

Offsetting Misstatements: The Effect of Misstatement Distribution, Quantitative Materiality, and Client Pressure on Auditors' Judgments

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ABSTRACT: This paper reports on the first experimental study to examine how materiality and client pressure affect auditors' judgments of two detected misstatements that have *offsetting* effects on the client's income. One hundred forty-three experienced German auditors completed a case that varied the misstatement distribution (same or different accounts), the presence or absence of client pressure, and quantitative materiality of the misstatements nested in the client pressure condition (net amount less than or greater than performance materiality). The results show: First, the distribution of the misstatements and client pressure interact. The proportion of auditors who require the client to fully adjust both misstatements is highest when the offsetting misstatements are in two different accounts and there is no client pressure. Second, misstatement distribution interacts with quantitative materiality. The proportion of auditors who deny the bonus when facing client pressure is highest when the level of materiality is greater than performance materiality and the misstatement distribution is in different accounts. Third, audit experience appears to play a role in the auditors' judgments. While more experienced auditors are more likely to fully correct the misstatements when there is no client pressure, they are also more likely to waive the misstatements when faced with client pressure. Additional experimentation confirms these findings. These results have important implications for researchers, practitioners, regulators, and standard setters.

Data Availability: The data are available from the authors upon request.

Keywords: offsetting misstatements; materiality; motivated reasoning; client pressure.

I. INTRODUCTION

This paper reports the results of an experiment that examines how materiality and client pressure affect auditors' judgments of detected misstatements that have *offsetting* (or *netting*) effects on the client's income. The study of offsetting misstatements is important, in part, because recent archival research suggests that auditors are more lenient when judging the materiality of misstatements that offset, even if some of the adjustments are individually material and affect different classes of transactions or accounts (e.g., [Keune and Johnstone 2015](#); [Paape and van Buuren 2012](#); [Ruhnke and Schmidt 2017](#)). Additionally, several accounting frauds have been perpetrated by using offsetting misstatements coupled with

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significant client pressure on the auditor.¹ For example, in the fraud surrounding Waste Management, the Securities and Exchange Commission (SEC 2002, 3) reported the following:

In order to conceal the understatement of expenses, defendants also resorted to an undisclosed practice known as “netting.” They used one-time gains realized on the sale or exchange of assets to eliminate unrelated current period operating expenses and accounting misstatements that had accumulated from prior periods . . . Over the course of the fraud, defendants used netting secretly to erase approximately \$490 million in current period expenses and prior-period misstatements.

The SEC also sanctioned Waste Management’s auditors, Arthur Andersen, for allowing management to perpetuate this fraud in this manner (SEC 2001).

Yet, auditing standards and firm guidance remain ambiguous on how auditors should handle offsetting misstatements (Eilifsen and Messier 2015, 13). For example, International Standards on Auditing (ISA) indicate that when a detected misstatement is judged to be material, it is unlikely that it can be offset by other misstatements (International Auditing and Assurance Standards Board [IAASB] 2008b, ISA 450.A14).² This standard then provides two examples. In the first, an overstatement of revenues cannot be offset by an overstatement in expenses. In the second, the standard states that it may be appropriate to offset misstatements if they occur in the same account.³

We examine two important materiality conditions in the context of offsetting misstatements. One condition is how auditors respond to offsetting misstatements when the effect of such misstatements (prior to offsetting) is less than the quantitative materiality benchmark for the account (performance materiality), but violates a *qualitative* materiality criterion (e.g., prevent management from receiving a bonus). A second condition is when the effect of the misstatements is greater than performance materiality for the account, but less than overall financial statement materiality. As Eilifsen and Messier (2015, 8) and Libby and Brown (2013, 661) point out, auditing standards are ambiguous about whether auditors must request management to record an adjustment if the misstatement falls between these two materiality benchmarks.⁴ Auditors have been criticized for allowing clients to claim that detected misstatements are not material based on both qualitative and quantitative criteria (Brody, Lowe, and Pany 2003; SEC 1999, 2001). Further, auditors are more likely to consider qualitative factors that decrease (versus those that increase) the materiality of proposed audit adjustments (Altiero, Kang, and Peecher 2017).

Auditors’ decisions about offsetting misstatements may be affected by client pressure. If auditors are subject to such client pressure, then they may take actions that are inconsistent with good audit practice (Hackenbrack and Nelson 1996; Ng and Tan 2003, 2007; Hatfield, Jackson, and Vandervelde 2011). Under certain circumstances, auditors may adjust (or not adjust) material offsetting misstatements to respond to client pressure, leading to lower-quality financial statements.

We conduct a 2 × 3 between-participants experiment where 143 experienced German auditors from three major and four mid-tier public accounting firms completed a case that varied misstatement distribution (in the same account or in two different accounts), client pressure (no client pressure or client pressure), and two levels of quantitative materiality nested in the client pressure condition (the net amount is less than or greater than performance materiality for the misstated accounts). The misstatements involved accounting for fair values where the measurement is ambiguous.

Our findings are as follows. First, as predicted, we find a significant interaction between the misstatement distribution and client pressure. The proportion of auditors who require the client to fully adjust both misstatements is highest when the offsetting misstatements are in two different accounts and there is no client pressure. Second, as predicted, we find that the distribution of the misstatements interacts with quantitative materiality. The proportion of auditors who deny the bonus when facing client pressure is highest when the level of materiality is greater than performance materiality and the misstatement distribution is in different accounts. Third, we find, unexpectedly, that audit experience appears to play a role in the auditors’ judgments. More experienced auditors are more likely to fully correct both misstatements when there is no client pressure, but they are also more likely to waive both misstatements when faced with client pressure. Similarly, auditors that are more experienced with listed clients are less likely to prevent client management from meeting the bonus constraint when more

¹ A search of the SEC’s website identified several cases where companies used “offsetting” or “netting” to hide fraudulent transactions (e.g., Centerpulse Ltd., McAfee, Inc., and Verint Systems).

² The Public Company Accounting Oversight Board (PCAOB) Auditing Standard (AS) 2810 indicates that offsetting misstatements is a qualitative factor that auditors should consider when evaluating uncorrected misstatements (PCAOB 2010b, AS 2810.25b, 2810.B2m).

³ In our study, we refer to the first example as the between accounts condition and the second example as the within account condition.

⁴ Personal conversations with audit practitioners confirm this situation. The arguments put forth by practitioners for correcting or waiving misstatements that fall into this region follow one of two lines: (1) if the adjustments for the account containing the misstatements are greater than performance materiality, but less than overall materiality, then the account does not require adjustment because the overall financial statements are not materially misstated, or (2) if the adjustments for the account containing the misstatements are greater than performance materiality, but less than overall materiality, then the account is materially misstated and should be adjusted, because if one account is materially misstated, then the overall financial statements are materially misstated. Auditing standards do not provide clear guidance on which line of reasoning is more appropriate.

material misstatements are contained in different accounts, but they are more likely to prevent client management from meeting the bonus constraint when less material misstatements are contained in different accounts or when contained in the same account regardless of materiality.

Our research contributes to the auditing and judgment and decision-making literature in several significant ways. This is the first study to examine the effects of offsetting *material* misstatements on auditors' judgments. Most prior research has focused on *individual* misstatements.⁵ Evidence on the auditor's judgment process in the context of evaluating *multiple* adjustments is limited.⁶ However, the typical audit involves a number of audit adjustments, some of which are related to misstatements contained in different accounts, while others are related to misstatements contained in the same account. Additionally, many adjustments have offsetting effects on the client's income (see [Eilifsen and Messier \[2000\]](#) for a review).

Second, we show the effects of client pressure in an important area that prior research ([Hackenbrack and Nelson 1996](#); [Ng and Tan 2003, 2007](#); [Hatfield et al. 2011](#)) has not examined. We demonstrate the differential effects of client pressure when auditors detect material misstatements that are distributed differently across accounts and auditing standards do not provide clear guidance on whether the misstatements can be offset. These findings enhance our knowledge on how the auditor deals with ambiguous standards when under client pressure; such scenarios are relevant in audit practice.

Third, we provide evidence on how auditors handle offsetting misstatements that fall into the materiality region between performance materiality and overall materiality. Our results indicate that most of the auditors adjust for misstatements that are greater than performance materiality, but less than overall materiality. This is an area where standards are ambiguous and where there is little or no evidence on how auditors respond in such situations.

The remainder of the paper is organized as follows: In Section II, we provide background to our experiment and develop our hypotheses. Section III discusses the research design. The findings are discussed in Section IV. Section V presents additional experimentation. In Section VI, we provide concluding comments.

II. BACKGROUND AND HYPOTHESES DEVELOPMENT

Materiality and Offsetting Misstatements

Auditing standards require the auditor to establish a materiality threshold for the financial statements as a whole, referred to as *overall* or *planning* materiality ([IAASB 2008a](#), ISA 320.10; [PCAOB 2010a](#), AS 2105.06). The auditor also establishes *performance* materiality (also referred to as *tolerable misstatement*), a level of materiality that is used to audit individual accounts and disclosures ([IAASB 2008a](#), ISA 320.11; [PCAOB 2010a](#), AS 2105.07). The auditor should accumulate all misstatements detected during the audit except those that are "clearly trivial," because a misstatement may not be individually material, but may be material when considered together with other misstatements ([IAASB 2008b](#), ISA 450.5; [PCAOB 2010b](#), AS 2810.10). The auditor should request management to correct ("adjust") all detected misstatements ([IAASB 2008b](#), ISA 450.8). However, the auditor is nevertheless allowed to issue an unmodified audit opinion if any uncorrected ("waived") misstatements do not cause the financial statements to be materially misstated. In making decisions about the materiality of detected misstatements, the auditor must consider the *interaction* of quantitative (e.g., percentage effect on net income and/or other financial statement metrics) and qualitative factors (e.g., satisfying the requirements for bonuses or other forms of incentive compensation or meeting analysts' forecasts) ([IAASB 2008b](#), ISA 450.A16; [PCAOB 2010b](#), AS 2810.B1).

With respect to misstatements that have offsetting effects on the client's income, auditing standards ([IAASB 2008b](#), ISA 450.A14) provide the following guidance:

If an individual misstatement is judged to be material, it is *unlikely* that it can be offset by other misstatements. For example, if revenue has been materially overstated, the financial statements as a whole will be materially misstated, even if the effect of the misstatement on earnings is completely offset by an equivalent overstatement of expenses. It *may be appropriate* to offset misstatements within the same account balance or class of transactions; however, the risk that further undetected misstatements may exist is considered before concluding that offsetting even immaterial misstatements is appropriate. (emphasis added)

SEC guidance in Staff Accounting Bulletin (SAB) No. 99 ([SEC 1999](#), 6) states that "registrants and the auditors of their financial statements should exercise particular care when considering whether to offset (or the appropriateness of offsetting) a misstatement of an estimated amount with a misstatement of an item capable of precise measurement." However, it provides no

⁵ Exceptions include [Braun \(2001\)](#), a material misstatement caused by numerous *immaterial* misstatements, and [Nelson, Smith, and Palmrose \(2005\)](#), consideration of prior-period adjustments under either the roll-over versus iron-curtain approach.

⁶ A major exception is the negotiation literature that includes concessionary moves and negotiation strategies within sequential experiments. To our knowledge, none of those studies allowed the auditors or client managers to offset misstatements during negotiations.

guidance about offsetting misstatements that involve two estimates. Thus, this auditing standard and SEC guidance leave doubt about how auditors should handle offsetting misstatements, especially given that the standard and firm guidance use ambiguous terms like “unlikely” and “may be appropriate.” Thus, we note the importance of materiality and client pressure in how auditors handle offsetting misstatements.

Motivated Reasoning and Client Pressure

Motivated reasoning research (Kunda 1990; Lundgren and Prislin 1998) demonstrates that an individual’s motivation (desired or preferred conclusion) impacts the individual’s reasoning. Kunda (1990) distinguishes between accuracy goals and directional goals.

The joint presence of both goals is typical in audit contexts. On the one hand, auditors are motivated to ensure that the financial statements are free from material misstatements, so that an unqualified audit opinion by the auditor is accurate. Failure to express an “accurate” audit opinion damages the auditor’s reputation. Disciplinary actions against an audit firm and the resulting damage to the firm’s reputation impair the audit firm’s market position (Wilson and Grimlund 1990; Weber, Willenborg, and Zhang 2008). To this end, the auditor is motivated to ensure that the client corrects material misstatements detected during the audit.

On the other hand, auditors may be motivated to acquiesce to the demands of the client to retain future audit fees. Audit firms’ commercial success requires profitable audit engagements. A client that is very important to the audit firm and the office serving the client creates pressures to maintain the client (Hatfield et al. 2011).⁷ The significance of such a client can, in turn, create pressure on the audit partner in charge of the engagement.

Client pressures can create or intensify directional goals. The auditor’s willingness to yield to client pressures by supporting a client-preferred reporting outcome in certain circumstances has been documented in the audit literature. Ng and Tan (2007) show that the auditor’s propensity to adjust a misstatement decreases in the presence of client pressure, operationalized as the client expressing concern about the adverse consequences of recording the audit adjustment. Similarly, Hatfield et al. (2011) show that a combination of client importance and resistance to recording an adjustment resulted in auditors requiring smaller adjustments.

When motivated to meet a directional goal, auditors develop rationalizations to support the desired outcome by biasing their search for audit evidence, weighting of audit evidence, evaluation of a misstatement’s materiality, and interpretations of accounting or auditing standards. Haynes, Jenkins, and Nutt (1998) show that experienced auditors propose audit adjustments that are consistent with salient clients’ preferences. Kadous et al. (2003) investigated the effectiveness of regulation designed to curb auditors’ tendency to make judgments consistent with their client’s preferred reporting outcome. They found that auditors’ assessment of the quality of the client’s accounting can increase auditors’ acceptance of aggressive accounting, since the assessment encourages auditors to justify the client’s preferred reporting outcome.

However, motivated reasoning is constrained by the individual’s ability to develop a reasonable justification for the desired conclusion. Thus, motivated reasoning provides an explanation for auditors’ willingness to accept the client’s preferred reporting outcome if the detected misstatement is subjective or requires interpretation and judgment. Auditors’ propensity to require an audit adjustment is lower if the detected misstatement is subjective. The impact of subjectivity of the adjustments has been documented in archival (A. Wright and S. Wright 1997; Joe, A. Wright, and S. Wright 2011; Ruhnke and Schmidt 2017) and experimental research (Libby and Kinney 2000; Braun 2001; Hatfield, Houston, Stefaniak, and Usrey 2010). Hatfield et al. (2010) show that an initial concession made by the client on an objective, immaterial, income-increasing misstatement influences the negotiation outcome on a material, subjective, income-increasing misstatement, and argue that based on reciprocity theory, the client’s concession creates pressure for the auditor to reduce the magnitude of the auditor’s initial negotiation position.

Ambiguity can also relate to accounting standards. Nelson, Elliott, and Tarpley (2002) provide evidence that earnings management is less likely to be corrected under imprecise accounting standards (rather than precise standards). Hackenbrack and Nelson (1996) further show that if engagement risk is high, then the auditor is more willing to yield to client pressure on the basis of ambiguous (rather than unambiguous) financial reporting standards.⁸ Finally, Ng and Tan (2003) show that an individual misstatement that is quantitatively immaterial and affects the client’s ability to meet or beat the analysts’ consensus forecast (incentive for client pressure) is more likely to be corrected if precise authoritative guidance is available in the accounting standards.

⁷ Kadous, Kennedy, and Peecher (2003) refer to this construct as engagement pressure.

⁸ Empirical evidence also shows that auditors are more likely to oppose the client’s demands if auditors’ litigation and reputation risk is high (Reynolds and Francis 2000; Larcker and Richardson 2004). When litigation and reputation risk are high, the accuracy goal is relatively more important compared to the directional goal.

Taken together, theory and prior literature suggest that auditors are relatively less able to withstand client pressure when the adjustment is subjective or ambiguous. We extend prior research by examining the auditors' judgments when faced with client pressure in a scenario characterized by ambiguous accounting and auditing standards and subjective misstatements that have offsetting effects on client income. Waiving these misstatements would serve to allow the client to meet a bonus constraint.

The Interaction between the Distribution of Offsetting Misstatements and Client Pressure

Audit standards ambiguously suggest that it may be appropriate to waive adjustments that have offsetting effects within the same account. Hence, adjusting misstatements, as well as not adjusting misstatements, contained in the same account would be an acceptable judgment in accordance with audit standards. Furthermore, the overarching consideration when evaluating materiality of detected misstatements is whether the decisions of financial statement users would be affected. Misstatements contained in the same account are unlikely to affect the decisions. Hence, when motivated to meet an accuracy goal, both judgments would be consistent with that goal. However, client pressure may motivate the auditor to meet a directional goal, i.e., to arrive at the client-preferred reporting outcome. Not adjusting the misstatements contained in the same account would be the judgment necessary to meet this directional goal. In this case, auditing standards allow the auditor to develop a reasonable justification to support this judgment, especially when the misstatements are subjective in nature. Hence, there is no basis to predict a difference in auditors' judgment if the misstatements are contained in the same account, whether faced with client pressure or not.

Auditing standards state that it "may not be appropriate" to offset misstatements contained in two different accounts (IAASB 2008b, ISA 450.A14). When motivated to meet an accuracy goal (no client pressure), the auditor is likely to conclude that an adjustment of misstatements contained in different accounts is more consistent with the accuracy goal than non-adjustment. However, when a directional goal is present (client pressure), auditing standards offer some ambiguity so that the auditor can develop a reasonable justification for concluding that not adjusting the misstatements is appropriate. Thus, theory warrants predicting that auditors will be less likely to require fully adjusting the misstatements when motivated to meet a directional goal (client pressure) compared to when motivated to meet an accuracy goal. These considerations lead to the following hypothesis:

H1: The proportion of auditors who require the client to fully adjust both misstatements will be higher when there is no client pressure, but only when the misstatements are in different accounts.

Figure 1, Panel A plots the expected ordinal interaction for H1. As discussed in our experimental design, we test this hypothesis by holding the materiality condition (a qualitative materiality factor) constant and vary the presence or absence of client pressure.

The Interaction between the Distribution of Offsetting Misstatements and Materiality

Motivated reasoning is constrained by the ability to develop a reasonable justification for the preferred outcome when motivated to meet a directional goal (Kunda 1990). In an audit context, auditors' judgments are unlikely to be biased to the extent that they violate auditing standards. Auditing standards would be violated if the auditor accepted financial statements that are materially misstated, unless the auditor expresses a qualified audit opinion.

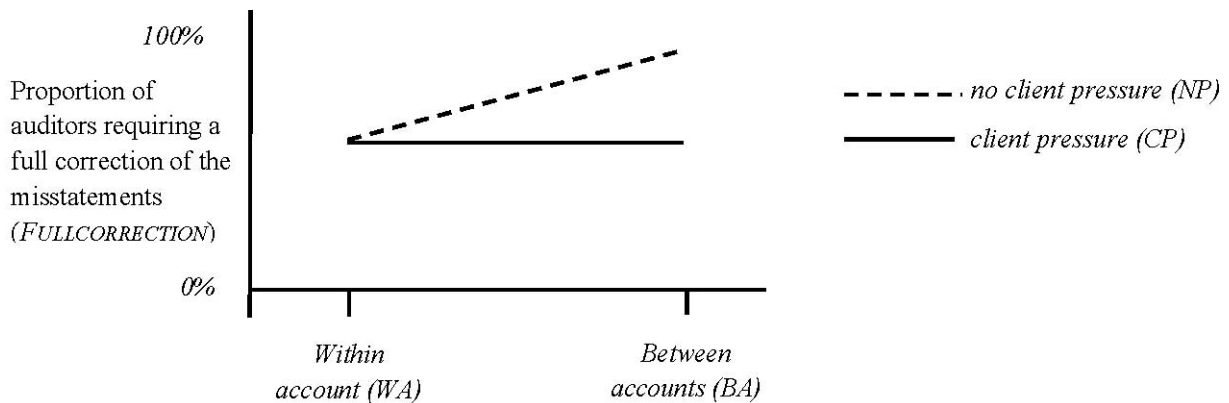
The closer the quantitative materiality of the offsetting misstatements' net effect size is to exceeding overall materiality, the less likely it is that the auditor can develop a reasonable justification to accept the individual misstatements not being adjusted. Auditing standards are ambiguous on how to evaluate a misstatement (or misstatements) that exceeds performance materiality, but is less than overall planning materiality. In such a scenario, the affected account is materially misstated, but it is not clear whether auditors believe that the overall financial statements are materially misstated. The auditor can exploit this ambiguity to develop a reasonable justification when motivated to meet a directional goal.

However, the possibility to exploit this ambiguity varies depending on the interplay between the distribution of offsetting misstatements across accounts and the misstatements' net effect size relative to performance materiality and overall materiality. If two misstatements that are individually material are contained in different accounts, then each of the affected accounts is materially misstated regardless of the misstatement's net effect size. However, if two misstatements that are individually material are contained in the same account, then the account is materially misstated only if the misstatements' net effect size is above performance materiality for the affected account.

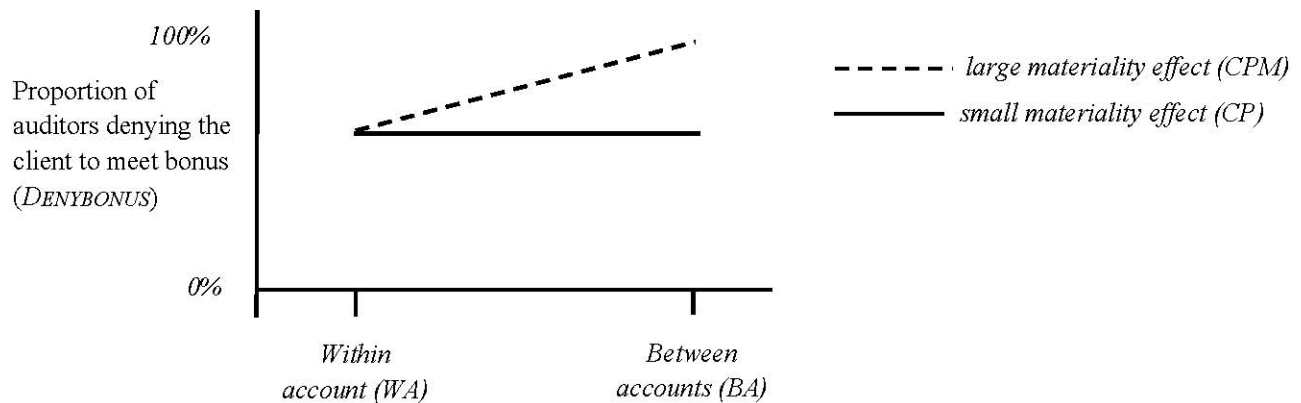
Regardless of the distribution of the misstatements, one might argue that the financial statements are not materially misstated, provided the misstatements' net effect size is less than overall planning materiality. Thus, the ambiguity in current auditing standards allows for motivated reasoning. However, not adjusting the misstatements can be better justified when misstatements are contained in one account, because a material misstatement of the account depends on the misstatement's net effect size.

FIGURE 1
Predicted Interactions for the Hypotheses

Panel A: Proportion of Auditors Requiring a Full Correction of the Misstatements (H1)



Panel B: Proportion of Auditors Who Prevent Management from Meeting the Bonus Constraint (H2)



We test the following hypothesis:

H2: The proportion of auditors who prevent client management from meeting the bonus constraint when facing client pressure will be higher, but only when more material misstatements are contained in different accounts.

Figure 1, Panel B plots the expected ordinal interaction for H2. As discussed in our experimental design, we test this hypothesis by holding the client pressure condition constant and vary the quantitative materiality (a qualitative materiality factor only, or additionally quantitative materiality within the range of performance materiality and overall materiality).

III. METHOD

Participants

One hundred sixty-six participants from three major and four mid-tier public accounting firms in Germany participated in the main experiment.⁹ Twenty-three participants were deleted because (1) they were not German *Wirtschaftsprüfer* (equivalent

⁹ The University of Nevada Las Vegas' office of research integrity has reviewed and exempted the protocol for this project from institutional review board approval under U.S. Federal regulatory statute 45 CFR 46.101(b)2. ESCP Europe's associate dean for research has reviewed and authorized the protocol for this project.

TABLE 1
Demographical Data
(n = 143)

	<u>n</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>Min.</u>	<u>Max.</u>
Audit experience (years)		14.5	6.0	6.0	34.0
Audit experience with listed companies (years)		5.4	5.7	0.0	24.0
Age		41.7	8.0	30	60
Level (Rank)					
Senior	5				
Manager	47				
Senior Manager/Director	54				
Partner	36				
Other	2				
Academic Degree					
Bachelor's Degree in Business	2				
Master's Degree in Business	138				
Master's Degree in Law	2				
Other	1				
Professional Degree					
German <i>Wirtschaftsprüfer</i>	143				
Gender					
Female	34				
Male	109				

to CPA)¹⁰ (18 participants); (2) the responses were undecipherable (one participant); or (3) they failed to respond to the questions on the amounts to be adjusted (two participants) or to the likelihoods of adjusting the misstatements (two participants). This results in a final sample of 143. Table 1 presents the demographic data on the final sample of participants. Thirty-six partners, 54 senior managers, 47 managers, five seniors, and two other audit firm members participated.¹¹ One hundred nine of the participants were male, while 34 were female. The average age was 41.7 years. The average overall audit experience was 14.5 years, while the experience with listed companies was 5.4 years. One hundred thirty-eight had a Master's degree in Business (two Master's degrees in Law, two Bachelor's degrees in Business, one other degree).¹² Thus, we have a group of very experienced participants.

Design and Independent Variables

A 2 × 3 between-participants design was used. The first independent variable, *MISSDIST*, is the distribution of the two misstatements at two levels: (1) the two offsetting misstatements are contained within one financial statement account ("within account (WA)" condition), or (2) the two offsetting misstatements are distributed across two different financial statement accounts ("between accounts (BA)" condition). Both misstatements individually are quantitatively material (i.e., the effect sizes exceed overall planning materiality by 31 to 126 percent depending on condition). The effect size of the income-increasing misstatement is slightly larger than the effect size of the income-decreasing misstatement, resulting in a small net

¹⁰ In Germany, the legal authorization to independently carry out statutory audits requires approval by the European Union (EU) Member States' designated authority subject to satisfying the qualifications included in the 8th EU Directive. For Germany, this authorization requires certification as a *Wirtschaftsprüfer*.

¹¹ The five seniors are qualified *Wirtschaftsprüfer* and have seven to 25 years of audit experience. The two "other" participants gave "executive director" and "IT auditor" as their rank within the audit firm. Both are qualified as a *Wirtschaftsprüfer* and have 20 (20) and 19 (15) years of general experience in auditing (experience with listed clients).

¹² We tested the following items as covariates: age, gender, years of audit experience, years of audit experience with listed companies, firm, personal administration of research instrument, partner versus other ranks, consistency with ISA to offset adjustments if misstatements are contained in one account, consistency with ISA to offset adjustments if misstatements are contained in different accounts, familiarity with IAS 40 (IASB 2003) and International Financial Reporting Standards (IFRS) 13 (IASB 2009). We only include a covariate when it is significant in the logistic regression analyses.

effect. The *net* effect size is below overall planning materiality for all conditions (see below). The two offsetting misstatements involve estimates so that there is a degree of ambiguity or subjectivity with the amount of the misstatement to be adjusted. In the WA condition, both misstatements related to investment property. In the BA condition, one misstatement involved investment property and the other involved trade receivables.

The second independent variable, *CLIENT PRESSURE*, was also tested at two levels: no client pressure (NP) and client pressure (CP). Nested within the CP condition are two levels of quantitative materiality (CP and CPM). Thus, CP and CPM contained the same level of client pressure, but differed in the quantitative materiality effect of the two misstatements. In the CP condition, adjusting both misstatements caused management to miss their bonus constraint by 1 percent. This effect size is below both performance materiality and overall planning materiality for the individual accounts affected (normal quantitative materiality benchmarks), but waiving the adjustments violates a *qualitative* materiality criterion (allowing management to meet the bonus constraint). In the CPM condition, adjusting both misstatements caused management to miss the bonus constraint by 4.25 percent. This effect size is below overall planning materiality, but above performance materiality for the individual accounts.

Client pressure included both the importance of the client to the auditor partner and pressure from the client not to record the misstatements.¹³ The client pressure manipulation was introduced both before the presentation of the misstatements and after. Prior to the presentation of the two misstatements, participants were told the following: In the NP condition, the client is a mid-tier company and accounts for little of the partner's time (5 percent). In the client pressure conditions (CP and CPM), the company is one of the firm's largest clients and accounts for 25 percent of the partner's time. After evaluating the two misstatements, the participants in the NP condition were provided with a two-paragraph description suggesting that the management of the company is not opposed to correcting the proposed misstatements, they want high-quality financial statements, and that they have a long-term perspective on firm performance. In both client pressure conditions, the participants were informed that the CFO and chief accountant are applying significant pressure on the auditor by stating that the two misstatements are rather small and that they would have thought that you and your firm would understand their business needs and consider more carefully whether you and your firm really have to insist on correcting "minor issues." Appendix A contains the exact wording of the two independent variable manipulations. Figure 2 presents an overview of the design, while Table 2 provides variable definitions.

Dependent Variables

We developed two dependent variables based on participants' response to a question asking, "Based on two proposed adjustments, please indicate the amounts that you would require the client to adjust for each misstatement." They were provided with three choices for *each* misstatement: (1) no adjustment, (2) the amount recommended by the audit team, or (3) their own adjustment.¹⁴ We used their answers to this question to calculate two binary variables used in the logistic regressions to test the hypotheses.¹⁵ The first binary variable, *FULLCORRECTION*, is used to test H1 and is coded 1 if the auditor chooses adjustments for both misstatements consistent with the amounts recommended by the audit team or a more conservative decision (i.e., adjustments resulting in a larger negative amount), or 0 otherwise.¹⁶ The logistic regression that tests H1 compares the no client pressure condition (NP) with the first client pressure condition (CP) across both levels of *MISSDIST*. The second binary variable, *DENYBONUS*, is used to test H2. *DENYBONUS* is coded 1 if the net amount of the two adjustments prevents client management from meeting the bonus constraint, or 0 otherwise. The logistic regression that tests H2 compares the two client pressure/materiality conditions (CP and CPM) across both levels of *MISSDIST*.

¹³ We operationalize client pressure using the same process used by Hatfield et al. (2011), which combines the importance of the client to the auditor and pressure exercised on the auditor by the client, and uses aspects of client pressure found to be influential in prior literature (e.g., Nelson et al. 2002). Note that client importance and pressure to waive the adjustment are not crossed in our design (i.e., low [high] importance is always matched with low [high] pressure to waive the adjustment). See Section V for a replication of the CP condition where the importance of the client is removed.

¹⁴ This dependent variable is similar to the one used by Nelson et al. (2005).

¹⁵ Across all experimental conditions, the majority of auditors required a full adjustment of both misstatements (decision choice 2 above). Therefore, the mean net amounts do not differ much across experimental conditions (see Table 3). By transforming the net amounts into two binary variables, the analyses better discriminate between auditors who waive correction and auditors who chose a correction of the adjustments.

¹⁶ Seven participants chose a combination of adjustments that were more conservative than the full correction of both misstatements (i.e., the proposed net amount was a larger negative adjustment to net income than the -€120 that the audit team recommended). Three participants fully adjusted the income-increasing misstatement, but not the income-decreasing misstatement. One participant fully adjusted the income-decreasing adjustment, but chose an amount for the income-increasing misstatement that was greater than the amount proposed by the audit team. Three other participants chose to require smaller adjustments than proposed by the audit team on the income-increasing misstatement, but chose not to adjust the income-decreasing misstatement (two participants) or a much smaller amount than recommended by the audit team (one participant).

FIGURE 2
Experimental Design
CLIENT PRESSURE

		NP	CP	CPM
		A	B	C
<i>MISSDIST</i>	WA	IP = + €704	IP = + €704	IP = + €524
		IP = - €824	IP = - €824	IP = - €904
		net = - €120	net = - €120	net = - €380
		D	E	F
<i>MISSDIST</i>	BA	IP = + €704	IP = + €704	IP = + €524
		TR = - €824	TR = - €824	TR = - €904
		net = - €120	net = - €120	net = - €380

MISSDIST:

WA = within account: the two misstatements occur in the same account (investment properties = IP).

BA = between accounts: one misstatement occurred in investment properties (IP), while the other misstatement occurred in trade receivables (TR).

CLIENT PRESSURE:

NP = client is mid-tier firm, accounts for 5 percent of partner's time, and CFO and chief accountant apply no pressure against booking the misstatement. The net effect of the misstatements (1 percent) causes the executives to miss the bonus constraint.

CP = client is one of the firm's largest clients and accounts for 25 percent of the partner's time, and the CFO and chief accountant are applying significant pressure on the auditor. The net effect of the misstatements (1 percent) causes the executives to miss the bonus constraint.

CPM = client is one of the firm's largest clients and accounts for 25 percent of the partner's time, and the CFO and chief accountant are applying significant pressure on the auditor. The net effect of the misstatements (4.25 percent) causes the executives to miss the bonus constraint.

Type of Account:

IP = Investment Properties.

TR = Trade Receivables.

Case Materials

The misstatements included in the case involve estimates, and their measurement leaves a certain level of ambiguity. One condition includes an income-increasing and an income-decreasing misstatement for the same balance sheet account. We used investment properties for this balance sheet account because it is subject to a full fair value measurement under IAS 40, *Investment Property*. For the between accounts condition, we included the same income-increasing investment property misstatement from the within account condition, and an impairment loss to be recognized on a trade receivable that was identical in effect size to the income-decreasing misstatement used in the investment property account. Hence, two different balance sheet accounts are misstated.

Two partners, three senior managers, and two managers from three major and three mid-tier German public accounting firms reviewed the case materials for understandability and realism. Two of the reviewers are experts in investment properties, and two others are experts in financial instruments. This review of the case materials resulted in minor adjustments. We then conducted a pilot-test of the case materials with 17 students and a lecturer (a former Big 4 audit firm partner) from an international auditing class in a Master's program of a German university. The pilot-test did not highlight the need for any significant changes.

The case materials started with a letter that described the study followed by a consent form. Next, there was a description of the hypothetical client, Multiple Industrial Holdings (MIH). Participants were told to assume that they were the audit partner on MIH. MIH was described as a company that trades on the German stock exchange, has been a client for the past four years, and operates in a number of different business segments. Participants were told that MIH owns some real estate properties that are not used by MIH, but are leased to various tenants operating in a number of industries. Further, participants were told that

TABLE 2
Variable Definitions

Variable	Definition
Dependent Variables	
<i>FULLCORRECTION</i>	A binary variable that can take the value 1 (the auditor requires full adjustment of both misstatements as recommended by the audit team, or adjustments resulting in a larger negative amount), or 0 otherwise.
<i>DENYBONUS</i>	A binary variable that can take the value 1 (the net amount of the two adjustments does not allow the client to meet the bonus constraint), or 0 otherwise.
Independent Variables	
<i>MISSDIST</i>	WA (within account): the two misstatements occur in the same account (investment properties). BA (between accounts): one misstatement occurred in investment properties, while the other misstatement occurred in trade receivables.
<i>CLIENT PRESSURE</i>	NP (no pressure): Client is mid-tier firm, accounts for 5 percent of partner's time, and CFO and chief accountant apply no pressure against booking the misstatement. The net effect of the misstatements (1 percent) causes the executives to miss the bonus constraint. CP (client pressure): Client is one of the firm's largest clients and accounts for 25 percent of the partner's time, and the CFO and chief accountant are applying significant pressure on the auditor. The net effect of the misstatements causes the executives to miss the bonus constraint.
<i>MATERIALITY EFFECT</i>	CP (client pressure, small materiality): The net effect of the misstatements causes the executives to miss the bonus constraint by 1 percent. CPM (client pressure, large materiality): The net effect of the misstatements causes the executives to miss the bonus constraint by 4.25 percent.
<i>NEW CLIENT PRESSURE</i>	New CP (client pressure): the CFO and chief accountant are applying significant pressure on the auditor. The net effect of the misstatements causes the executives to miss the bonus constraint.
Control Variables	
<i>AUDIT EXPERIENCE</i>	Years of audit experience (continuous).
<i>AUDIT EXPERIENCE (LC)</i>	Years of audit experience with listed clients (continuous).
<i>PARTNER</i>	A binary variable that can take the value 1 if the participant is a partner, or 0 otherwise.

“based on earnings before interest and taxes (EBIT) of 8,040,000€ in MIH’s unaudited statements, you set **overall planning materiality at 400,000€**, and **performance materiality for the individual accounts at 200,000€**” (bold in original case).¹⁷ The case stated that “a substantial part of the audit has already been completed,” that “the audit team detected a number of issues,” and that the audit team “believes that the client should make the suggested adjustments in order to conform to International Financial Reporting Standards (IFRS).”

The participants were randomly assigned to one of the six experimental conditions. After evaluating the two misstatements, the participants were asked to respond to three questions: (1) the likelihood of requiring the client to adjust misstatement 1 with the amount as recommended by the audit team on a nine-point scale (1 = Very Low to 9 = Very High); (2) the likelihood of requiring the client to adjust misstatement 2 with the amount recommended by the audit team on a nine-point scale (1 = Very Low to 9 = Very High); and (3) the amounts that you would require the client to adjust for each misstatement.¹⁸ Finally, the participants then completed a post-experimental questionnaire and provided demographic data.

Procedure

The experiment was completed using pen and paper. We gathered 96 responses during local office meetings administered by one of the researchers, and we received 47 responses where the instrument was sent by mail to a contact person at the local office and distributed to eligible participants (i.e., German certification) in the respective local offices.¹⁹

¹⁷ Five percent of EBIT and 50 percent of overall planning materiality for performance materiality is consistent with audit practice for public companies (Eilifsen and Messier 2015).

¹⁸ Based on our two hypotheses, we focus our analyses on the auditors’ misstatement judgments.

¹⁹ When the type of administration is included as a control variable in the logistic regressions for H1 and H2, it is only significant for H2. Inclusion of type of administration as a control variable does not qualitatively change the reported results. Thus, we do not include it in the analysis shown in Table 5.

IV. RESULTS

Manipulation and Other Checks

We performed the manipulation checks as follows.²⁰ First, to test *MISSDIST*, we asked, “Did the adjustments on the issues raised by your audit team relate to the same financial statement account or different financial statement accounts?” There were 73 respondents in the WA condition. Three participants did not provide a response. From the remaining 70 participants, 61 (87 percent) correctly answered this question. From the 70 participants in the BA condition, one participant did not provide a response. Sixty-seven of 69 participants (97 percent) correctly answered the question.²¹ Second, to test the client pressure condition, we asked the participants two questions related to the importance of the client for the firm and the client’s incentive to correct the misstatements: “As a client, how important is MIH for your firm and your firm’s performance?” and “Based on your discussions with MIH’s management (CFO and Chief Accountant) about the importance of the financial statements, how would you rate MIH’s top management’s incentive to record the proposed adjustments?” A nine-point Likert scale (1 = Very Low to 9 = Very High) was used to measure their responses. The means for the three conditions for importance of the client question were: NP = 5.0, CP = 7.3, and CPM = 7.5. NP was significantly lower in a Welch’s unequal variances t-test than the two client pressure conditions (NP versus CP: $t_{82} = -7.33$, $p < 0.001$; NP versus CPM: $t_{79} = -8.15$, $p < 0.001$, two-tailed). For client’s incentive to correct the misstatements, the means were NP = 5.5, CP = 3.9, and CPM = 3.5. NP was significantly higher in a Welch’s unequal variances t-test than the two client pressure conditions (NP versus CP: $t_{88} = 3.22$, $p < 0.002$, two-tailed; NP versus CPM: $t_{89} = 4.26$, $p < 0.001$, two-tailed), respectively. Thus, our manipulations were successful.

We also asked two questions about the realism and understandability of the case materials (nine-point Likert scale). The participants found the case materials to be realistic (mean = 6.2; scale 1 = not at all realistic to 9 = very realistic) and understandable (mean = 7.3; scale 1 = not at all understandable to 9 = very understandable). The means (realistic = 6.2 and understandable = 7.3) are both significantly higher than the midpoint of the scale (realistic: $t_{142} = 7.97$, $p < 0.001$, two-tailed; understandable: $t_{142} = 18.84$, $p < 0.001$, two-tailed), implying that our case materials were appropriate for the study.

Finally, we asked the participants three questions about their knowledge of related accounting and auditing standards (nine-point Likert scale). One question asked how familiar the participant was with IAS 40, *Investment Property*, and IFRS 13, *Fair Value Measurement* (1 = very familiar to 9 = not familiar). The mean response of 5.6 is significantly higher than the midpoint (5) of the scale ($t_{142} = 3.05$, $p = 0.003$, two-tailed). Thus, the participants were not as familiar with the accounting standards as we had anticipated. Still, familiarity does not significantly vary across conditions. The other two questions asked about the consistency of offsetting misstatements with International Standards on Auditing within the same account and between two different accounts on a nine-point scale (1 = fully consistent to 9 = fully inconsistent). The mean response for offsetting within the same account was 4.4, which is significantly lower than the midpoint in a t-test ($t_{139} = -2.07$, $p = 0.041$, two-tailed), and offsetting between two different accounts was 7.4, which is significantly higher than the midpoint in a t-test ($t_{140} = 14.16$, $p < 0.001$, two-tailed). Thus, the participants’ responses are consistent with the general guidance of the ISA to offset (waive) within accounts and not offset (adjust) misstatements between two different accounts. Table 3 presents the means and variance for each of the dependent variables.

Hypotheses Tests

Offsetting Misstatements and Client Pressure

Table 4, Panel A reports the results from a logistic regression using the participants’ responses that required full adjustment of both misstatements (*FULLCORRECTION*). The predicted *MISSDIST* × *CLIENT PRESSURE* interaction is significant ($\chi^2 = 3.43$, $p = 0.032$). Figure 3, Panel A plots the interaction.

H1 predicts a specific ordinal interaction in that the proportion of auditors who require the client to fully adjust both misstatements will be highest when the offsetting misstatements are in two different accounts and there is no client pressure. We estimate a planned interaction contrast that relies on weights of +3, -1, -1, -1, where the between accounts (BA) and no pressure (NP) condition has a weight of +3 and all other conditions have a weight of -1 (Buckless and Ravenscroft 1990). As

²⁰ We report two-tailed p-values for the manipulation checks in this section. We report one-tailed p-values for the tests of the hypotheses including the simple effects tests. Therefore, all p-values are one-tailed unless noted otherwise.

²¹ If we remove the 11 participants who failed this manipulation check and the four participants who did not respond to the question, our results related to H1 remain unchanged. For H2, the results remain qualitatively similar with the following exceptions: (1) the hypothesis (interaction) variable *MISSDIST* × *MATERIALITY EFFECT* is significant ($\chi^2 = 4.08$, $p = 0.02$); (2) the odds ratio for *MISSDIST* in the *CPM* × *PARTNER* condition is 1.18 instead of 0.93; (3) the odds ratio for *MATERIALITY EFFECT* in the WA condition is 0.97 instead of 1.77, the odds ratio for *PARTNER* in the WA condition is 1.13 instead of 0.76; and (4) the odds ratio for the *AUDIT EXPERIENCE (LC)* × *MISSDIST* × *MATERIALITY EFFECT* interaction in the WA/CP condition is 0.99 instead of 1.03.

TABLE 3
Descriptive Data

Panel A: Means of the Dependent Variables by Experimental Condition

<i>MISSDIST</i>	<i>CLIENT PRESSURE</i>		
	<i>NP</i>	<i>CP</i>	<i>CPM</i>
WA			
n	25	25	23
Net Amount	-114,960	-100,720	-269,043
Proportion of Auditors insisting on full correction of all misstatements (<i>FULLCORRECTION</i>)	68.0%	68.0%	69.6%
Proportion of Auditors denying client to meet bonus constraint (<i>DENYBONUS</i>)	NA ^a	68.0%	73.9%
BA			
n	23	23	24
Net Amount	-127,478	-144,609	-325,667
Proportion of Auditors insisting on full correction of all misstatements (<i>FULLCORRECTION</i>)	95.7%	73.9%	75.0%
Proportion of Auditors denying client to meet bonus constraint (<i>DENYBONUS</i>)	NA ^a	78.3%	91.7%

Panel B: Means of the Dependent Variables by Covariates

		n	Proportion of Auditors Insisting on Full Correction of All Misstatements (<i>FULLCORRECTION</i>)	n	Proportion of Auditors Allowing Client to Meet Bonus Constraint (<i>DENYBONUS</i>)
<i>AUDIT EXPERIENCE</i> (years)	1–10	30	86.7%	32	93.8%
	11–20	55	70.9%	49	75.5%
	> 20	11	72.7%	14	50.0%
<i>AUDIT EXPERIENCE (LC)</i> (years)	0	25	84.0%	25	68.0%
	1–10	54	74.1%	55	83.6%
	11–20	15	66.7%	11	72.3%
	> 20	1	100.0%	3	66.7%
<i>PARTNER</i>	Yes	24	75.0%	26	65.4%
	No	72	76.4%	69	82.6%

^a In the NP condition, there is no bonus constraint. Adjusting or waiving the misstatements has no implications for meeting or not meeting a bonus constraint.

Net Amount = mean of the sum of the two amounts that the client would be required to adjust for each misstatement based on two proposed adjustments. Table 2 provides variable definitions.

shown in Table 4, Panel B, the planned contrast is significant ($\chi^2 = 4.78$, $p = 0.014$). Follow-up simple effects tests show that (1) the proportion of auditors who require full correction and face no client pressure when misstatements are contained in different accounts (95.7 percent) is significantly greater ($\chi^2 = 4.87$, $p = 0.014$) than when the misstatements are contained in the same account (68 percent); (2) the proportion of auditors faced with client pressure who require full correction when the misstatements are contained in the same account (68 percent) compared to when misstatements are contained in different accounts (73.9 percent) is not significant ($\chi^2 = 0.00$, $p = 0.476$); and (3) the proportion of auditors who require full correction of misstatements contained in different accounts when there is no client pressure is significantly higher (95.7 percent) than when the client exercises pressure (73.9 percent) ($\chi^2 = 3.83$, $p = 0.025$). These results are consistent with H1.

When the misstatements are contained in the same account, the odds ratio (1.15) suggests that client pressure has only a small effect on the odds of fully correcting the misstatements. However, when the misstatements are contained in different accounts, the odds ratio (0.10) indicates that the odds of fully correcting the misstatements when faced with client pressure are approximately ten times lower compared to the odds of a full correction when there is no client pressure. These results support H1 and show that auditors are more likely to correct qualitatively material misstatements when they are contained in different accounts and not faced with client pressure.

TABLE 4
Tests of Auditors' Judgments of Full Correction of the Misstatements (H1)
(n = 96)

Panel A: Logistic Regression

Variable	Dependent Variable: <i>FULLCORRECTION</i>						p-value (one-tailed)
	Condition Interacting Variable	Odds Ratio	DF	Parameter Estimate	Standard Error	χ^2	
Intercept			1	3.375	1.144	8.70	0.002
<i>MISSDIST</i>	NP	12.35	1	-0.041	0.696	0.00	0.476
	CP	1.02					
<i>CLIENT PRESSURE</i>	WA	1.15	1	-2.271	1.846	1.51	0.109
	BA	0.10					
<i>MISSDIST</i> × <i>CLIENT PRESSURE</i> (H1)				-2.468	1.333	3.43	0.032
<i>AUDIT EXPERIENCE</i>	NP	1.18	1	-0.160	0.067	5.67	0.009
	CP	0.85					
<i>AUDIT EXPERIENCE</i> × <i>CLIENT PRESSURE</i>			1	0.323	0.115	7.94	0.002

Panel B: Planned Contrast and Simple Effects Tests of H1

Contrasts	DF	χ^2	p-value (one-tailed)
Planned contrast ^a	1	4.78	0.014
Simple effects comparison of:			
Within accounts (WA)/Between accounts (BA), No client pressure (NP)	1	4.87	0.014
Within accounts (WA)/Between accounts (BA), Client pressure (CP)	1	0.00	0.476
No client pressure (NP)/Client pressure (CP), Between accounts (BA)	1	3.83	0.025

^a Contrast weights are +3 for between accounts (BA), no client pressure (NP), and -1 for remaining conditions. Table 2 provides variable definitions.

We had no *a priori* prediction for audit experience. As shown in Table 4, Panel A, *AUDIT EXPERIENCE* is significant ($\chi^2 = 5.67$, $p = 0.009$), as is the interaction *AUDIT EXPERIENCE* × *CLIENT PRESSURE* ($\chi^2 = 7.94$, $p = 0.002$). This result suggests that audit experience impacts the auditors' judgments, but that the direction of the impact is dependent on the presence or absence of client pressure. Specifically, more experienced auditors are more likely to fully correct both misstatements when there is no client pressure. The odds ratio of 1.18 implies that the odds of a full correction increase by 18 percent for every additional year of audit experience. However, when faced with client pressure, more experienced auditors are more likely to not fully correct both misstatements. The odds ratio of 0.85 implies that the odds of a full correction decrease by 15 percent for every additional year of audit experience.

Offsetting Misstatements and Materiality

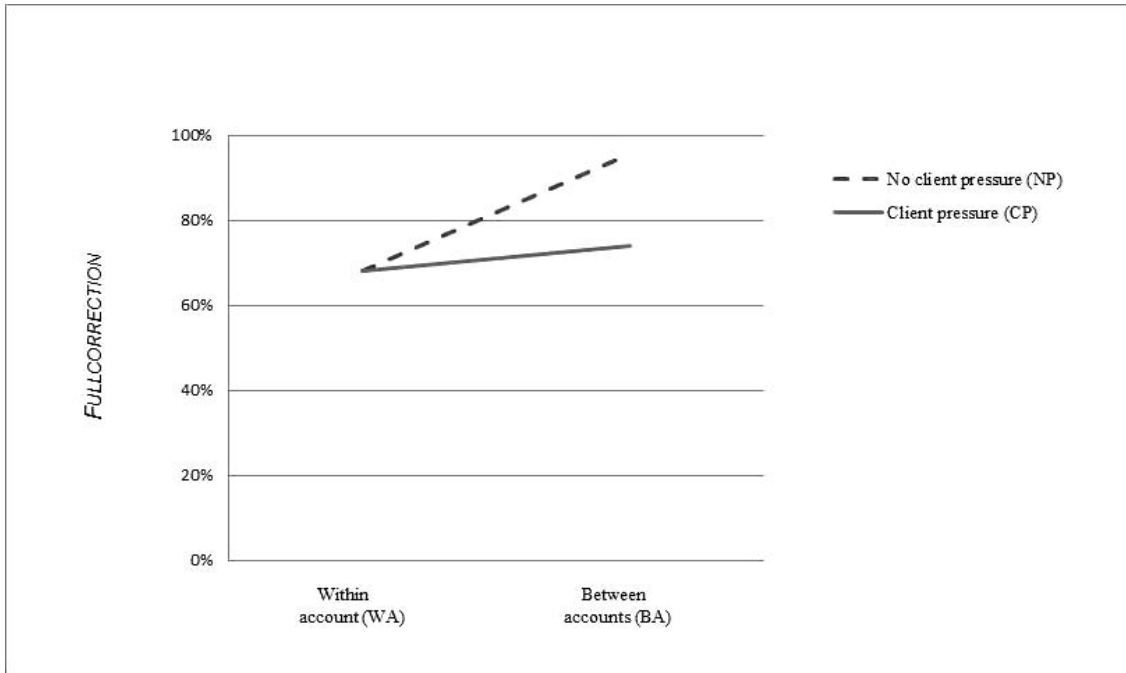
Table 5, Panel A reports the results from a logistic regression comparing the two client pressure conditions that differ only in the quantitative materiality of the net effect of the two detected misstatements on client income.²² We refer to this factor as the *MATERIALITY EFFECT*. The *MISSDIST* × *MATERIALITY EFFECT* interaction is significant ($\chi^2 = 3.36$, $p = 0.033$). Figure 3, Panel B plots the interaction effect.

H2 predicts a specific ordinal interaction where the proportion of auditors who prevent client management from meeting the bonus constraint when facing client pressure will be highest when the level of materiality is greater than performance

²² Note that participants' responses to the two manipulation checks for both client pressure conditions (CP and CPM) are not statistically different (importance of the client: $t_{92} = -0.95$, $p = 0.343$, two-tailed; client's incentive to record the proposed adjustments: $t_{93} = 0.74$, $p = 0.459$, two-tailed). Thus, we conclude that any differences detected in the following analyses are due to the materiality effect of the misstatements and not differences due to client pressure.

FIGURE 3
Actual Interactions for the Predicted Interactions

Panel A: Interaction of *MISSDIST* and *CLIENT PRESSURE* (H1)



Panel B: Interaction of Misstatement *MISSDIST* and *MATERIALITY EFFECT* (H2)

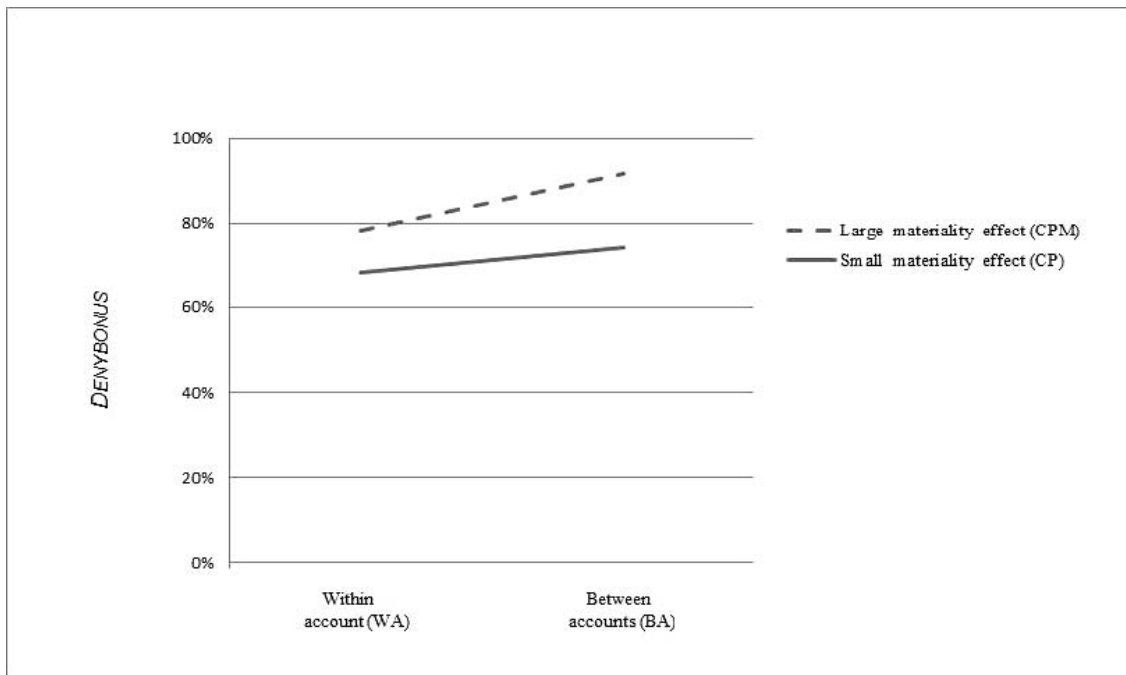


Table 2 provides variable definitions.

TABLE 5
Test of Auditors' Choice to Prevent Meeting the Bonus Constraint (H2)
(n = 94)^a

Panel A: Logistic Regression

Variable	Dependent Variable: <i>DENYBONUS</i>						
	Condition Interacting Variable	Odds Ratio	DF	Parameter Estimate	Std. Error	χ^2	p-value (one-tailed)
Intercept			1	1.536	1.452	1.12	0.145
<i>MISSDIST</i>	CP × <i>NO PARTNER</i>	6.17	1	-1.210	1.681	0.52	0.236
	CP × <i>PARTNER</i>	0.11					
	CPM × <i>NO PARTNER</i>	52.19					
	CPM × <i>PARTNER</i>	0.93					
<i>MATERIALITY EFFECT</i>	WA	1.77	1	-4.718	2.445	3.73	0.027
	BA	14.99					
<i>MISSDIST</i> × <i>MATERIALITY EFFECT</i> (H2)			1	4.770	2.602	3.36	0.033
<i>PARTNER</i>	WA	0.76	1	4.303	1.925	5.00	0.013
	BA	0.01					
<i>PARTNER</i> × <i>MISSDIST</i>			1	-4.029	2.062	3.82	0.025
<i>AUDIT EXPERIENCE (LC)</i>			1	-0.082	0.116	0.50	0.240
<i>AUDIT EXPERIENCE (LC)</i> × <i>MISSDIST</i>			1	0.218	0.168	1.68	0.098
<i>AUDIT EXPERIENCE (LC)</i> × <i>MATERIALITY EFFECT</i>			1	0.341	0.187	3.30	0.035
<i>AUDIT EXPERIENCE (LC)</i> × <i>MISSDIST</i> × <i>MATERIALITY EFFECT</i>	WA × CP	1.03	1	-0.446	0.239	3.487	0.031
	WA × CPM	1.15					
	BA × CP	1.30					
	BA × CPM	0.92					

Panel B: Planned Contrasts and Simple Effects Tests of H2

Contrasts	DF	χ^2	p-value (one-tailed)
Planned contrast ^b	1	2.93	0.044
Simple effects comparison of:			
Within accounts (WA)/Between accounts (BA), more material misstatements (CPM)	1	1.82	0.089
Within accounts (WA)/Between accounts (BA), less material misstatements (CP)	1	0.06	0.405
Less material misstatements (CP)/More material misstatements (CPM), between accounts (BA)	1	2.85	0.046

^a One respondent did not answer the question on audit experience with listed clients (*AUDIT EXPERIENCE (LC)*). Because this covariate is included in the logistic regression, this observation is omitted in Table 5, but it is included in the other tables.

^b Contrast weights are +3 for between accounts (BA), more material misstatements (CPM), and -1 for remaining conditions. Table 2 provides variable definitions.

materiality and the misstatement distribution is in different accounts. Similar to H1, we test this predicted ordinal interaction with a planned interaction contrast that relies on weights of +3, -1, -1, -1, where the between accounts (BA) and more material (CPM) condition has a weight of +3 and all other conditions have a weight of -1. As shown in Table 5, Panel B, the contrast is significant ($\chi^2 = 2.93$, $p = 0.044$). Simple effects tests show that (1) the proportion of auditors who prevent client management from meeting the bonus constraint when more material misstatements are contained in different accounts (91.7 percent) is marginally significantly greater compared to when the misstatements are contained in the same account (73.9 percent) ($\chi^2 = 1.82$, $p = 0.089$); (2) the proportion of auditors who prevent client management from meeting the bonus constraint when less material misstatements are contained in the same account (68 percent) is not significantly different than when they are contained in different accounts (78.3 percent) ($\chi^2 = 0.06$, $p = 0.405$); and (3) the proportion of auditors who prevent client management from meeting the bonus constraint when misstatements are contained in two different accounts is significantly greater when the materiality effect is above performance materiality for the accounts (91.7 percent) compared to

when the materiality effect is below performance materiality for the accounts (78.3 percent) ($\chi^2 = 2.85$, $p = 0.046$). These results support H2.

When the misstatements are contained in the same account, the quantitative materiality of the misstatements' net effect size has a smaller effect (odds ratio = 1.77) than when the misstatements are contained in different accounts (odds ratio = 14.99). Thus, the odds of preventing client management from meeting the bonus constraint are 15 times higher when the misstatements are contained in different accounts, while the odds are only twice as high when the misstatements are contained in the same account.

Again, we had no *a priori* predictions about the two covariates that are significant in the analyses reported in Table 5: *AUDIT EXPERIENCE (LC)* and *PARTNER*. The predicted *MISSDIST* \times *MATERIALITY EFFECT* interaction discussed above must be examined within the context of the significant three-way interaction for *AUDIT EXPERIENCE (LC)* \times *MISSDIST* \times *MATERIALITY EFFECT* ($\chi^2 = 3.49$, $p = 0.031$; Panel A).²³ We find that more audit experience with listed clients increases the odds of the auditor preventing client management from meeting the bonus constraint in three of the four conditions. The only condition where audit experience with listed clients decreases the odds is when more material misstatements are contained in different accounts.²⁴

The *PARTNER* \times *MISSDIST* interaction in Table 5, Panel A is also significant ($\chi^2 = 3.82$, $p = 0.025$).²⁵ The results show that the proportion of partners who prevent client management from meeting the bonus constraint when the misstatements are in the same account is 69.2 percent, while the proportion for non-partners is 71.4 percent. Simple effects tests show that these proportions are not significantly different ($\chi^2 = 0.14$, $p = 0.356$). When the misstatements are contained in two different accounts, the proportion of partners who prevent client management from meeting the bonus constraint is 61.5 percent, while the proportion of non-partners is 94.1 percent. Simple effects tests show that this difference is significant ($\chi^2 = 5.00$, $p = 0.013$). Thus, non-partners are more likely to prevent management from receiving a bonus than partners when the misstatements are contained in two different accounts and there is client pressure.

V. ADDITIONAL EXPERIMENTATION

In our main experiment, the client pressure condition combined two factors: importance of the client to the audit partner and pressure from the client to waive the adjustments. Thus, we are unable to determine which of these two factors, or both, led to our client pressure results.²⁶ To overcome the compound nature of the client pressure condition, we conduct a 2 (BA or WA) \times 1 ("new CP") experiment that replicates the CP condition in the main experiment, except that we omit the importance of the client to the partner from the instrument. The new CP condition allows us to test H1 with a client pressure condition that removes the potential confound.

Participants and Manipulation Checks

Thirty-three auditors completed the experiment. One participant was deleted because that participant was not a *Wirtschaftsprüfer*. A second participant was deleted due to not having answered the question on the qualification as a *Wirtschaftsprüfer*. Five participants failed the manipulation check on whether the misstatements were in the WA or BA condition. The mean response for the client's incentive to correct the misstatements was 3.1, and is significantly lower than the mean from the NP condition in the main experiment in a Welch's unequal variances t-test ($t_{56} = 4.45$, p -value < 0.001 , two-tailed). Thus, the client pressure manipulation is successful. Consistent with the main experiment, we included the participants who failed the manipulation check.²⁷ This results in 15 participants in the WA condition and 16 participants in the BA condition. The final pool of participants contained four partners, 16 senior managers, and ten managers (one participant did not answer the question on the rank within the audit firm). The demographics for the participants were similar to the participants in the main experiment.²⁸

²³ There are also two other moderately significant or significant interactions: *AUDIT EXPERIENCE (LC)* \times *MISSDIST* ($\chi^2 = 1.678$, $p = 0.098$) and *AUDIT EXPERIENCE (LC)* \times *MATERIALITY EFFECT* ($\chi^2 = 3.30$, $p = 0.035$) that are captured within the discussion of the three-way interaction.

²⁴ Specifically, the odds ratios (1.03, 1.15, 1.30) show that for every additional year of audit experience, the odds of the auditor preventing client management from meeting the bonus constraint increase by 3 percent (WA \times CP), 15 percent (WA \times CPM), and 30 percent (BA \times CP), respectively. In the BA \times CPM condition, the odds ratio is 0.92, indicating that the odds of preventing client management from meeting the bonus constraint decrease by 8 percent for every additional year of audit experience with listed companies.

²⁵ Captured within the discussion of the interaction is the significant main effect of *PARTNER* ($\chi^2 = 5.00$, $p = 0.013$).

²⁶ We thank the editor for pointing out this issue.

²⁷ If we exclude these five participants, the results to H1 remain unchanged.

²⁸ The participants had a mean age of 41.53 years ($SD = 8.51$), a mean audit experience of 14.10 years ($SD = 7.18$), and a mean audit experience with listed clients of 4.90 years ($SD = 5.71$). Twenty-eight participants have a Master's degree in business, two Master's degrees in Law, one other degree. Eleven participants were female and 19 male (one no response).

TABLE 6
Additional Experiment
Tests of Auditors' Judgments of Full Correction of the Misstatements

Panel A: Means of the Dependent Variables by Experimental Condition

	<u>New CP</u>
<i>OFFSET TYPE</i>	
WA	
n	15
Net Amount	-132,600
Proportion of Auditors insisting on full correction of all misstatements (<i>FULLCORRECTION</i>)	80.0%
Proportion of Auditors denying client to meet bonus constraint (<i>DENYBONUS</i>)	80.0%
BA	
n	16
Net Amount	-141,250
Proportion of Auditors insisting on full correction of all misstatements (<i>FULLCORRECTION</i>)	81.25%
Proportion of Auditors denying client to meet bonus constraint (<i>DENYBONUS</i>)	84.6%

Panel B: Test of H1 with New CP Condition, Logistic Regression
(n = 79)

Variable	Dependent Variable: <i>FULLCORRECTION</i>						
	Condition Interacting Variable	Odds Ratio	DF	Parameter Estimate	Standard Error	χ^2	p-value (one-tailed)
Intercept			1	1.806	1.081	2.79	0.047
<i>MISSDIST</i>	NP	12.30	1	-0.016	0.925	0.00	0.493
<i>CLIENT PRESSURE</i>	CP	1.04					
	WA	1.74	1	-0.703	1.807	0.15	0.349
<i>MISSDIST</i> × <i>CLIENT PRESSURE</i>	BA	0.14					
				-2.493	1.466	2.89	0.045
<i>AUDIT EXPERIENCE</i>	NP	1.18	1	-0.026	0.064	0.16	0.344
	CP	0.98					
<i>AUDIT EXPERIENCE</i> × <i>CLIENT PRESSURE</i>			1	0.188	0.113	2.81	0.047

Panel C: Planned Contrast and Simple Effects Tests of H1 with New CP Condition

Contrasts	DF	χ^2	p-value (one-tailed)
Planned contrast ^a	1	3.69	0.027
Simple effects comparison of:			
Within accounts (WA)/Between accounts (BA), no client pressure (NP)	1	4.87	0.014
Within accounts (WA)/Between accounts (BA), new client pressure (new CP)	1	0.00	0.493
No client pressure (NP)/New client pressure (CP), between accounts (BA)	1	2.41	0.060

^a Contrast weights are +3 for between accounts (BA), no client pressure (NP), and -1 for remaining conditions. Table 2 provides variable definitions.

Results

Table 6, Panel A presents the means for the dependent variables for the “new CP” condition. Panel B presents the logistic regression that tests H1, where NP from the main experiment is compared to the new CP condition.

The results replicate the main experiment for H1, with the predicted *MISSDIST* × *CLIENT PRESSURE* interaction in Table 6, Panel B being significant ($\chi^2 = 2.89$, $p = 0.045$). Panel C reports the results from the planned interaction contrast. The

contrast is significant ($\chi^2 = 3.69$, $p = 0.027$). The results from the simple effects tests are similar to the main experiment. Thus, we continue to find support for H1 after removing client importance from the CP condition. *AUDIT EXPERIENCE* is not significant ($\chi^2 = 0.16$, $p = 0.344$), but the interaction term *AUDIT EXPERIENCE* \times *CLIENT PRESSURE* ($\chi^2 = 2.81$, $p = 0.047$) is significant. The effect of audit experience is qualitatively similar to the main experiment. Audit experience increases the odds of full correction of the two misstatements when there is no client pressure (odds ratio = 1.18, i.e., 18 percent for every additional year of audit experience), but decreases the odds when there is client pressure (odds ratio = 0.98, i.e., 2 percent for every year of audit experience).

When we compare the client pressure operationalization from the main experiment (CP) with the operationalization from the additional experimentation (new CP), we find no differences between the two conditions (results not tabulated).²⁹

To provide some insight into the auditor's judgment on the materiality conditions, we asked the participants two post-experimental questions related to correcting adjustments that are qualitatively material, but where quantitative materiality differs in relation to performance materiality. First, we asked "Suppose you detect an audit difference that is less than both overall (planning) materiality and performance materiality for the affected account. However, the audit difference affects a qualitative materiality factor (e.g., the misstatement underlying the adjustment allowed the client's management to receive a bonus). The likelihood that you require the client to book this audit adjustment (adjusting journal entry) is . . ." Participants answered on a nine-point Likert scale ranging from 1 = Very Low to 9 = Very High. The overall mean response to this question was 5.68 (SD = 2.06). The mean is significantly greater than the midpoint of the Likert scale ($t_{30} = 1.83$, $p = 0.077$, two-tailed). This indicates that auditors are likely to adjust misstatements that are less than performance materiality, but the difference affects a qualitative materiality factor. The second question was "Suppose an audit adjustment is less than overall (planning) materiality, but is higher than your performance materiality for this account. The likelihood that you require the client to book the audit adjustment (adjusting journal entry) is . . ." Again, participants answered on a nine-point Likert scale ranging from 1 = Very Low to 9 = Very High. The overall mean response to this question was 7.45 (SD = 1.59). The mean is significantly greater than the midpoint of the Likert scale ($t_{30} = 8.59$, $p < 0.001$, two-tailed). This indicates that auditors are likely to correct misstatements when the magnitude of the misstatement is greater than performance materiality for the affected account, but lower than overall materiality. The means for both questions do not vary significantly between the two conditions (WA or BA).

VI. CONCLUDING COMMENTS

In this study, we examined two hypotheses related to the effect of client pressure and materiality on auditors' judgments of misstatements detected during an audit that have offsetting effects on the client's income. Auditing standards and firm guidance are ambiguous on how auditors should handle offsetting misstatements.

Our results show the following: First, as predicted, the proportion of auditors who require the client to fully adjust both misstatements is highest when the offsetting misstatements are in two different accounts and there is no client pressure. Thus, when pressure was exerted by the client, auditors waive the misstatements even though this action violates the presence of a qualitative materiality factor. Client pressure causes auditors to be motivated by a directional goal. To reach that goal, auditors appear to exploit the ambiguity in auditing standards.

Second, also as predicted, we find that the quantitative materiality of the net effect of the offsetting misstatements significantly affects the auditors' judgments. The proportion of auditors who deny the bonus when facing client pressure is highest when the level of materiality is greater than performance materiality and the misstatement distribution is in different accounts. Auditing standards are ambiguous about how auditors should handle misstatements that are below overall materiality, but are greater than the performance materiality for the affected account.

Third, while we had no *a priori* predictions about the effects of experience on the auditors' judgments, we find that audit experience appears to play a systematic role. When testing for the effects of client pressure (H1), more experienced auditors are more likely *to fully correct* both misstatements when there is no client pressure, but when faced with client pressure, more experienced auditors were more likely *to waive* both misstatements. When we examine a quantitative difference in the size of the misstatements (H2), we find that more audit experience with listed clients lowers the odds of the auditor preventing client management from meeting the bonus constraint when more material misstatements are contained in different accounts, but not when the misstatements are contained in the same account regardless of materiality.

²⁹ We do not replicate the test of H2 with the new CP condition because the test of H2 from the main experiment was not subject to a confound, since client pressure was held constant across the CP and CPM conditions in the main experiment. Conversely, since we created the new CP condition by omitting importance of the client to the partner from the instrument, replicating the test of H2 would compare new CP (not including client importance) and old CPM (including client importance).

We speculate that audit experience may better enable the auditor to reach whatever goal the auditor is motivated to reach. Audit experience allows auditors to develop more comprehensive knowledge structures, and to use that knowledge more effectively (Tubbs 1992). Audit experience appears to enhance the auditors' ability to meet an accuracy goal, but also enhances their ability for motivated reasoning and meeting directional goals. This possible explanation would be consistent with prior literature. For example, Haynes et al. (1998) show that experienced auditors propose audit adjustments that are consistent with the client's preferences, provided the client's desired reporting outcome has been made salient to the auditor. Specifically, they document a positive association between years of audit experience and auditors' tendency to support the client's position. Prior literature also shows less experienced auditors are more likely to be skeptical than experienced auditors (Shaub and Lawrence 1999, 2002). Similar to ability, sensitivity to incentives should increase with audit experience, because more experienced auditors generally have a higher rank in their audit firm. Auditors with higher ranks have greater incentives to retain their clients. Hence, more experienced auditors are likely to be more sensitive to clients' demands and, accordingly, more motivated to reach a directional goal. Partners are the primary beneficiaries when a client is retained and, consistent with this explanation, we find that partners are less likely to deny the bonus than non-partners when facing client pressure.

Current auditing standards are ambiguous about waiving misstatements that are individually material, but that have offsetting effects on the client's income. The standards indicate that it may be more appropriate to adjust offsetting misstatements when they are contained in two different accounts than when they are contained in the same account. While our findings support this interpretation, more specific guidance on how to handle the evaluation of detected misstatements that have offsetting effects on clients' income might be useful. We would not propose to revert to "bright-line" rules that explicitly allow or prohibit offsetting. Rather, audit standards could maintain room for auditor judgment, but provide more guidance on factors that auditors should consider when making judgments related to offsetting misstatements, in addition to misstatement distribution. Also, more knowledge on how users perceive and react to offsetting misstatements, depending on characteristics of the misstatements, such as their distribution, their magnitude, and qualitative materiality factors, would be useful for auditors and audit standard-setters alike.

Another area of ambiguity is the interplay between performance materiality and overall materiality (Eilifsen and Messier 2015; Libby and Brown 2013). Based on our results, it appears that most participating auditors follow a rule that is unclear in current standards; that is, they adjust misstatements that are greater than performance materiality, but less than overall planning materiality. We suggest that audit regulators revise auditing standards to clarify how auditors should handle offsetting misstatements and misstatements that fall inside the range of performance materiality and overall materiality.

Ambiguity in standards enables motivated reasoning. Auditors will reach client-preferred directional goals only if ambiguity allows auditors to construct plausible justifications and maintain the illusion of objectivity (Pyszczynski and Greenberg 1987; Kunda 1990; Johnstone, Warfield, and Sutton 2001). Prior research has supported the association between ambiguity and the extent to which auditors are subject to motivated reasoning (Salterio and Koonce 1997; Kadous et al. 2003). However, in our study, as the net effect size of the misstatements approached overall planning materiality, it appears that the auditors may have felt that they could not justify allowing the client management to meet the bonus constraint.

Our experiment is subject to the limitations common to experimental research. One important limitation is the abstract nature of the case used in this study. In the real world, the auditor likely has more information about the client and the issues related to the misstatements. Thus, we must be careful in generalizing our results to audit practice. Another limitation is the sensitivity of the auditors' judgments to the levels of the materiality for the net effect of the misstatements (1.00 versus 4.25 percent). We also only tested the auditors' judgments against one qualitative materiality factor: a bonus constraint (management compensation). Auditing standards (e.g., ISA 450.A16 and SAB No. 99) contain several other important qualitative materiality factors. Correcting or not correcting of offsetting misstatements contained in different accounts can impact qualitative materiality factors, such as compliance with covenants or regulatory requirements, or the impact on important key performance indicators (KPIs) and KPI trends. Hence, misstatement distribution has qualitative materiality aspects. Last, we used German auditors. While there is no major reason to believe that the participating auditors and their firms' audit methodologies are different from U.S. firms, there may be other environmental and cultural factors that may affect the auditors' judgments.

More research is needed to confirm, refute, or find boundary conditions that pertain to our findings. First, similar studies can be conducted in the U.S. and other countries to see if our results hold. Second, different ranges for the materiality effect can be tested. Third, audit experience appears to impact the auditor's judgment in this setting and, depending on other factors, such as client pressure or ambiguity of standards, can lead to more conservative or more aggressive judgments. There are different reasons that can explain this association between audit experience and judgments, such as ability to reach motivational goals or sensitivity to client incentives. Future research could examine the moderating effect that audit experience appears to have on judgments and the different reasons that can explain the moderating effect. Finally, future research can test the sensitivity of our results to different case contexts and financial statement accounts.

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APPENDIX A

Case Materials

(Manipulated Values in Italics)

Offsetting Misstatement Conditions

Within Account (WA) Condition

As of December 31, 2013, MIH has a couple of office buildings classified as investment property in accordance with IAS 40 and IFRS 13. MIH has chosen the fair value model to account for its investment properties. MIH uses a simple discounted cash flow model with a planning horizon of five years to calculate the fair value of its investment properties. The audit team has raised the following issues on the summary of audit differences file:

- For one building, MIH has determined a fair value of (*NP and CP = 1,516,000 €; CPM = 1,676,000 €*). When assessing the assumptions used in determining fair value, the audit team notices that many of the lease contracts will expire in the next two to three years. On expiration of the lease contracts, MIH has the possibility to adjust the contractual rent to the market rent at that point in time. However, MIH has assumed that the lease contracts will be prolonged (or new contracts entered into) only at the *current contractual rent*. However, IFRS would require using the estimated *future market rent*. Market rents for comparable buildings have increased substantially over the last years, and there is nothing to suggest that all new lease contracts could not be entered into at rents that are much higher than the current contractual rent. The

resulting fair value using the best estimate of future market rent for this building would be 2,220,000 € (*NP and CP = i.e., 704,000 € higher than MIH's fair value; CPM = i.e., 524,000 € higher than MIH's fair value*).

- For another building, MIH has determined a fair value of (*NP and CP = 6,469,000 €; CPM = 6,549,000 €*). When assessing the assumptions used in determining fair value, the audit team notices that the client has not included the risk of loss of rental income in determining fair value. The audit team argues that failure to include this risk is an error. Given that for commercial properties, this risk is generally between 4 percent and 8 percent, and demand for office space has been stagnating in this area, fair value in accordance with IFRS must include a risk of loss of rental of at least 6 percent. However, this would result in a fair value of only 5,645,000 € (*NP and CP = i.e., 824,000 € lower than MIH's fair value; CPM = i.e., 904,000 € lower than MIH's fair value*).

Between Accounts (BA) Condition

As of December 31, 2013, MIH has an office building classified as investment property in accordance with IAS 40 and IFRS 13. MIH has chosen the fair value model to account for its investment properties. MIH uses a simple discounted cash flow model with a planning horizon of five years to calculate the fair value of its investment properties. The audit team has raised the following issues on the summary of audit differences file:

- For one building, MIH has determined a fair value of (*NP and CP = 1,516,000 €; CPM = 1,676,000 €*). When assessing the assumptions used in determining fair value, the audit team notices that many of the lease contracts will expire in the next two to three years. On expiration of the lease contracts, MIH has the possibility to adjust the contractual rent to the market rent at that point in time. However, MIH has assumed that the lease contracts will be prolonged (or new contracts entered into) only at the *current contractual rent*. However, IFRS would require using the estimated *future market rent*. Market rents for comparable buildings have increased substantially over the last years, and there is nothing to suggest that all new lease contracts could not be entered into at rents that are much higher than the current contractual rent. The resulting fair value using the best estimate of future market rent for this building would be 2,220,000 € (*NP and CP = i.e., 704,000 € higher than MIH's fair value; CPM = i.e., 524,000 € higher than MIH's fair value*).
- A trade receivable (*NP and CP = 4,120,000 €; CPM = 4,520,000 €*) has been overdue for more than six months. MIH did not recognize an impairment loss as of December 31, 2013. The audit team considers the receivable to be impaired. Considering all facts and circumstances and consistent with past experience of the client with comparable trade receivables, the audit team deems an impairment loss of 20 percent (*NP and CP = 824,000 €; CPM = 904,000 €*) to be appropriate.

Client Pressure Conditions

No Client Pressure (NP) Condition

Before presentation of the two offsetting misstatements:

MIH is one of your firm's mid-tier clients based on the amount of billable hours that are generated from audit and tax services. You expect that services provided to MIH require you to dedicate less than 5 percent of your time in 2014 and future years.

After presentation of the two offsetting misstatements:

In your talks with the management of MIH, you get the impression that both the Chief Accountant and the CFO are not opposed to correcting misstatements you propose. The Chief Accountant and the CFO emphasize that they are fully committed to presenting high-quality financial statements. To them, "high-quality financial statements should be free from misstatements to the largest extent possible," even if individual adjustments or the overall effect of the adjustments proposed by the audit team may be small. You review the details of the top management remuneration scheme. Although there is a performance-based bonus, that bonus is solely tied to the long-term performance of MIH's common shares relative to an industry index.

When you raise the proposed adjustments with MIH's Chief Accountant and MIH's CFO, they tell you that they consider EBIT of an individual annual period (and any impact proposed adjustments may have on EBIT) to be important, but management takes a longer view of performance. The CFO tells you: "We look at the long-term performance of our firm. We think that building trust with our shareholders and the capital market participants is important. We strive for high-quality financial statements. We rely on you and your firm's understanding of our business. If you, after careful consideration, consider adjustments necessary or even sensible, we are happy to make these adjustments. That is how we think it should work between client and auditor."

Client Pressure Conditions (CP and CPM)

Before presentation of the two offsetting misstatements:

MIH is one of your firm's largest clients based on the amount of billable hours that are generated from audit and tax services. Approximately 25 percent of your time will be dedicated to serving this client in 2014 and future years.

After presentation of the two offsetting misstatements:

In your talks with the management of MIH, you get the impression that both Chief Accountant and CFO are reluctant to correct any further audit adjustments. They argue that they do not think it necessary to book further audit adjustments given that the overall net effect of the remaining adjustments proposed by the audit team is "rather small ($HP1 = -120,000$ €; $HP2 = -380,000$ €)" compared to the EBIT of 8,040,000 €. After reviewing the details of the top management remuneration schemes, you notice that a considerable portion of the performance-based remuneration of top management is conditional on meeting an EBIT threshold of 8,000,000 €. Booking the audit adjustments as proposed by the audit team would cause management to fail this threshold, but only by a small margin ($HP1 = 80,000$ €, 1 percent; $HP2 = 340,000$ €, 4.25 percent).

In further discussions with MIH's Chief Accountant and MIH's CFO, they reluctantly admit that they would not want to forfeit a considerable portion of their performance-based compensation just because you or your firm insist on correcting what they believe are "very minor items." They state that they would have thought you and your firm understand their business needs and consider more carefully whether you and your firm really have to insist on correcting "minor issues." Until now, they have been working under the impression that MIH is a valued client of you and your firm. "We sincerely hope that you do not give us reason to suspect otherwise."