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Do Auditors Recognize the Potential Dark Side of Executives' Accounting Competence?

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ABSTRACT: Practice and research recognize the importance of extensive knowledge of accounting and financial reporting experience for generating reliable financial statements. However, we consider the possibility that such knowledge and experience increase the likelihood of material misstatement when executives have incentives to misreport. We use executives' prior experience as an audit manager or partner as a measure of extensive accounting and financial reporting competence. We find that the interaction of this measure and compensation-based incentives increases the likelihood of misstatements. Further, auditors discount the audit fee premium associated with compensation-based incentives when executives have accounting competence. Together, our results suggest a dark side of accounting competence emerges in the presence of certain incentives, but auditors view accounting competence favorably despite the heightened risk. In further analyses, we demonstrate that executives' aggressive attitude towards reporting exacerbates the effect of accounting competence and compensation-based incentives on misstatements, but not on audit fees.

Keywords: audit fees; accounting competence; compensation-based incentives; restatements; fraud triangle.

JEL Classifications: M41; M42.

Data Availability: Data are available from public sources identified in the text.

I. INTRODUCTION

We examine a potential downside of accounting competence. We measure accounting competence as prior experience among a company's top executives as audit partners or managers at a public accounting firm.[1] Derived from interactions with multiple clients over time, accounting competence provides the executive team with extensive experience and knowledge of accounting and internal controls. As a result, academics, practitioners, and regulators commonly focus on the upside of accounting competence providing higher order ability to generate financial reports free of material misstatements. Indeed, prior research finds that public accounting experience, in general, is associated with reduced misstatements and fewer internal control material weaknesses (Aier, Comprix, Gunlock, and Li 2005; Li, Sun, and Ettredge 2010). However, we characterize accounting competence as a two-edged sword. In addition to extensive knowledge of accounting and internal controls, accounting competence also provides extensive knowledge of audit procedures and negotiation tactics (Lennox 2005). As a result, executives could use their higher order ability to hide misstatements or to avoid current-period adjustments when the external auditor finds misstatements. We extend prior research by examining circumstances where this dark side of accounting competence might emerge.

Prior research that considers negative consequences to public accounting experience focuses on auditor independence. Auditors issue more clean opinions when executives have any level of prior experience with the client's current audit firm (Lennox 2005). Auditors also accept larger abnormal accruals when an executive or director has partner-level experience with the client's current audit firm (Menon and Williams 2004). We complement and extend this research by

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[1] Consistent with Public Company Accounting Oversight Board [PCAOB] AS 2110 and the U.S. Securities and Exchange Commission's (SEC) definition, we study the group of executives with policy-making functions reported in the proxy statement; usually the CEO, CFO, and the three other most highly compensated executives.

focusing on executives' higher levels of audit experience with any audit firm, reducing independence issues. In addition, we focus on misstatements. Because fraud exists on a continuum that often begins with less egregious misstatements of financial reports, we use the well-known fraud triangle to identify circumstances where a dark side of accounting competence could emerge (Trompeter, Carpenter, K. Jones, and Riley 2014). We expect the elements of the fraud triangle apply to the full continuum of misstatements, including aggressive reporting intended to be within generally accepted accounting principles (GAAP) but later determined to be a material misstatement, consistent with auditing standards' definition of fraud as any intentional misstatement (American Institute of Certified Public Accountants [AICPA] AU-C 240 ¶ 2; PCAOB AS 2401 ¶ 5). Finally, we extend prior research by examining audit fees to better delineate between competing expectations about auditors' role in material misstatements.

The fraud triangle suggests that executives' initial decision to misreport depends on incentive, opportunity, and/or attitude (PCAOB AS 2110; AS 2401). We treat accounting competence as an opportunity factor in the spirit of auditing standards' recognition that the ability of management to override controls provides the opportunity to misstate financial reports (PCAOB AS 2110 ¶ 69; AS 2401 ¶ 8).[2] We do not expect that accounting competence alone leads to misstatements because accounting competence may provide the ability to produce reliable financial reports, and we have no reason to expect more or less integrity from executives with accounting competence than from those without it. Instead, we expect that accounting competence interacts with other fraud risk elements to increase the risk of material misstatement.

We focus on compensation-based incentives because auditing standards specifically include them in risk assessment and prior research suggests compensation-based incentives induce

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[2] Prior research also posits that managers with greater ability might be better at earnings manipulation that could result in a misstatement (Lev, Li, and Sougiannis 2010; Demerjian, Lev, Lewis, and McVay 2013).

misstatements due to executives' desire to avoid reduced pay, diminished job security, or damaged personal reputation (Bergstresser and Philippon 2006; Harris and Bromiley 2007; Core, Guay, and Larcker 2008; Ibrahim and Lloyd 2011; Robinson, Xue, and Yu 2011; Banker, Darrough, Huang, and Plehn-Dujowich 2013; Dikolli, Mayew, and Nanda 2014; PCAOB AS 2110). We expect that accounting competence combined with compensation-based incentives increases the risk of misstatement because accounting competence provides the opportunity to capitalize on the incentive (Wolfe and Hermanson 2004; Boyle, DeZoort, and Hermanson 2015). However, executives jointly determine misstatements with auditors, and the likelihood of auditors detecting and correcting these misstatements when they occur is unclear.

On the one hand, executives' shared background with the auditors could induce the auditors to be more trusting of management, reducing detection and correction (PCAOB 2012). Auditors' over-reliance on management would allow incentivized executives with accounting competence greater flexibility in financial reporting, suggesting a positive association between the interaction of accounting competence and compensation-based incentives and misstatements. On the other hand, auditors may be more leery of significant accounting competence when combined with compensation-based incentives, recognizing executives' ability and incentives to misstate financial statements. Having a shared background with executives could make auditors more skeptical since they are well aware of the skill-set created by accounting competence. Increased auditor skepticism of executives with both accounting competence and compensation-based incentives suggests a negative association between the interaction and misstatements. These same competing auditor arguments apply to audit fees such that audit fees could decrease if auditors are more trusting or increase if auditors are more skeptical.

To provide a deeper understanding of when the dark side of accounting competence might emerge, we also examine how cross-sectional variation in executives' attitude towards aggressive reporting, as evidenced by a history of income-increasing accruals, impacts the interaction of accounting competence and compensation-based incentives. Executives with evidence of a favorable attitude towards aggressive reporting in the past could be more likely to take advantage of accounting competence when incentivized, resulting in a greater likelihood of misstatements. However, because auditors are sensitive to income-increasing earnings management (Nelson, Elliott, and Tarpley 2002), a history of aggressive reporting should heighten auditor skepticism (PCAOB AS 2110), potentially offsetting executives' attempts at aggressive reporting and making the directional effect indeterminate.

To test these relationships, we use a sample of publicly-traded firms from 2004-2013. We use current period misstatements that lead to future restatements, a well-known and visible proxy for misstatements (Swanquist and Whited 2015). For compensation-based incentives, we use excess total compensation calculated as a residual after accounting for normal economic determinants of compensation as well as executives' operational ability and accounting competence. In both full and propensity score matched (PSM) samples, we find a positive association between the likelihood of misstatements and the interaction of excess compensation and accounting competence. Economically, our results suggest the likelihood of misstatement increases 29.8 (4.2) percent across the interquartile range of excess compensation for firms with (without) accounting competence. At the same time, we find that auditors discount the fee premium associated with compensation-based incentives for clients with accounting competence. When we split the sample on relatively high and low evidence of an aggressive reporting attitude, we find that the interaction of accounting competence and excess compensation is stronger for

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misstatements when evidence of an aggressive reporting attitude is relatively high, but no different for audit fees regardless of attitude. Combined, our results suggest that accounting competence interacts with other misstatement risks, resulting in greater likelihood of material misstatement. However, auditors appear to view management's accounting competence favorably, resulting in accounting competence reducing auditors' response to circumstances indicating heightened risk.

Our results are robust to a variety of alternative specifications. We distinguish our measure of accounting competence from executives with experience as certified public accountants (CPAs), executives affiliated with their audit firm, and executives' ability to efficiently operate the business (i.e., *MA Score* in Demerjian et al. 2013). Our results are also robust to alternative specifications of incentives and attitude, as well as variations in our definition of misstatements. Finally, our results are robust to several different approaches to endogeneity.

We make three contributions to the literature. First, we identify an important risk not discussed by auditing standards. Risk assessment standards focus on risks associated with the lack of accounting competence, but do not recognize risks associated with significant accounting competence (PCAOB AS 2110). Further, while risk assessment standards reference fraud triangle factors as part of risk assessment, these standards emphasize that all three risk factors need not be present, which may contribute to auditors not appropriately recognizing interaction effects (PCAOB AS 2110 ¶ 66). Our results are consistent with increased likelihood of under-auditing when auditors share a common professional background with top executives who are former partners or managers. We suggest that, in the presence of compensation-based incentives, shared experience reduces auditor skepticism of executives while simultaneously providing those executives with an opportunity to take advantage of incentives.

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Second, we extend the fraud literature. Prior research associates individual fraud risk factors with misstatements that do not rise to the level of fraud (Cheng and Warfield 2005; He, Wong and Young 2012; Brown 2014). We provide further evidence that the fraud-based guidance in auditing standards has a broader application than fraud itself, and we extend the literature by suggesting the importance of interaction effects between multiple risk factors.

Finally, we extend the literature on management ability. Recent studies suggest that management's ability to make efficient business decisions (as proxied by *MA Score*) improves financial reporting and reduces audit risks (Demerjian et al. 2013; Krishnan and Wang 2015). However, we document a downside where higher management ability heightens the capability for management to report aggressively, even after controlling for *MA Score*. We also demonstrate the multi-faceted nature of ability by using a construct, accounting competence, more directly related to the ability to manipulate financial reporting.

II. BACKGROUND AND HYPOTHESES DEVELOPMENT

Institutional Background and the Fraud Triangle

To study the potential dark side of accounting competence, we consider how accounting competence affects the risk of material misstatement, defined as "the risk that the auditor expresses an inappropriate audit opinion when the financial statements are materially misstated" (PCAOB AS 1101 ¶ 4). We examine executive officers as a group because "a company's executive officers are in a unique position to influence a company's accounting and disclosures" (PCAOB 2014, 5). Indeed, top executives form a dominant coalition that is most responsible for

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setting policy, with the incentive and ability to influence accounting decisions (Finkelstein 1992; Bauman and Shaw 2006; Erickson, Hanlon, and Maydew 2006; Cheng, Lee, and Shevlin 2016).[3]

We examine current misstatements revealed by future restatements as reflecting the risk of material misstatement.[4] We consider executives' and auditors' roles in misstatements because theory suggests the probability of a misstatement is the product of the probability of executives perpetrating a misstatement and the probability of the auditor not detecting and requiring adjustment of the misstatement when it occurs (Swanquist and Whited 2015).[5]

Misstatements can stem from fraud or non-fraud and we include both in our analyses, especially since managerial intention is unobservable and firms generally do not disclose intention, making it difficult to distinguish between the two (Hennes, Leone, and Miller 2008). Perhaps reflecting this difficulty, PCAOB AS 2110 requires an integrated assessment of the risks of material misstatement that includes both fraud and non-fraud risks because the same underlying factors affect both. Further, prior research associates different individual fraud risk factors with misstatements that do not rise to the level of fraud (Cheng and Warfield 2005; He et al. 2012; Brown 2014). Ettredge, Scholz, Smith, and Li (2010) and Trompeter et al. (2014) characterize fraud on a continuum that often begins with less egregious activities such as earnings management. Thus, to develop our hypotheses, we draw on the well-known fraud triangle theory used in auditing standards:

> "Fraud risk factors are events or conditions that indicate (1) an incentive or pressure to perpetrate fraud, (2) an opportunity to carry out the fraud, or (3) an

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[3] We note that Cheng et al. (2016) find that other executives can provide an internal disciplining mechanism on the CEO. If this is the case, it works against finding results in our study.

[4] We recognize that using future restatements as a proxy for current misstatements implicitly assumes that over time current misstatements are revealed. The existence of current misstatements that have not yet been revealed works against our finding results.

[5] For ease of exposition, our consideration of detection only from auditors ignores other organizational and societal interventions modeled by Trompeter et al. (2014). We control for strength of internal control in our empirical model.

attitude or rationalization that justifies the fraudulent action." (PCAOB AS 2110 ¶ 65).

Executives' initial decision to attempt to misstate depends on some combination of incentive, opportunity, and attitude (Trompeter et al. 2014). In practice, these factors each lie on a continuum and all three need not be evident for misstatements to occur (PCAOB AS 2110 ¶ 66). For example, if incentive and opportunity are high enough, executives could attempt misstatements even when attitude is low.

We consider accounting competence as an example of opportunity. Auditing standards recognize the importance of executives' accounting competence when selecting and applying new or complex accounting principles, unusual transactions with little guidance, and estimates requiring significant judgment (PCAOB AS 2110 ¶ 13). All of these considerations focus on the upside of accounting competence. Though standards do not explicitly tie executives' accounting competence to increased opportunity to misstate financials, standards do explicitly recognize that the ability of management to override controls provides the opportunity to misstate financial reports (PCAOB AS 2110 ¶ 69; AS 2401 ¶ 8).

Building on auditing standards, we suggest executives' accounting competence increases the opportunity to misstate financial reports because prior public accounting experience as a manager or partner provides executives with (1) extensive knowledge of accounting and internal controls from experience with multiple clients over time, (2) extensive knowledge of auditing and how misreporting could be hidden or discovered, and (3) extensive experience negotiating financial reporting outcomes. Each of these skill sets could provide executives the opportunity to perpetrate earnings management without detection or without audit adjustment if detected (at least in the short run). However, accounting competence alone should not necessarily lead to misstatements; we have no reason to expect that executives with accounting competence have

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any more or less integrity on average than executives without accounting competence. Instead, we expect to see the potential for a dark side of accounting competence only when combined with other risk factors.

We primarily examine how executives' compensation-based incentives interact with accounting competence. We focus on compensation-based incentives because standards specifically include evaluation of executives' compensation in risk assessment procedures (PCAOB AS 2110 ¶ 10a, ¶ 17). In addition, as developed below, prior research finds compensation-based incentives by themselves are associated with misstatements. To provide further support for the importance of accounting competence and interactions with other risk factors, we also consider how attitude, the third element in the fraud triangle, moderates the interaction between compensation-based incentives and accounting competence.[6]

To support our expectations about the auditors' role in detecting misstatements, we also examine whether auditors recognize any increased risk of material misstatement stemming from the interaction of accounting competence and compensation-based incentives, using audit fees as a proxy for auditor recognition of increased risk (PCAOB 2015). As risk of misstatement increases, auditing standards require auditors to increase audit effort by adjusting the nature, timing, and extent of audit procedures (PCAOB AS 2301). Therefore, audit fees should reflect auditors' assessment of the risk of material misstatement, whether higher or lower.

Hypotheses Development

Compensation provides executives an incentive to perpetrate misstatements in order to protect their own earnings by reducing the probability they will be replaced or to extract higher

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[6] We do not explicitly include attitude in our primary operational model because the added complexity of three-way interactions detracts from our primary story. Alternatively, we layer in effects of attitude as sub-sample cross-sectional analyses in support of the overall theoretical model.

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wages (Shleifer and Vishny 1989). Incentives to misstate arise from multiple aspects of compensation policy including equity-based incentives, bonus-based incentives, or protection of salary (Core, Holthausen, and Larcker 1999). Bonus- or equity-based incentives that depend on firm performance provide executives the incentive to manipulate reported earnings in order to increase pay (Bergstresser and Philippon 2006; Harris and Bromiley 2007; Elayan, Li, and Meyer 2008; Ibrahim and Lloyd 2011). Salary also provides an incentive for misstatements because salary is positively associated with past performance and because poor performance is associated with higher executive termination (Banker et al. 2013; Dikolli et al. 2014). Further, firms with higher excess total compensation (beyond compensation predicted by economic determinants) are associated with less transparent disclosure and more press scrutiny, which could damage executives' reputation (Core et al. 2008; Robinson et al. 2011). In sum, compensation-based incentives for misstatements arise from executives' desire to avoid reduced pay, diminished job security, or damaged personal reputation.

Recall, however, that the probability of misstatement includes the probability of the auditor not detecting and requiring adjustment of any misstatements that occur. Since about 91 percent of detected intentional misstatements (as measured by future restatements) result in CEO or CFO turnover, negating the benefit from misstatements (Hennes et al. 2008), we expect executives only act in accordance with incentives to misstate when they assess the probability of detection and adjustment as low. We expect executives often weight the probability of detection and adjustment as low based on one or more of the following:

- Executives believe the future probability of detection is lower than the immediate rewards of misstatements.
- Executives expect the misstatement can be corrected in future years prior to detection.
- Executives recognize they are being aggressive but do not believe it is an actual misstatement.

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- If detected, executives expect to convince the auditor it is not an actual misstatement (just an aggressive choice within GAAP).

We particularly expect incentivized executives with accounting competence to assess the probability of detection and adjustment as low. As noted previously, executives with accounting competence have greater skills to perpetrate and hide a misstatement because their experience in public accounting as a manager or partner develops these skills. As Wolfe and Hermanson (2004, 40) suggest, financial misreporting is often committed by "intelligent, experienced, creative people, with a solid grasp of company controls and vulnerabilities." In addition, executives with accounting competence have extensive experience negotiating financial reporting outcomes from both the auditor and management perspectives. As a result, executives with accounting competence likely believe that, if detected, they can successfully negotiate that it is not a misstatement. Based on the extensive skill set of these executives, we expect that accounting competence and compensation-based incentives interact to increase the likelihood of misstatement occurring, at least prior to consideration of the probability the auditor will detect the misstatement.

For misstatements to survive the audit, executives' expectation that auditors will not detect or report, if detected, must come to fruition when misstatements occur. Here, the direction of association is less clear. On the one hand, executives' shared background with the external auditors could induce auditors to be more trusting of management, reducing detection (at least in the short run). PCAOB inspections voice the concern that auditors sometimes develop an inappropriate level of trust and confidence in management that could lead to acceding to inappropriate accounting (PCAOB 2012). Lack of independence could also reduce detection or adjustment. For example, management's previous employment affiliation with their audit firm is associated with lower accounting and audit quality (Menon and Williams 2004; Lennox 2005).

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Lack of independence or over-trust on the part of auditors supports executives' expectation of low detection, increasing the likelihood of misstatements in the presence of accounting competence and incentive-based compensation.[7]

On the other hand, auditors may be more leery of extensive accounting competence when combined with compensation-based incentives, recognizing both executives' ability and incentives to misstate financials. Given the widespread recognition of compensation-based incentives for misstatements in both standards and practice, we expect that auditors generally do attend to the risk posed by compensation-based incentives. Indeed, prior research supports a positive relation between compensation-based incentives and audit fees (Gul, Chen, and Tsui 2003; Armstrong, Larcker, Ormazabal, and Taylor 2013; Fargher, Jiang, and Yu 2014; Kannan, Skantz, and Higgs 2014; Kim, Li, and Li 2015). Having a shared background with executives with accounting competence could make the auditor more skeptical since they are well aware of the extensive experience these executives possess. If auditors are more skeptical of executives with accounting competence and compensation-based incentives, then there could be a negative association between the interaction of these management characteristics and misstatements.

In sum, increased auditor trust or heightened auditor skepticism suggest opposing effects on misstatements driven by the interaction between accounting competence and compensation-based incentives. These same counter arguments also suggest an indeterminate association between the interaction and audit fees. Thus, we make non-directional hypotheses:

> H1a: *Ceteris paribus*, misstatements are not associated with the interaction of accounting competence and excess compensation.

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[7] We acknowledge that lower independence from affiliations is a component of accounting competence, but our construct more broadly captures competence obtained from extensive audit experience with any audit firm. Later, we report robustness tests that indicate our results are not driven by management affiliations with their audit firm.

H1b: *Ceteris paribus,* audit fees are not associated with the interaction of accounting competence and excess compensation.

The attitude risk factor encompasses a thought process whereby management convinces themselves that intentionally misstating financial reports is worth the risk of detection (Wolfe and Hermanson 2004). Though identifying management's ability to rationalize misstatements is difficult, the company's culture and environment can signal management's attitude and potential for rationalization (PCAOB AS 2401). In particular, standards indicate that management's attitude and actions toward financial reporting, including recurring attempts to justify marginal or inappropriate accounting, heighten the risk of material misstatement. Consistent with an increase in risk of material misstatement, prior research finds a history of discretionary accruals-based earnings management is associated with future fraud and non-fraud restatements (K. Jones, Krishnan, and Melendrez 2008; Ettredge et al. 2010). Based on standards and prior research, we use a history of positive discretionary accruals as evidence of an attitude of aggressive reporting.

Similar to H1a and H1b, we expect attitude could increase or decrease misstatements. When combined with compensation-based incentives and accounting competence, the presence of attitude could increase the likelihood of misstatements, especially if auditors do not consider the joint effects of the three elements. On the other hand, auditors are particularly cognizant of income-increasing earnings management (Nelson et al. 2002). As such, auditors likely recognize the increased risk of material misstatement from relatively aggressive reporting in prior periods and increase auditor skepticism and the likelihood of detection. As a result, we again provide non-directional hypotheses:

H2a: *Ceteris paribus,* evidence of an aggressive financial reporting attitude does not moderate the association between misstatements and the interaction of accounting competence and excess compensation.

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H2b: *Ceteris paribus,* evidence of an aggressive financial reporting attitude does not moderate the association between audit fees and the interaction of accounting competence and excess compensation.

III. SAMPLE SELECTION AND METHODOLOGY

We obtain a sample of 19,058 firm years from 2004-2013 at the intersection of Compustat, Audit Analytics, Morningstar Executive Compensation (MS), and CRSP. We begin the sample in 2004, after implementation of the Sarbanes Oxley Act of 2002 (SOX) and end the sample in 2013 to allow adequate time for reporting of restatements. Table 1, Panel A summarizes our sample selection, and Panel B shows that the industry distribution of our sample reasonably represents the Compustat population. Appendix A reports definitions for all variables in our primary analyses.

Dependent Variables

For misstatements, we use future restatements of current-year financial statements as our dependent variable. Restatements point to a material misstatement in a prior period, and we focus our analysis on the year of misstatement. In our primary analyses, we do not distinguish between restatements stemming from errors versus intentional manipulation, other than deleting simple clerical errors. When companies disclose a restatement, they generally attribute it to error, judgment, or standards, rather than manipulation (Plumlee and Yohn 2010). However, Ettredge et al. (2010) suggest that earnings manipulation often underlies even apparently non-fraudulent restatements. In other words, because executives with accounting competence could choose not to correct employee errors they detect or could introduce errors themselves by overriding internal controls, we examine misstatements from all of the restatement categories. In Section V, we discuss the results of separately examining selected restatement categories.

For audit effort, we use the natural logarithm of audit fees as our dependent variable. Prior research finds auditors increase planned audit effort and billing rates for clients with greater risk

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of earnings manipulation (Bedard and Johnstone 2004). We expect to observe higher audit fees when auditors recognize higher risk of material misstatement. While auditors could choose to exert high effort and reduce their profit margin in lieu of charging higher fees, prior research supports the need for higher fees to ensure higher effort (Ettredge, Fuerherm, and Li 2014).

Independent Variables of Interest

For accounting competence, we use the definition of executive officers from AS 2110, which is taken directly from the SEC's definition (PCAOB AS 2110 ¶ A3A):

> "For issuers, the president; any vice president of a company in charge of a principal business unit, division, or function (such as sales, administration or finance); any other officer who performs a policy-making function; or any other person who performs similar policy-making functions for a company. Executive officers of subsidiaries may be deemed executive officers of a company if they perform such policy-making functions for the company. (See Rule 3b7 under the Exchange Act.)"

Since firms do not disclose all executives, we use the executives reported in the firm's proxy statement or 10-K filed with the SEC and included in MS. We define *ACC Competence* as the number of executives who have prior audit experience as a partner or manager at a public accounting firm. We match *ACC Competence* to the year of misstatement.[8] In Section V, we discuss the results of several alternative measures.

For compensation-based incentives, we define *Excess Comp* as the residual of the following model intended to strip out other factors, including firm performance, complexity, and tenure, that drive compensation mechanically, reducing concerns related to forms of endogeneity such as reverse causality (Core et al. 1999):

$$\textit{Ln Total Comp} = \beta_0 + \beta_1 \textit{Ln Tenure} + \beta_2 \textit{ACC Competence} + \beta_3 \textit{MA Score} + \beta_4 \textit{Lag LnSale} + \beta_5 \textit{LagMTB} + \beta_6 \textit{ROA} + \beta_7 \textit{Lag ROA} + \beta_8 \textit{Return} + \beta_9 \textit{Lag Return} + \beta_{10} \textit{SP500} + \textit{Industry FE} + \varepsilon. \tag{1}$$

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[8] In untabulated tests, we control for new executives in the current or prior year and find our results are unchanged.

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Ln Total Comp is the natural logarithm of the sum of compensation for the executives included in *ACC Competence*. We include the Core et al. (2008) variables, augmented with *ACC Competence* and *MA Score* to orthogonalize the compensation-based incentives from measures of accounting or operational ability. We include industry fixed effects and estimate the model by year. Variables are defined in Appendix B along with descriptive statistics and the regression analyses. We interpret higher values of the residual, *Excess Comp,* as higher compensation-based incentives to report aggressively. In Appendix B, we report robustness tests around the Core et al. (2008) variables, and in Section V we discuss the results of several alternative measures.

For evidence of executives' aggressive financial reporting attitude, we use financial reporting history. Prior discretionary accruals-based earnings management suggests a willingness to rationalize aggressive reporting choices. Thus, we define *Attitude* as a dichotomous variable taking the value of one for firms with income-increasing discretionary accruals in two or more consecutive years ending with year t-1. We do not use accruals in the current year due to the potential causal relationship between current-year discretionary accruals and misstatements.

Research Design

We test H1a and H2a using the following logistic regression:

$$Pr(Misstatement) = \beta_0 + \beta_1 ACC\ Competence + \beta_2 Excess\ Comp + \\ \beta_3 Excess\ Comp*ACC\ Competence + \boldsymbol{\beta}CONTROLS + Industry\ FE + Year\ FE + \varepsilon \qquad (2)$$

Misstatement, as defined above, equals one if the firm's current year financial statements are subsequently restated, and zero otherwise. Our variable of interest is the interaction between *Excess Comp* and *ACC Competence*, as defined above.

Consistent with prior research, we control for firm-level, auditor, and corporate governance variables (e.g., Carcello, Neal, Palmrose, and Scholz 2011; Lobo and Zhao 2013; Czerney, Schmidt, and Thompson 2014; Bills, Jeter, and Stein 2015). For firm-level controls, we include

firm size (*LnAssets*), complexity (*NBS, NGS,* and *Foreign*), debt or equity issuances (*Finance*), firm performance (*Loss, ROA*), liquidity (*Liquid*), leverage (*Leverage*), growth opportunities (*MTB*), and stock market returns (*Return*). In addition, to distinguish *ACC Competence* from prior research on management ability, we control for *MA Score*, the operational ability measure from Demerjian, Lev, and McVay (2012).[9]

For auditor-level variables, we control for auditor tenure (*Short Tenure*), audit firm size (*Big4*), reporting delay (*Delay*), weak internal controls (*Weak IC*), and industry expertise at the city-office level (*Auditor Ind Expert*). For corporate governance variables, we control for audit committee accounting expertise (*AC Acct Expert*), board size (*Bd Size*), board meetings (*Bd Meet*), and board independence (*Bd Ind*). All firm-level, continuous variables are winsorized at the 1st and 99th percentiles. We include industry and year fixed effects to control for differences across industries and time and cluster standard errors by firm.

We test H1b and H2b using the following OLS model:

$$LnFee = \beta_0 + \beta_1 ACC\ Competence + \beta_2 Excess\ Comp + \beta_3 Excess\ Comp * ACC\ Competence + \beta CONTROLS + Industry\ FE + Year\ FE + \varepsilon \qquad (3)$$

LnFee is the natural logarithm of audit fees. The interaction between *Excess Comp* and *ACC Competence* represents our variable of interest, as defined above.

Consistent with prior research, we control for firm-level, auditor, and corporate governance variables (e.g., Simunic 1980; Francis and Simon 1987; O'Keefe, Simunic, and Stein 1994; Bell, Landsman, and Shakelford 2001; Carcello, Hermanson, Neal, and Riley 2002; Hay, Knechel, and Wong 2006; Raghunandan and Rama 2006; Hogan and Wilkins 2008). Firm-level controls include size (*LnAssets*), growth (*Sales Growth* and *MTB*), complexity (*NBS*, *NGS*, and *Foreign*),

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[9] We obtain *MA Score* from the following website: http://faculty.washington.edu/smcvay/abilitydata.html. We thank Peter Demerjian, Baruch Lev, and Sarah McVay for making their data available. *MA Score* primarily reflects management's operational knowledge about the firm and industry. In Section V, we verify that *ACC Competence* is a different construct than *MA Score.*

operating risk (*InvRec*, *Finance, CFO, Exord, Liquid*, *Leverage*, *Pension,* and *Big Acq*), and performance (*Loss* and *ROA*). For auditor-level variables, we include the same controls as in the misstatement model. In addition, we include restatement announcements (*Announce Restatement*) and going concern audit opinions (*Going Concern*). Finally, also as in the misstatement model, we include management ability (*MA Score*), board, and audit committee controls. We then include industry and year fixed effects and cluster standard errors by firm.

To test H2a and H2b, we divide the sample into sub-samples based on relatively higher (*Attitude*=1) or lower (*Attitude*=0) evidence of executives' aggressive financial reporting attitude. We use sub-samples to avoid the difficulties of interpreting three-way interactions and to allow the coefficients for all the variables to vary by *Attitude*.

PSM Sample

Given that relatively few firms have *ACC Competence,* these firms may exhibit different characteristics than the larger set of control firms. To control for these differences as well as the unspecified functional form of the relationship, we employ a PSM sample in addition to the full sample. We match firms with *ACC Competence* to firms that do not have *ACC Competence* based on the propensity to employ executives with *ACC Competence* attributable to firm-level, auditor, and board characteristics. We match separately for the misstatement and audit fee models because the models include several different control variables. These matched samples ensure that the control firms in our sample are similar to the treatment firms we study. Details of the matching procedure are shown in Appendix C.

IV. PRIMARY RESULTS

Table 2 details the executives included in the sample. Panel A displays the distribution of *ACC Competence* across the sample and across unique firms. About 18.2 percent of unique firms

have at least one executive with accounting competence at some point during the sample period. Panel B breaks down the executives by common titles and reveals a firm-year average of just over five executives reported in the proxy statement with 11.7 percent *ACC Competence*. Panel B also shows that CFOs represent about 61 percent of accounting competence, suggesting other titles represent a non-trivial 39 percent. Panel C compares our measure of accounting competence to officers with CPA experience and to officers who are affiliated with their firm's auditor (i.e., officers who were previously employed by their auditor). Although all officers with *ACC Competence* have CPA experience, an additional 8,475 officers have CPA experience but did not achieve manager or partner status, most likely because they left public accounting earlier in their career or obtained a CPA license working in industry. Panel C also reports a total of 1,877 officers with CPA experience are affiliated with their firm's external auditor. However, only 608 of these officers also have *ACC Competence*. In Section V, we discuss the results replacing *ACC Competence* with *Affiliated* or *CPA Experience*.

Table 3 reports descriptive statistics. Misstated firm-years occur in about 10.4 percent of the sample and sample firms pay their auditors average fees of $1.1 million (calculated from *LnFee*). As a residual, *Excess Comp* ranges from negative to positive, consistent with prior research (e.g., Robinson et al. 2011). The mean value of *Attitude* indicates about 25.6 percent of the sample has evidence of an aggressive financial reporting attitude. The remaining control variables are comparable to prior research (e.g., Carcello et al. 2011; Demerjian et al. 2013; Lobo and Zhao 2013; Czerney et al. 2014; Bills et al. 2015; Krishnan and Wang 2015).

Table 4 presents correlation coefficients for variables included in our models. *Misstatement* is positively correlated with *Excess Comp* and negatively, although insignificantly, correlated with *ACC Competence*. As expected, *LnFee* is positively correlated with *Excess Comp*. In

addition, *LnFee* is negatively correlated with *ACC Competence*, consistent with auditors viewing

accounting competence favorably. The correlation between *ACC Competence* and *MA Score* is

negative, supporting two distinct constructs. The correlation between *Excess Comp* and *ACC*

Competence is insignificant as expected by construction.[10]

Hypotheses Tests

Table 5 reports the logistic regression results for the misstatement model. The first two

regressions present the full sample results while the last two regressions present the PSM results.

For each, we first estimate the main effects only model and find the coefficient on *Excess Comp*

is positive and significant at p<0.10, while *ACC Competence* is insignificant. We then add the

interaction term and find that the treatment variable, *Excess Comp * ACC Competence,* is

positive and significant at p<0.01 in the full sample and p<0.05 in the PSM sample.[11] Our results

indicate that the interaction of accounting competence and compensation-based incentives

increases material misstatements consistent with a dark side of accounting competence emerging

in the presence of compensation-based incentives. Therefore, we reject H1a's null hypothesis.[12]

The associations between misstatements and other variables in the model are generally consistent

with prior research (e.g., Lobo and Zhao 2013; Czerney et al. 2014; Bills et al. 2015).[13] In terms

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[10] We calculate variance-inflation factors (VIFs) for all our empirical models. The VIFs are less than 10 for all variables in all empirical models, suggesting multicollinearity is not a significant issue.

[11] As noted in Norton, Wang, and Ai (2004), estimating the coefficient on interactions within logit models may produce incorrect marginal effects. We also estimate our logit model using the inteff command in Stata, as suggested by Norton et al. (2004). Second, we separately estimate the regression using a linear probability model. Using either method, we find that the direction and significance of the interaction coefficient remains unchanged.

[12] In untabulated tests, we investigate whether misreporting benefits executives, and whether the firm has the ability to deter their behavior. We find that executives with accounting competence do not exercise options in the year following a misstatement at a higher rate than other managers, nor do compensation clawback provisions affect the likelihood of misstatement. This suggests the executives may believe their accounting is appropriate or that they are confident their aggressive reporting will not be detected.

[13] Interestingly, neither auditor industry specialization nor audit committee accounting expertise reduce the likelihood of misstatement in the model. The former finding is common in recent studies (e.g., Bills et al. 2014). The latter finding is likely due to lack of variation because nearly all firms in our sample have an accounting expert. Other studies have similar findings (e.g., Baber, Kang, Liang, and Zhu 2015).

of economic significance, an increase in *Excess Comp* from the 25th to the 75th percentile implies

an increase in the likelihood of misstatement of 4.2 percent for firms without *ACC Competence*,

compared to an increase of 29.8 percent for firms with *ACC Competence*.[14]

Table 6 reports the OLS regressions for the audit fee model, again for both samples. The

coefficient on *Excess Comp* is positive and significant at p<0.10 in the main effects only

regressions, indicating auditors charge a fee premium for compensation-based incentives. The

coefficient on *ACC Competence* is insignificant in both models. Next, the interaction between

Excess Comp and *ACC Competence* is negative and significant at p<0.01 in the full sample and

p<0.05 in the PSM sample, rejecting H1b's null hypothesis. This result is consistent with

auditors over-trusting executives with accounting competence and discounting the fee premium

associated with *Excess Comp*. In terms of economic significance, an increase in *Excess Comp*

from the 25th to the 75th percentile implies an increase in audit fees of 6.7 percent for firms

without *ACC Competence*, compared to an increase of 4.0 percent for firms with *ACC

Competence*.

To test H2a and H2b, we divide the sample based on the dichotomous variable, *Attitude*.

Table 7 Panel A reports our results for the misstatement model, using the full sample for brevity

(PSM results are consistent). The interaction of *Excess Comp* and *ACC Competence* is significant

only in the subset where *Attitude*=1. A test of the coefficients between the two models indicates

the coefficient is significantly larger when *Attitude*=1 than when *Attitude*=0. Thus, we reject

H2a's null hypothesis and conclude that all three factors of the fraud triangle combined increase

the likelihood of misstatement.

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[14] We determine the predicted likelihood of misstatement in the full sample using the margins command in Stata.
For companies with no *ACC Competence*, the predicted likelihood of a restatement increases from 10.28 percent to
10.71 percent as excess compensation increases from the 25th to the 75th percentile, a 4.2 percent increase ([10.71-
10.28]/10.28). For companies with *ACC Competence*, the likelihood of a restatement increases from 8.31 percent to
10.79 percent, a 29.8 percent increase ([10.79-8.31]/8.31).

Table 7 Panel B reports corresponding subsample results for the audit fee model. In both sub-samples, the interaction effect is significant and a test of the coefficients suggests they are not different between the two models.[15] The results suggest auditors over-trust executives with accounting competence and compensation-based incentives regardless of evidence of an aggressive reporting attitude.[16] Thus, we fail to reject H2b.[17]

V. ADDITIONAL ANALYSES AND ROBUSTNESS TESTS

Alternative Measures of Incentives

In the primary analyses, we measure *Excess Comp* by year. Because compensation can relate to performance in multiple years and *Excess Comp* may be sticky, we test an alternative two-year average (t-1 and t) measure. Results (untabulated) are consistent with our reported results.

Next, to focus on incentive pay only, we calculate *Average Incentive Compensation* as the two-year average ratio of bonus and equity-based incentives to total executive pay (t-1 and t). The first two regressions in Table 8 Panels A and B replace *Excess Comp* with *Average Incentive Compensation*. The results are consistent with those in the primary analyses for both misstatements and audit fees.

Finally, to test an incentive other than compensation, we calculate a dichotomous variable coded one if the firm meets or beats analysts' forecasts by $0.01 or less, *Just Meet/Beat Analyst*

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[15] Using PSM (untabulated), the interaction term is negative and significant only when *Attitude*=1.

[16] Using a cutoff of three (four) or more consecutive years, instead of two or more, categorizes 12.4 percent (6.4 percent) of the sample as having *Attitude*=1. Using these more restrictive cutoffs, we find that the coefficient on the interaction of *Excess Comp* and *ACC Competence* in the misstatement model is larger when *Attitude*=1 than when *Attitude*=0 but not different in the audit fee model. We also redefine *Attitude* as the number of consecutive years a firm reported positive discretionary accruals up to 10 years and estimate the model with all interactions among the variables *Attitude*, *Excess Comp*, and *ACC Competence* (two-way and three-way). The three-way interaction is positive and significant in the misstatement model ($p<0.05$) and insignificant ($p>0.10$) in the audit fee model. These results using variations of our measure of *Attitude* are consistent with those in Table 7.

[17] Given that auditors do not appear to respond differently to executives' incentives and accounting competence based on subsamples of *Attitude*, we also consider the impact of auditor characteristics. We cut the sample based on city industry specialization and auditor tenure. We find no difference in the *Excess Comp * ACC Competence* coefficients across subsamples of either variable, indicating our primary result is widespread across auditors.

Forecasts. This variable provides an *ex post* signal of executives who may have been incentivized to meet an earnings target. We show the results in the final two regressions of Table 8 Panels A and B. In the misstatement model, the interaction of the incentive and *ACC Competence* is positive and significant, consistent with our primary results. However, neither the main effect on the incentive nor the interaction is significant in the audit fee model. Thus, auditors appear to pay more attention to executives' compensation-based incentives than incentives from meeting analysts' forecasts.

Alternative Measures of Accounting Competence

In the primary analyses, *ACC Competence* is based on the number of executives with accounting competence. We find consistent results (untabulated) if we use a dichotomous variable coded one for at least one executive with accounting competence. Next, we relax our maintained assumption that the entire executive team makes management decisions together based on their joint incentives and combined competence. We find consistent results (untabulated) if we include only executives more directly tasked with financial reporting, the CEO and CFO (under SEC rules, both personally certify the financial statements) and other accounting executives such as the Chief Accounting Officer, Controller, etc. (as these individuals prepare the financial statements).

We also test (all results untabulated) whether *ACC Competence* is distinct from other measures of executives' ability and accounting competence. First, we replace *ACC Competence* with *MA Score* and find an insignificant interaction in both misstatement and audit fee models. We also replace *ACC Competence* with *CPA Experience*, as reported in Table 2. We again find the interaction of *CPA Experience* and *Excess Comp* is insignificant in both regressions. These results validate our maintained assumption that experience as a partner or manager provides

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depth of knowledge and experience, beyond operational ability or experience gained in the initial years in public accounting or in industry.

Finally, we test (all results untabulated) whether *ACC Competence* is distinct from executive affiliations with the external auditor, as reported in Table 2. When we replace *ACC Competence* with *Affiliated*, we find an insignificant interaction between *ACC Competence* and *Excess Comp* in both misstatement and audit fee models. Alternatively, when included as a control variable, we find *Affiliated* is not significant and the interaction of *ACC Competence* and *Excess Comp* remains significant in both misstatements and audit fee models. These tests indicate that our results are not driven by executives' affiliation with the auditor.

Alternative Measures of Attitude

Auditing standards recognize that attitude is often unobservable (AICPA AU-C 240; PCAOB AS 2401), making the development of proxies for attitude challenging. Though we do not include *Attitude* in our main tests, our primary results are robust to controlling for this variable (untabulated). *Attitude* is not significant in either the misstatement or audit fee models when it is included, though the subsample analysis shown in Table 7 indicates that it has an interactive effect on misstatements.

For added robustness, we use two alternative measures of attitude. Our first alternative measure is the firm's annual trend of meeting or beating analysts' consensus forecasts. We separately require two, three, four, and five or more consecutive years of meeting/beating analysts' forecasts to demonstrate evidence of an aggressive reporting attitude. We then re-estimate the misstatement and audit fee regressions in Table 7 and test for differences in the coefficients on the interaction between *Excess Comp* and *ACC Competence* across the *Attitude*=1 and *Attitude*=0 subsamples. In three of the four misstatement models, the interaction coefficient

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is larger in the *Attitude*=1 subsample than in the *Attitude*=0 subsample (p<0.10), but no different across subsamples in all audit fee models.

Our second alternative measure is the firm's quarterly trend of meeting or beating earnings from the same quarter in the prior year. We measure this trend through the beginning of the year under audit, and separately require at least two, three, four, five, or six consecutive quarters of meeting the target to demonstrate evidence of an aggressive financial reporting attitude. In each of these specifications the interaction coefficient is larger in the *Attitude*=1 subsample than in the *Attitude*=0 subsample (p<0.05), but no different across subsamples in all audit fee models. Thus, results using either alternative measure are consistent with the result in Table 7.

Further Considerations of the Fraud Triangle

We primarily focus on how two of the three fraud factors, opportunity and incentives, interact to increase the likelihood of misstatement (see Tables 5 and 6). We incorporate the third factor of the fraud triangle, attitude, using subsample analyses (see Table 7). For completeness, we perform several additional tests of the fraud triangle. First, we follow the pattern shown in Table 7 but alternate the variable used to create subsamples. We interact *Excess Comp* and *Attitude* and divide the sample based on the presence of *ACC Competence* (untabulated). In this specification of the misstatement model, the interaction is significantly positive when *ACC Competence* is present but not when it is absent, and the coefficient is larger when *ACC Competence* is present (p<0.10). In the audit fee model, the interaction of *Excess Comp* and *Attitude* is not significant in either subsample of *ACC Competence*. Next, we interact *Attitude* and *ACC Competence* and divide the sample based on the median value of *Excess Comp* (untabulated). In the misstatement model, the coefficient on the interaction appears larger when incentives are high, but the interaction is not statistically significant and not statistically larger

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than the sample where incentives are low (p=0.149). The interaction in the audit fee models are similarly insignificant and not different across subsamples.

Finally, we estimate our models using a three-way interaction of *Excess Comp, ACC Competence*, and *Attitude*. We include this three-way interaction in the misstatement and audit fee models along with two-way interactions between each of the three fraud triangle factors (untabulated). The three-way interaction is significant (p<0.05) in the misstatement model but insignificant in the audit fee model. Combined, these additional analyses generally provide evidence consistent with our primary tests. The interaction between *ACC Competence* and *Excess Comp* increases misstatements, especially when *Attitude* is relatively higher, but decreases the audit fee premium for compensation-based incentives regardless of *Attitude*.

Alternative Measures of Misstatements

Our main tests use all misstatements based on the Audit Analytics restatement database, except those classified as clerical errors. We conduct robustness tests using variations of our measure. First, since some firms restate multiple times, and the misstated period often spans multiple years, we assign only the first year of the restated period as a misstatement, and separately we drop firms with more than two restatements during our sample period. Results (untabulated) are consistent with those reported in Table 5 using either of these specifications.

Next, we consider different categories of misstatements. We replace our misstatement variable with variables that capture only clerical-error misstatements, only failures in the application of GAAP, only adverse-effect misstatements (income-decreasing), or only misstatements labeled as fraud. As expected, we find that the interaction of *Excess Comp* and *ACC Competence* is significant and positive when misstatements are defined as GAAP failures

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(p<0.05), adverse misstatements (p<0.05), and fraud misstatements (p<0.05), but insignificant when misstatements are defined as clerical-errors only (p>0.10).

Finally, we test whether accounting competence enables incentivized executives to delay identification and correction of misstatements. We test this assumption by examining the number of days from year-end t until the restatement announcement date that identifies a misstatement in year t. We code firms that never announce a restatement of year t's financial statements as zero because no evidence suggests that misstatements existed in the audited financial statements. We then estimate a model with the number of days to restatement announcement as the dependent variable and test the interaction of *Excess Comp* and *ACC Competence* (untabulated). We find a significant, positive coefficient (p<0.05) on the interaction, providing evidence that incentivized executives with accounting competence record misstatements that take longer to identify and correct. These results provide further evidence consistent with our primary findings that executives with accounting competence and compensation-based incentives more likely make misstatements that auditors do not immediately detect and correct as suggested by lower audit fees in our main results.

Consideration of Endogeneity

Due to the relationship between compensation and earnings management, and the choice involved in hiring an executive with accounting competence, we perform a number of tests to demonstrate that the interpretation of our results is the most plausible story. In our primary analyses, we use PSM to control for misspecification of functional form and to provide assurance that treatment and control groups are similar along an extensive set of control variables, except for the presence of accounting competence. In addition, our main tests focus on the interaction of *ACC Competence* and *Excess Comp*. Our focus on an interaction reduces the likelihood of

alternative explanations because viable alternative explanations for our findings would have to include factors related to misstatements that are also related to both higher excess compensation (after stripping out normal economic determinants and ability) and a greater likelihood of hiring an executive with accounting competence. That said, we still perform additional, untabulated tests that address potential reverse causality/simultaneity bias and selection bias in the misstatement model.

Reverse causality/simultaneity bias could occur because executives who misstate earnings are likely to benefit through larger bonuses and stock options. As noted above, our measure of compensation-based incentives is the residual from a compensation prediction model and is, thus, orthogonal to the economic determinants of compensation including current and lagged earnings and stock returns, providing some assurance that *Excess Comp* represents incentives unrelated to the economic effect of increased earnings from a misstatement. However, our robustness test goes further and we include *Misstatement* as a determinant of total compensation. Results from the misstatement model after removing the effect of *Misstatement* from *Excess Comp* do not affect the sign or significance of the interaction term. These results provide further assurance that reverse causality/simultaneity bias is not driving our results.

Selection bias could occur because of the choice nature of the independent variables. If the reasons for hiring executives with *ACC Competence* are related to the reasons why firms misstate earnings, then those reasons rather than *ACC Competence* itself could explain our results. We note that firms with misstatements have a slightly lower rate of accounting competence (untabulated), and the main effect of *ACC Competence* in Table 5 is insignificant in the absence of the interaction. Thus, these results do *not* indicate that firms prone to misstatement are more likely to hire a former audit partner or manager. However, our robustness test goes further and

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we estimate a Heckman model to control for selection bias. Our first stage model estimates the probability of choosing a manager with *ACC Competence*. The model includes all variables from the misstatement model plus affiliated executives as the exclusion restriction. *Affiliated* is not correlated with misstatements in our sample, and it represents the firm's access to a network within the audit profession from which an executive with *ACC Competence* could be hired. The Inverse Mills Ratio is insignificant in the second stage misstatement model, indicating that reasons for hiring an executive that are not included in the second-stage set of control variables do not explain our misstatement results. Further, our main results hold after controlling for the Inverse Mills Ratio. This evidence suggests that selection of executives with accounting competence does not explain our results.

In summary, the construction of our primary research design and further tests for endogeneity indicate that the phenomenon we document is related to the variables we study rather than correlated omitted variables, selection bias, or reverse causality/simultaneity bias. However, as in other archival studies, we are unable to completely rule out endogeneity.

VI. CONCLUSION

Based on current auditing standards, auditors must consider executives' competence when assessing the risk of material misstatement. Yet, the standards focus on the risks associated with a lack of competence and omit potential risks associated with higher competence. As noted by Lev et al. (2010), capable managers have greater ability to succeed at earnings management. We examine this dark side of ability by developing a measure of accounting competence based on executives' prior manager- or partner-level experience at an audit firm. Our measure of accounting competence captures management's knowledge of the auditing process, their ability to misstate the financial statements, and the potential to engender trust from the current auditors

because of a shared background. Because accounting competence by itself can either increase or decrease the risk of material misstatement, we suggest executives' accounting competence potentially increases risk when combined with compensation-based incentives, a situation most conducive to aggressive financial reporting.

We find evidence consistent with executives' accounting competence increasing the risk of material misstatement when combined with compensation-based incentives to misreport. However, we do not observe that audit fees reflect this increased risk, suggesting that auditors focus on the upside of accounting competence. We also find that the risk of misstatement is highest in the presence of accounting competence, incentives, and evidence of executives' willingness to report aggressively. These results contribute to practice and research by providing further evidence that the fraud-based guidance in auditing standards has a broader application than fraud alone and by showing the importance of interaction effects between multiple risk factors.

In addition, we provide evidence about the potential downside to a management characteristic considered beneficial in auditing standards. We note that favorable discussion of accounting competence in auditing standards may be one reason auditors appear to respond inadequately when their clients possess this attribute. We also extend previous research on management ability by identifying accounting competence as a type of ability that increases management's capacity to manage earnings. We document the downside of accounting competence even after controlling for other measures of management's ability (e.g., *MA Score* or *CPA experience*).

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APPENDIX A
Primary Analyses Variable Definitions

Variable	*Definition*
Dependent Variables	
LnFee	Natural logarithm of total audit fees.
Misstatement	1 if year t financial statements are misstated, as revealed through a subsequent restatement, and 0 otherwise. Misstatement equals 0 when the restatement is attributed to clerical errors.
Variables of Interest	
Excess Comp	The residual from the regression of *Ln Total Comp* on *Ln Tenure, ACC Competence, MA Score, Lag LnSale, Lag MTB, ROA, Lag ROA, Return, Lag Return,* and *SP500* with industry fixed effects. This regression is estimated separately by year. See Appendix B for further details.
ACC Competence	The total number of executive officers who formerly worked as partners or managers at audit firms.
Attitude	1 if the firm has income-increasing discretionary accruals in two or more consecutive years (t-1, t-2, etc.), and zero otherwise. We estimate discretionary accruals by industry (2-digit SIC code) and year using the modified Jones model (J. Jones 1991; Dechow, Sloan, and Sweeney 1995), controlling for firm performance (Kothari, Leone, and Wasley 2005). The model includes assets, change in sales from t-1 to t, change in accounts receivable from t-1 to t, gross property, plant, and equipment, and return on assets, with all variables scaled by lagged total assets. We require 10 observations per industry
Control Variables	
LnAssets	Natural logarithm of total assets in year t.
Sales Growth	Change in sales from year t-1 to year t, divided by sales in year t-1.
NBS	Natural logarithm of the number of business segments. If business segment information is not available, the number of business segments is set to 1.
NGS	Natural logarithm of the number of geographic segments. If geographic segment information is not available, the number of geographic segments is set to 1.
InvRec	Inventory plus accounts receivable, divided by total assets in year t.
Finance	1 if the company issued debt or equity greater than 5 percent of total assets, and 0 otherwise.
Foreign	1 if the company reports foreign taxes in year t, 0 otherwise.
CFO	Cash flows from operations in year t scaled by lagged total assets.
Exord	1 if the firm reports extraordinary items or discontinued operations in year t, 0 otherwise.
Loss	1 if the firm records net income below zero in year t, 0 otherwise.
ROA	Net income scaled by total assets.
Liquid	Current assets divided by current liabilities in year t.
Leverage	Total debt in year t, scaled by lagged total assets.
MTB	Market value of equity scaled by book value of equity at the end of year t.
Return	Cumulative return in year t.
Pension	1 if the company has pension expense in year t, 0 otherwise.
Big Acq	1 if the company has an acquisition that is greater than 5 percent of assets in year t, 0 otherwise.

APPENDIX A (Continued)

MA Score	Management ability score measure from Demerjian et al. (2012).
Short Tenure	1 if auditor tenure is less than or equal to 2 in year t, and 0 otherwise.
Big4	1 if the firm is audited by a Big 4 auditor, 0 otherwise.
Delay	The number of days between the company's fiscal year end and the filing date.
Announce Restatement	1 if the firm announced a restatement in year t, 0 otherwise.
Going Concern	1 if a going concern opinion was received in year t, 0 otherwise.
Weak IC	1 if the firm had one or more material weaknesses in year t, 0 otherwise. We use internal control weaknesses identified in the auditor's internal control opinion. If the firm does not have an internal control opinion from its auditor, we use internal control weaknesses identified by management.
Auditor Ind Expert	1 if the auditor is an industry expert, 0 otherwise. Industry expert auditors are audit offices that have at least two clients in the same industry and have the largest market share of the industry in that office's city.
AC Acct Expert	Total number of accounting experts on the audit committee in year t.
Bd Size	The number of board members in year t.
Bd Meet	The number of board meetings in year t.
Bd Ind	The number of outside directors divided by the total number of board members in year t.

APPENDIX B
Excess Compensation

Our measure of compensation-based incentives is *Excess Comp*, the residual from the following model:

$$Ln\ Total\ Comp = \beta_0 + \beta_1 Ln\ Tenure + \beta_2 ACC\ Competence + \beta_3 MA\ Score + \beta_4 Lag\ LnSale + \beta_5 LagMTB + \beta_6 ROA + \beta_7 Lag\ ROA + \beta_8 Return + \beta_9 Lag\ Return + \beta_{10} SP500 + Industry\ FE + \varepsilon.$$

The dependent variable is the log of total compensation of the executives included in the proxy statement (*Ln Total Comp)*. The model includes economic determinants of compensation, including organizational complexity and risk (Core et al. 1999; Core et al. 2008; Wysocki 2010). Theory and empirical findings show that organizations with higher complexity and business risk have more misstatements and pay higher audit fees (Simunic 1980; O'Keefe et al. 1994; Demerjian et al. 2013). These firms also must compensate risk-averse managers to bear higher risk, and labor markets allocate higher quality managers to more complex organizations (Wysocki 2010). Further, managers' compensation plan could encourage entrenchment and empire building that, in turn, increases organization complexity and business risk (Wysocki 2010). Following Core et al. (2008), we include the natural logarithm of executives' tenure at the firm (*Ln Tenure*), lagged sales (*Lag LnSale*), lagged market to book (*Lag MTB*), current and lagged return on assets (*ROA*, *Lag ROA*), current and lagged cumulative return (*Return*, *Lag Return*), and an indicator for listing in the S&P 500 (*SP500*). *Ln Tenure* is an executive characteristic related to compensation; *Lag LnSale* and *Return* proxy for size and complexity; *Lag MTB* proxies for growth opportunities; and *ROA*, *Lag ROA*, *Return*, and *Lag Return* proxy for firm performance and risk. We augment the model in Core et al. (2008) with *ACC Competence* and *MA Score* to orthogonalize the compensation-based incentive measure from measures of accounting or operational ability. Results in the paper are based on annual regressions to account for changes in accounting for stock-based compensation (i.e., SFAS 123R). For brevity, we report pooled regressions with year indicators for the pre- and post-SFAS 123R period in Panel A. Panel B displays descriptive statistics, and Panels C and D present correlation tables in the pre- and post-SFAS 123R periods.

Panel A: Compensation Regressions

Variables	Pre-SFAS 123R			Post-SFAS 123R		
	Estimate	t-stat		Estimate	t-stat	
Intercept	12.519	59.430	***	12.090	78.620	***
Ln Tenure	0.035	0.880		0.172	15.880	***
ACC Competence	0.019	0.330		0.029	2.240	**
MA Score	0.312	2.310	**	0.157	3.460	***
Lag LnSale	0.337	23.900	***	0.385	93.920	***
Lag MTB	0.007	1.750	*	0.021	15.630	***
ROA	-0.655	-4.100	***	-0.288	-7.210	***
Lag ROA	-0.421	-2.380	**	-0.632	-15.580	***
Return	0.163	4.200	***	0.095	9.840	***
Lag Return	0.031	2.230	**	0.134	13.830	***
SP500	0.354	6.100	***	0.390	23.640	***
Industry Fixed Effects	Yes			Yes		
Year Fixed Effects	Yes			Yes		
N	1,182			19,637		
R-Squared	0.631			0.618		

Note: The negative coefficients on *ROA* and *Lag ROA* are insignificant in the Pre-SFAS 123R period and significantly positive in the Post-SFAS 123R period when *Lag LnSale* is omitted from the model, indicating that firm performance increases management compensation. Tabulated results in the paper are robust to alternative compensation model specifications, including control variables for additional risk (*Return Volatility*) and compensation related to a misstatement (*Misstatement*).

APPENDIX B (Continued)

Panel B: Compensation Regression Descriptive Statistics

Variables	Mean	Std. Dev.	1st Quartile	Median	3rd Quartile
Ln Total Comp	15.392	1.067	14.673	15.388	16.142
Ln Tenure	3.524	0.590	3.178	3.584	3.951
ACC Competence	0.119	0.351	0.000	0.000	0.000
MA Score	-0.001	0.129	-0.072	-0.027	0.032
Lag LnSale	6.267	2.078	4.844	6.295	7.662
Lag MTB	2.943	4.076	1.309	2.122	3.593
ROA	0.001	0.173	-0.014	0.041	0.082
Lag ROA	0.002	0.174	-0.011	0.042	0.083
Return	0.156	0.612	-0.204	0.081	0.378
Lag Return	0.179	0.670	-0.190	0.084	0.382
SP500	0.137	0.344	0.000	0.000	0.000

Panel C: Excess Comp Regression Correlations (Pre-SFAS 123R)

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Ln Total Comp										
2	Ln Tenure	**0.275**									
3	ACC Competence	**-0.016**	**-0.033**								
4	MA Score	**0.134**	0.014	**-0.019**							
5	Lag LnSale	**0.712**	**0.285**	**-0.041**	**0.109**						
6	Lag MTB	**0.078**	-0.014	0.009	**0.103**	**-0.051**					
7	ROA	**0.218**	**0.210**	**-0.028**	**0.184**	**0.398**	0.003				
8	Lag ROA	**0.199**	**0.216**	**-0.019**	**0.117**	**0.418**	0.006	**0.646**			
9	Return	**0.055**	0.020	-0.010	**0.028**	0.020	**-0.062**	**0.157**	**-0.084**		
10	Lag Return	**0.079**	0.021	-0.005	**0.063**	0.014	**0.159**	**0.168**	**0.156**	**-0.092**	
11	SP500	**0.496**	**0.177**	**-0.039**	**0.160**	**0.515**	**0.065**	**0.160**	**0.158**	-0.008	-0.004

Coefficients in bold indicate significance at p < 0.05.

Panel D: Excess Comp Regression Correlations (Post-SFAS 123R)

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Ln Total Comp										
2	Ln Tenure	**0.178**									
3	ACC Competence	**-0.060**	**-0.092**								
4	MA Score	**0.112**	-0.024	0.000							
5	Lag LnSale	**0.708**	**0.275**	**-0.071**	**0.073**						
6	Lag MTB	0.001	-0.031	-0.013	**0.130**	**-0.122**					
7	ROA	**0.170**	**0.182**	-0.020	**0.212**	**0.402**	0.008				
8	Lag ROA	**0.161**	**0.259**	-0.030	**0.143**	**0.413**	-0.051	**0.743**			
9	Return	**0.118**	0.030	-0.034	-0.005	**0.073**	**-0.079**	**0.213**	0.058		
10	Lag Return	**-0.176**	**-0.186**	0.039	0.046	**-0.285**	**0.220**	-0.026	**-0.106**	-0.056	
11	SP500	**0.558**	**0.128**	-0.049	**0.196**	**0.585**	0.063	**0.147**	**0.134**	-0.021	**-0.156**

Coefficients in bold indicate significance at p < 0.05.

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APPENDIX C
PSM

The treatment firms in our sample are those with at least one executive with accounting competence. To obtain a control sample of firms without this attribute, we using a propensity-score matching procedure. Panel A compares the means between the treatment firms and the complete set of firms without accounting competence before any matching occurs. We perform a 1 to 1 match without replacement with a caliper of 0.001 based on the propensity of having an executive with accounting competence. We match separately for the misstatement and audit fee models because the models include several different control variables. Covariate balance after the match is shown in Panel B for the misstatement model and in Panel C for the audit fee model.

Panel A: Differences in Means in Full Sample

Variables	Non-ACC Competence Firm Years (N=16,985) Mean	ACC Competence Firm Years (N=2,073) Mean	Mean Difference Diff	z-stat
LnAssets	6.523	6.262	0.260***	(6.22)
Sales Growth	0.138	0.162	-0.024***	(-2.48)
NBS	1.035	0.975	0.060***	(5.11)
NGS	1.009	0.927	0.082***	(5.30)
InvRec	0.251	0.239	0.013***	(3.06)
Finance	0.429	0.461	-0.031***	(-2.70)
Foreign	0.556	0.528	0.029***	(2.46)
CFO	0.072	0.064	0.008***	(2.35)
Exord	0.093	0.092	0.001	(0.11)
Loss	0.279	0.325	-0.045***	(-4.17)
ROA	0.003	-0.017	0.020***	(4.60)
Liquid	2.809	2.827	-0.018	(-0.32)
Leverage	0.166	0.172	-0.006	(-1.33)
MTB	2.877	2.782	0.095	(0.98)
Return	0.161	0.143	0.018	(1.22)
Pension	0.817	0.769	0.048***	(4.95)
Big Acq	0.146	0.177	-0.031***	(-3.48)
MA_Score	-0.002	-0.007	0.005*	(1.78)
Short Tenure	0.346	0.333	0.013	(1.19)
Big4	0.792	0.761	0.031***	(3.14)
Delay	66.652	66.907	-0.256	(-0.74)
Announce Restatement	0.079	0.083	-0.004	(-0.67)
Going Concern	0.012	0.012	0.001	(0.36)
Weak IC	0.064	0.071	-0.007	(-1.20)
Auditor Ind Expert	0.265	0.263	0.002	(0.24)
AC Acct Expert	1.087	1.104	-0.017	(-0.91)
Bd Size	8.558	8.273	0.285***	(5.31)
Bd Meet	7.694	8.059	-0.365***	(-3.56)
Bd Ind	0.830	0.827	0.004*	(1.78)

Panel B: Covariate Balance in Matched Sample used in Misstatement Regressions

Variables	Non-ACC Competence Firm Years (N=2,065)	ACC Competence Firm Years (N=2,065)	Mean Difference	
	Mean	Mean	Diff	z-stat
LnAssets	6.231	6.270	-0.039	(-0.69)
NBS	0.962	0.976	-0.014	(-0.88)
NGS	0.916	0.929	-0.014	(-0.65)
Finance	0.445	0.461	-0.016	(-1.00)
Foreign	0.522	0.529	-0.007	(-0.44)
Loss	0.319	0.323	-0.004	(-0.27)
ROA	-0.013	-0.015	0.002	(0.31)
Liquid	2.944	2.829	0.116	(1.54)
Leverage	0.163	0.171	-0.008	(-1.35)
MTB	2.829	2.806	0.023	(0.17)
Return	0.172	0.145	0.027	(1.34)
MA_Score	-0.006	-0.007	0.001	(0.27)
Short Tenure	0.354	0.332	0.023	(1.54)
Big4	0.765	0.762	0.003	(0.22)
Delay	67.944	66.858	1.087***	(2.35)
Weak IC	0.072	0.072	0.000	(0.06)
Auditor Ind Expert	0.246	0.264	-0.018	(-1.36)
AC Acct Expert	1.053	1.104	-0.050**	(-2.00)
Bd Size	8.215	8.278	-0.063	(-0.88)
Bd Meet	7.810	7.994	-0.184	(-1.41)
Bd Ind	0.825	0.827	-0.001	(-0.50)

Based on the difference in means in Panel A relating to variables in the misstatement model, we estimated the propensity score using *LnAssets*, *NBS*, *NGS*, *Finance*, *Foreign*, *Loss*, *ROA*, *Big4*, *AC Acct Expert*, *Bd Size*, and *Bd Meet*. Differences in means are statistically insignificant for nearly all variables, indicating the treatment and control samples are very similar. In addition, we include each of the variables in our PSM analysis to control for any remaining differences between groups.

Panel C: Covariate Balance in Matched Sample used in Audit Fee Regressions

	Non-ACC Competence Firms (N=2,049)	ACC Competence Firms (N=2,049)	Mean Difference	
Variables	Mean	Mean	Diff	z-stat
LnAssets	6.292	6.279	0.013	(0.22)
Sales Growth	0.157	0.157	0.000	(0.04)
NBS	0.988	0.976	0.011	(0.72)
NGS	0.920	0.933	-0.013	(-0.62)
InvRec	0.237	0.239	-0.003	(-0.47)
Finance	0.464	0.459	0.005	(0.31)
Foreign	0.525	0.529	-0.003	(-0.22)
CFO	0.059	0.065	-0.005	(-1.14)
Exord	0.085	0.092	-0.007	(-0.77)
Loss	0.327	0.321	0.006	(0.40)
ROA	-0.016	-0.013	-0.003	(-0.55)
Liquid	2.851	2.834	0.017	(0.23)
Leverage	0.169	0.171	-0.002	(-0.30)
MTB	2.930	2.780	0.149	(1.15)
Pension	0.774	0.775	-0.001	(-0.11)
Big Acq	0.171	0.172	-0.001	(-0.08)
MA Score	-0.002	-0.007	0.005	(1.27)
Short Tenure	0.367	0.329	0.038***	(2.56)
Big4	0.769	0.764	0.005	(0.37)
Delay	67.699	66.773	0.926*	(1.91)
Announce Restatement	0.085	0.084	0.001	(0.17)
Going Concern	0.014	0.011	0.003	(0.99)
Weak IC	0.072	0.070	0.002	(0.30)
Auditor Ind Expert	0.253	0.264	-0.011	(-0.82)
AC Acct Expert	1.067	1.104	-0.037	(-1.43)
Bd Size	8.285	8.295	-0.011	(-0.15)
Bd Meet	8.014	7.959	0.055	(0.42)
Bd Ind	0.825	0.826	-0.001	(-0.36)

Based on the difference in means in Panel A relating to variables in the audit fee model, we estimated the propensity score using *LnAssets, Sales Growth, NBS, NGS, InvRec, Finance, Foreign, CFO, Loss, ROA, Pension, Big Acq, Big4, Bd Size,* and *Bd Meet*. Differences in means are statistically insignificant for nearly all variables, indicating the treatment and control samples are very similar. In addition, we include each of the variables in our PSM analysis to control for any remaining differences between groups.

TABLE 1
Sample Selection and Industry Composition

Panel A: Sample Selection

Audit Analytics and Compustat Data with non-missing variable data 2004-2013	33,285
Less: Financial/Utility Firms	(775)
Less: Firms missing CRSP data	(4,735)
Less: Firms missing board or officer variables data	(8,717)
Final Sample	19,058

Panel B: Sample Composition by Industry

Industry	N	% of Firms in Sample	% of Firms in Compustat
1) Mining and Construction	560	2.9%	7.5%
2) Food	514	2.7%	2.9%
3) Textiles, printing, and publishing	884	4.6%	4.8%
4) Chemicals	687	3.6%	3.3%
5) Pharmaceuticals	1,379	7.2%	7.3%
6) Extractive industries	1,218	6.4%	6.7%
7) Durable manufacturers	5,031	26.4%	24.5%
8) Computers	3,416	17.9%	14.9%
9) Transportation	1,382	7.3%	6.2%
10) Retail	1,950	10.2%	10.1%
11) Services	1,989	10.5%	9.2%
12) Other	48	0.3%	2.6%
	19,058	100.0%	100.0%

Industry classifications are based on those from Barth, Beaver, and Landsman (1998). Utilities and Financial Institutions were deleted from the Compustat firms in order to be comparable to our sample.

TABLE 2
Accounting Competence Descriptive Statistics

Panel A: Number of Firm-Years and Unique Firms by Number of Executives with ACC Competence

Total Number of ACC Competence Executives	Firm-Years	Unique Firms
0 *ACC Competence* Executives	16,985	3,053
1 *ACC Competence* Executive	1,937	579
2 *ACC Competence* Executives	117	58
3 *ACC Competence* Executives	18	8
4 *ACC Competence* Executives	1	1
Total	19,058	3,252[a]

[a] Firms that have variation in the number of executives with accounting competence throughout the sample period are included in more than one category, thus the total is less than the sum of the categories. There are 591 unique firms that have at least one executive with accounting competence at some point during the sample period, as shown in Panel C below.

Panel B: Count of Executives by Title

	Total	ACC Competence
Chief Executive Officer	18,677	191
Chief Financial Officer	17,721	1,353
Other Accounting Officer Titles	3,372	298
Other Operational Officer Titles	24,373	157
General Counsel / Chief Legal Officer	478	1
Other Titles	36,259	229
Total	100,880	2,229
Avg. Executives per firm	5.293	0.117

Other Accounting Officer Titles include Chief Accounting Officer, VP Finance, Controller, and variations of these titles. Other Operational Officer Titles include Chief Information Officer, Chief Operations Officer, President, Executive VP, Senior VP and variations of these titles. Other Titles include VPs of geographic locations, product lines, divisions, and subsidiaries. Executives often have multiple titles. For instance, an executive may be listed as both the CEO and President. We prioritize the titles as listed above and only list executives once.

Panel C: ACC Competence Compared to CPA Experience and Affiliated Executives

	Executives	Unique Firms
ACC Competence	2,229	591
CPA Experience	10,704	1,954
Affiliated	1,877	480
ACC Competence and CPA Experience	2,229	591
ACC Competence and Affiliated	608	156

Executives are classified as having *ACC Competence* if they are a former audit manager or partner at a CPA firm. In contrast, executives with *CPA Experience* include all executives with a CPA license or who worked at a CPA firm, regardless of their tenure or position at that firm. Executives identified as *Affiliated* are those individuals who previously worked at the CPA firm that currently audits the company. We limit our search for affiliation to experience at the top 6 public accounting firms based on the number of public clients an accounting firm has over our sample period within the Audit Analytics database. The Top 6 public accounting firms are Deloitte, PwC, EY, KPMG, Grant Thornton, and BDO. Similar to *CPA Experience*, affiliation is also identified regardless of the individual's tenure or former position at the CPA firm.

TABLE 3
Sample Descriptive Statistics

	Mean	Std. Dev.	1st Quartile	Median	3rd Quartile
Dependent Variables					
Misstatement	0.104	0.305	0.000	0.000	0.000
LnFee	13.919	1.191	13.142	13.894	14.669
Variables of Interest					
ACC Competence	0.117	0.349	0.000	0.000	0.000
Excess Comp	0.039	0.600	-0.335	0.052	0.421
Attitude	0.256	0.436	0.000	0.000	1.000
Control Variables - Restatement Model					
LnAssets	6.494	1.939	5.138	6.425	7.780
NBS	1.028	0.534	0.693	0.693	1.386
NGS	1.000	0.681	0.693	1.099	1.386
Finance	0.433	0.495	0.000	0.000	1.000
Foreign	0.553	0.497	0.000	1.000	1.000
Loss	0.284	0.451	0.000	0.000	1.000
ROA	0.001	0.173	-0.014	0.042	0.082
Liquid	2.811	2.292	1.425	2.098	3.320
Leverage	0.166	0.189	0.000	0.116	0.265
MTB	2.867	4.145	1.272	2.088	3.531
Return	0.159	0.610	-0.200	0.085	0.380
MA Score	-0.003	0.126	-0.072	-0.027	0.030
Short Tenure	0.345	0.475	0.000	0.000	1.000
Big4	0.789	0.408	1.000	1.000	1.000
Delay	66.680	15.034	58.000	64.000	75.000
Weak IC	0.065	0.247	0.000	0.000	0.000
Auditor Ind Expert	0.265	0.441	0.000	0.000	1.000
AC Acct Expert	1.089	0.826	1.000	1.000	2.000
Bd Size	8.527	2.389	7.000	8.000	10.000
Bd Meet	7.734	4.003	5.000	7.000	9.000
Bd Ind	0.830	0.091	0.778	0.857	0.889
Additional Control Variables - Audit Fee Model					
Sales Growth	0.141	0.377	-0.016	0.081	0.208
InvRec	0.250	0.171	0.111	0.226	0.352
CFO	0.071	0.139	0.039	0.091	0.140
Exord	0.093	0.290	0.000	0.000	0.000
Pension	0.812	0.391	1.000	1.000	1.000
Big Acq	0.150	0.357	0.000	0.000	0.000
Announce Restate	0.080	0.271	0.000	0.000	0.000
Going Concern	0.012	0.111	0.000	0.000	0.000

All variables are defined in Appendix A. Sample Size is 19,058.

TABLE 4
TABLE 4
Correlations

	Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1	Misstatement																
2	LnFee	0.031															
3	ACC Competence	-0.008	-0.038														
4	Excess Comp	0.015	0.146	0.011													
5	Attitude	0.007	-0.013	-0.012	-0.044												
6	LnAssets	0.027	0.856	-0.042	0.126	-0.014											
7	NBS	0.032	0.197	-0.035	-0.034	0.012	0.178										
8	NGS	0.017	0.358	-0.038	0.026	0.032	0.247	0.090									
9	Finance	0.029	0.083	0.019	0.045	0.005	0.107	0.003	-0.052								
10	Foreign	0.011	0.432	-0.016	0.066	-0.025	0.331	0.089	0.477	-0.045							
11	Loss	0.011	-0.223	0.030	0.007	0.041	-0.325	-0.096	-0.097	0.071	-0.185						
12	ROA	0.004	0.225	-0.033	-0.003	-0.056	0.347	0.091	0.127	-0.124	0.203	-0.684					
13	Liquid	-0.043	-0.311	0.001	0.078	0.033	-0.335	-0.104	0.000	-0.150	-0.064	0.083	-0.044				
14	Leverage	0.040	0.242	0.010	0.038	0.016	0.320	0.057	-0.080	0.362	-0.049	0.053	-0.046	-0.280			
15	MTB	-0.011	0.016	-0.008	0.067	-0.033	0.001	-0.058	-0.025	0.050	0.010	-0.039	0.049	0.004	-0.056		
16	Return	-0.015	0.008	-0.012	0.002	-0.022	0.033	0.021	0.004	0.058	0.012	-0.127	0.157	-0.011	0.009	0.161	
17	MA Score	-0.024	0.063	-0.016	0.031	-0.021	0.084	-0.022	0.045	-0.072	0.063	-0.143	0.183	0.032	-0.143	0.109	0.025
18	Short Tenure	0.003	-0.184	-0.007	-0.066	0.013	-0.211	-0.082	-0.078	-0.015	-0.114	0.036	-0.046	0.059	-0.075	0.007	-0.043
19	Big4	0.037	0.527	-0.025	0.228	-0.025	0.500	0.059	0.124	0.049	0.209	-0.132	0.115	-0.138	0.166	0.050	0.022
20	Delay	0.033	-0.374	0.009	-0.212	0.040	-0.458	-0.089	-0.108	-0.027	-0.218	0.219	-0.209	0.067	-0.112	-0.076	-0.070
21	Weak IC	0.128	-0.049	0.010	-0.065	0.015	-0.116	-0.013	-0.009	0.003	-0.029	0.090	-0.071	-0.013	-0.028	-0.014	-0.047
22	Auditor Ind Expert	0.011	0.141	-0.001	0.074	0.004	0.107	-0.002	0.061	0.015	0.070	0.000	-0.013	0.007	0.017	0.031	-0.007
23	AC Acct Expert	0.014	0.112	0.014	0.063	-0.026	0.097	0.044	0.077	0.018	0.086	-0.027	0.033	-0.034	0.031	-0.009	0.015
24	Bd Size	-0.007	0.507	-0.025	0.066	0.005	0.551	0.088	0.144	0.076	0.165	-0.133	0.119	-0.218	0.181	0.026	0.016
25	Bd Meet	0.030	0.109	0.031	0.098	0.003	0.050	-0.009	0.027	0.065	0.006	0.164	-0.152	-0.034	0.070	-0.023	-0.042
26	Bd Ind	0.003	0.323	-0.023	0.116	-0.001	0.291	0.054	0.126	0.039	0.142	-0.014	0.009	-0.113	0.094	0.015	0.004
27	Sales Growth	-0.008	-0.085	0.018	0.191	0.001	-0.065	-0.059	-0.089	0.118	-0.080	-0.021	-0.022	0.046	-0.011	0.136	0.080
28	InvRec	-0.014	-0.069	-0.027	-0.269	0.021	-0.169	0.090	0.129	-0.097	0.117	-0.098	0.090	-0.043	-0.205	-0.083	0.004
29	CFO	0.000	0.222	-0.016	-0.009	-0.074	0.341	0.071	0.085	-0.131	0.178	-0.512	0.753	-0.147	0.014	0.036	0.119
30	Exord	0.018	0.157	0.000	0.014	0.003	0.134	0.073	0.043	0.015	0.044	-0.015	0.020	-0.069	0.071	-0.029	0.006
31	Pension	0.030	0.224	-0.041	0.046	-0.010	0.239	0.092	0.085	-0.026	0.139	-0.184	0.192	-0.080	0.059	-0.013	-0.005
32	Big Acq	0.016	0.083	0.031	0.087	-0.042	0.067	0.071	0.035	0.174	0.092	-0.086	0.071	-0.083	0.067	0.001	-0.024
33	Announce Restate	0.078	0.018	0.006	-0.002	0.007	-0.009	-0.004	-0.001	0.018	-0.014	0.050	-0.030	-0.028	0.025	-0.007	-0.004
34	Going Concern	-0.007	-0.095	-0.004	-0.046	0.008	-0.141	-0.028	-0.041	0.056	-0.085	0.167	-0.304	-0.055	-0.013	-0.041	-0.071

TABLE 4 (Continued)

	Variables	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)
18	*Short Tenure*	-0.001																
19	*Big4*	**0.031**	**-0.176**															
20	*Delay*	**-0.084**	**0.315**	**-0.319**														
21	*Weak IC*	**-0.036**	**0.142**	**-0.093**	**0.332**													
22	*Auditor Ind Expert*	**0.053**	**-0.032**	**0.202**	**-0.070**	**-0.019**												
23	*AC Acct Expert*	0.002	**-0.106**	**0.086**	**-0.118**	**-0.037**	**0.028**											
24	*Bd Size*	**0.024**	**-0.140**	**0.289**	**-0.261**	**-0.088**	**0.046**	**0.107**										
25	*Bd Meet*	0.005	0.001	**0.048**	**0.035**	**0.056**	**0.034**	**0.058**	**0.021**									
26	*Bd Ind*	0.007	**-0.119**	**0.247**	**-0.198**	**-0.059**	**0.054**	**0.139**	**0.293**	**0.140**								
27	*Sales Growth*	**0.116**	**0.114**	-0.008	**0.041**	**0.023**	**0.034**	**-0.022**	**-0.055**	-0.003	**-0.042**							
28	*InvRec*	-0.009	**0.042**	**-0.158**	**0.101**	**0.049**	**-0.102**	0.010	**-0.076**	**-0.121**	**-0.094**	**-0.107**						
29	*CFO*	**0.182**	**-0.067**	**0.124**	**-0.204**	**-0.078**	-0.007	**0.039**	**0.110**	**-0.108**	0.012	**-0.099**	-0.004					
30	*Exord*	**-0.051**	-0.011	**0.058**	**-0.019**	0.008	**0.015**	-0.003	**0.083**	**0.039**	**0.066**	**-0.063**	**-0.038**	0.004				
31	*Pension*	-0.007	**-0.091**	**0.153**	**-0.177**	**-0.058**	-0.003	**0.048**	**0.151**	**-0.039**	**0.109**	**-0.091**	**0.062**	**0.182**	**0.047**			
32	*Big Acq*	0.012	0.006	**0.052**	**-0.024**	-0.011	**0.021**	**0.026**	0.008	**0.037**	**0.018**	**0.099**	**-0.022**	**0.053**	**0.020**	**0.048**		
33	*Announce Restate*	**-0.035**	**0.047**	0.011	**0.125**	**0.170**	0.004	-0.002	**-0.021**	**0.070**	-0.003	0.006	-0.012	**-0.019**	**0.034**	-0.001	-0.007	
34	*Going Concern*	**-0.034**	**0.029**	**-0.067**	**0.125**	**0.061**	-0.014	**-0.041**	**-0.062**	**0.062**	-0.011	0.004	0.012	**-0.265**	-0.001	**-0.086**	**-0.035**	**0.014**

Coefficients in bold indicate significance at p < 0.05. All variables are defined in Appendix A.

TABLE 5

Misstatements, Compensation, and Accounting Competence

Dependent Variable = Misstatement	Full Sample				PSM Sample			
	Estimate	z-stat	Estimate	z-stat	Estimate	z-stat	Estimate	z-stat
ACC Competence	-0.093	(-0.94)	-0.132	(-1.34)	-0.094	(-0.83)	-0.131	(-1.13)
Excess Comp	0.100*	(1.82)	0.063	(1.09)	0.220**	(2.30)	0.055	(0.46)
Excess Comp* ACC Competence			0.334***	(2.61)			0.327**	(2.12)
LnAssets	0.036	(1.14)	0.036	(1.13)	-0.021	(-0.36)	-0.023	(-0.41)
NBS	0.178**	(2.37)	0.176**	(2.35)	0.079	(0.51)	0.078	(0.50)
NGS	0.107*	(1.67)	0.105	(1.64)	0.091	(0.80)	0.089	(0.77)
Finance	0.128**	(2.03)	0.126**	(2.00)	0.175	(1.38)	0.168	(1.32)
Foreign	0.000	(0.00)	0.003	(0.04)	0.214	(1.39)	0.222	(1.45)
Loss	0.165*	(1.86)	0.166*	(1.87)	0.038	(0.22)	0.041	(0.23)
ROA	0.269	(1.08)	0.263	(1.06)	1.509***	(2.64)	1.487***	(2.60)
Liquid	-0.034*	(-1.92)	-0.034*	(-1.89)	-0.047	(-1.34)	-0.046	(-1.32)
Leverage	0.282	(1.32)	0.287	(1.34)	0.778*	(1.87)	0.778*	(1.87)
MTB	0.000	(0.02)	-0.000	(-0.01)	-0.028**	(-2.00)	-0.029**	(-2.03)
Return	-0.090*	(-1.84)	-0.090*	(-1.84)	-0.032	(-0.35)	-0.031	(-0.34)
MA Score	-0.207	(-0.72)	-0.205	(-0.71)	-0.351	(-0.59)	-0.332	(-0.56)
Short Tenure	-0.178**	(-2.29)	-0.183**	(-2.34)	0.018	(0.11)	0.010	(0.06)
Big4	0.238**	(2.14)	0.240**	(2.15)	0.078	(0.42)	0.076	(0.41)
Delay	0.002	(1.00)	0.002	(0.99)	-0.002	(-0.35)	-0.002	(-0.36)
Weak IC	1.182***	(13.18)	1.186***	(13.20)	1.356***	(7.24)	1.371***	(7.30)
Auditor Ind Expert	0.107	(1.32)	0.107	(1.32)	0.007	(0.05)	0.007	(0.05)
AC Acct Expert	0.060	(1.38)	0.060	(1.39)	0.027	(0.32)	0.028	(0.33)
Bd Size	-0.059***	(-3.01)	-0.060***	(-3.02)	-0.035	(-0.97)	-0.034	(-0.93)
Bd Meet	0.015**	(2.05)	0.015**	(2.03)	0.050***	(3.55)	0.049***	(3.45)
Bd Ind	-0.136	(-0.37)	-0.119	(-0.33)	-0.348	(-0.48)	-0.300	(-0.41)
Industry Fixed Effects	Yes		Yes		Yes		Yes	
Year Fixed Effects	Yes		Yes		Yes		Yes	
Clustered Std. Errors by Firm	Yes		Yes		Yes		Yes	
N	19,058		19,058		4,130		4,130	
Pseudo R-Squared	0.055		0.056		0.109		0.110	
Area under the ROC curve	0.671		0.672		0.732		0.733	

*,**,*** Significance at 0.10, 0.05, and 0.01 respectively (two-tailed). Variables are defined in Appendix A.

TABLE 6
Audit Fees, Compensation, and Accounting Competence

Dependent Variable = LnFee	Full Sample				PSM Sample			
	Estimate	t-stat	Estimate	t-stat	Estimate	t-stat	Estimate	t-stat
ACC Competence	-0.003	(-0.15)	0.001	(0.06)	-0.005	(-0.24)	-0.001	(-0.04)
Excess Comp	0.077***	(6.22)	0.086***	(6.62)	0.034*	(1.71)	0.069***	(3.05)
Excess Comp* ACC Competence			-0.075***	(-2.88)			-0.067**	(-2.27)
LnAssets	0.486***	(64.77)	0.486***	(64.78)	0.461***	(39.10)	0.461***	(39.13)
Sales Growth	-0.053***	(-4.14)	-0.052***	(-4.06)	-0.040*	(-1.74)	-0.039*	(-1.70)
NBS	0.051***	(3.22)	0.051***	(3.23)	0.027	(1.05)	0.027	(1.08)
NGS	0.132***	(9.38)	0.133***	(9.43)	0.123***	(5.42)	0.125***	(5.49)
InvRec	0.565***	(8.99)	0.568***	(9.04)	0.422***	(4.40)	0.426***	(4.43)
Finance	0.014	(1.30)	0.014	(1.32)	0.011	(0.53)	0.012	(0.56)
Foreign	0.175***	(9.40)	0.174***	(9.38)	0.173***	(5.78)	0.172***	(5.75)
CFO	-0.152***	(-2.60)	-0.153***	(-2.62)	-0.022	(-0.20)	-0.025	(-0.22)
Exord	0.119***	(6.86)	0.118***	(6.84)	0.089**	(2.35)	0.088**	(2.33)
Loss	0.053***	(3.66)	0.053***	(3.65)	0.049*	(1.79)	0.048*	(1.76)
ROA	-0.332***	(-6.81)	-0.330***	(-6.77)	-0.334***	(-3.68)	-0.332***	(-3.65)
Liquid	-0.021***	(-5.98)	-0.021***	(-6.03)	-0.018***	(-3.32)	-0.019***	(-3.45)
Leverage	-0.020	(-0.46)	-0.021	(-0.47)	-0.029	(-0.38)	-0.028	(-0.37)
MTB	0.004**	(2.53)	0.004**	(2.56)	0.003	(1.07)	0.003	(1.12)
Pension	0.007	(0.37)	0.007	(0.41)	0.018	(0.68)	0.019	(0.73)
Big Acq	0.002	(0.17)	0.002	(0.15)	-0.009	(-0.39)	-0.010	(-0.42)
MA Score	-0.050	(-0.91)	-0.051	(-0.92)	-0.086	(-0.90)	-0.088	(-0.91)
Short Tenure	-0.017	(-1.36)	-0.016	(-1.29)	0.027	(1.13)	0.028	(1.15)
Big4	0.308***	(13.75)	0.308***	(13.76)	0.391***	(11.33)	0.391***	(11.32)
Delay	0.002***	(4.12)	0.002***	(4.14)	0.001	(1.04)	0.001	(1.07)
Announce Restatement	0.052***	(3.39)	0.052***	(3.35)	0.102***	(3.17)	0.100***	(3.10)
Going Concern	0.049	(0.95)	0.051	(1.00)	0.074	(0.85)	0.080	(0.93)
Weak IC	0.151***	(6.49)	0.151***	(6.46)	0.165***	(3.80)	0.163***	(3.75)
Auditor Ind Expert	0.025	(1.60)	0.025	(1.60)	0.019	(0.70)	0.019	(0.70)
AC Acct Expert	0.010	(1.15)	0.010	(1.14)	0.003	(0.23)	0.003	(0.23)
Bd Size	0.020***	(4.94)	0.020***	(4.96)	0.015**	(2.36)	0.015**	(2.41)
Bd Meet	0.011***	(7.15)	0.011***	(7.16)	0.009***	(3.38)	0.009***	(3.41)
Bd Ind	0.363***	(4.39)	0.361***	(4.36)	0.449***	(3.63)	0.445***	(3.61)

Industry Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Clustered Std. Errors by Firm	Yes	Yes	Yes	Yes
N	19,058	19,058	4,098	4,098
Adjusted R-Squared	0.824	0.824	0.789	0.790

*,**,*** Significance at 0.10, 0.05, and 0.01 respectively (two-tailed). Variables are defined in Appendix A.

TABLE 7
Compensation, Accounting Competence, and Attitude

Panel A: Misstatements

Dependent Variable=Misstatements	Attitude=1		Attitude=0	
	Estimate	z-stat	Estimate	z-stat
ACC Competence	-0.486**	(-2.26)	-0.049	(-0.46)
Excess Comp	0.102	(0.97)	0.054	(0.84)
*Excess Comp * ACC Competence*	0.917***	(3.28)	0.205	(1.54)
Controls Included	Yes		Yes	
Industry Fixed Effects	Yes		Yes	
Year Fixed Effects	Yes		Yes	
Clustered Std. Errors by Firm	Yes		Yes	
N	4,870		14,188	
Pseudo R-Squared	0.091		0.060	
Area under the ROC curve	0.714		0.680	

Test of differences for the interaction term	Chi-2	Prob.		
Column 1 v. Column 2	12.800	0.002***		

Panel B: Audit Fees

Dependent Variable = LnFee	Attitude=1		Attitude=0	
	Estimate	t-stat	Estimate	t-stat
ACC Competence	-0.033	(-0.95)	0.009	(0.49)
Excess Comp	0.081***	(4.28)	0.086***	(5.97)
*Excess Comp * ACC Competence*	-0.089*	(-1.82)	-0.070***	(-2.59)
Controls Included	Yes		Yes	
Industry Fixed Effects	Yes		Yes	
Year Fixed Effects	Yes		Yes	
Clustered Std. Errors by Firm	Yes		Yes	
N	4,870		14,188	
Adjusted R-Squared	0.829		0.823	

Test of differences for the interaction term	Chi-2	Prob.		
Column 1 v. Column 2	0.150	0.700		

*,**,*** Significance at 0.10, 0.05, and 0.01 respectively (two-tailed). *Attitude* equals one (zero) when management has (has not) reported income-increasing discretionary accruals in two or more consecutive prior years. All variables are defined in Appendix A.

TABLE 8
Alternative Incentive Measures and Accounting Competence

Panel A: Misstatements

	Incentive = Average Incentive Compensation				Incentive = Just Meet/Beat Analyst Forecasts			
Dependent Variable=Misstatements	Estimate	z-stat	Estimate	z-stat	Estimate	z-stat	Estimate	z-stat
ACC Competence	-0.092	(-0.93)	-0.600**	(-2.35)	-0.092	(-0.93)	-0.145	(-1.37)
Incentive	0.023	(0.12)	-0.064	(-0.33)	0.086	(1.04)	0.039	(0.44)
*Incentive * ACC Competence*			0.851**	(2.01)			0.382**	(1.97)
Controls Included	Yes		Yes		Yes		Yes	
Industry Fixed Effects	Yes		Yes		Yes		Yes	
Year Fixed Effects	Yes		Yes		Yes		Yes	
Clustered Std. Errors by Firm	Yes		Yes		Yes		Yes	
N	19,058		19,058		19,058		19,058	
Pseudo R-Squared	0.055		0.055		0.055		0.055	
Area under the ROC curve	0.671		0.672		0.667		0.668	

Panel B: Audit Fees

	Incentive = Average Incentive Compensation				Incentive = Just Meet/Beat Analyst Forecasts			
Dependent Variable= LnFee	Estimate	t-stat	Estimate	t-stat	Estimate	t-stat	Estimate	t-stat
ACC Competence	-0.003	(-0.15)	0.096**	(2.05)	-0.002	(-0.13)	0.003	(0.14)
Incentive	0.245***	(5.90)	0.264***	(6.15)	0.010	(0.73)	0.015	(1.05)
*Incentive * ACC Competence*			-0.170**	(-2.25)			-0.044	(-1.16)
Controls Included	Yes		Yes		Yes		Yes	
Industry Fixed Effects	Yes		Yes		Yes		Yes	
Year Fixed Effects	Yes		Yes		Yes		Yes	
Clustered Std. Errors by Firm	Yes		Yes		Yes		Yes	
N	19,058		19,058		19,058		19,058	
Adjusted R-Squared	0.823		0.824		0.822		0.822	

*,**,*** Significance at 0.10, 0.05, and 0.01 respectively (two-tailed). Average incentive compensation is the average in years t-1 and t of the sum of incentive executive compensation divided by the sum of total executive compensation, based on the compensation reported in the firm's proxy statement. Just Meet/Beat equals 1 if the firm meets or beats analysts' consensus forecast by $0.01 or less. For firms not covered by IBES, we use whether the firm meets or beats prior year EPS by $0.01 or less. All other variables are defined in Appendix A.