of possible misstatement outcomes provides a number of salient reference points: a high end, a low end, a midpoint, a width (the total size of the range), and the auditor’s quantitative materiality threshold. In this context, auditor losses occur as misstatement increases, especially when misstatement exceeds the auditor’s quantitative materiality threshold. As the range of possible misstatement outcomes widens (i.e., as imprecision increases), there is an increasing likelihood that some portion of the estimated range

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<sup>12</sup> To illustrate, consider the case of purchasing real estate. Before making an offer, a buyer usually establishes reference points such as comparable sale prices in a particular neighborhood, cost per square foot, pre-approved mortgage loan amounts, mortgage debt-to-income ratios, etc. These reference points will then be used as bases for making an offer to buy, and will later be used to determine whether s/he overpaid (loss domain) or underpaid (gain domain) for the property. Whether the outcome is coded as a gain or a loss depends on which reference point is used. If a buyer ultimately pays \$100,000 for a home, comparable neighborhood prices average \$105,000, but cost per square foot suggests a price of \$95,000, the buyer would code the former comparison as a gain and the latter as a loss.

will exceed tolerable misstatement. Failure to detect or adjust material misstatements exposes auditors to both litigation (Heninger 2001) and reputational damage (DeAngelo 1981), which auditors try to avoid by requiring their clients to record adjustments (Kinney and Martin 1994).

It is possible that auditors make decisions to adjust fair values as they would for other estimates (e.g., those based on historical cost). Previous studies conclude that auditors are less likely to require their clients to record adjustments when one source of uncertainty, namely subjectivity, is present. Auditing standards recognize that preparers must exercise judgment and rely on subjective factors to make estimates (AICPA 1988). The accounting literature outside of fair value has consistently shown that auditors are less likely to require adjustment of subjectively-determined misstatements than objectively-determined misstatements when these outcomes are defined precisely. This result has held in both archival (e.g., Joe et al. 2008; Wright and Wright 1997) and experimental (e.g., Braun 2001; Nelson et al. 2005) studies. The literature suggests that auditors tend to waive adjustment of subjective estimates because they have less power in negotiations with their clients when there is significant room for judgment about an accounting issue (Deis and Giroux 1992; Magee and Tseng 1990). Further, audit committees are less likely to support the auditor in auditor-management disagreements when the dispute involves subjective estimates (DeZoort et al. 2003).

However, the previous result for subjectivity may not hold in the fair value setting, where differences in input subjectivity can be subtle (e.g., Level 2 versus Level 3) and outcome imprecision is explicit along with subjectivity. Earlier research compares subjectively-determined amounts (likely misstatements) to objectively-determined amounts (known misstatements), whereas fair value measurements involve varying levels of subjectivity. Thus, earlier tests of subjectivity essentially compare black-versus-white, but fair value estimates

involve shades of gray. If auditors do not distinguish between incremental degrees of subjectivity, their adjustment decisions will not necessarily follow the same pattern as earlier subjective-versus-objective comparisons. Further, the imprecision of possible outcomes could critically influence how auditors evaluate subjective inputs.

I expect that auditors consider subjectivity and imprecision jointly when they make adjustment decisions in fair value settings. Subjectivity characterizes the reliability of the inputs preparers use to calculate estimates, while imprecision characterizes the range of possible outcomes from which preparers select an amount to recognize in the body of the financial statements. I do not expect incremental changes in subjectivity to affect auditors' decisions when misstatements are defined precisely; auditors will not distinguish between the reliability of Level 2 versus Level 3 inputs when a narrow range of possible outcomes are unlikely to exceed their materiality threshold. However, as outcome imprecision increases, both management's discretion and the likelihood that some outcomes will exceed their materiality threshold also increase, *ceteris paribus*. Auditors constrain management discretion (e.g., Gaver and Paterson 2007; Reynolds and Francis 2001), and are more likely to suspect that management's imprecise fair value estimates are biased when they are based on more subjective inputs that may have been chosen opportunistically. This leads to the following hypothesis when supplemental disclosure is absent:

**H1:** Input subjectivity and outcome imprecision interact to influence auditors' likelihood of requiring their clients to adjust fair value measurements, such that:

**H1a:** When misstatements are defined precisely, incremental increases in input subjectivity will not affect auditors' likelihood of requiring their clients to adjust fair value measurements.

**H1b:** As outcome imprecision increases, the likelihood that auditors will require their clients to adjust fair value measurements increases more when

misstatements are based on more subjective inputs than when they are based on less subjective inputs.

Regulators encourage preparers to supplement the “best guess” they recognize in the body of the financial statements by providing additional disclosure about both how fair value estimates are made and the possibility of alternate outcomes. The accounting literature suggests that financial statement users consider recognized amounts more reliable than footnote disclosures (e.g., Davis-Friday et al. 2004). Libby et al. (2006) provide evidence that auditors are more likely to require adjustment of recognized amounts than disclosed amounts when preparers are given a choice between recognition and disclosure. However, in the fair value setting estimates are made under great uncertainty and disclosure *supplements*, rather than *substitutes for*, recognition.

The prior literature makes no clear prediction about how supplemental disclosure will affect auditors’ decisions to require their clients to adjust recognized amounts in the body of the financial statements. Psychology theory posits that information providers must trade-off between accuracy and informativeness when communicating uncertain amounts (Yaniv and Foster 1995). For example, the usefulness of less accurate estimates can be improved by providing additional relevant information about their underlying uncertainty (e.g., the range of possible outcomes). Financial accounting research suggests that users tend to overemphasize explicit amounts in the absence of complete disclosure about uncertain estimates (Hobson and Kachelmeier 2005; Kennedy et al. 1998), but that this bias can be reduced by providing complete range information (Koonce et al. 2005). If auditors perceive that disclosing range information is useful and compensates for potential inaccuracy in recognized amounts, they will be less likely to require adjustment of recognized likely misstatements. Consistent with psychology theory, I expect auditors to trade-off between accuracy and informativeness in deciding whether to require

clients to adjust imprecise fair value estimates. I predict that auditors will be less likely to require adjustment of imprecise amounts when preparers supplement recognized fair value estimates by disclosing a range of possible outcomes, as stated more formally below.

**H2:** When misstatements are defined imprecisely, auditors are less likely to require adjustment of fair value estimates when supplemental footnote disclosure is present than when such disclosure is absent.

The hypotheses above focus on whether auditors will require audit adjustments, but auditors must also decide the magnitude of the adjustments. Because misstatement subjectivity cannot be discretely quantified, this dimension is unlikely to systematically influence the dollar magnitude of required adjustments. If, as discussed above, auditors focus more on outcome magnitude when the probability of material misstatement becomes more uncertain, auditors will be more likely to consider imprecision information (i.e., range parameters) when calculating required adjustments. Ranges of possible misstatement feature three parameters: a midpoint, lower bound, and upper bound.<sup>13</sup>

Prior research does not make a clear prediction about which parameter auditors will use to calculate adjustment size. In financial accounting settings, empirical evidence suggests that investors and analysts focus on the midpoint when presented with a range of possible outcomes (e.g., Baginski et al. 1993; Hirst et al. 1999; Kennedy et al. 1998). Meanwhile, auditing standards define *likely* misstatement as the difference between the client's recorded value and the *nearest* boundary of auditors' independent range estimate (AICPA 2006). Thus, auditing

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<sup>13</sup> Consider the case in which the client has recognized a fair value of \$100 for an asset in the financial statements, and the auditors' independent estimate of the asset's value is defined either precisely as a narrow range of \$88 to \$92, or imprecisely as a wide range from \$85 to \$95. The precise range presents a possible misstatement of \$8 to \$12, and the imprecise range presents a possible misstatement of \$5 to \$15. If auditors use the midpoints of possible misstatements to calculate audit adjustments, they will require the client to record an adjustment of \$10 in either case (\$100 recorded asset value - \$90 midpoint = \$10 adjustment) because the precise and imprecise range share a common midpoint (\$90). If, however, auditors use the lower bound of possible misstatement to calculate required adjustments, they will require an adjustment of \$8 for the precise range and \$5 for the imprecise range. Extending this logic to the upper bound of possible misstatement, auditors would require adjustments of \$12 for the precise range and \$15 for the imprecise range.

standards call for adjustment only to the nearest bound—rather than to the midpoint—of possible misstatement.<sup>14</sup>

To examine how imprecision influences auditors' calculation of adjustment size, I compare a precise range to an imprecise range of possible misstatement. Specifically, I consider cases where the clients' recognized fair values fall outside auditors' range of independent estimates, which are defined either precisely or imprecisely but centered on a common midpoint. By construction the imprecise range's upper (lower) bound of possible misstatement is larger (smaller) than the comparable bounds of the precise range. Thus, the client's recognized amount will differ from the ranges' midpoints by an equal amount, but will differ from the nearest bound of an imprecise estimate by less than it differs from the nearest bound of a precise estimate. If auditors require their clients to adjust fair values to the midpoints, there will be no difference in the dollar value of adjustment between precise and imprecise ranges. Alternatively, if auditors apply professional standards, they will require adjustments only to the nearest range parameter, resulting in smaller dollar amounts of adjustment when possible misstatements are defined imprecisely than when they are defined precisely. Finally, if auditors take the most conservative possible approach, they will require their clients to adjust fair values all the way down to the auditors' "worst case scenario," resulting in larger dollar amounts of adjustment when possible misstatements are defined imprecisely than when they are defined precisely. However, auditors are unlikely to require such large adjustments given the incompatibility of this approach with both auditing standards and client preferences.

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<sup>14</sup>Nelson et al. (2005) show that auditors sometimes act more conservatively than required by professional standards when misstatements are defined imprecisely, and may require their clients to record adjustments beyond the lower bound of possible misstatement. However, Nelson et al.'s (2005) study considers only the decision to require adjustment, not adjustment magnitude, and their prediction is not inconsistent with mine.

I predict that auditors will require adjustments large enough to adjust fair values to the nearest bound of their independent estimate, consistent with application of professional standards. Therefore, I expect auditors to require smaller adjustments for imprecise ranges than precise ranges centered on a common midpoint. Thus, although auditors are more likely to require adjustment (of *some* dollar amount) when estimates are highly uncertain (H1b above), the magnitude of those adjustments will vary according to their imprecision. Specifically, when auditors *do* require adjustments, the dollar amount required will be smaller when possible misstatement outcomes are defined imprecisely than when they are defined precisely. This leads to the following hypothesis regarding the dollar amount of audit adjustments:

**H3:** Auditors will require a smaller dollar amount of adjustment when misstatements are imprecisely defined than when they are precisely defined.

## **CHAPTER 4**

### **METHOD**

#### **Overview**

In my experiment, auditors from a Big Four accounting firm assess the likelihood that they would require a client to record an audit adjustment, and report the most likely dollar amount of the adjustment. Participants read background information, assess the likelihood of requiring an audit adjustment and its most likely dollar amount, then answer a series of manipulation check and debriefing questions. The experiment takes participants approximately 15 minutes to complete.

#### **Participants**

Ninety-one practicing auditors with an average of 8.2 years of experience participated in the experiment. Participants include Partners (18%), Senior Managers (28%), Managers (8%), and Seniors (44%). My experimental materials were randomly distributed by a contact within the firm. Each participant returned her or his completed experimental materials directly to me in a prepaid envelope.

#### **Case Materials**

I adapt the materials developed by Braun (2001) to my study. The case provides participants with a background narrative about an audit client, AHN Integrated Products, which is a profitable, publicly-traded manufacturing firm whose liquidity and leverage are at their industry's average. As in Nelson et al. (2005), I control for auditor concerns such as the internal control environment, the competence of the audit team, and the quality of the audit review



process. To assure that there is adequate reason for the auditor to waive adjustments, I also include Nelson et al.'s (2005) language stating that the client is opposed to any further audit adjustments. Consistent with prior research, I also provide participants with a quantitative materiality threshold (e.g., Braun 2001).<sup>15</sup>

My case states that the client has determined that the value of certain fixed assets (manufacturing equipment) is impaired, and will apply SFAS No. 157 to determine the fair value of the assets at year-end. Because the fixed assets are customized to the client's specifications, there are no quoted prices on active markets. As part of audit testing, the engagement team consults their firm's fair value specialists, who provide an estimate of the fair value of the impaired fixed assets. Based on that estimate, the field senior determines that the client's recorded value for the property could potentially be misstated, and posts and documents a proposed audit adjustment.

### **Dependent Variables**

I measure two dependent variables: (1) the likelihood of requiring the client to record an adjustment to the financial statements, and (2) the most likely dollar amount of adjustment. The likelihood of requiring an adjustment is elicited from participants as they review the audit workpaper containing the proposed adjustment. The likelihood of requiring an audit adjustment is measured on a ten-point scale, anchored by 1 (very low likelihood of requiring correction), and 10 (very high likelihood of requiring correction). After assessing the likelihood of requiring an audit adjustment, participants report the most likely dollar amount of any required adjustment.

### **Independent Variables**

I manipulate three independent variables in my  $2 \times 2 \times 2$  between-participants design: subjectivity, imprecision, and disclosure. I create the two levels of subjectivity by providing

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<sup>15</sup> In the case, I specify a quantitative materiality threshold of \$1 million for the financial statements overall.

either a Level 2 (less subjective) or Level 3 (more subjective) input for the fair value measurement of the fixed assets described in the case. Consistent with SFAS No. 157, the Level 2 (less subjective) inputs are based on similar assets in an active, observable market, and the Level 3 (more subjective) inputs are based on discounted cash flow analysis. I create the two levels of imprecision by having the firm's fair value specialists provide either a narrow (precise, \$250k range), or wide (imprecise, \$1M range) estimate of possible fair values.<sup>16</sup> The narrow and wide ranges share a common midpoint. Finally, I create two levels of disclosure by making an additional paragraph about the estimate either present or absent from the client's preliminary financial statements. Because all publicly traded firms will have some form of SFAS No. 157-related disclosure, I manipulate whether additional supplemental information encouraged by regulators (e.g., key assumptions and range of possible outcomes) accompanies the standard footnote.

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<sup>16</sup> I designed the width of the ranges based on their relationship to both quantitative materiality (\$1 million) and the asset value recognized by the client in the body of the financial statements (\$3.45 million). Pilot testing and subsequent manipulation checks suggest that these ranges successfully capture the construct of interest.

## **CHAPTER 5**

### **RESULTS**

#### **Manipulation Checks**

The data indicate that my case manipulates subjectivity successfully. Eighty-six participants (95%) correctly identified the type of SFAS No. 157 input they encountered in the experiment. As an additional check, participants rated the subjectivity of fair value inputs on a scale from 1 (Not Subjective) to 7 (Extremely Subjective). Participants rated Level 3 inputs as more subjective than Level 2 inputs ( $F_{1, 89} = 19.19$ ,  $p = 0.00$ ), confirming that I successfully manipulated the construct of interest.

Participant responses also indicate that both imprecision and disclosure were manipulated successfully. Using a seven-point scale ranging from 1 (Relatively Narrow) to 7 (Relatively Wide), participants rated the imprecise range as relatively wider than the precise range ( $F_{1, 88} = 103.89$ ,  $p = 0.00$ ). Finally, participants rated the client's footnote disclosure as more useful to financial statement users when a supplemental fair value paragraph is present ( $F_{1, 89} = 29.20$ ,  $p = 0.00$ ), using a seven-point scale ranging from 1 (Not Useful) to 7 (Extremely Useful).

#### **Hypothesis Tests**

I present descriptive statistics and results for auditors' assessed likelihood of requiring an audit adjustment in Table 2. Results are illustrated in Figure 3. My first hypothesis assumes that supplemental disclosure is absent. To test whether auditors' adjustment decisions are affected by subjectivity when possible misstatements are defined precisely (H1a), I conducted a planned contrast between the two relevant cells in my  $2 \times 2 \times 2$  design. When possible misstatements are

defined precisely, means (standard errors) for the more subjective and less subjective conditions are 4.60 (0.83) and 4.61 (0.67), respectively. The assessed likelihood of requiring an audit adjustment does not differ ( $F_{1,23} = 0.00$ ,  $p = 0.99$ ) between more subjective Level 3 inputs and less subjective Level 2 inputs when the range of possible misstatement is defined precisely. As expected, I find no effect of subjectivity when misstatements are defined precisely, and my results reveal an important distinction between auditors' treatment of fair value items and other types of estimates. Although auditors are less likely to require adjustment of subjectively-determined amounts than objectively-determined amounts, this pattern does not hold for the subtler increases in subjectivity that characterize fair value estimates.

My first hypothesis also predicts that as imprecision increases, the likelihood that auditors will require adjustment increases more when misstatements are more subjective than when they are less subjective (H1b). Because I predict a specific pattern of cell means, I use a planned contrast to test the ordinal interaction predicted by H1b (Buckless and Ravenscroft 1990). The analysis reported in Table 2, Panel C reveals a significant interaction between imprecision and subjectivity when supplemental disclosure is absent ( $F_{1,47} = 8.45$ ,  $p < 0.01$ ), supporting H1b. As expected, the likelihood that auditors will require adjustment increases with imprecision more when misstatements are more subjectively-determined than when they are less subjectively-determined.

My second hypothesis examines the role of supplemental footnote disclosure in auditors' fair value adjustment decisions. I predict that supplemental disclosure makes it less likely that auditors will require adjustment of imprecisely-defined fair values. I test this prediction using a planned contrast of cells in the imprecise conditions when supplemental disclosure is absent versus present. The planned contrast reported in Table 2, Panel D is not statistically significant

( $F_{1,47} = 0.51$ ,  $p = 0.24$ ). I examine the simple effect of disclosure when both subjectivity and imprecision are high using a *post hoc* comparison. Holding constant high subjectivity and high imprecision, the mean (standard deviation) assessed likelihood of requiring an audit adjustment is 6.88 (2.61) when supplemental disclosure is absent, and 4.34 (2.98) when supplemental disclosure is present. These means are significantly different ( $F_{1,23} = 5.08$ ,  $p = 0.03$ ), indicating that auditors are less likely to require adjustment of more subjective, imprecise amounts when clients provide a supplemental fair value footnote disclosure. My results provide partial support for H2.

My third hypothesis predicts that imprecision significantly influences the size of required audit adjustments, and that auditors will require a smaller dollar amount of adjustment when misstatements are defined imprecisely. Table 3 provides descriptive statistics for the dollar amount of audit adjustment, and Figure 4 illustrates my results. Consistent with H3, the main effect of imprecision is marginally significant ( $F_{1,80} = 3.20$ ,  $p < 0.08$ ). Collapsing across the levels of subjectivity and disclosure, I find that auditors require mean (standard deviation) adjustments of \$428,437 (\$260,992) when misstatements are defined precisely, and \$334,375 (\$301,090) when misstatements are defined imprecisely. This result reveals a positive relationship between misstatement precision and the size of adjustment that auditors will require. As expected, as misstatements become defined more precisely, auditors require larger adjustments.

### **Additional Analyses**

I also examine how my independent variables simultaneously affect both my dependent variables—the likelihood and dollar amount of required audit adjustments—by conducting a multivariate analysis of variance, the results of which I present in Table 4. My results reveal that

imprecision significantly affects the combination of dependent variables (Wilks'  $\lambda_{2, 79} = 0.90$ ,  $p < 0.02$ ), and the interaction of subjectivity and disclosure also have a marginally significant effect (Wilks'  $\lambda_{2, 79} = 0.95$ ,  $p < 0.12$ ). These results warrant further analysis of univariate ANOVAs for both the likelihood of auditors' requiring audit adjustments and the dollar amounts of those adjustments.

I consider the univariate ANOVA for auditors' likelihood of requiring audit adjustment and report results in Table 5. As shown in Table 5, Panel A, subjectivity and disclosure interact significantly ( $F_{1, 83} = 4.35$ ,  $p < 0.04$ ), necessitating separate analyses of the likelihood of requiring audit adjustment for when disclosure is either absent or present. Table 5, Panel B presents ANOVA results for likelihood of requiring audit adjustment when disclosure is absent, and reports a significant interaction of subjectivity and imprecision ( $F_{1, 47} = 4.15$ ,  $p < 0.05$ ), consistent with the predictions of H1 and the more specific planned contrasts reported above. Finally, Table 5, Panel C reports the ANOVA results when disclosure is absent, and indicates that subjectivity, imprecision, and their interaction have no significant effect on auditors' likelihood of requiring adjustments when disclosure is absent, consistent with H2 predicted and supported above.

Recent auditing literature provides evidence that experience affects the likelihood that auditors will require their clients to record adjustments (e.g., Nelson et al. 2005). In order to test whether experience influences auditors' adjustment decisions in my fair value setting, I test three covariates: years of auditing experience, rank in the firm, and familiarity with SFAS No. 157. I re-ran each of the univariate ANOVAs described above using each of my three covariates, resulting in nine models which I summarize in Table 7. My results indicate that none of the three measures of experience affected auditors' fair value adjustment decisions.

Finally, I present a correlation matrix of all my measured variables in Table 8. The nonparametric Spearman correlations reveal a number of statistically significant relationships among these data. Most notably, my two main dependent variables, the likelihood and dollar amount of required audit adjustments are significantly correlated ( $\rho = 0.47, p < 0.01$ ). The MANOVA results described above and presented in Table 4 control for the loss of statistical power potentially caused by this relationship. Table 8 also reveals that auditors' confidence in their own adjustment decisions is significantly negatively-correlated with the dollar amount of adjustment that they require ( $\rho = -0.33, p < 0.01$ )—suggesting the possibility that auditors approach to negotiations with their clients changes according to their confidence in their adjustment decisions. However, auditors' confidence in their fair value adjustment decisions is significantly positively-correlated with their familiarity with SFAS No. 157 ( $\rho = 0.44, p < 0.01$ ). Auditors' confidence in their fair value adjustment decisions is also significantly positively-correlated with their years of experience ( $\rho = 0.35, p < 0.01$ ) and rank in the firm ( $\rho = 0.34, p < 0.01$ ).

## **CHAPTER 6**

### **CONCLUSION**

I provide some of the first empirical evidence about how auditors make decisions related to fair value measurements. Fair value is distinct from historical cost settings because, in the absence of reliable market information, the estimation process involves greater uncertainty. Uncertainty is distinct in fair value accounting along two dimensions: the subjectivity of inputs used to compute estimates, and the imprecision of possible outcomes. To address investor concerns that financial statement preparers use uncertainty to bias their estimates, the SEC encourages companies to disclose more information about how fair values are calculated. Auditors must assess the reasonableness of their clients' fair value measurements, and ultimately decide whether to require their clients to adjust fair values before recognizing them in the financial statements.

I expect and find that auditors are most likely to require clients to adjust fair value estimates when subjectivity and imprecision are both high. This result has a number of implications. First, auditors are most likely to require adjustments when uncertainty is highest and their clients' discretion is greatest. Although investors and their advocates may welcome further evidence that auditors constrain management discretion, this finding is also not inconsistent with financial statement preparers' complaints that auditors try to minimize their own litigation risk by requiring large adjustments to fair values (Katz 2009). Second, this result identifies a context where auditor decision making differs from earlier settings in the literature. Although prior research finds that auditors are less likely to require adjustments when



subjectivity is present (versus absent), I show that these decisions are not significantly influenced by smaller, incremental changes in subjectivity when outcomes are precisely defined. Prior literature argues that auditors are less likely to require adjustment of subjective amounts because these decisions are harder to justify in negotiations with the client (DeZoort et al. 2003). My finding suggests that this does not necessarily hold when changes in subjectivity are subtler (i.e. Level 2 vs. Level 3 inputs) and subjectivity's effect depends on the imprecision of possible misstatement outcomes.

My study is also the first to examine whether supplemental disclosure affects auditors' adjustment decisions. Though auditors are most likely to require adjustments when uncertainty is highest, I find that supplemental disclosure negates this effect. My finding indicates that auditors, like the SEC, believe that supplemental disclosure is useful to financial statement users, and that providing more information compensates for the potential unreliability of recognized amounts. However, because capital market participants weight recognized amounts more heavily than disclosures (Davis-Friday et al. 2004), auditors' tradeoff between reliability and supplemental disclosure could potentially distort the relation between accounting information and security prices. Thus, the SEC's preference for supplemental disclosure may have the unintended consequence of changing, rather than merely explaining, fair values recognized in the body of the financial statements.

Finally, my paper explicitly considers the interaction of qualitative materiality factors and contributes to the literature on auditors' adjustment decisions. Auditors' adjustment decisions have an immediate impact on the external financial statements, and therefore capital market outcomes. If auditors' adjustment decisions systematically differ based on qualitative characteristics, they could potentially distort the earnings-return relation and impose costs on

financial statement users (Barron et al. 2001). Understanding systematic patterns in how auditors make these decisions provides insights that extend far beyond the auditing process *per se*. Future research should focus on identifying new contexts where qualitative materiality interactions are meaningful.

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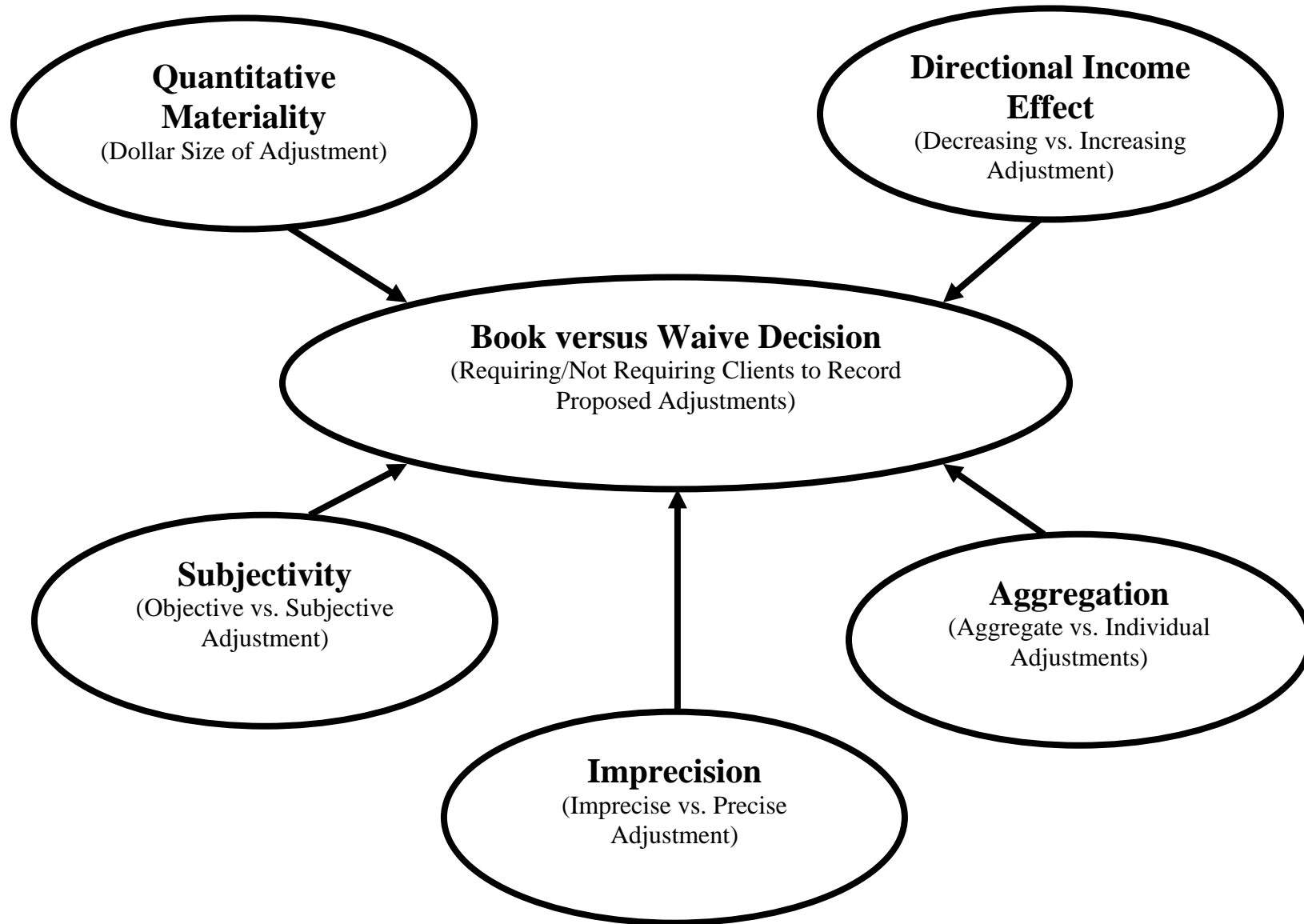
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**FIGURE 1**

**Factors Affecting Auditors' Evaluative Materiality Decisions**

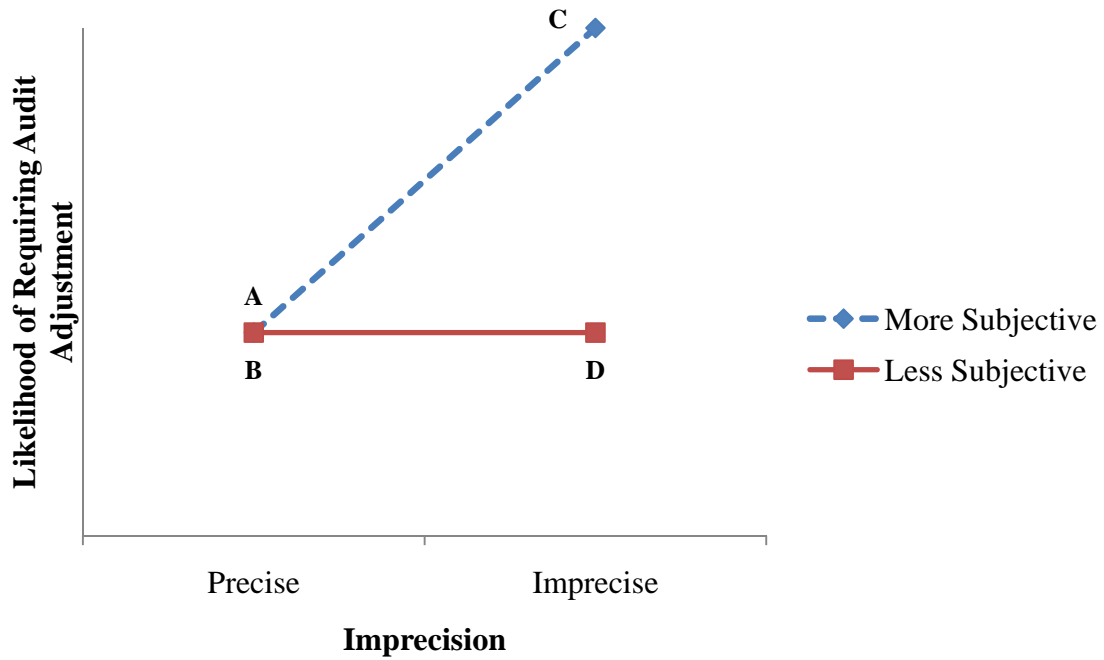




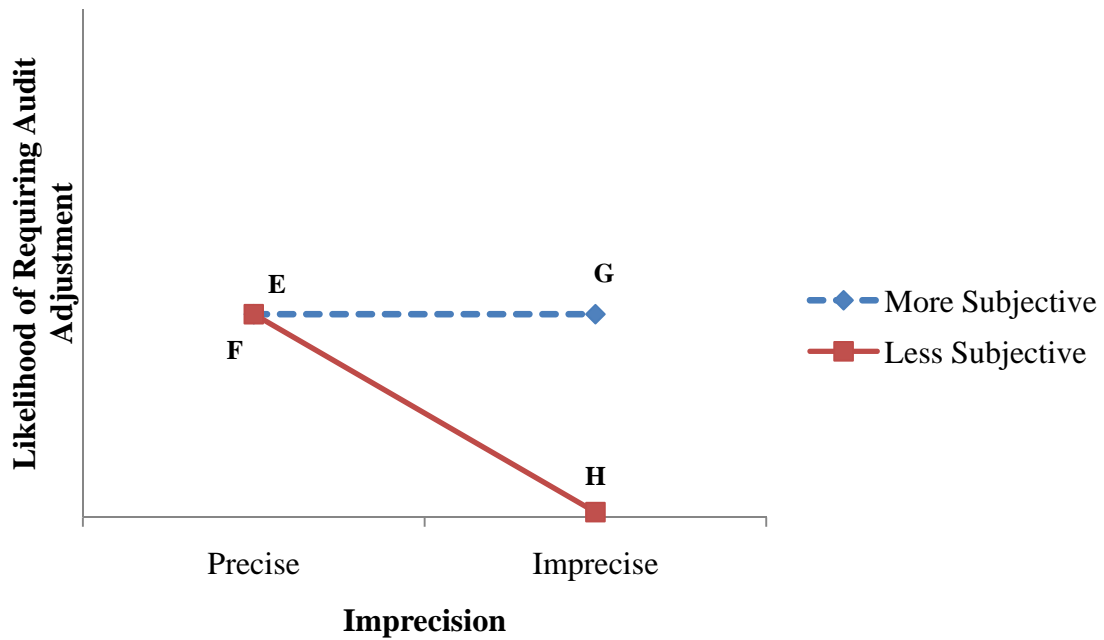
**FIGURE 2**

**Likelihood of Requiring Audit Adjustment Predictions**

**Panel A: When Supplemental Disclosure is Absent**



**Panel B: When Supplemental Disclosure is Present**

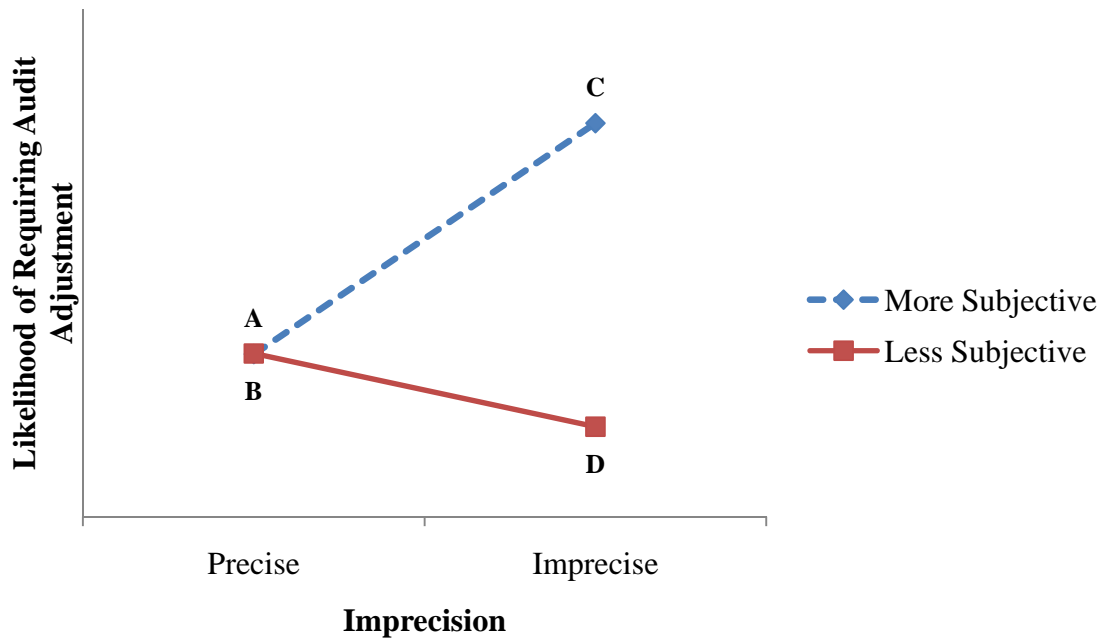


See Table 2 for variable definitions.

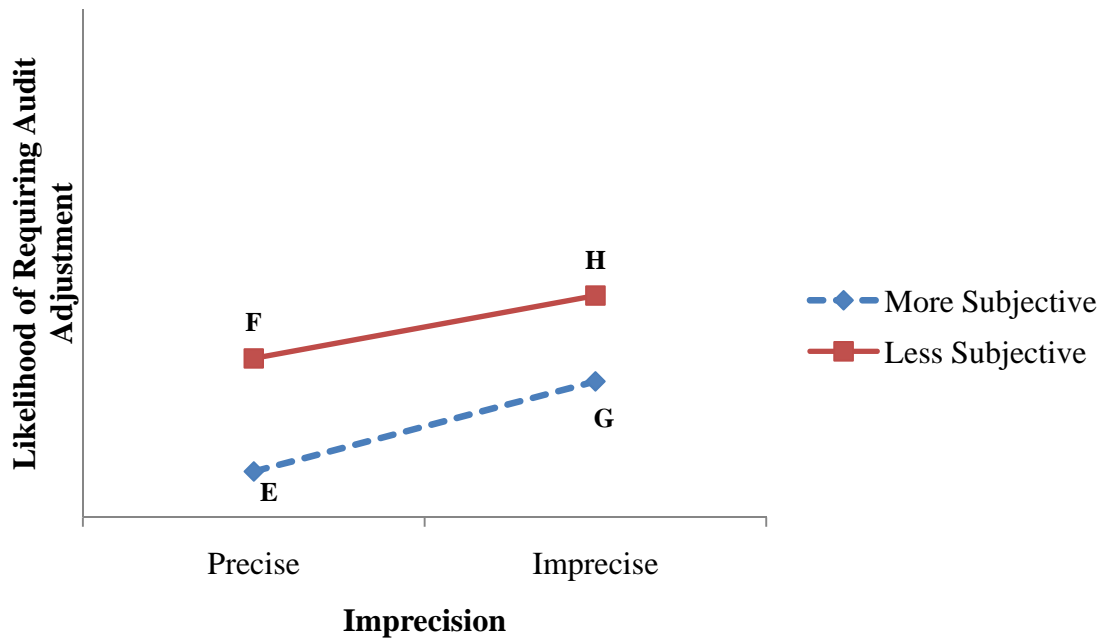
**FIGURE 3**

**Likelihood of Requiring Audit Adjustment Results**

**Panel A: When Supplemental Disclosure is Absent**



**Panel B: When Supplemental Disclosure is Present**

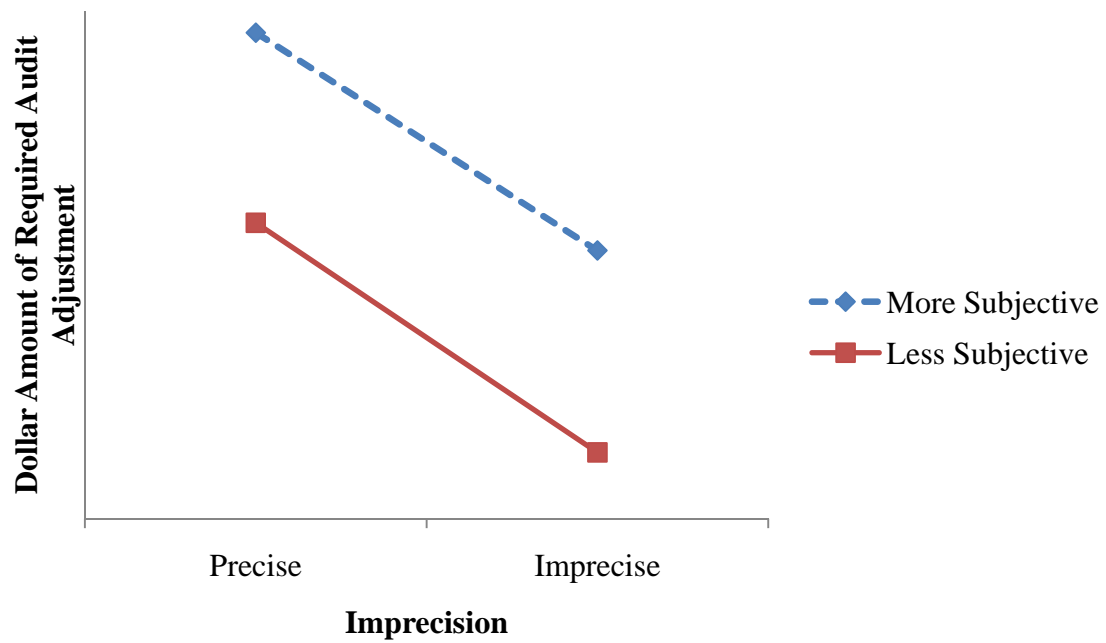


See Table 2 for variable definitions.

**FIGURE 4**

**Dollar Amount of Required Audit Adjustment Results**

**Panel A: Across Levels of Disclosure**



See Tables 2 and 3 for variable definitions.

**Table 1**  
**Descriptive Statistics for Participants' Experience and Ratings of Input Subjectivity, Outcome Imprecision, Disclosure Usefulness, and Familiarity with SFAS No. 157 (by Rank)**

		<b>Rank</b>					
		<b>Sr.</b>					<b>Overall (n = 91)</b>
		<b>Partner (n = 16)</b>	<b>Manager (n = 25)</b>	<b>Manager (n = 7)</b>	<b>Senior (n = 41)</b>	<b>In-charge (n = 2)</b>	
Audit Experience (Years)	Median	17.0	10.0	5.0	3.5	3.0	5.5
	Mean	19.1	9.9	5.4	3.6	3.0	8.2
	SD	5.41	1.68	.84	1.21	.00	6.24
Input Subjectivity <sup>a</sup>	Median	5.0	5.4	5.0	5.0	5.0	5.0
	Mean	5.0	5.1	5.4	5.0	5.0	5.1
	SD	.91	1.17	1.18	1.13	1.41	1.09
Outcome Imprecision <sup>b</sup>	Median	4.2	5.3	4.5	5.0	6.0	5.0
	Mean	4.2	5.0	4.2	4.6	6.0	4.7
	SD	1.80	1.65	1.76	1.26	1.41	1.52
Disclosure Usefulness <sup>c</sup>	Median	2.9	2.0	2.5	2.5	3.5	2.5
	Mean	2.9	2.3	2.9	2.9	3.5	2.7
	SD	1.26	1.25	1.31	1.13	2.12	1.23
SFAS No. 157 Familiarity <sup>d</sup>	Median	5.5	5.0	4.0	4.0	4.5	4.5
	Mean	5.4	5.0	4.0	4.0	4.5	4.5
	SD	1.05	.90	1.09	1.13	.71	1.18

a. Measured on a seven-point scale with one being "Not Subjective" and seven being "Extremely Subjective."

b. Measured on a seven-point scale with one being "Relatively Narrow" and seven being "Relatively Wide."

c. Measured on a seven-point scale with one being "Not Useful" and seven being "Extremely Useful."

d. Measured on a seven-point scale with one being "Not at all Familiar" and seven being "Very Familiar."

**Table 2**  
**Likelihood of Requiring Audit Adjustment Results**

**Panel A: Likelihood of Requiring Audit Adjustment - LS Mean (SE) [n] Cell**

**When Supplemental Disclosure is Absent**

	<b>Imprecision:</b>	
	Precise	Imprecise
More Subjective	4.60 (0.83) [10] A	6.88 (0.75) [12] C
Less Subjective	4.61 (0.67) [15] B	3.89 (0.70) [14] D

**When Supplemental Disclosure is Present**

	<b>Imprecision:</b>	
	Precise	Imprecise
More Subjective	3.45 (1.31) [4] E	4.34 (0.72) [13] G
Less Subjective	4.56 (0.79) [11] F	5.18 (0.75) [12] H

The dependent variable is the likelihood that the auditor will require the client to record an audit adjustment to a fair value estimate. Auditors assess this likelihood on a 10-point scale anchored by 1 (very low likelihood) and 10 (very high likelihood).

I manipulate *Subjectivity* at two levels, between participants. In the more subjective condition the client uses a Level 3 input from SFAS No. 157 to estimate fair value, and in the less subjective condition the client uses a Level 2 input.

I manipulate *Imprecision* at two levels, between participants. In the precise condition there is a narrow range of possible fair value outcomes, and in the imprecise condition a wide range of possible outcomes.

I manipulate *Disclosure* at two levels, between participants, by having the client either include or exclude a supplemental paragraph in the footnotes disclosing uncertainty about the fair value estimate.



**Panel B: Test of H1a**

<b>H1a: Planned Contrast</b>	<b>F<sub>1, 23</sub></b>	<b>p &gt; F</b>
A < > B	0.00	0.99

**Panel C: Test of H1b**

<b>H1b: Planned Contrast</b>	<b>F<sub>1, 47</sub></b>	<b>p &gt; F (one-tailed)</b>
(C - A) > (D - B)	8.45	0.00

**Panel D: Tests of H2**

<b>H2: Planned Contrast</b>	<b>F<sub>1, 47</sub></b>	<b>p &gt; F (one-tailed)</b>
[(G + H) / 2] < [(C + D) / 2]	0.51	0.24

<b>Post Hoc Comparison</b>	<b>F<sub>1, 23</sub></b>	<b>p &gt; F (one-tailed)</b>
G < C	5.08	0.03

**Table 3**  
**Dollar Amount of Required Audit Adjustment Results**

**Panel A: Dollar Amount of Required Audit Adjustment - Mean (SD) [n]**

**Across Levels of Supplemental Disclosure**

	<b>Imprecision:</b>		
	Precise	Imprecise	Overall Means
More Subjective	489,286 (247,820) [14]	382,000 (323,033) [25]	420,513 (299,389) [39]
Less Subjective	395,673 (266,715) [26]	282,609 (272,867) [23]	342,602 (272,812) [49]
Overall Means	428,438 (260,992) [40]	334,375 (301,090) [48]	

**Panel B: Test of H3**

**H3: Subjectivity × Imprecision × Disclosure ANOVA**

<b>Source</b>	<b>Sum of Squares</b>	<b>df</b>	<b>F</b>	<b>p &gt; F</b>
Subjectivity	1.99E+11	1	2.39	0.13
Imprecision	2.66E+11	1	3.20	0.08
Disclosure	8.19E+09	1	0.10	0.75
Subjectivity * Imprecision	2.43E+08	1	0.00	0.96
Subjectivity * Disclosure	7.58E+09	1	0.09	0.76
Imprecision * Disclosure	3.46E+10	1	0.42	0.52
Subjectivity * Imprecision * Disclosure	2.03E+10	1	0.24	0.62
Error	6.65E+12	80		

See Table 1 for descriptions of the independent variables.

The *dependent variable* is the dollar amount of adjustment that auditors would require their client to record.

**Table 4**  
**MANOVA: Effects of Subjectivity, Imprecision, and Disclosure on Auditors' Likelihood of Requiring Adjustment and Adjustment Amount**

MANOVA Model:  $y_{ijk} = \mu + \alpha_i + \beta_j + \gamma_k + \delta_{ij} + \zeta_{ik} + \eta_{jk} + \phi_{ijk} + \varepsilon_{ijkl}$

where:  $y_{ijk}$  is a vector of participant responses in two dependent variables (likelihood of requiring audit adjustment and the dollar amount of adjustment),  $\alpha_i$  is the effect of subjectivity on both of the dependent variables in  $y_{ijk}$ ,  $\beta_j$  is the effect of the  $j$ th level of imprecision,  $\gamma_k$  is the effect of the  $k$ th level of disclosure,  $\delta_{ij}$  is the effect of the subjectivity\*imprecision interaction,  $\zeta_{ik}$  is the effect of the subjectivity\*disclosure interaction,  $\eta_{jk}$  is the effect of the imprecision\*disclosure interaction, and  $\phi_{ijk}$  is the effect of the subjectivity\*imprecision\*disclosure interaction.

Source	Test Statistics <sup>a</sup>	df	F	p > F
Subjectivity	0.97	2	1.24	0.29
Imprecision	0.90	2	4.34	0.02
Disclosure	0.98	2	0.91	0.41
Subjectivity * Imprecision	0.97	2	1.12	0.33
Subjectivity * Disclosure	0.95	2	2.19	0.12
Imprecision * Disclosure	0.99	2	0.24	0.79
Subjectivity * Imprecision * Disclosure	0.99	2	0.58	0.56
Error		79		

a. The Wilks' Lambda, Pillai's Trace, Hotelling's Trace, and Roy's Largest Root methods yielded identical test statistics.

**Table 5**  
**Analysis of Variance for Likelihood of Requiring Audit Adjustment**

**Panel A: Across Levels of Supplemental Disclosure**

<b>Source</b>	<b>Sum of Squares</b>	<b>df</b>	<b>F</b>	<b>p &gt; F</b>
Subjectivity	1.28	1	0.19	0.67
Imprecision	11.40	1	1.67	0.20
Disclosure	7.19	1	1.05	0.31
Subjectivity * Imprecision	12.96	1	1.90	0.17
Subjectivity * Disclosure	29.68	1	4.35	0.04
Imprecision * Disclosure	0.00	1	0.00	0.99
Subjectivity * Imprecision * Disclosure	9.04	1	1.33	0.25
Error	565.95	83		

**Panel B: When Supplemental Disclosure is Absent**

<b>Source</b>	<b>Sum of Squares</b>	<b>df</b>	<b>F</b>	<b>p &gt; F</b>
Subjectivity	27.68	1	4.11	0.05
Imprecision	7.51	1	1.12	0.30
Subjectivity * Imprecision	27.92	1	4.15	0.05
Error	316.31	47		

**Panel C: When Supplemental Disclosure is Present**

<b>Source</b>	<b>Sum of Squares</b>	<b>df</b>	<b>F</b>	<b>p &gt; F</b>
Subjectivity	7.65	1	1.10	0.30
Imprecision	4.54	1	0.65	0.42
Subjectivity * Imprecision	0.14	1	0.02	0.89
Error	249.64	36		

The *dependent variable* is the likelihood that the auditor will require the client to record an audit adjustment to a fair value estimate. Auditors assess this likelihood on a 10-point scale anchored by 1 (very low likelihood) and 10 (very high likelihood).

**Table 6**  
**Analysis of Variance for Dollar Amount of Required Audit Adjustment**

**Panel A: Across Levels of Supplemental Disclosure**

<b>Source</b>	<b>Sum of Squares</b>	<b>df</b>	<b>F</b>	<b>p &gt; F</b>
Subjectivity	1.99E+11	1	2.39	0.13
Imprecision	2.66E+11	1	3.20	0.08
Disclosure	8.19E+09	1	0.10	0.75
Subjectivity * Imprecision	2.43E+08	1	0.00	0.96
Subjectivity * Disclosure	7.58E+09	1	0.09	0.76
Imprecision * Disclosure	3.46E+10	1	0.42	0.52
Subjectivity * Imprecision * Disclosure	2.03E+10	1	0.24	0.62
Error	6.65E+12	80		

**Panel B: When Supplemental Disclosure is Absent**

<b>Source</b>	<b>Sum of Squares</b>	<b>df</b>	<b>F</b>	<b>p &gt; F</b>
Subjectivity	1.84E+11	1	2.27	0.14
Imprecision	7.03E+10	1	0.87	0.36
Subjectivity * Imprecision	1.04E+10	1	0.13	0.72
Error	3.72E+12	46		

**Panel C: When Supplemental Disclosure is Present**

<b>Source</b>	<b>Sum of Squares</b>	<b>df</b>	<b>F</b>	<b>p &gt; F</b>
Subjectivity	5.25E+10	1	0.61	0.44
Imprecision	2.01E+11	1	2.34	0.14
Subjectivity * Imprecision	1.02E+10	1	0.12	0.73
Error	2.92E+12	34		

The *dependent variable* is the dollar amount of adjustment that auditors would require their client to record.

**Table 7**  
**Analysis of Covariance for Likelihood of Requiring Audit Adjustment Using Audit Experience (Years), Rank, and SFAS No. 157 Familiarity as Covariates**

**Panel A: Across Levels of Supplemental Disclosure**

<b>Covariate</b>	<b>F<sub>1, 82</sub></b>	<b>p &gt; F</b>
Audit Experience (Years)	0.10	0.75
Rank	0.01	0.94
SFAS No. 157 Familiarity	0.02	0.90

**Panel B: When Supplemental Disclosure is Absent**

<b>Covariate</b>	<b>F<sub>1, 46</sub></b>	<b>p &gt; F</b>
Audit Experience (Years)	0.05	0.82
Rank	0.02	0.90
SFAS No. 157 Familiarity	0.56	0.46

**Panel C: When Supplemental Disclosure is Present**

<b>Covariate</b>	<b>F<sub>1, 35</sub></b>	<b>p &gt; F</b>
Audit Experience (Years)	0.05	0.82
Rank	0.00	0.99
SFAS No. 157 Familiarity	0.34	0.57

The *dependent variable* is the likelihood that the auditor will require the client to record an audit adjustment to a fair value estimate. Auditors assess this likelihood on a 10-point scale anchored by 1 (very low likelihood) and 10 (very high likelihood).

The three covariates are participants' years of audit experience, rank in the firm, and familiarity with SFAS No. 157 rated on a seven-point scale ranging from one ("Not at all Familiar") to seven ("Very Familiar").

**Table 8**  
**Spearman Correlation Matrix for All Measured Variables**

	Likelihood of Requiring Adjustment	Dollar Amount of Adjustment	Confidence Rating	Input Subjectivity Rating	Outcome Imprecision Rating	Disclosure Usefulness Rating	Audit Experience (Years)	Rank	Professional Certification
Dollar Amount of Adjustment	.470**								
Confidence Rating	-.113	-.325**							
Input Subjectivity Rating	.158	-.036	.124						
Outcome Imprecision Rating	.056	-.031	.049	.053					
Disclosure Usefulness Rating	-.093	.071	-.035	-.242*	-.039				
Audit Experience (Years)	-.098	-.108	.352**	.050	-.051	-.092			
Rank	-.078	-.075	.343**	-.005	-.034	-.137	.914**		
Professional Certification	.027	.030	.054	.133	-.032	.033	.270*	.222*	
SFAS No. 157 Familiarity	-.091	-.234*	.438**	.019	-.099	-.228*	.482**	.457**	.090

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

## **APPENDIX A**

### **Consent Form Provided to All Participants**



## **Informed Consent to Participate in an Experimental Study**

### **Title: The Effects of Uncertainty and Disclosure on Auditors' Fair Value Materiality Decisions**

#### **Investigator**

Jeremy B. Griffin  
J.M. Tull School of Accounting  
255 Brooks Hall  
The University of Georgia  
(706) 542-3742

#### **Description**

My objective is to learn about how auditors make materiality decisions for fair value measurements. If you choose to participate in my research study, you will be asked to make a materiality decision in a fictional audit engagement. The decisions that you will be asked to make are strictly matters of professional judgment, and there are no correct or incorrect answers. Your decisions will be used to capture aspects of the audit environment that are of interest to me as a researcher.

#### **Risks and Benefits**

There are no foreseeable risks or discomforts if you choose to participate in this study. The research adds to our limited understanding of how auditors make materiality decisions, and could influence audit firm policies about how uncertain estimates are adjusted. Further, regulators may benefit by better understanding whether voluntary financial statement disclosures achieve their desired purpose.

#### **Procedures**

If you choose to participate in the study, you will be asked to read background information about a fictional audit client, make an audit adjustment decision, then answer a few questions about yourself. It should take you approximately 15 minutes to complete the study. There are no costs associated with helping me with the study.

#### **Confidentiality**

Your name will not be associated with any of the data I collect regarding your decisions in the study. You will be identified by a number that will not be linked to your name in any way.

If you participate via the online survey, please note that Internet communications are insecure and there is a limit to the confidentiality that can be guaranteed due to the technology itself. However, once I receive the completed surveys, standard confidentiality procedures, such as removal of identifiable information, will be employed. In addition, I will destroy any contact information that we have by June 1, 2010.

**Right to Refuse Participation or Withdraw**

You do not have to take part in this study. If you start the study and decide that you do not want to finish, you may do so at any time. Refusing to participate or withdrawing at any time will not result in penalty or loss of benefits to which you are otherwise entitled.

**IRB Approval**

This study has been reviewed by the University of Georgia's Institutional Review Board (IRB). Additional questions or problems regarding your rights as a research participant should be addressed to The Chairperson, Institutional Review Board, University of Georgia, 612 Boyd Graduate Studies Research Center, Athens, Georgia 30602-7411; Telephone (706) 542-3199; E-Mail Address [IRB@uga.edu](mailto:IRB@uga.edu)

You may contact the researcher if you would like to know more about this research study, or if you'd like to be informed of the overall results once the study is complete. Please contact Jeremy Griffin at (706)542-3742 or [jbgriffi@uga.edu](mailto:jbgriffi@uga.edu) .

**Statement of Consent**

Your completion of the experimental booklet signifies your consent to take part in the above-described research study.

## **APPENDIX B**

### **Experimental Materials Provided to All Participants**

## **General Instructions**

My name is Jeremy Griffin and I am a doctoral student at the University of Georgia. This case exercise is part of my doctoral dissertation. The research focuses on the auditor's judgment process when deciding whether to require management to correct possible financial statement misstatements. The case should take you about 10 minutes to complete. Your participation in my study will help advance knowledge in the field of auditing and help me fulfill requirements for the doctoral degree. I sincerely appreciate your participation.

On the following pages a case scenario is presented involving a hypothetical audit client with a possible misstatement of a fair value measure that has been detected through normal audit procedures. Background information about the hypothetical client is presented, including the materiality level that has been set for the financial statements taken as a whole. Also, a partial audit workpaper is presented which includes a description of the nature and magnitude of the possible misstatement and management's proposed footnote disclosure pertaining to the financial statement item. You may refer to any of this information at any time.

Your task is to evaluate the case scenario and indicate the likelihood that you would require the client to make a correction to the financial statements. You will also be asked to indicate the most likely dollar amount of your required correction.

There are no "correct" or "incorrect" answers for this case, as your decisions will be based on your exercise of professional judgment. Because this study investigates how auditors make professional judgments, you should not consult firm guidance or any authoritative literature to make your decisions. Your answers will be kept completely anonymous and your firm will not be identified in any written or oral communications involving use of the research data.

Please work independently and, again, thank you very much for participating in my study!

### **AHN Integrated Products, Inc.**

Your client is AHN Integrated Products, Inc., a publicly traded manufacturing firm. AHN Integrated is a profitable firm whose earnings have been fairly consistent over the current and past five years. The company exhibits industry average levels of both liquidity and leverage. As in prior years, the audit team has not identified any material weaknesses in internal control. Prior audits have detected only minor misstatements, and none of the misstatements present last year were detected again this year.

Materiality was established at \$1,000,000 for the financial statements overall in accordance with firm guidelines, using Net Income as the basis for the materiality calculation. After all audit testing was completed, you concluded that this materiality amount remains the appropriate amount to use when evaluating audit findings. All necessary audit tests have been completed by competent staff and reviewed to your satisfaction. No other corrections to the financial statements are being considered with the exception of the unresolved matter described on the next page. Based on the audit team's assessment of qualitative materiality factors (SAB No. 99), no such factors exist beyond the description provided on the following page.

The client is strongly pressuring you to waive any audit adjustment at this time. Management believes that the financial statements are fairly presented as is and therefore are eager to release the unadjusted figures to the financial press as soon as possible. The client has expressed this opinion strongly, but still insists on receiving a standard unqualified opinion on the financial statements.

## **APPENDIX C**

### **More Subjective/Precise/No Supplemental Disclosure Manipulation**

## **Fixed Asset Impairment Workpaper (Partial)**

Due to a deteriorating product market, the client believes that the value of selected manufacturing equipment is impaired at year-end. In accordance with SFAS No. 144 *Accounting for the Impairment or Disposal of Long-Lived Assets*, the client tested the recoverability of this equipment and concluded that the carrying amount of the equipment is not recoverable and exceeds its fair value. The client applied SFAS No. 157 *Fair Value Measurements* to measure the fair value of the equipment. Because the equipment is customized to the client's specifications, neither quoted prices nor active markets exist for identical assets. The client used unobservable inputs to measure fair value of the equipment based on discounted cash flows at year-end. Unobservable inputs constitute Level 3 inputs under the SFAS No. 157 fair value hierarchy. The audit team consulted with one of the firm's fair value specialists, who advised the following:

"There is no active market for these assets. Based on our use of discounted future cash flow analysis, our estimate of the reasonable range for fair value measurements of the assets' value at the financial statement (measurement) date is approximately **\$2,625,000 to \$2,875,000**. This estimated range was developed using unobservable inputs, which are Level 3 inputs under the SFAS No. 157 hierarchy. Our range estimate is lower than the client's because we assess prospects in the industry differently."

**Client's Recorded Value: \$3,450,000**

### **Client's Draft Footnote:**

#### *Fair Value Accounting*

*The Company applies FASB Statement No. 157, "Fair Value Measurements" ("FAS 157") where warranted for both financial and nonfinancial assets. FAS 157 defines fair value, establishes a framework for measuring fair value in generally accepted accounting principles, and expands disclosures about fair value measurements. FAS 157 prescribes a three-level hierarchy of inputs used in fair value measurements.*

### **Field Senior's Conclusion:**

The client's fair value measurement differs from our firm specialist's independent estimate. Our firm specialist's analysis suggests that the client's recorded fixed asset impairment loss should be increased by approximately **\$575,000 to \$825,000**. The client believes that its own estimate is more reasonable based on present facts and circumstances. Due to this difference, a financial statement correction of the following form will be considered:

**Loss on Impairment \$ xx**

**Accumulated Depreciation-Equipment \$ xx**

### Misstatement Correction Decision

1. Based on the information provided about the client and the accompanying partial workpaper, how likely is it that you would *require* management to make a correction to the client's recorded value of *any* dollar amount? Indicate by placing an **X** on the following scale:

1	2	3	4	5	6	7	8	9	10
Very Low Likelihood of Requiring Correction					Very High Likelihood of Requiring Correction				

2. Please indicate the most likely dollar amount of your required correction:

\$\_\_\_\_\_ .

3. If you would like to comment on the reasons for your decisions, please do so in the space provided below (optional):

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## **APPENDIX D**

### **Less Subjective/Precise/No Supplemental Disclosure Manipulation**

## **Fixed Asset Impairment Workpaper (Partial)**

Due to a deteriorating product market, the client believes that the value of selected manufacturing equipment is impaired at year-end. In accordance with SFAS No. 144 *Accounting for the Impairment or Disposal of Long-Lived Assets*, the client tested the recoverability of this equipment and concluded that the carrying amount of the equipment is not recoverable and exceeds its fair value. The client applied SFAS No. 157 *Fair Value Measurements* to measure the fair value of the equipment. Because the equipment is customized to the client's specifications, neither quoted prices nor active markets exist for identical assets. The client used quoted prices for similar (but not identical) assets as inputs to measure fair value of the equipment at year-end. Such inputs constitute Level 2 inputs under the SFAS No. 157 fair value hierarchy. The audit team consulted with one of the firm's fair value specialists, who advised the following:

"There is no active market for these assets. Based on our use of prices for similar but not identical assets, our estimate of the reasonable range for fair value measurements of the assets' value at the financial statement (measurement) date is approximately **\$2,625,000 to \$2,875,000**. This estimated range was developed using observable inputs from other markets, which are Level 2 inputs under the SFAS No. 157 hierarchy. Our range estimate is lower than the client's because we assess prospects in the industry differently."

**Client's Recorded Value: \$3,450,000**

### **Client's Draft Footnote:**

#### *Fair Value Accounting*

*The Company applies FASB Statement No. 157, "Fair Value Measurements" ("FAS 157") where warranted for both financial and nonfinancial assets. FAS 157 defines fair value, establishes a framework for measuring fair value in generally accepted accounting principles, and expands disclosures about fair value measurements. FAS 157 prescribes a three-level hierarchy of inputs used in fair value measurements.*

### **Field Senior's Conclusion:**

The client's fair value measurement differs from our firm specialist's independent estimate. Our firm specialist's analysis suggests that the client's recorded fixed asset impairment loss should be increased by approximately **\$575,000 to \$825,000**. The client believes that its own estimate is more reasonable based on present facts and circumstances. Due to this difference, a financial statement correction of the following form will be considered:

**Loss on Impairment \$ xx**

**Accumulated Depreciation-Equipment \$ xx**

### Misstatement Correction Decision

1. Based on the information provided about the client and the accompanying partial workpaper, how likely is it that you would *require* management to make a correction to the client's recorded value of *any* dollar amount? Indicate by placing an **X** on the following scale:

1	2	3	4	5	6	7	8	9	10
Very Low Likelihood of Requiring Correction					Very High Likelihood of Requiring Correction				

2. Please indicate the most likely dollar amount of your required correction:

\$\_\_\_\_\_ .

3. If you would like to comment on the reasons for your decisions, please do so in the space provided below (optional):

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## **APPENDIX E**

### **More Subjective/Imprecise/No Supplemental Disclosure Manipulation**

## **Fixed Asset Impairment Workpaper (Partial)**

Due to a deteriorating product market, the client believes that the value of selected manufacturing equipment is impaired at year-end. In accordance with SFAS No. 144 *Accounting for the Impairment or Disposal of Long-Lived Assets*, the client tested the recoverability of this equipment and concluded that the carrying amount of the equipment is not recoverable and exceeds its fair value. The client applied SFAS No. 157 *Fair Value Measurements* to measure the fair value of the equipment. Because the equipment is customized to the client's specifications, neither quoted prices nor active markets exist for identical assets. The client used unobservable inputs to measure fair value of the equipment based on discounted cash flows at year-end. Unobservable inputs constitute Level 3 inputs under the SFAS No. 157 fair value hierarchy. The audit team consulted with one of the firm's fair value specialists, who advised the following:

"There is no active market for these assets. Based on our use of discounted future cash flow analysis, our estimate of the reasonable range for fair value measurements of the assets' value at the financial statement (measurement) date is approximately **\$2,250,000 to \$3,250,000**. This estimated range was developed using unobservable inputs, which are Level 3 inputs under the SFAS No. 157 hierarchy. Our range estimate is lower than the client's because we assess prospects in the industry differently."

**Client's Recorded Value: \$3,450,000**

### **Client's Draft Footnote:**

#### *Fair Value Accounting*

*The Company applies FASB Statement No. 157, "Fair Value Measurements" ("FAS 157") where warranted for both financial and nonfinancial assets. FAS 157 defines fair value, establishes a framework for measuring fair value in generally accepted accounting principles, and expands disclosures about fair value measurements. FAS 157 prescribes a three-level hierarchy of inputs used in fair value measurements.*

### **Field Senior's Conclusion:**

The client's fair value measurement differs from our firm specialist's independent estimate. Our firm specialist's analysis suggests that the client's recorded fixed asset impairment loss should be increased by approximately **\$200,000 to \$1,200,000**. The client believes that its own estimate is more reasonable based on present facts and circumstances. Due to this difference, a financial statement correction of the following form will be considered:

**Loss on Impairment \$ xx**

**Accumulated Depreciation-Equipment \$ xx**

### Misstatement Correction Decision

1. Based on the information provided about the client and the accompanying partial workpaper, how likely is it that you would *require* management to make a correction to the client's recorded value of *any* dollar amount? Indicate by placing an **X** on the following scale:

1	2	3	4	5	6	7	8	9	10
Very Low Likelihood of Requiring Correction					Very High Likelihood of Requiring Correction				

2. Please indicate the most likely dollar amount of your required correction:

\$\_\_\_\_\_ .

3. If you would like to comment on the reasons for your decisions, please do so in the space provided below (optional):

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## **APPENDIX F**

### **Less Subjective/Imprecise/No Supplemental Disclosure Manipulation**

## **Fixed Asset Impairment Workpaper (Partial)**

Due to a deteriorating product market, the client believes that the value of selected manufacturing equipment is impaired at year-end. In accordance with SFAS No. 144 *Accounting for the Impairment or Disposal of Long-Lived Assets*, the client tested the recoverability of this equipment and concluded that the carrying amount of the equipment is not recoverable and exceeds its fair value. The client applied SFAS No. 157 *Fair Value Measurements* to measure the fair value of the equipment. Because the equipment is customized to the client's specifications, neither quoted prices nor active markets exist for identical assets. The client used quoted prices for similar (but not identical) assets as inputs to measure fair value of the equipment at year-end. Such inputs constitute Level 2 inputs under the SFAS No. 157 fair value hierarchy. The audit team consulted with one of the firm's fair value specialists, who advised the following:

"There is no active market for these assets. Based on our use of prices for similar but not identical assets, our estimate of the reasonable range for fair value measurements of the assets' value at the financial statement (measurement) date is approximately **\$2,250,000 to \$3,250,000**. This estimated range was developed using observable inputs from other markets, which are Level 2 inputs under the SFAS No. 157 hierarchy. Our range estimate is lower than the client's because we assess prospects in the industry differently."

**Client's Recorded Value: \$3,450,000**

### **Client's Draft Footnote:**

#### *Fair Value Accounting*

*The Company applies FASB Statement No. 157, "Fair Value Measurements" ("FAS 157") where warranted for both financial and nonfinancial assets. FAS 157 defines fair value, establishes a framework for measuring fair value in generally accepted accounting principles, and expands disclosures about fair value measurements. FAS 157 prescribes a three-level hierarchy of inputs used in fair value measurements.*

### **Field Senior's Conclusion:**

The client's fair value measurement differs from our firm specialist's independent estimate. Our firm specialist's analysis suggests that the client's recorded fixed asset impairment loss should be increased by approximately **\$200,000 to \$1,200,000**. The client believes that its own estimate is more reasonable based on present facts and circumstances. Due to this difference, a financial statement correction of the following form will be considered:

**Loss on Impairment \$ xx**

**Accumulated Depreciation-Equipment \$ xx**



### Misstatement Correction Decision

1. Based on the information provided about the client and the accompanying partial workpaper, how likely is it that you would *require* management to make a correction to the client's recorded value of *any* dollar amount? Indicate by placing an **X** on the following scale:

1	2	3	4	5	6	7	8	9	10
<b>Very Low Likelihood of Requiring Correction</b>					<b>Very High Likelihood of Requiring Correction</b>				

2. Please indicate the most likely dollar amount of your required correction:

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3. If you would like to comment on the reasons for your decisions, please do so in the space provided below (optional):

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## **APPENDIX G**

### **More Subjective/Precise/With Supplemental Disclosure Manipulation**

## **Fixed Asset Impairment Workpaper (Partial)**

Due to a deteriorating product market, the client believes that the value of selected manufacturing equipment is impaired at year-end. In accordance with SFAS No. 144 *Accounting for the Impairment or Disposal of Long-Lived Assets*, the client tested the recoverability of this equipment and concluded that the carrying amount of the equipment is not recoverable and exceeds its fair value. The client applied SFAS No. 157 *Fair Value Measurements* to measure the fair value of the equipment. Because the equipment is customized to the client's specifications, neither quoted prices nor active markets exist for identical assets. The client used unobservable inputs to measure fair value of the equipment based on discounted cash flows at year-end. Unobservable inputs constitute Level 3 inputs under the SFAS No. 157 fair value hierarchy. The audit team consulted with one of the firm's fair value specialists, who advised the following:

"There is no active market for these assets. Based on our use of discounted future cash flow analysis, our estimate of the reasonable range for fair value measurements of the assets' value at the financial statement (measurement) date is approximately **\$2,625,000 to \$2,875,000**. This estimated range was developed using unobservable inputs, which are Level 3 inputs under the SFAS No. 157 hierarchy. Our range estimate is lower than the client's because we assess prospects in the industry differently."

**Client's Recorded Value: \$3,450,000**

### **Client's Draft Footnote:**

#### *Fair Value Accounting*

*The Company applies FASB Statement No. 157, "Fair Value Measurements" ("FAS 157") where warranted for both financial and nonfinancial assets. FAS 157 defines fair value, establishes a framework for measuring fair value in generally accepted accounting principles, and expands disclosures about fair value measurements. FAS 157 prescribes a three-level hierarchy of inputs used in fair value measurements.*

*The Company assessed the impairment of certain fixed assets during the year using Level 3 (unobservable) inputs to compute fair value. The Company estimates that these fixed assets are worth between \$3 and \$4 million based on a discounted cash flow analysis. The recognized amount represents the Company's best estimate from within that range.*

### **Field Senior's Conclusion:**

The client's fair value measurement differs from our firm specialist's independent estimate. Our firm specialist's analysis suggests that the client's recorded fixed asset impairment loss should be increased by approximately **\$575,000 to \$825,000**. The client believes that its own estimate is more reasonable based on present facts and circumstances. Due to this difference, a financial statement correction of the following form will be considered:

**Loss on Impairment \$ xx**  
**Accumulated Depreciation-Equipment \$ xx**

### Misstatement Correction Decision

1. Based on the information provided about the client and the accompanying partial workpaper, how likely is it that you would *require* management to make a correction to the client's recorded value of *any* dollar amount? Indicate by placing an **X** on the following scale:

1	2	3	4	5	6	7	8	9	10
<b>Very Low Likelihood of Requiring Correction</b>					<b>Very High Likelihood of Requiring Correction</b>				

2. Please indicate the most likely dollar amount of your required correction:

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3. If you would like to comment on the reasons for your decisions, please do so in the space provided below (optional):

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## **APPENDIX H**

### **Less Subjective/Precise/With Supplemental Disclosure Manipulation**

## **Fixed Asset Impairment Workpaper (Partial)**

Due to a deteriorating product market, the client believes that the value of selected manufacturing equipment is impaired at year-end. In accordance with SFAS No. 144 *Accounting for the Impairment or Disposal of Long-Lived Assets*, the client tested the recoverability of this equipment and concluded that the carrying amount of the equipment is not recoverable and exceeds its fair value. The client applied SFAS No. 157 *Fair Value Measurements* to measure the fair value of the equipment. Because the equipment is customized to the client's specifications, neither quoted prices nor active markets exist for identical assets. The client used quoted prices for similar (but not identical) assets as inputs to measure fair value of the equipment at year-end. Such inputs constitute Level 2 inputs under the SFAS No. 157 fair value hierarchy. The audit team consulted with one of the firm's fair value specialists, who advised the following:

"There is no active market for these assets. Based on our use of prices for similar but not identical assets, our estimate of the reasonable range for fair value measurements of the assets' value at the financial statement (measurement) date is approximately **\$2,625,000 to \$2,875,000**. This estimated range was developed using observable inputs from other markets, which are Level 2 inputs under the SFAS No. 157 hierarchy. Our range estimate is lower than the client's because we assess prospects in the industry differently."

**Client's Recorded Value: \$3,450,000**

### **Client's Draft Footnote:**

#### *Fair Value Accounting*

*The Company applies FASB Statement No. 157, "Fair Value Measurements" ("FAS 157") where warranted for both financial and nonfinancial assets. FAS 157 defines fair value, establishes a framework for measuring fair value in generally accepted accounting principles, and expands disclosures about fair value measurements. FAS 157 prescribes a three-level hierarchy of inputs used in fair value measurements.*

*The Company assessed the impairment of certain fixed assets during the current year using Level 2 inputs to compute fair value. The Company estimates that these fixed assets are worth between \$3 and \$4 million based on an analysis of the market for similar assets. The recognized amount represents the Company's best estimate from within that range.*

### **Field Senior's Conclusion:**

The client's fair value measurement differs from our firm specialist's independent estimate. Our firm specialist's analysis suggests that the client's recorded fixed asset impairment loss should be increased by approximately **\$575,000 to \$825,000**. The client believes that its own estimate is more reasonable based on present facts and circumstances. Due to this difference, a financial statement correction of the following form will be considered:

**Loss on Impairment \$ xx**

**Accumulated Depreciation-Equipment \$ xx**

### Misstatement Correction Decision

1. Based on the information provided about the client and the accompanying partial workpaper, how likely is it that you would *require* management to make a correction to the client's recorded value of *any* dollar amount? Indicate by placing an **X** on the following scale:

1	2	3	4	5	6	7	8	9	10
Very Low Likelihood of Requiring Correction					Very High Likelihood of Requiring Correction				

2. Please indicate the most likely dollar amount of your required correction:

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3. If you would like to comment on the reasons for your decisions, please do so in the space provided below (optional):

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## **APPENDIX I**

### **More Subjective/Imprecise/With Supplemental Disclosure Manipulation**



## **Fixed Asset Impairment Workpaper (Partial)**

Due to a deteriorating product market, the client believes that the value of selected manufacturing equipment is impaired at year-end. In accordance with SFAS No. 144 *Accounting for the Impairment or Disposal of Long-Lived Assets*, the client tested the recoverability of this equipment and concluded that the carrying amount of the equipment is not recoverable and exceeds its fair value. The client applied SFAS No. 157 *Fair Value Measurements* to measure the fair value of the equipment. Because the equipment is customized to the client's specifications, neither quoted prices nor active markets exist for identical assets. The client used unobservable inputs to measure fair value of the equipment based on discounted cash flows at year-end. Unobservable inputs constitute Level 3 inputs under the SFAS No. 157 fair value hierarchy. The audit team consulted with one of the firm's fair value specialists, who advised the following:

"There is no active market for these assets. Based on our use of discounted future cash flow analysis, our estimate of the reasonable range for fair value measurements of the assets' value at the financial statement (measurement) date is approximately **\$2,250,000 to \$3,250,000**. This estimated range was developed using unobservable inputs, which are Level 3 inputs under the SFAS No. 157 hierarchy. Our range estimate is lower than the client's because we assess prospects in the industry differently."

**Client's Recorded Value: \$3,450,000**

### **Client's Draft Footnote:**

#### *Fair Value Accounting*

*The Company applies FASB Statement No. 157, "Fair Value Measurements" ("FAS 157") where warranted for both financial and nonfinancial assets. FAS 157 defines fair value, establishes a framework for measuring fair value in generally accepted accounting principles, and expands disclosures about fair value measurements. FAS 157 prescribes a three-level hierarchy of inputs used in fair value measurements.*

*The Company assessed the impairment of certain fixed assets during the current year using Level 3 (unobservable) inputs to compute fair value. The Company estimates that these assets are worth between \$3 and \$4 million based on a discounted cash flow analysis. The recognized amount represents the Company's best estimate from within that range.*

### **Field Senior's Conclusion:**

The client's fair value measurement differs from our firm specialist's independent estimate. Our firm specialist's analysis suggests that the client's recorded fixed asset impairment loss should be increased by approximately **\$200,000 to \$1,200,000**. The client believes that its own estimate is more reasonable based on present facts and circumstances. Due to this difference, a financial statement correction of the following form will be considered:

**Loss on Impairment \$ xx**

**Accumulated Depreciation-Equipment \$ xx**

### Misstatement Correction Decision

1. Based on the information provided about the client and the accompanying partial workpaper, how likely is it that you would *require* management to make a correction to the client's recorded value of *any* dollar amount? Indicate by placing an **X** on the following scale:

1	2	3	4	5	6	7	8	9	10
Very Low Likelihood of Requiring Correction					Very High Likelihood of Requiring Correction				

2. Please indicate the most likely dollar amount of your required correction:

\$\_\_\_\_\_ .

3. If you would like to comment on the reasons for your decisions, please do so in the space provided below (optional):

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## **APPENDIX J**

### **Less Subjective/Imprecise/With Supplemental Disclosure Manipulation**

## **Fixed Asset Impairment Workpaper (Partial)**

Due to a deteriorating product market, the client believes that the value of selected manufacturing equipment is impaired at year-end. In accordance with SFAS No. 144 *Accounting for the Impairment or Disposal of Long-Lived Assets*, the client tested the recoverability of this equipment and concluded that the carrying amount of the equipment is not recoverable and exceeds its fair value. The client applied SFAS No. 157 *Fair Value Measurements* to measure the fair value of the equipment. Because the equipment is customized to the client's specifications, neither quoted prices nor active markets exist for identical assets. The client used quoted prices for similar (but not identical) assets as inputs to measure fair value of the equipment at year-end. Such inputs constitute Level 2 inputs under the SFAS No. 157 fair value hierarchy. The audit team consulted with one of the firm's fair value specialists, who advised the following:

"There is no active market for these assets. Based on our use of prices for similar but not identical assets, our estimate of the reasonable range for fair value measurements of the assets' value at the financial statement (measurement) date is approximately **\$2,250,000 to \$3,250,000**. This estimated range was developed using observable inputs from other markets, which are Level 2 inputs under the SFAS No. 157 hierarchy. Our range estimate is lower than the client's because we assess prospects in the industry differently."

**Client's Recorded Value: \$3,450,000**

### **Client's Draft Footnote:**

#### *Fair Value Accounting*

*The Company applies FASB Statement No. 157, "Fair Value Measurements" ("FAS 157") where warranted for both financial and nonfinancial assets. FAS 157 defines fair value, establishes a framework for measuring fair value in generally accepted accounting principles, and expands disclosures about fair value measurements. FAS 157 prescribes a three-level hierarchy of inputs used in fair value measurements.*

*The Company assessed the impairment of certain fixed assets during the current year using Level 2 inputs to compute fair value. The Company estimates that these fixed assets are worth between \$3 and \$4 million based on an analysis of the market for similar assets. The recognized amount represents the Company's best estimate from within that range.*

### **Field Senior's Conclusion:**

The client's fair value measurement differs from our firm specialist's independent estimate. Our firm specialist's analysis suggests that the client's recorded fixed asset impairment loss should be increased by approximately **\$200,000 to \$1,200,000**. The client believes that its own estimate is more reasonable based on present facts and circumstances. Due to this difference, a financial statement correction of the following form will be considered:

**Loss on Impairment \$ xx**

**Accumulated Depreciation-Equipment \$ xx**

### Misstatement Correction Decision

1. Based on the information provided about the client and the accompanying partial workpaper, how likely is it that you would *require* management to make a correction to the client's recorded value of *any* dollar amount? Indicate by placing an **X** on the following scale:

1	2	3	4	5	6	7	8	9	10
Very Low Likelihood of Requiring Correction					Very High Likelihood of Requiring Correction				

2. Please indicate the most likely dollar amount of your required correction:

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3. If you would like to comment on the reasons for your decisions, please do so in the space provided below (optional):

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## **APPENDIX K**

### **Debriefing Questions Provided to All Participants**

### Additional Questions

1. Please rate your confidence or certainty in your assessment of the likelihood of requiring a misstatement correction (on the previous page) by placing an **X** on the following scale ranging from 1 to 7, with 1 being "Not Confident" and 7 being "Completely Confident":

1	2	3	4	5	6	7
<b>Not Confident</b>			<b>Moderately Confident</b>		<b>Completely Confident</b>	

2. What level of input under SFAS No. 157 was used by both the firm's fair value experts and the client in the case? (Please select one)

LEVEL 1 ☐

LEVEL 2 ☐

LEVEL 3 ☐

3. Please rate the subjectivity of the input used to compute the fair value measurement in the case by placing an **X** on the following scale ranging from 1 to 7, with 1 being "Not Subjective" and 7 being "Extremely Subjective":

1	2	3	4	5	6	7
<b>Not Subjective</b>		<b>Moderately Subjective</b>			<b>Extremely Subjective</b>	

4. Please characterize the width of the range provided by the firm's fair value specialist in the case by placing an **X** on the following scale ranging from 1 to 7, with 1 being "Relatively Narrow" and 7 being "Relatively Wide":

1	2	3	4	5	6	7
<b>Relatively Narrow</b>			<b>Relatively Wide</b>			

5. Please rate the usefulness of the client's footnote disclosure to financial statement readers by placing an **X** on the following scale ranging from 1 to 7, with 1 being "Not Useful" and 7 being "Extremely Useful":

1	2	3	4	5	6	7
<b>Not Useful</b>		<b>Moderately Useful</b>			<b>Extremely Useful</b>	

## A Few Questions About You

1. Please indicate any of the following industries in which you have significant auditing experience by placing a checkmark alongside one or more of the following:

- ☐ Communications/Media
- ☐ Construction/Real Estate
- ☐ Consumer Products/Retail
- ☐ Energy
- ☐ Financial Services/Insurance
- ☐ Government/Not-for-Profit
- ☐ Healthcare/Pharmaceuticals
- ☐ Manufacturing
- ☐ Technology (electronics, software, services, etc.)
- ☐ Other (please specify) \_\_\_\_\_

2. How much audit experience do you have? \_\_\_\_\_ years.

3. What is your current rank in the firm?

- ☐ Partner
- ☐ Director
- ☐ Sr. Manager
- ☐ Manager
- ☐ Senior
- ☐ In-charge
- ☐ Staff
- ☐ Other (please specify) \_\_\_\_\_

4. Please indicate any accounting certifications you have obtained by placing a checkmark alongside one or more of the following:

- ☐ CPA    ☐ CMA    ☐ CIA    ☐ Other (please specify): \_\_\_\_\_

5. How would you characterize your own familiarity with auditing fair value estimates under SFAS No. 157 *Fair Value Measurements*? Place an **X** on the following scale from 1 to 7, with 1 being "Not At All Familiar" and 7 being "Extremely Familiar":

1	2	3	4	5	6	7
_____						
Not at all Familiar			Very Familiar			