

Affiliated Former Partners on the Audit Committee: Influence on the Auditor-Client Relationship and Audit Quality

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SUMMARY: Researchers and practitioners have expressed the need to understand better the interactions between audit committees and auditors and how these interactions affect audits. Former partners affiliated with the external auditor and serving on the audit committee are a subset of audit committee members who can affect the audit. Consistent with social identity theory, we find that companies with an affiliated partner on their audit committee are less likely to dismiss the member's former firm than companies without the affiliation. Further, we find improved audit quality and increased effectiveness of auditor effort when affiliated partners serve on the audit committee. Finally, this quality improvement occurs contemporaneously with a reduction in audit fees and time spent on fieldwork, suggesting increased efficiency. Our study provides evidence that affiliated former partners on audit committees extend the tenure of the auditor-client relationship while also improving audit processes and outcomes.

JEL Classifications: M4; M42; G3.

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I. INTRODUCTION

Publicly traded companies' audit committees are responsible for hiring, compensating, overseeing, and reviewing the external audit firm (Sarbanes-Oxley Act, [U.S. House of Representatives 2002](#)). However, prior literature has primarily focused on management's role in coordinating the audit, with less evidence on the audit committee's role (e.g., [Dhaliwal, Lamoreaux, Lennox, and Mauler 2015](#)). Because regulations require audit committees to have financial expertise, former public accounting partners are especially attractive candidates for audit committee positions ([Guy and Zeff 2002](#)). Thus, former partners potentially oversee audits performed by their former employer. We rely on social identity theory to predict the

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effect of affiliated, former Big 4 partners, on the tenure of the auditor-client relationship and audit quality while also controlling for management's affiliation with the audit firm.

Partners in public accounting accumulate years of valuable accounting, audit, and financial reporting experience across a broad spectrum of clients. Prior research has considered the effect of affiliated partners on audits and auditor-client relationships but has focused primarily on partners in management positions (Menon and Williams 2004; Lennox 2005; Lennox and Park 2007; Dhaliwal et al. 2015). Because of the audit committee's elevated post-SOX role, we focus exclusively on audit committees with former audit firm partners as members and examine the effect of these affiliations on audit firm dismissal and audit quality.

We base our predictions on psychology's social identity theory, which predicts that partners develop strong connections with their audit firm during employment—in psychology parlance, they “identify” with the organization. Identification with the organization results in a better understanding of the audit firm, more support for and commitment to the firm as an organization, and more positive evaluations of the firm (Ashforth and Mael 1989). Prior work also suggests that these identification schemas persist after leaving the firm (Steele 1988). While prior literature finds that affiliated partners in management positions are more likely to hire their former firm (Lennox and Park 2007; Dhaliwal et al. 2015), it is the audit committee that is responsible for hiring, overseeing, and evaluating the external auditor. Therefore, in our setting, social identity theory suggests an audit committee affiliation effect on decisions to retain or dismiss the audit firm for the next year's audit.

In addition to its effect on audit firm evaluation, it is important to examine the effect of an affiliated audit committee on audit quality. Prior studies that focused on affiliated management warn of lower audit quality linked to affiliated partners, ostensibly because audit firms are more hesitant to challenge aggressive accounting decisions made by a former partner of their firm (Menon and Williams 2004; Lennox 2005). However, recent research suggests concerns about affiliated management are not as prevalent post-SOX (Dhaliwal et al. 2015). Further, concerns about a loss of auditor objectivity should be lower when the affiliated partner serves on the audit committee because the committee's financial reporting quality objectives align with the audit firm. Social identity theory suggests that affiliated partners can use their knowledge of, and identification with, the audit firm to improve the audit process and the communication between the two parties. Thus, in our setting, social identity theory predicts that affiliated partners serving on audit committees are likely to improve audit quality.

We use publicly available data compiled by BoardEx to identify the affiliation of audit committee members that were former partners of a Big 4 firm. We focus on partner-level affiliations because partner experience with the audit firm is both more extensive and more recent, thus increasing the strength of the affiliation (Iyer, Bamber, and Barefield 1997) and the power of our tests. Further, this focus on former partners distinguishes our study from other concurrent work (e.g., He, Pittman, Rui, and Wu 2017).

Using a sample of Big 4 audit clients between 2004 and 2012, we first replicate prior research (Lennox and Park 2007; Dhaliwal et al. 2015) and find that the affiliation between management and the audit firm affects audit firm selection. We then extend prior research by providing new evidence that audit committee affiliations incrementally increase the likelihood of hiring the affiliated audit firm. Next, using entropy-balanced samples to account for fundamental differences between audit committees that hire affiliated partners and those that do not, we find that audit committee-audit firm affiliations affect the likelihood of audit firm dismissals. Controlling for management's affiliation with the audit firm (Dhaliwal et al. 2015) and general auditor-client compatibility (Brown and Knechel 2016), we find that companies with affiliated partners on the audit committee are significantly less likely to dismiss the audit committee member's former audit firm in the next year. This result is consistent with social identity theory and provides empirical support of survey results suggesting that former auditors are apt to provide benefits to their former firm (Iyer et al. 1997).

Understanding the effect of audit committee affiliations on auditor choice and subsequent evaluation is important. However, it is also important to understand whether the affiliation impairs or improves audit quality. Using the likelihood of subsequent restatement (Christensen, Glover, Omer, and Shelley 2016; DeFond and Zhang 2014) and the failure to report a material weakness in a timely manner (Rice and Weber 2012; PCAOB 2015) as proxies for audit quality, we find an association between affiliated audit committees and higher audit quality. Additionally, we find an association between affiliated audit committees and increased effectiveness of auditors' efforts in reducing the likelihood of subsequent restatement (Lobo and Zhao 2013). Thus, while studies have previously expressed concerns about affiliated former partners negatively affecting audit quality (Menon and Williams 2004; Lennox 2005), we find evidence that affiliated partners serving on audit committees improve the effectiveness of the external audit function.

In additional analyses, we find no evidence that affiliated audit committees seek to enrich their former audit firm through higher audit fees in the current year. We find that companies with affiliated partners on the audit committee, on average, pay 3.0 percent lower audit fees than other companies. This result complements Naiker, Sharma, and Sharma (2013), who find that companies with affiliated partners on the audit committee pay lower non-audit service fees to their former audit firm. Second, we find an association between companies with affiliated partners on the audit committee and shorter audit report lags. Combining these report lag results with those relating to audit quality and fees, we document that affiliated audit committees

appear to improve audit efficiency, consistent with greater knowledge of both the client *and* the audit firm. Thus, while affiliated partners on the audit committee retain their former audit firm longer on average, we find no evidence that this affiliation results in inappropriate favoritism toward the audit firm that compromises audit quality.

Our study makes several contributions to the academic literature. First, our study contributes to the existing audit literature on how former partners serving in governance roles influence the financial reporting process. Prior literature shows these affiliated audit committee members affect non-audit fees (Naiker et al. 2013) and internal controls (Naiker and Sharma 2009). We contribute to this literature by providing evidence that affiliation affects both the quality and the efficiency of the audit. Additionally, we answer calls for more research on the interactions between audit committees and external audit firms (CAQ 2013, 2015; DeFond and Zhang 2014). We provide evidence that audit committees with affiliated partners affect the relationship between clients and their external auditors, as well as the quality of the audit, consistent with the intended effect of Sarbanes-Oxley.

We also contribute to three broader research streams. First, we provide additional evidence on the role of social identity theory in an accounting setting. We provide new evidence that affiliated partners on the audit committee affect not only auditor choice but also auditor dismissal decisions and audit quality. Second, prior literature has documented that accounting-specific expertise on boards is effective in maintaining financial reporting quality (e.g., Krishnan and Visvanathan 2008). We provide evidence of one specific type of accounting expertise that is beneficial to audit quality. Third, we contribute to the corporate governance literature by presenting evidence of increased process efficiency resulting from the joint efforts of two complementary governance mechanisms: the audit committee and the external auditor.

Finally, our results contribute to practice. Our study helps to clarify the conditions in which affiliated partners are beneficial in the financial reporting process. While prior literature has voiced concerns about affiliated partners' effect on audit quality, we provide evidence that affiliated partners serving on audit committees appear to improve audit quality and efficiency. This evidence should be of interest to boards of directors when deciding whether to hire former partners. Additionally, given other governance checks and balances in place in the current environment, our results suggest that rules restricting former partners from serving on audit committees until after completing a cooling-off period could delay qualified individuals from improving the audit process and the resulting financial reporting quality of financial statements.

II. BACKGROUND LITERATURE AND HYPOTHESES

The Sarbanes-Oxley Act of 2002 (SOX) legislates the composition and duties of audit committees, assigning audit committees direct responsibility for the "appointment, compensation, retention and oversight of the work of any registered public accounting firm" (SEC 2003a). Because of this responsibility, our study focuses on the audit committee's interactions with the audit firm instead of management's. Below, we discuss the interactions between audit committees and clients, with particular emphasis on the role of affiliated former partners serving on the audit committee.

Auditor Selection

To begin the discussion of the audit committee-auditor relationship, we briefly examine the initial selection of the audit firm before discussing its subsequent evaluation. Although social identity theory predicts a positive association between an audit committee member's public accounting affiliation and audit firm choice, Lennox and Park (2007) and Dhaliwal et al. (2015) do not find an association between audit committee affiliation and audit firm selection. However, these studies measure committee member affiliation based on any prior employment at the audit firm. Because social identity theory suggests that an individual's tenure with an organization affects the depth of the individual's organizational identification (Iyer et al. 1997), we extend these studies by focusing exclusively on audit committees that have former partners as members. We follow their approach and model audit firm selection individually for each Big 4 firm.

In an untabulated analysis, we find that former KPMG partners on the audit committee are more likely to choose KPMG in the next year (p -value < 0.01 , untabulated). This effect exists while controlling for and replicating the management affiliation effect evidenced in the prior literature. This result is consistent with social identity theory and provides weak evidence that familiarity between the audit committee and the audit firm significantly increases the likelihood of choosing an affiliated audit firm. Because the prior literature documents the association between audit firm selection and former partner affiliation among management (e.g., Lennox and Park 2007), we focus on the subsequent decision to dismiss the audit firm and on the quality of the audit.

Audit Firm Evaluation and the Dismissal Decision

Because data related to audit committee discussions and decisions is limited, little evidence exists on how a company's audit committee evaluates the audit firm. Prior literature suggests that companies evaluate audit firms more critically after

negative financial reporting events, evidenced by higher audit firm dismissal rates following restatement announcements and overly conservative going concern opinions (DeFond and Subramanyam 1998; Hennes et al. 2014). Client characteristics also affect the dismissal decision. Large, growing companies with increasing debt tend to dismiss smaller audit firms and engage larger audit firms (DeFond 1992; Johnson and Lys 1990). Companies also change audit firms when their disclosure style does not match that of the audit firm's client portfolio (Brown and Knechel 2016), and some companies dismiss their audit firms because of high audit fees (Ettredge, Scholz, and Li 2007).

There is limited evidence in the literature of the audit committee's influence on audit firm selection, oversight, and evaluation. Some prior studies report results consistent with audit committees exercising their legislated responsibility to oversee and evaluate the audit firm. Beasley, Carcello, Hermanson, and Neal (2009) interviewed more than 40 audit committee members, who reported significant involvement in the audit firm selection and evaluation process. Almer, Philbrick, and Rupley (2014) also surveyed audit committee members and reported that while management is a crucial source of information about the audit firm, the audit committee makes the final decision. Abbott and Parker (2000) find evidence that more independent and active audit committees are more likely to choose specialist audit firms, and Carcello and Neal (2003) find that more independent audit committees are protective of audit firms issuing new going concern opinions. These studies suggest that some audit committees actively engage in the audit firm selection and evaluation processes.

An unexplored aspect of the audit firm evaluation process is the influence of an *affiliated partner* on the audit committee. Because regulations require at least one financial expert among audit committee members, former partners are attractive candidates for audit committee appointments (Guy and Zeff 2002).¹ Potential conflicts of interest exist when former audit firm partners contribute to decisions about audit service providers. Thus, the SEC prohibits audit firms from auditing clients with individuals in financial reporting oversight positions who have a continuing financial interest in the audit firm. Sarbanes-Oxley also requires a one-year "cooling off" period before former audit firm employees can assume financial reporting oversight roles, including audit committee appointments (SEC 2003b). However, companies can appoint audit committee members who previously worked for their current audit firm after the cooling-off period expires and the audit committee member severs financial ties with the audit firm.²

We rely on social identity theory to form our expectations about the effect of affiliated partners on the audit firm evaluation process. Social identity theory posits that individuals assign themselves and others into groups (Tajfel and Turner 1985). This process helps individuals organize and compartmentalize their personal and social environments, while also providing a broader sense of self (Ashforth and Mael 1989). One category extensively examined in the management literature is organizational identification. Organizational identification is the effect of participation with, and in, an organization. By identifying with an organization, individuals see themselves as part of a larger group with common goals and interests. With this identification, individuals become more committed to the organization (Ashforth and Mael 1989) and provide more favorable evaluations than individuals without the same identification (Turner 1982, 1984).

Based on the construct of social and organizational identification, Iyer et al. (1997) develop a model hypothesizing that auditors identify with their employer. Steele (1988) argues that individuals maintain their identification categories over time. Because individuals can identify with multiple groups concurrently (Ashforth and Mael 1989), auditors are likely to continue to identify with their former audit firm even after ending employment. Thus, Iyer et al. (1997) hypothesize that former auditors are willing to provide benefits to the firm in the form of audit work or referrals. Their survey results support their hypothesis, and they find that former partners were inclined to benefit their former employer, although this inclination was not necessarily intentional.

Given that audit committees have the responsibility to evaluate and determine whether to dismiss the audit firm, results from Iyer et al. (1997) and social identity theory predict that former partners on the audit committee would be less likely to dismiss their former firm as the external auditor. Therefore, we state our first hypothesis in the alternative as follows:

H1: Companies with a former Big 4 partner on the audit committee are less likely to dismiss that committee member's former firm as the external auditor.

Audit Quality

Our second hypothesis examines affiliated audit committee members' effect on the quality of the audit. Prior literature on the audit-quality effect of affiliated former partners with financial reporting oversight primarily focuses on affiliated partners

¹ Experts recommend that audit committees enhance their financial expertise by having at least one former auditor on the audit committee (White 2014). Further, Hogan, Schmidt, and Thompson (2015) find that audit committee members face increasing litigation risk. The authors posit that such risk could discourage individuals from serving as audit committee members. In this case, the need for qualified audit committee members has only increased post-SOX.

² The NYSE and NASDAQ exchanges expand this cooling-off period to three years when defining an independent director (SEC 2003c).

serving as management. The primary theoretical concern in this setting relates to reduced auditor objectivity if auditors feel pressured to accept management's aggressive accounting decisions because a former partner of the audit firm made the decision. Two studies find results consistent with these concerns. [Menon and Williams \(2004\)](#) examine a sample of companies from 1998 to 1999 and document higher discretionary accruals (i.e., lower audit quality) when an officer or director of a company is a former partner of the audit firm. Similarly, [Lennox \(2005\)](#) examines a sample of SEC registrants from 1995 to 1998 and finds that companies led by affiliated executives have lower audit quality. These results are consistent with audit firms' aligning their interests with those of their clients when an affiliation exists and thus give credence to concerns about auditor objectivity.³

However, it is unclear *ex ante* whether we will observe similar affiliation-related reductions in audit quality in our setting. First, given the fundamental shifts in governance and the audit environment since the publication of those studies, it is unclear whether the previously documented, detrimental effects of affiliated management remain a concern. Consistent with this notion, [Dhaliwal et al. \(2015\)](#) conclude that no consistent evidence exists that affiliated partners in management roles negatively affect auditor independence post-SOX.

Second, even if management affiliation negatively affects auditor independence in the current environment, it is not clear that the same dynamics will transfer to the audit committee because the respective roles and objectives of management and the audit committee are fundamentally different. Management has the fiduciary responsibility to maximize profit for shareholders and is responsible for generating the financial statements scrutinized by auditors; however, the audit committee oversees the financial reporting process and has the responsibility to "maintain and further enhance audit quality by diligently discharging their responsibilities and creating appropriate incentives for auditors to do their best work" ([Hanson 2016](#)). Thus, while management and auditors have inherent conflicts, the audit committee's goals closely align with the auditor's. Any potential loss of objectivity on the part of the auditor from working with an affiliated audit committee member is less likely to affect audit quality negatively.

Third, because of their responsibility to oversee the audit process, affiliated audit committees can directly *improve* the quality of the audit. Social and organizational identification can increase group cohesion and cooperation ([Turner 1982, 1984](#)). Because cohesion is often associated with improved performance and efficiency ([Beal et al. 2003](#); [Mathieu et al. 2008](#)), social identity theory predicts that having an affiliated audit committee overseeing the audit process will improve audit quality. Affiliated partners can provide the audit committee with a more informed perspective on the audit firm's processes, procedures, and terminology. This personal knowledge of the audit firm can help improve communication, further improving the quality of the audit ([Pfeffer 1983](#); [Smith et al. 1994](#)).⁴ Prior literature provides evidence that these former partners on the audit committee bring valuable skills to the audit and financial reporting process, demonstrated by the association between affiliation and improved internal controls ([Naiker and Sharma 2009](#)).

Alternatively, we note that [He et al. \(2017\)](#) examine the effect on audit quality of social ties between Chinese auditors and audit committees. Contrary to our discussion above, the study finds lower audit quality in the presence of social ties. This result is consistent with reduced auditor objectivity in the presence of existing relationships with the audit committee. However, there are several reasons why results from [He et al. \(2017\)](#) would not replicate in our setting. First, the less-restrictive regulatory setting in China is less effective at reducing potential conflicts of interest between the auditor and the client than the post-SOX U.S. setting. This argument is supported by results in [Dhaliwal et al. \(2015\)](#) indicating that previous concerns about a lack of auditor independence in the presence of affiliated management are less pervasive post-SOX.

Second, our sample consists of only clients of Big 4 audit firms, while a Big 4 audit firm audits only 6 percent of the sample in [He et al. \(2017\)](#). Further, among a sample of only Big 4 clients, [He et al. \(2017, 80\)](#) report no evidence of reduced audit quality in the presence of social ties. Third, while [He et al. \(2017\)](#) examine broader social ties including common educational experience, teacher-student relationships, and any employer affiliation, our focus is on former audit partners whose affiliations developed through long-lasting professional relationships in public accounting. Finally, while [He et al. \(2017\)](#) use social connections in the colloquial sense, our affiliations better represent social identification with a given audit firm that occurs and strengthens through repeated interactions over time ([Iyer et al. 1997](#)). Thus, despite results in [He et al. \(2017\)](#), we

³ We control for affiliated management in all regressions.

⁴ We coordinated with the Center for Audit Quality and The Tapestry Network to survey 46 active audit committee members to provide further insights into this setting (IRB approval obtained). Our participants have 12 years of audit committee experience on average, and over 95 percent have experience as an audit committee chair. Respondents indicate that effective communication between the audit engagement team and the audit committee is important for a positive evaluation. The first, second, and third most important factors in evaluating the audit firm relate to communication between the audit team and the audit committee. These survey results indicate that communication between the audit committee and the audit firm is influential in the retention decision and would be improved with audit committee-audit firm affiliations. Thus, these survey results support the general premise of our study and provide additional, nuanced evidence on the relationship between the audit committee and the external audit firm.

expect that affiliated partners, serving on U.S. audit committees of Big 4 clients, improve audit quality. Therefore, we state our second hypothesis in the alternative as follows:

H2: Companies with an affiliated, former Big 4 partner on the audit committee are associated with higher audit quality.

III. SAMPLE SELECTION AND RESEARCH METHOD

Sample Selection

We obtain a sample of former Big 4 partners and their audit committee and management appointments from BoardEx, which reports the employment history of board members and management.⁵ We combine this BoardEx data with the identity of the company's external auditor per Audit Analytics to identify affiliated audit committee members and affiliated management. We also gather financial statement and business segment data from Compustat, audit-related data from Audit Analytics, and additional board information from Morningstar. We eliminate observations with negative or missing assets, as well as observations with missing values for audit fees and control variables.⁶ Consistent with [Lennox and Park \(2007\)](#), we limit our analyses to Big 4 audit firms and their clients. We also limit our sample period to the post-SOX period to focus on an environment with consistent audit committee expectations. Our final sample includes 22,840 company-year observations from 2004 to 2012.

Audit Firm Dismissal

H1 examines whether having an affiliated partner on the audit committee affects the audit committee's dismissal decision. We use the following logistic regression model with covariates balanced through entropy balancing^{7,8} to estimate the likelihood of a company dismissing its audit firm in year $t+1$:

$$\begin{aligned} Pr(DISMISS_{t+1}) = & \beta_0 + \beta_1 AC_CONNECT_{it} + \beta_2 AC_OTHER_{it} + \beta_3 MGMT_CONNECT_{it} + \beta_4 MGMT_OTHER_{it} \\ & + \beta_5 MATCH_{it} + \beta_6 LNAT_{it} + \beta_7 MB_{it} + \beta_8 ROA_{it} + \beta_9 LOSS_{it} + \beta_{10} LEV_{it} + \beta_{11} BUS_SGMT_{it} \\ & + \beta_{12} MW_{it} + \beta_{13} RESTATE_ANNOUNCE_{it} + \beta_{14} TENURE_{it} + \beta_{15} REPORT_LAG_{it} \\ & + \beta_{16} EXPERT_{it} + \beta_{17} CEO_CHAIR_{it} + \beta_{18} LN_AF_{it} + \beta_{19} LN_NAF_{it} + \beta_{20} PERCFINEXPERT_{it} \\ & + \beta_{21} PERCIND_{it} + \beta_{22} ACMEET_{it} + Year\ Fixed\ Effects + Industry\ Fixed\ Effects + \varepsilon \end{aligned} \quad (1)$$

The dichotomous dependent variable is *DISMISS*, equal to 1 for audit firms dismissed in year $t+1$ per SEC filings, and equal to 0 otherwise. The independent variable of interest is *AC_CONNECT*, a dichotomous variable equal to 1 if at least one audit committee member in year t was a former partner at the company's audit firm, and 0 otherwise.⁹ If the affiliation between the audit committee and an audit firm influences the tenure of the auditor-client relationship as predicted by social identity theory, we expect a negative association between audit committee-audit firm affiliations (β_1) and the decision to dismiss the affiliated audit firm. Importantly, we control for unaffiliated Big 4 partners on the audit committee (*AC_OTHER*) in all regressions. By including both *AC_CONNECT* and *AC_OTHER* in the regression, we can distinguish between the affiliation effect (i.e., *AC_CONNECT*) and increased financial expertise or some other characteristic related to having a former partner on the audit committee.

Because we examine the effect of affiliations between the audit committee and the audit firm, it is important to control for other elements of similarity between the client and the audit firm. Therefore, we control for the effect of management's affiliation with audit firms (e.g., [Lennox and Park 2007](#)) by including *MGMT_CONNECT*, a dichotomous variable equal to 1 if the company's CEO or CFO in year t was a former partner of the company's audit firm. We also control for unaffiliated former partners in management roles (*MGMT_OTHER*). Further, [Brown and Knechel \(2016\)](#) find that companies choose the audit firm

⁵ In capturing former Big 4 partners, we also capture predecessor firms such as Coopers & Lybrand, Ernst & Whinney, etc.

⁶ After removing missing data and non-positive assets and audit fees, we winsorize continuous variables at the 99 and 1 percent level to adjust for outliers. We do not separately winsorize continuous variables already adjusted for outliers through taking the natural log.

⁷ We balance on the covariate means for all independent variables in our regression. We provide additional discussion of entropy balancing in the "Results" section.

⁸ Results are robust to using various regression techniques including Firth logistic regression that adjusts for infrequent events and a linear probability model. We do not use Poisson or negative binomial models because the dependent variable is binary.

⁹ In an untabulated analysis, we replace the dichotomous version of *AC_CONNECT* with a continuous measure of the number of affiliated audit committee members. Our results are consistent using this alternative specification.

with client disclosure practices that best match their own. We follow [Lennox and Park \(2007\)](#) to control for the client’s general “fit” in the portfolio as measured by *MATCH*.

We also include controls for company and audit engagement characteristics that can affect the audit firm dismissal decision. Because client size is a significant predictor of auditor-client alignment ([Lawrence, Minutti-Meza, and Zhang 2011](#)), we control for client size using logged total assets (*LNAT*). We control for growth and profitability (*MB*, *ROA*, *LOSS*), and client complexity using leverage, the number of business segments, and the presence of a material weakness (*LEV*, *BUS_SGMT*, *MW*). We also control for restatement announcements in year *t* (*RESTATE_ANNOUNCE*) because companies are more likely to change audit firms following a financial statement restatement ([Hennes et al. 2014](#)). To the extent that the contemporaneous length of the auditor-client relationship affects audit committees’ dismissal decisions, we control for the tenure of the auditor-client relationship in year *t* measured in years (*TENURE*).

We also control for the audit report lag (*REPORT_LAG*) and the audit firm’s industry expertise (*EXPERT*) because longer fieldwork periods and audit firm expertise could factor into the audit committee’s evaluation of the audit firm and the decision to dismiss. We control for general board independence using an indicator variable equal to 1 if the CEO is the board chairperson (*CEO_CHAIR*). Further, we control for total audit fees (*LN_AF*) because the prior literature suggests audit firm dismissal because of increased audit fees ([Ettredge et al. 2007](#)) and we use period *t* non-audit fees to control for potential audit firm independence concerns (*LN_NAF*). Finally, we include three general audit committee-related variables to control for other characteristics of the audit committee. These variables include the percentage of audit committee members classified as financial experts (*PERCFINEXPERT*), the percentage of audit committee members who are independent of the company (*PERCIND*), and audit committee effort measured by the number of audit committee meetings held that year (*ACMEET*).¹⁰ We also include fixed effects for year and industry.¹¹ We describe all variables in Appendix A.

Audit Quality

[Christensen et al. \(2016\)](#) and [DeFond and Zhang \(2014\)](#) identify subsequent financial statement restatements as the most direct signal of lower audit quality used in the current literature. Thus, we use subsequent financial statement restatements as our primary proxy for audit quality. However, because audit quality is a multifaceted construct that is difficult to measure using a single variable, we also use the late filing of a material weakness as a second proxy. Failing to report a material weakness when subsequent information indicates that a material weakness existed is an element of audit quality previously studied by academics ([Rice and Weber 2012](#)) and is a PCAOB audit-quality indicator ([PCAOB 2015](#)). While the construct of timely material weakness reporting is related to subsequent restatements, it represents the unique element of the audit surrounding internal controls.

H2 predicts higher audit quality for companies with affiliated audit committee members. We test this hypothesis by estimating the following logistic model with covariates balanced using entropy balancing:

$$\begin{aligned}
 \text{AUDITQUALITY} = & \beta_0 + \beta_1 \text{AC_CONNECT}_{it} + \beta_2 \text{AC_OTHER}_{it} + \beta_3 \text{MGMT_CONNECT}_{it} + \beta_4 \text{MGMT_OTHER}_{it} \\
 & + \beta_5 \text{MATCH}_{it} + \beta_6 \text{LNAT}_{it} + \beta_7 \text{LEV}_{it} + \beta_8 \text{MB}_{it} + \beta_9 \text{ROA}_{it} + \beta_{10} \text{AR_INV}_{it} + \beta_{11} \text{LOSS}_{it} \\
 & + \beta_{12} \text{BUS_SGMT}_{it} + \beta_{13} \text{FOREIGN}_{it} + \beta_{14} \text{SPECIAL}_{it} + \beta_{15} \text{LN_AF}_{it} + \beta_{16} \text{LN_NAF}_{it} \\
 & + \beta_{17} \text{MERGER}_{it} + \beta_{18} \text{FIN}_{it} + \beta_{19} \text{EXPERT}_{it} + \beta_{20} \text{TENURE}_{it} + \beta_{21} \text{CHANGE}_{it} + \beta_{22} \text{MW}_{it} \\
 & + \beta_{23} \text{REPORT_LAG}_{it} + \beta_{24} \text{PERCFINEXPERT}_{it} + \beta_{25} \text{PERCIND}_{it} + \beta_{26} \text{ACMEET}_{it} \\
 & + \text{Year Fixed Effects} + \text{Industry Fixed Effects} + \varepsilon
 \end{aligned}
 \tag{2}$$

Our dependent variable is either *MISSTATED* (1 for financial statement years subsequently restated, and 0 otherwise) or *LATE_MW* (1 for clean ICFR opinions but subsequently restated financial statements, and 0 otherwise).¹² *AC_CONNECT*, *AC_OTHER*, *MGMT_CONNECT*, *MGMT_OTHER*, and *MATCH* we defined previously. A negative and significant β_1 indicates that audit committee-audit firm affiliations are associated with increased audit quality as measured by a decreased likelihood of material misstatement or late reporting of a material weakness. We include other control variables associated with audit quality (e.g., [Cao, Myers, and Omer 2012](#)). These controls include size (*LNAT*), leverage (*LEV*), growth (*MB*), performance (*ROA*), complexity (*AR_INV*, *LOSS*, *BUS_SGMT*, *FOREIGN*, *SPECIAL*, *MERGER*, *FIN*), and audit-related characteristics (*LN_AF*,

¹⁰ To avoid losing data that lack governance data from Morningstar and/or BoardEx, we set missing values of these three variables to 0 and then include two untabulated control variables, each equal to 1 if the company was missing director information or audit committee meeting frequency, respectively. Inferences are consistent if we do not include these governance variables or if we do not set missing governance values to 0. We thank the editor and reviewers for suggesting the inclusion of these governance variables.

¹¹ We do not cluster standard errors because of an insufficient number of observations per cluster, and an imbalance of observations across clusters, in our dataset ([Cameron and Miller 2015](#)).

¹² Note that this *MISSTATED* is different from *RESTATE_ANNOUNCE* used in Equation (1). Specifically, *MISSTATED* is equal to 1 in the year that was misstated and required subsequent restatement, while *RESTATE_ANNOUNCE* is equal to 1 in the year of the restatement announcement.

TABLE 1
Descriptive Statistics
Full Sample

Variable	n	Mean	Median	Std. Dev.
Variables of Interest				
<i>AC_CONNECT</i>	22,840	0.06	0.00	0.23
<i>AC_OTHER</i>	22,840	0.13	0.00	0.34
<i>MGMT_CONNECT</i>	22,840	0.02	0.00	0.14
<i>MGMT_OTHER</i>	22,840	0.02	0.00	0.15
<i>MATCH</i>	22,840	0.37	0.00	0.48
<i>DISMISS</i>	22,840	0.03	0.00	0.18
<i>MISSTATED</i>	22,840	0.16	0.00	0.36
<i>LATE_MW</i>	22,840	0.13	0.00	0.33
Control Variables—Dismissal Model				
<i>LNAT</i>	22,840	6.98	6.98	1.91
<i>MB</i>	22,840	2.73	1.98	5.86
<i>ROA</i>	22,840	-0.01	0.03	0.18
<i>LOSS</i>	22,840	0.36	0.00	0.48
<i>LEV</i>	22,840	0.23	0.18	0.25
<i>BUS_SGMT</i>	22,840	2.23	1.00	1.68
<i>MW</i>	22,840	0.05	0.00	0.23
<i>RESTATE_ANNOUNCE</i>	22,840	0.03	0.00	0.17
<i>TENURE</i>	22,840	11.41	8.00	9.27
<i>REPORT_LAG</i>	22,840	64.49	60.00	19.53
<i>EXPERT</i>	22,840	0.32	0.00	0.47
<i>CEO_CHAIR</i>	22,840	0.51	1.00	0.50
<i>LN_AF</i>	22,840	14.14	14.04	1.08
<i>LN_NAF</i>	22,840	9.74	11.34	4.60
<i>PERCFINEXPERT</i>	22,840	0.47	0.33	0.27
<i>PERCIND</i>	22,840	0.99	1.00	0.04
<i>ACMEET</i>	22,840	4.74	5.00	4.50
Additional Control Variables—Audit Quality Model				
<i>AR_INV</i>	22,840	0.24	0.20	0.20
<i>FOREIGN</i>	22,840	0.49	0.00	0.50
<i>SPECIAL</i>	22,840	0.67	1.00	0.47
<i>MERGER</i>	22,840	0.03	0.00	0.18
<i>FIN</i>	22,840	0.32	0.00	0.47
<i>CHANGE</i>	22,840	0.04	0.00	0.20

Descriptive statistics provide information on control variables used in tabulated results for Equations (1) and (2).

LN_NAF, *EXPERT*, *TENURE*, *CHANGE*, *MW*, *REPORT_LAG*).¹³ Additionally, we include the same three controls capturing audit committee characteristics included in Equation (1): *PERCFINEXPERT*, *PERCIND*, and *ACMEET*. We also include fixed effects for year and industry. By controlling for audit committees' other characteristics, including financial expertise, we can better isolate the effect of affiliation and its hypothesized effect on the audit. We define all variables in Appendix A.

IV. RESULTS

Descriptive Statistics

Our sample contains 22,840 company-year observations audited by Big 4 audit firms between 2004 and 2012, inclusive. Table 1 reports descriptive statistics for variables used in Equations (1) and (2). Regarding our variables of interest, 6 percent of

¹³ We do not include *MW* when estimating *LATE_MW* because it is part of how we define *LATE_MW*.

TABLE 2
Descriptive Statistics
by Subsamples

Variable	<i>AC_CONNECT</i> and <i>AC_OTHER</i>		<i>AC_CONNECT</i> Only		<i>AC_OTHER</i> Only		Any Former Partner on AC		No Former Partner on AC	
	n	Mean	n	Mean	n	Mean	n	Mean	n	Mean
<i>DISMISS</i>	83	0.01	1,190	0.02	2,975	0.02	4,248	0.02	18,592	0.04
<i>MISSTATED</i>	83	0.08	1,190	0.13	2,975	0.16	4,248	0.15	18,592	0.16
<i>LNAT</i>	83	7.78	1,190	7.19	2,975	7.29	4,248	7.27	18,592	6.91
<i>MB</i>	83	2.36	1,190	2.51	2,975	2.68	4,248	2.62	18,592	2.75
<i>ROA</i>	83	0.05	1,190	0.01	2,975	0.01	4,248	0.01	18,592	-0.01
<i>LOSS</i>	83	0.18	1,190	0.30	2,975	0.34	4,248	0.32	18,592	0.37
<i>LEV</i>	83	0.20	1,190	0.24	2,975	0.23	4,248	0.23	18,592	0.23
<i>BUS_SGMT</i>	83	2.28	1,190	2.21	2,975	2.31	4,248	2.28	18,592	2.21
<i>MW</i>	83	0.01	1,190	0.05	2,975	0.06	4,248	0.05	18,592	0.05
<i>RESTATE_ANNOUNCE</i>	83	0.01	1,190	0.02	2,975	0.03	4,248	0.03	18,592	0.03
<i>LATE_MW</i>	83	0.08	1,190	0.09	2,975	0.13	4,248	0.12	18,592	0.13
<i>TENURE</i>	83	10.59	1,190	13.53	2,975	11.76	4,248	12.24	18,592	11.22
<i>REPORT_LAG</i>	83	61.10	1,190	62.86	2,975	63.73	4,248	63.44	18,592	64.73
<i>EXPERT</i>	83	0.33	1,190	0.28	2,975	0.33	4,248	0.32	18,592	0.32
<i>CEO_CHAIR</i>	83	0.45	1,190	0.50	2,975	0.50	4,248	0.50	18,592	0.51
<i>LN_AF</i>	83	14.51	1,190	14.16	2,975	14.37	4,248	14.31	18,592	14.10
<i>LN_NAF</i>	83	10.62	1,190	9.84	2,975	9.81	4,248	9.83	18,592	9.71
<i>PERCFINEXPERT</i>	83	0.65	1,190	0.49	2,975	0.48	4,248	0.49	18,592	0.46
<i>PERCIND</i>	83	0.99	1,190	0.99	2,975	1.00	4,248	0.99	18,592	0.99
<i>ACMEET</i>	83	4.81	1,190	4.75	2,975	5.11	4,248	5.00	18,592	4.68
<i>AR_INV</i>	83	0.25	1,190	0.26	2,975	0.23	4,248	0.24	18,592	0.24
<i>FOREIGN</i>	83	0.53	1,190	0.48	2,975	0.50	4,248	0.50	18,592	0.49
<i>SPECIAL</i>	83	0.67	1,190	0.65	2,975	0.69	4,248	0.68	18,592	0.67
<i>MERGER</i>	83	0.05	1,190	0.04	2,975	0.03	4,248	0.03	18,592	0.03
<i>FIN</i>	83	0.35	1,190	0.31	2,975	0.30	4,248	0.30	18,592	0.32
<i>CHANGE</i>	83	0.02	1,190	0.03	2,975	0.03	4,248	0.03	18,592	0.04

Table 2 presents descriptive statistics across various subsamples. The first three subsamples (*AC_CONNECT* and *AC_OTHER*, *AC_CONNECT* only, and *AC_OTHER* only) together comprise the fourth subsample (Any Former Partner on AC). Bolded values represent significant differences between Any Former Partner on AC and No Former Partner on AC (p-value < 0.05).

audit committees in the sample have at least one audit committee member who was a partner at the current audit firm (*AC_CONNECT*). Alternatively, 2 percent of companies have a CEO/CFO affiliated with the current audit firm (*MGMT_CONNECT*). Three percent of our company-year observations dismiss their audit firm in the next year (*DISMISS*), and 16 percent of our company-year observations have subsequently restated financial statements (*MISSTATED*), consistent with the prior literature (Newton, Wang, and Wilkins 2013). Audit firms with at least a 30 percent share of audit fees at the national industry level (*EXPERT*) perform 32 percent of the audits in the sample. While the proportion of national expertise in our sample is higher than the 21 percent reported in Reichelt and Wang (2010), it reflects our focus on Big 4 audit clients. Companies in our sample paid \$1.4 million in audit fees on average (*LN_AF*), had average assets of \$1.1 billion (*LNAT*), and released the audit report 64 days after year-end (*REPORT_LAG*). These statistics indicate a sample of large companies with accelerated filing dates.

To provide further insights about our sample, Table 2 presents descriptive statistics for five subsamples separated by the extent to which affiliated or unaffiliated former partners serve on the audit committee. The first column presents observations that have at least one of both an affiliated and an unaffiliated former partner serving on the audit committee (n = 83). Column 2 presents observations with at least one affiliated partner serving on the audit committee but no unaffiliated partners (n = 1,190). Column 3 presents observations with at least one unaffiliated partner on the audit committee but no affiliated partners (n = 2,975). Column 4 consolidates these first three columns and represents all observations with a former partner on the committee

regardless of affiliation ($n = 4,248$). Column 5 includes all observations without a former partner on the audit committee ($n = 18,592$). We present information for these groups to provide evidence on the extent to which audit committees with former partners are systematically different from other audit committees.

When comparing audit committees with only affiliated partners to those with only unaffiliated partners (i.e., Columns 2 and 3), we find that companies with affiliated audit committee members are less likely to restate their financial statements (*MISSTATED*, p -value < 0.05 , untabulated) or report material weaknesses late (*LATE_MW*, p -value < 0.05 , untabulated), pay lower audit fees (*LN_AF*, p -value < 0.05 , untabulated), engage their audit firms longer (*TENURE*, p -value < 0.05 , untabulated), and have audit committees that meet less frequently (*ACMEET*, p -value < 0.05 , untabulated).¹⁴ However, the two groups have similar performance (*ROA*) and complexity (*BUS_SGMT*), among other dimensions. These comparisons provide initial evidence of positive associations between affiliated audit committees, tenure, and audit quality, consistent with social identity theory.

Columns 4 and 5 of Table 2 provide descriptive statistics for audit committees with any former partner and other audit committees with no former partners. Companies with former partners on the audit committee, regardless of affiliation, are significantly (p -value < 0.05) larger (*LNAT*), better performing (*ROA*), and have lower auditor dismissal rates (*DISMISS*). Therefore, we control for these characteristics in multivariate regressions. However, to more fully control for these between-group differences, we estimate all regressions using entropy balancing to remove differences between our treated group (companies with affiliated former partners on the audit committee) and available control group companies. This approach accounts for observed differences between those companies with an affiliated audit committee member (*AC_CONNECT* = 1) and other observations to ensure that results are not related to differences in model covariates. Entropy balancing is an alternative to propensity score matching that assigns weights to covariates from the control group such that it achieves exact covariate balance between treated and control groups (Hainmueller 2012; Hainmueller and Xu 2013). We implement this method using STATA's *ebalance* command for all tabulated regressions to achieve covariate balance on all covariates.

Finally, Table 3, Panels A and B, present univariate correlations. *AC_CONNECT* is negatively correlated with audit firm dismissals (*DISMISS*, p -value < 0.05) and both audit-quality metrics (*MISSTATED* and *LATE_MW*, p -value < 0.05). These results provide initial evidence that affiliations between the audit committee and audit firm reduce the likelihood of audit firm dismissal (H1) and improve audit quality (H2).¹⁵ Below, we examine these associations in a multivariate setting.

Multivariate Results

Audit firm evaluation

In Table 4, we report results from estimating Equation (1), which models the likelihood of dismissing the external auditor in year $t+1$. Based on social identity theory, H1 predicts that companies are less likely to dismiss audit firms when an audit committee-audit firm affiliation exists. In Table 4, after controlling for company- and audit-specific characteristics, including management-audit firm affiliations (*MGMT_CONNECT*) and the general "fit" between the company and the audit firm's client portfolio (*MATCH*), we find that companies are less likely to dismiss their audit firm in the next year if at least one audit committee member was a former partner at the current Big 4 audit firm (*AC_CONNECT*, p -value < 0.05).¹⁶ This result is economically significant; companies with at least one affiliated partner on the audit committee are 35 percent less likely to dismiss their audit firm in the next year than audit committees with no affiliation. Thus, results from Table 4 support H1 and provide evidence consistent with social identity theory and survey results from Iyer et al. (1997).

For the control variables included in Equation (1), we find that unaffiliated partners on the audit committee, on average, do not significantly affect the audit firm dismissal decision (*AC_OTHER*, p -value > 0.10). These results suggest that our results regarding *AC_CONNECT* do not relate to the greater public accounting experience of the partners inherent in both groups and instead represent an effect unique to affiliations. We also find that our results for clients with financial statement characteristics that better "fit" the audit firm's portfolio are directionally consistent with Brown and Knechel (2016) (*MATCH*, p -value = 0.18). For other control variables, larger clients (*LNAT*, p -value < 0.05) are less likely to dismiss their firm. Alternatively,

¹⁴ This result is consistent with subsequent audit quality results, suggesting fewer items that need discussion with the audit committee.

¹⁵ As previously discussed, we note that *MISSTATED* and *LATE_MW* are highly correlated ($r = 0.88$). This correlation is because in order for a clean internal controls opinion to be classified as untimely, a subsequent financial statement restatement is required. However, a high correlation does not imply complete overlap. Untabulated analysis suggests that our sample contains 521 observations that received a material weakness with no subsequent restatement, and 717 observations that received a material weakness and were subsequently restated. Thus, sufficient variation exists to infer a distinct result. Finally, obtaining similar results using two related proxies strengthens our confidence that both measures proxy for audit quality.

¹⁶ In untabulated analysis, we find no significant association between *AC_CONNECT* and subsequent audit firm resignations (p -value > 0.10).

TABLE 3
Univariate Correlations

Panel A: Univariate Variables DISMISS through ACMEET

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) DISMISS	1.00											
(2) MISTATED	0.03	1.00										
(3) LATE_MW	0.01	0.88	1.00									
(4) AC_CONNECT	-0.02	-0.02	-0.02	1.00								
(5) AC_OTHER	-0.02	0.00	0.01	-0.05	1.00							
(6) MGMT_CONNECT	-0.01	-0.02	-0.01	0.05	-0.01	1.00						
(7) MGMT_OTHER	-0.01	-0.00	-0.01	0.02	0.02	-0.01	1.00					
(8) MATCH	-0.03	-0.03	-0.03	-0.01	0.00	0.01	-0.01	1.00				
(9) LNAT	-0.11	-0.02	-0.01	0.03	0.07	0.05	0.06	0.00	1.00			
(10) MB	-0.02	-0.00	-0.01	-0.01	0.00	0.00	0.00	0.01	-0.06	1.00		
(11) ROA	-0.06	-0.01	0.01	0.02	0.04	0.01	0.01	-0.03	0.37	-0.01	1.00	
(12) LOSS	0.05	0.05	0.03	-0.04	-0.03	-0.01	-0.02	0.01	-0.34	0.00	-0.42	1.00
(13) LEV	0.00	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.22	-0.08	-0.05	0.05
(14) BUS_SGMT	-0.02	0.02	0.01	0.00	0.02	0.01	0.00	-0.02	0.26	-0.04	0.14	-0.13
(15) MW	0.07	0.28	-0.09	-0.01	0.00	-0.01	0.03	-0.02	-0.05	0.00	-0.04	0.06
(16) RESTATE_ANNOUNCE	0.02	0.32	0.15	-0.02	0.00	-0.01	0.00	-0.01	-0.02	0.00	0.00	0.03
(17) TENURE	-0.03	-0.02	-0.00	0.05	0.01	0.04	-0.02	-0.01	0.21	-0.01	0.13	-0.13
(18) REPORT_LAG	0.09	0.16	0.04	-0.02	-0.02	-0.02	0.00	-0.04	-0.28	-0.02	-0.16	0.15
(19) EXPERT	0.00	0.02	0.02	-0.02	0.01	0.02	-0.01	0.27	0.11	0.00	0.04	-0.04
(20) CEO_CHAIR	0.00	-0.01	-0.01	-0.01	-0.01	0.03	0.01	-0.01	0.14	-0.01	0.11	-0.12
(21) LN_AF	-0.09	0.03	0.01	0.01	0.08	0.05	0.08	-0.04	0.77	-0.03	0.23	-0.19
(22) LN_NAF	-0.04	0.00	0.00	0.01	0.01	0.04	0.00	0.00	0.26	0.00	0.12	-0.09
(23) PRECFINEXPERT	-0.03	-0.01	-0.01	0.03	0.02	0.00	0.02	-0.04	0.14	0.01	0.06	-0.05
(24) PERCIND	-0.01	-0.02	-0.01	0.00	0.01	-0.01	0.00	0.02	0.04	-0.01	0.02	-0.05
(25) ACMEET	-0.04	0.01	0.01	0.00	0.03	0.03	0.03	0.02	0.29	0.00	0.11	-0.14

For parsimony, correlation table only includes variables included in the auditor dismissal model (Equation 1). Pearson's correlations significant at the 0.05 level are in bold.

Panel B: Univariate Variables LEV through ACMEET

	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
(13) LEV	1.00											
(14) BUS_SGMT	0.06	1.00										
(15) MW	0.01	0.01	1.00									
(16) RESTATE_ANNOUNCE	0.02	0.00	0.33	1.00								
(17) TENURE	-0.01	0.19	-0.05	-0.02	1.00							
(18) REPORT_LAG	0.01	-0.07	0.32	0.15	-0.13	1.00						
(19) EXPERT	0.05	0.08	0.00	0.01	0.08	-0.02	1.00					
(20) CEO_CHAIR	0.04	0.06	-0.01	0.00	0.05	-0.05	0.04	1.00				
(21) LN_AF	0.15	0.34	0.06	0.01	0.26	-0.14	0.13	0.10	1.00			
(22) LN_NAF	0.03	0.13	-0.01	0.01	0.16	-0.10	0.07	0.05	0.35	1.00		
(23) PRECFINEXPERT	0.06	0.04	-0.02	-0.01	0.07	-0.09	0.01	0.00	0.16	0.07	1.00	
(24) PERCIND	-0.03	0.01	-0.01	-0.01	0.03	-0.05	0.00	0.02	0.02	0.00	0.06	1.00
(25) ACMEET	-0.01	0.11	-0.03	-0.02	0.11	-0.12	0.05	0.04	0.25	0.10	0.08	0.06

For parsimony, correlation table only includes variables included in the auditor dismissal model (Equation 1). Pearson's correlations significant at the 0.05 level are in bold.

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TABLE 4
The Effect of Affiliated Audit Committees on the Decision to Dismiss the Audit Firm

<u>Variable</u>	<u>$DISMISS_{t+1}$</u>
<i>AC_CONNECT</i>	-0.435** (0.018)
<i>AC_OTHER</i>	-0.289 (0.466)
<i>MGMT_CONNECT</i>	-0.159 (0.772)
<i>MGMT_OTHER</i>	-0.560 (0.162)
<i>MATCH</i>	-0.259 (0.182)
<i>LNAT</i>	-0.427*** (0.000)
<i>MB</i>	-0.012** (0.022)
<i>ROA</i>	-0.327 (0.536)
<i>LOSS</i>	-0.041 (0.851)
<i>LEV</i>	0.082 (0.746)
<i>BUS_SGMT</i>	-0.006 (0.902)
<i>MW</i>	0.839*** (0.004)
<i>RESTATE_ANNOUNCE</i>	-0.184 (0.691)
<i>TENURE</i>	-0.010 (0.190)
<i>REPORT_LAG</i>	0.003 (0.239)
<i>EXPERT</i>	-0.003 (0.988)
<i>CEO_CHAIR</i>	0.056 (0.748)
<i>LN_AF</i>	0.065 (0.665)
<i>LN_NAF</i>	-0.040** (0.038)
<i>PERCFINEXPERT</i>	-0.017 (0.962)
<i>PERCIND</i>	-1.796 (0.237)
<i>ACMEET</i>	0.099** (0.039)
Area Under ROC	0.739
Observations	22,840

***, **, * Indicate significance at the 0.01, 0.05, and 0.10 levels, respectively.

Equation (1) predicts the likelihood a company dismisses its current audit firm in the next year.

Independent variable of interest is *AC_CONNECT*, equal to 1 if at least one audit committee member is a former partner of a specific audit firm and that audit firm is also the audit firm for that company in year *t*. Estimates include year and industry fixed effects. p-values are stated beneath the coefficient. All p-values are two-tailed with the exception of *AC_CONNECT*, which H1 predicts will have a negative association with the dependent variable. All variables are defined in Appendix A.

companies that report a material weakness (*MW*, p -value < 0.01) are *more* likely to switch audit firms, which is consistent with internal control opinion shopping (Newton, Persellin, Wang, and Wilkins 2016).¹⁷

Audit quality

Table 5 provides evidence on the effect of audit committee-audit firm affiliations on audit quality. Model ROCs are slightly below 0.70, but the goodness of fit tests fail to reject the null hypothesis of adequate fit in both columns (Hosmer and Lemeshow 2000).

In Column 1, we find that companies with audit committee-audit firm affiliations in year t are significantly *less* likely to restate year t 's financial statements (*AC_CONNECT*, p -value < 0.01). The results are economically significant: companies with affiliated partners on the audit committee in year t are 21 percent less likely to restate the financial statements. We find similar results in Columns 2, that companies with affiliated partners on the audit committee are 26 percent less likely to be late in reporting material weaknesses (*AC_CONNECT*, p -value < 0.01).¹⁸ For other audit-related measures, we find no effect of *AC_CONNECT* on the likelihood of issuing a going concern opinion (p -value > 0.10 , untabulated), and we find some evidence of affiliated audit committees being less likely to announce a restatement (p -value = 0.02, untabulated). Thus, affiliated audit committee members appear to improve audit quality by preventing uncorrected material misstatements.

Importantly, we find *no* effect on audit quality for unaffiliated partners on the audit committee (*AC_OTHER*, p -value > 0.10 in both columns) further suggesting the unique effect of affiliation on the coordination between the audit committee and the audit firm. However, we do find evidence that former partners in management roles also improve audit quality in the post-SOX environment (*MGMT_CONNECT* and *MGMT_OTHER*, p -value < 0.01 and 0.05 , in Columns 1 and 2, respectively). This result suggests that social identity theory also applies to affiliated management. Thus, while pre-SOX literature found evidence of reduced audit quality associated with affiliated partners in financial reporting positions (e.g., Menon and Williams 2004), we extend Dhaliwal et al. (2015) with evidence that prior concerns about management affiliations with the audit firm are less evident in a more heavily regulated environment. In fact, the affiliated management effect is economically stronger in some settings than the affiliated audit committee effect (p -value comparing *AC_CONNECT* and *MGMT_CONNECT* < 0.05 in Columns 1 and 2, untabulated). However, evidence of a beneficial management affiliation effect does not preclude our focus on the effect of audit committees. Instead, it provides further evidence that management appears to play a more significant role in the audit process than SOX initially intended (Dhaliwal et al. 2015). Finally, we find that clients that are a better fit with the audit firm's client portfolio have higher audit quality (*MATCH*, p -value < 0.05 in both columns), consistent with Brown and Knechel (2016).¹⁹

Taken together, we find post-SOX evidence that audit quality *improves* when affiliated-former partners serve on the audit committee. Thus, we add to recent evidence suggesting that former audit partners on the audit committee improve the audit process, not only by improving the monitoring effectiveness of internal controls (Naiker and Sharma 2009), but also the quality of the audit.

V. ADDITIONAL ANALYSES

Results in Table 4 indicate that affiliated audit committees are less likely to dismiss their current audit firm, suggesting the potential for impaired oversight of the audit committee, while Table 5 provides evidence that affiliated audit committees *increase* audit quality. In this section, we perform additional tests to examine whether affiliated audit committees exhibit inappropriate favoritism toward the audit firm, how affiliated partners affect the audit process, and the unique role of audit committee chairs.

Audit Fees

In addition to lengthening the tenure of the audit firm, audit committees' favoritism could also manifest in higher audit fees. We explore this possibility by estimating an audit fee model using logged audit fees (*LN_AF*) as the dependent variable

¹⁷ We note that many control variables in Table 4 are insignificant. However, it is important to remember that we have used entropy balancing to balance covariates between those companies with affiliated former Big 4 partners on the audit committee and those without, thus affecting how covariates relate to the dependent variable. The insignificance is further evidence of the success in entropy balancing covariates of the treatment and control groups.

¹⁸ We estimate economic significance using the expression $\exp(\beta) - 1$, where β represents the coefficient of interest.

¹⁹ Table 5 presents evidence that associations exist between both auditor industry expertise (*EXPERT*) and longer auditor-client tenure (*TENURE*) and a higher likelihood of misstatement and a higher likelihood of late material weakness reporting. These results are opposite from prior literature. Regarding tenure, Table 3 indicates a significant, negative correlation between *TENURE* and *MISSTATED* and no correlation with *LATE_MW*. Thus, the unexpected multivariate results could be the result of controlling for the effect of *TENURE* through other control variables such as *CHANGE*. Regarding *EXPERT*, Table 3 indicates univariate results consistent with the multivariate results. Thus, the higher likelihood of misstatement and/or late material weakness reporting for companies audited by industry experts could be related to our sample composition.

TABLE 5
The Effect of Affiliated Audit Committees on Audit Quality

<u>Variable</u>	<u>MISSTATED</u>	<u>LATE_MW</u>
<i>AC_CONNECT</i>	-0.237*** (0.005)	-0.298*** (0.002)
<i>AC_OTHER</i>	-0.051 (0.765)	0.036 (0.831)
<i>MGMT_CONNECT</i>	-0.826*** (0.000)	-0.877*** (0.000)
<i>MGMT_OTHER</i>	-0.659** (0.021)	-0.508** (0.034)
<i>MATCH</i>	-0.193** (0.029)	-0.214** (0.021)
<i>LNAT</i>	-0.056 (0.244)	-0.089* (0.071)
<i>LEV</i>	0.230 (0.129)	0.277* (0.064)
<i>MB</i>	-0.001 (0.925)	-0.004 (0.501)
<i>ROA</i>	0.231 (0.468)	0.340 (0.278)
<i>AR_INV</i>	-0.323 (0.203)	-0.200 (0.448)
<i>LOSS</i>	0.042 (0.697)	0.059 (0.604)
<i>BUS_SGMT</i>	-0.008 (0.769)	-0.002 (0.951)
<i>FOREIGN</i>	-0.032 (0.771)	0.003 (0.975)
<i>SPECIAL</i>	0.045 (0.646)	0.058 (0.579)
<i>LN_AF</i>	0.010 (0.905)	0.027 (0.761)
<i>LN_NAF</i>	-0.025** (0.012)	-0.023** (0.023)
<i>MERGER</i>	0.056 (0.785)	0.128 (0.536)
<i>FIN</i>	0.133 (0.163)	0.162* (0.096)
<i>EXPERT</i>	0.385*** (0.000)	0.365*** (0.000)
<i>TENURE</i>	0.010** (0.043)	0.009* (0.086)
<i>CHANGE</i>	0.197 (0.400)	0.141 (0.572)
<i>MW</i>	2.299*** (0.000)	
<i>REPORT_LAG</i>	0.009*** (0.006)	0.003 (0.107)
<i>PERCFINEXPERT</i>	0.010 (0.952)	-0.024 (0.884)
<i>PERCIND</i>	1.129 (0.233)	0.768 (0.399)
<i>ACMEET</i>	0.048*** (0.009)	0.027 (0.174)

(continued on next page)

TABLE 5 (continued)

<u>Variable</u>	<u>MISSTATED</u>	<u>LATE_MW</u>
Area Under ROC	0.678	0.604
Goodness-of-Fit	0.804	0.525
Observations	22,840	22,840

***, **, * Indicate significance at the 0.01, 0.05, and 0.10 levels, respectively.

We report the estimates of Equation (2), which relates to audit quality. Estimates include year and industry fixed effects. p-values are stated beneath the coefficient. All p-values are two-tailed with the exception of *AC_CONNECT*, which H2 predicts will have a negative association with the dependent variable.

All variables are defined in Appendix A.

while controlling for audit firm and client characteristics included in previous audit fee models (DeFond and Zhang 2014). We control for client size (*LNAT*), number of business segments (*BUS_SGMT*), receivable (*RECT*) and inventory (*INVT*) balances scaled by total assets, debt (*LEV*), performance (*LOSS*, *ROA*), foreign income (*FOREIGN*), restatement announcements (*RESTATE_ANNOUNCE*), mergers and acquisitions (*MERGER*), growth (*MB*), and year-ends during the traditional busy season (*DEC_YE*). For audit firm characteristics, we control for the first year of the auditor-client relationship and subsequent tenure (*CHANGE*, *TENURE*), characteristics of the audit report (*MODIFY*, *REPORT_LAG*, *MW*), non-audit fees (*LN_NAF*), and audit office industry expertise (*EXPERT*). Finally, we control for the independence of the board (*CEO_CHAIR*), financial experts on the audit committee (*PERCFINEXPERT*), audit committee independence (*PERCIND*), and audit committee effort (*ACMEET*). We include fixed effects for year and industry.

Table 6 provides results of our audit fee test. We find no evidence that affiliated audit committees enrich their former firm with higher audit fees in the current year. Instead, we find some evidence of an association between affiliated audit committee members and lower audit fees (*AC_CONNECT*, p-value < 0.05). For other affiliation-related variables, we find no association between management affiliations and audit fees (*MGMT_CONNECT*, p-value > 0.10), but positive associations between unaffiliated former partners in management and on audit committees (*AC_OTHER* and *MGMT_OTHER*, p-value < 0.05).²⁰ This combination of results suggests that the presence of an audit committee- or management-audit firm affiliation does not lead to higher audit fees, which is inconsistent with former partners purposefully benefitting their previous employers through higher fees in the current year. While the extended auditor-client tenure documented in Table 4 suggests that total affiliated audit firm fees increase over time, Table 6 suggests that former audit partners do not inappropriately approve higher-than-expected fees for their former audit firm and, in some cases, suggests that affiliated partners are conservative with audit fees.

Relationship between Audit Fees and Audit Quality

The combination of higher quality (Table 5) and lower fees (Table 6) merits further examination. Because the literature uses audit fees as a proxy for auditor effort, and because Lobo and Zhao (2013) provide evidence of a negative association between audit fees and the likelihood of a subsequent restatement, our results appear inconsistent with the notion of higher effort improving audit quality.²¹ The theory presented in developing H2 suggests that affiliated audit committee members can help improve group communication and cohesion during the audit process. Thus, we suggest that affiliated audit committee members improve audit quality by working with the audit firm to perform the appropriate audit procedures, not merely more tests. In this case, audit teams could become more efficient and effective, thus improving quality while reducing hours (i.e., audit fees). Further, affiliated audit committees can help the existing level of auditor effort be more effective in reducing the risk of material misstatement.

²⁰ While auditors could perform more effort in the year of restatement announcements, we note that *RESTATE_ANNOUNCE* is negatively associated with audit fees. However, the model in Table 6 already controls for several elements that represent increased effort and could occur concurrently with a restatement announcement, including taking more time to issue the audit report (*REPORT_LAG*), issuing a modified audit opinion (*MODIFY*), and reporting the presence of a material weakness (*MW*). Thus, these other control variables could already represent the additional effort typically associated with restatement announcements. Consistent with this notion, Table 3 indicates the expected positive correlation between audit fees and *RESTATE_ANNOUNCE*.

²¹ To this point, it is important to note that audit fees are a noisy proxy of auditor effort. As noted by Knechel et al. (2013), fees are a function of inputs to the audit process, the audit process itself, and audit market factors. Thus, lower fees do not necessarily mean lower effort level by the auditor. Further, even when fees do perfectly proxy for audit hours incurred, Knechel et al. (2013, 394) notes that “audit hours per se are not necessarily indicative of bad or good audit quality; more important is the notion of how those hours are spent.”

TABLE 6
The Effect of Affiliated Audit Committees on Audit Fees

Variable	<i>LN_AF</i>
<i>AC_CONNECT</i>	-0.030** (0.032)
<i>AC_OTHER</i>	0.071** (0.015)
<i>MGMT_CONNECT</i>	0.008 (0.823)
<i>MGMT_OTHER</i>	0.172*** (0.000)
<i>MATCH</i>	-0.081*** (0.000)
<i>LNAT</i>	0.454*** (0.000)
<i>BUS_SGMT</i>	0.057*** (0.000)
<i>RECT</i>	0.000*** (0.001)
<i>INVT</i>	0.218*** (0.001)
<i>LEV</i>	0.048* (0.088)
<i>LOSS</i>	0.157*** (0.000)
<i>FOREIGN</i>	0.377*** (0.000)
<i>RESTATE_ANNOUNCE</i>	-0.124** (0.043)
<i>MERGER</i>	0.053* (0.085)
<i>MB</i>	0.001 (0.438)
<i>ROA</i>	-0.406*** (0.000)
<i>DEC_YE</i>	0.088*** (0.000)
<i>CHANGE</i>	-0.208*** (0.000)
<i>TENURE</i>	0.001 (0.239)
<i>MODIFY</i>	0.102*** (0.000)
<i>REPORT_LAG</i>	0.006*** (0.000)
<i>MW</i>	0.181*** (0.000)
<i>LN_NAF</i>	0.022*** (0.000)
<i>EXPERT</i>	0.121*** (0.000)
<i>CEO_CHAIR</i>	0.018 (0.201)
<i>PERCFINEXPERT</i>	0.082*** (0.001)

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TABLE 6 (continued)

Variable	LN_AF
PERCIND	-0.059 (0.665)
ACMEET	0.027*** (0.000)
R ²	0.778
Observations	22,840

***, **, * Indicate two-tailed significance at the 0.01, 0.05, and 0.10 levels, respectively. Dependent variable is LN_AF. Includes year and industry fixed effects.

We use two means to test this argument. First, we estimate the number of days before auditors issue the audit opinion (*REPORT_LAG*) using negative binomial regression (Wooldridge 2009). If affiliated audit committees improve audit efficiency, we expect that audit report lags will be shorter in the presence of these affiliated audit committees. We augment the control variables from our audit fee regression with *ACCEL_FILER* and *LN_AF* to be consistent with Knechel and Payne (2001).²² Results in Table 7 indicate an association between affiliated audit committees and significantly shorter report lags (*AC_CONNECT*, p-value = 0.048), while there is no association for unaffiliated audit committees (*AC_OTHER*, p-value > 0.10). This result is consistent with an association between affiliated audit committee-audit firm pairs and more efficient audits.

For our second test, we examine the moderating effect of affiliated audit committees on the ability of auditor effort to reduce the risk of material misstatement. Lobo and Zhao (2013) find that audit fees, which proxy for auditor effort, reduce the likelihood of subsequent restatements. While Table 6 suggests less auditor effort for affiliated audit committee-auditor pairs, the cohesion and improved communication hypothesized by social identity theory should serve to increase the effectiveness of incurred auditor effort. Thus, we estimate the likelihood of subsequent restatements, but augment Equation (2) with the interaction of *AC_CONNECT* and *LN_AF*. We expect a negative coefficient on the interaction, which would suggest an association between affiliated audit committees and an increased ability for auditor effort to reduce material misstatements. Table 8 indicates results consistent with this argument (*AC_CONNECT * LN_AF* negative and significant, p-value < 0.01).²³

The results from Tables 6 through 8 suggest no evidence that affiliated audit committees’ propensity to extend the length of the auditor-client relationship impairs audit quality. Instead, we find evidence of an association between this affiliation and both improved audit efficiency and effectiveness. This combination of results suggests that the governance mechanisms of the audit committee and the external audit firm are complementary when an affiliation between the two groups exists.

Audit Committee Chair

Our primary unit of observation is the audit committee. However, the audit committee chair, on average, could have more influence on the decision to retain an audit firm than other audit committee members. Therefore, we identify affiliations through the audit committee chair versus other audit committee members. More than 60 percent of the subsample of audit committee affiliations has former partners as audit committee chair. In untabulated analysis, we find that both affiliated and unaffiliated partners serving as audit committee chairs affect the audit firm dismissal decision. Thus, this result suggests that when partners serve as the audit committee chair, the unaffiliated former partners also have a substantial influence on the audit firm dismissal decision, indicating a general preference for audit committees chaired by former partners to maintain stability in the external audit firm. However, consistent with social identity theory, only affiliated partners also affect the decision to dismiss the firm when serving as non-chairs. Unaffiliated former partners serving as non-chairs on the audit committee have no significant effect on the dismissal decision, further supporting the argument that affiliation has a unique effect on the auditor-client relationship.

²² Our report lag model follows Knechel and Payne (2001) for all available variables.

²³ We thank an anonymous reviewer for suggesting this test. Because of concerns about interpretation of logit model interactions, we re-estimate the Table 8 analysis using a linear probability model (OLS) and find that our inferences are unchanged. We also conduct the Norton, Wang, and Ai (2004) analysis and find that all interaction observations are either zero or negative. Thus, based on these two tests we rely on the sign and significance of the interaction term presented.

TABLE 7
The Effect of Affiliated Audit Committees on the Audit Report Lag

<u>Variable</u>	<u>REPORT_LAG</u>
<i>AC_CONNECT</i>	-0.010** (0.048)
<i>AC_OTHER</i>	0.009 (0.251)
<i>MGMT_CONNECT</i>	-0.012 (0.312)
<i>MGMT_OTHER</i>	-0.001 (0.984)
<i>MATCH</i>	-0.009 (0.196)
<i>LNAT</i>	-0.083*** (0.000)
<i>BUS_SGMT</i>	-0.003 (0.186)
<i>RECT</i>	0.000** (0.012)
<i>INVT</i>	0.079** (0.036)
<i>LEV</i>	0.063*** (0.000)
<i>LOSS</i>	0.011 (0.100)
<i>FOREIGN</i>	-0.029*** (0.000)
<i>RESTATE_ANNOUNCE</i>	0.034 (0.260)
<i>MERGER</i>	-0.001 (0.964)
<i>MB</i>	-0.002*** (0.001)
<i>ROA</i>	-0.050** (0.022)
<i>DEC_YE</i>	0.018** (0.017)
<i>CHANGE</i>	0.019 (0.187)
<i>TENURE</i>	-0.000 (0.439)
<i>MODIFY</i>	0.031*** (0.000)
<i>ACCEL_FILER</i>	0.004 (0.669)
<i>MW</i>	0.306*** (0.000)
<i>LN_AF</i>	0.074*** (0.000)
<i>LN_NAF</i>	-0.001** (0.031)
<i>EXPERT</i>	0.010 (0.196)
<i>CEO_CHAIR</i>	0.004 (0.540)

(continued on next page)

TABLE 7 (continued)

Variable	<i>REPORT_LAG</i>
<i>PERCFINEXPERT</i>	−0.059*** (0.000)
<i>PERCIND</i>	−0.087 (0.171)
<i>ACMEET</i>	0.005** (0.019)
Observations	22,840
R ²	0.050

***, **, * Indicate significance at the 0.01, 0.05, and 0.10 levels, respectively.

Dependent variable is *REPORT_LAG*. Includes year and industry fixed effects. All p-values are two-tailed with the exception of *AC_CONNECT*, which we predict will have a negative association with the dependent variable.

VI. CONCLUSION

Recent academic and practitioner literatures cite the need for more information about the interactions between audit committees and external audit firms (CAQ 2013; DeFond and Zhang 2014). Using publicly available data on audit committee members' employment history, we identify audit committee members who are former Big 4 partners and use that information to examine whether audit committee-audit firm affiliations influence the decision to dismiss the audit firm, as well as the affiliation's effect on audit quality.

Consistent with management theory on individuals' propensity to identify with organizations and subsequently lend them additional support, we find audit committees are less likely to dismiss an audit firm if at least one audit committee member is a former partner of the audit firm. This audit committee-audit firm affiliation effect is incremental to the management-audit firm affiliation effect examined in the prior literature on audit firm selection (e.g., Dhaliwal et al. 2015).

Regarding the audit process, we find a positive association between affiliated audit committees and audit quality, using the likelihood of subsequent restatement and late material weakness reporting. Further, affiliated audit committees pay their former audit firm slightly lower audit fees, suggesting the lack of undue favoritism. Finally, we find associations between affiliated audit committees and shorter audit report lags and increased audit effectiveness. The combination of higher quality, lower fees, more timely audits, and more effective auditor effort suggests that affiliated audit committees help improve both the quality and the efficiency of the audit. The beneficial outcomes associated with affiliated audit committees could serve to further reduce the likelihood that the audit firm is dismissed in subsequent periods. We leave it to future research to directly test the possible mediating role of these beneficial outcomes on the association between affiliated audit committees and audit firm tenure. Overall, we find that affiliated audit committees, while less likely to dismiss their former audit firm, do not show undue preference toward their former audit firm that compromises the integrity of the audit.

Our study makes several contributions to the literature. We provide evidence of associations between having an audit committee member with personal, in-depth knowledge of the audit firm and longer audit firm tenure, as well as improved audit outcomes, with no evidence of reduced independence. These findings should be of interest to regulators, practitioners, and academics interested in the relationship between audit committees and audit firms. Importantly, we add to the literature on the effect of former partners serving in governance roles. While the prior literature suggests concern about the effect of affiliated partners on audit quality, we find that affiliated partners serving on the audit committee appear to improve audit quality and audit efficiency. These results complement Naiker and Sharma (2009), who find that affiliations on the audit committee improve internal control reporting. We also contribute to the literature on auditor tenure, which finds that audit quality improves as tenure increases (e.g., Myers, Myers, and Omer 2003). Our study provides evidence of a mechanism that can encourage longer auditor-client tenure.

We note that our study is subject to several limitations. First, we use only two proxies for audit quality, both of which are related to subsequent restatements. While auditors and investors agree that subsequent restatements are evidence of lower audit quality (Christensen et al. 2016), restatements represent the end of the audit-quality continuum (DeFond and Zhang 2014), and the lack of a restatement does not guarantee higher quality. Therefore, we do not comment on the effect of affiliated partners on other changes in audit quality. Second, data limitations prohibit the direct examination of an individual audit committee member's influence on audit firm selection and evaluation. Third, data limitations also prevent determination of whether affiliated partners previously served as lead partners on the audits of their client employers. New partner identification information in the PCAOB's Form AP would enable analyses of this interaction. Finally, our study focuses on audit committee-audit firm affiliations with the Big 4 audit firms. Different dynamics could exist between audit committees and former partners from non-Big 4 audit firms.

TABLE 8
The Moderating Role of Affiliation on the Relationship between Audit Fees and Subsequent Restatement

<u>Variable</u>	<u>MISSTATED</u>
<i>AC_CONNECT</i>	2.989** (0.016)
<i>LN_AF</i>	0.100 (0.180)
<i>AC_CONNECT * LN_AF</i>	-0.228*** (0.005)
<i>AC_OTHER</i>	-0.050 (0.771)
<i>MGMT_CONNECT</i>	-0.838*** (0.000)
<i>MGMT_OTHER</i>	-0.664** (0.022)
<i>MATCH</i>	-0.193** (0.030)
<i>LNAT</i>	-0.053 (0.273)
<i>LEV</i>	0.239 (0.114)
<i>MB</i>	-0.001 (0.862)
<i>ROA</i>	0.221 (0.487)
<i>AR_INV</i>	-0.335 (0.186)
<i>LOSS</i>	0.044 (0.684)
<i>BUS_SGMT</i>	-0.004 (0.889)
<i>FOREIGN</i>	-0.034 (0.752)
<i>SPECIAL</i>	0.053 (0.596)
<i>LN_NAF</i>	-0.025** (0.013)
<i>MERGER</i>	0.040 (0.846)
<i>FIN</i>	0.125 (0.186)
<i>EXPERT</i>	0.385*** (0.000)
<i>TENURE</i>	0.009* (0.064)
<i>CHANGE</i>	0.193 (0.410)
<i>MW</i>	2.286*** (0.000)
<i>REPORT_LAG</i>	0.009*** (0.004)
<i>PERCFINEXPERT</i>	0.010 (0.952)
<i>PERCIND</i>	1.065 (0.271)

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TABLE 8 (continued)

Variable	MISSTATED
ACMEET	0.050*** (0.006)
Area Under ROC	0.681
Goodness-of-Fit	0.380
Observations	22,840

***, **, * Indicate significance at the 0.01, 0.05, and 0.10 levels, respectively.

We report the estimates of a modified version of Equation (2). Estimates include year and industry fixed effects. p-values are stated beneath the coefficient. All p-values are two-tailed with the exception of $AC_CONNECT * LN_AF$, which we predict will have a negative association with the dependent variable. All variables are defined in Appendix A.

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APPENDIX A

Variable Definitions Used in Equations (1) and (2) in Alphabetical Order

Variables	=	Definitions
<i>AC_CONNECT</i>	=	Indicator variable equal to 1 if at least one audit committee member is a former partner of a specific Big N firm that is the company's audit firm in year <i>t</i> ; 0 otherwise. Affiliation determined based on historical resume information in BoardEx combined with data from Audit Analytics on the identity of the company's current audit firm.
<i>ACMEET</i>	=	The number of audit committee meetings in year <i>t</i> , per Morningstar.
<i>AC_OTHER</i>	=	Indicator variable equal to 1 if at least one audit committee member is a former partner of an audit firm that is not the company's audit firm in year <i>t</i> ; 0 otherwise. Affiliation determined based on historical resume information in BoardEx combined with data from Audit Analytics on the identity of the company's current audit firm.
<i>AR_INV</i>	=	Equal to the sum of accounts receivable and inventory balances, scaled by total assets.
<i>BUS_SGMT</i>	=	Equal to the number of business segments within the company
<i>CEO_CHAIR</i>	=	Indicator variable equal to 1 if the company's CEO also serves as the board chair in year <i>t</i> .
<i>CHANGE</i>	=	Indicator variable equal to 1 if the company changed audit firms in year <i>t</i> ; 0 otherwise.
<i>DISMISS</i>	=	Indicator variable equal to 1 if the company dismisses its audit firm in year <i>t</i> +1; 0 otherwise.
<i>EXPERT</i>	=	Equal to 1 if an auditor's fee-based market share is greater than or equal to 30 percent within a national industry level (Reichelt and Wang 2010), and equal to 0 otherwise. Market share calculations are made using all necessary data from Audit Analytics and before our sample is reduced in size. Reset to 0 if only one client exists in an MSA-Industry group.
<i>FIN</i>	=	Following Cao et al. (2012), an indicator variable set to one if <i>MERGER</i> is not equal to one and if the number of shares outstanding increased by at least 10 percent during the year, or if <i>MERGER</i> is not equal to one and if long-term debt increased by at least 20 percent during the year, and 0 otherwise.
<i>FOREIGN</i>	=	An indicator variable equal to 1 if the company reported taxable foreign operations ("txfo"), and equal to 0 otherwise. Missing values set to 0.
<i>LATE_MW</i>	=	Indicator variable equal to 1 if the firm did not receive a material weakness in year <i>t</i> (i.e., <i>MW</i> = 0), but the financial statements were subsequently restated (i.e., <i>MISSTATED</i> = 1). This determination is based on information contained in the Audit Analytics 404 and Nonreliance Restatement databases, respectively.
<i>LEV</i>	=	Equal to total current and long-term debt (Compustat data code "dlc" and "dltt," respectively), scaled by total assets.
<i>LN_AF</i>	=	Natural log of the sum of audit fees (Audit Analytic data code "audit_fees") and audit-related fees (Audit Analytic data code "audit_related_fees") as reported in the Audit Analytics fee database.
<i>LN_NAF</i>	=	Natural log of the sum of IT fees (Audit Analytic data code "it_fees"), tax fees (Audit Analytic data code "tax_fees"), benefits fees (Audit Analytic data code "benefits_fees"), and other fees (Audit Analytic data code "other_fees") as reported in the Audit Analytics fee database.
<i>LNAT</i>	=	Natural log of total assets (Compustat data code "at").
<i>LOSS</i>	=	Indicator variable equal to 1 if the firm reported negative income before extraordinary items (Compustat data code "ib") in either of the prior two years.
<i>MATCH</i>	=	Following Lennox and Park (2007), this variable is equal to 1 if the client's characteristics are most similar to the respective firm's overall portfolio of clients, and equal to 0 otherwise.
<i>MB</i>	=	The market value of the firm's equity, calculated by multiplying the end-of-year share price (Compustat data code "prcc_f") by end-of-year shares outstanding (Compustat data code "csho"), all scaled by common equity (Compustat data code "ceq"). We winsorize MB at the top and bottom 1 percent.
<i>MERGER</i>	=	Following Cao et al. (2012), an indicator variable set to 1 if the company engaged in a merger or acquisition during the year, and 0 otherwise.
<i>MGMT_CONNECT</i>	=	Indicator variable equal to 1 if the company's CEO or CFO were former partners of a specific Big N firm that is the company's audit firm in year <i>t</i> ; 0 otherwise. Affiliation determined based on historical resume information in BoardEx combined with data from Audit Analytics on the identity of the company's current audit firm.

(continued on next page)

APPENDIX A (continued)

Variables	=	Definitions
<i>MGMT_OTHER</i>	=	Indicator variable equal to 1 if the company's CEO or CFO were former partners of audit firms that are not the company's audit firm in year <i>t</i> ; 0 otherwise. Affiliation determined based on historical resume information in BoardEx combined with data from Audit Analytics on the identity of the company's current audit firm.
<i>MISSTATED</i>	=	Equal to 1 if the company subsequently restated year <i>t</i> 's financial statements. Fiscal years are deemed to be subsequently restated if "datadate" is within the restatement window per Audit Analytics.
<i>MW</i>	=	Indicator variable equal to 1 if the firm received at least one material weakness, 0 otherwise.
<i>PERCIND</i>	=	Equal to the number of independent audit committee members scaled by the total number of audit committee members in year <i>t</i> .
<i>PERCFINEXPERT</i>	=	Equal to the number of financial experts on the audit committee scaled by the total number of audit committee members in year <i>t</i> .
<i>ROA</i>	=	Return on assets calculated as EBIT divided by total assets. We winsorize ROA at the top and bottom 1 percent after reducing the sample to companies audited by Big 4 audit firms.
<i>REPORT_LAG</i>	=	Equal to the number of days between the end of the fiscal year to the audit report issue date.
<i>RESTATE_ANNOUNCE</i>	=	Equal to 1 if a financial statement restatement is announced during year <i>t</i> , and equal to 0 otherwise.
<i>SPECIAL</i>	=	Indicator variable equal to 1 if the company reports special items, equal to 0 otherwise.
<i>TENURE</i>	=	Equal to the number of years since the start of the company-auditor relationship.

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