Client Workplace Environment and Corporate Audits [*]

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Abstract

We obtain a novel dataset of workplace satisfaction ratings submitted by about 100,000 employees working for large public U.S. companies. We document that lower workplace ratings are associated with higher audit fees and longer audit report lags. Lower workplace ratings also increase the likelihood of firms receiving modified going concern opinions. Our study shows that organizational workplace environments affect auditor risk assessments and auditing outcomes and provide insights for practicing auditors and corporate executives. Our interviews with practicing auditors at large U.S. accounting firms also provide insights as to how workplace quality affects the corporate audit.

Keywords: workplace environment; audit fees; going concern opinions; audit report lag

JEL classification: G3, J28, M14, M42

I. INTRODUCTION

Employee perceptions affect organizations. If employees perceive their work environment as positive, they are more satisfied with their job, more engaged, and more productive (Huselid 1995; Harter, Schmidt, and Hayes 2002). Discontent employees are more likely to alienate customers, commit misconduct, and damage their company's brand.[1] External auditors understand that a good climate is crucial for sustaining competitive advantages. The Big Four auditing firms, in particular, have shown heightened interest in understanding workplace productivity.

In 2012, KPMG International canvased hundreds of executives from around the globe to study how human resource departments can become a strategic partner to the business.[2] In 2013, Ernst and Young explored how companies can maximize performance by actively managing the interplay between generations in the workforce.[3] Two years later, Ernst and Young documented the increasing difficulties corporate workers face in managing work-life balance and opportunities for advancement.[4] Deloitte found in 2014 that information overload and hyper-connectedness overwhelm corporate employees, undermine their productivity and reduce their engagement. Deloitte has since advocated that corporations simplify their work environments and allocate more time for thinking and solving problems.[5] While external auditors understand that a client's workplace climate is an important intangible asset, few accounting researchers have systematically examined whether auditors assess their clients' workplace environment.

[1] See Konrad and Mangel 2000; Black and Lynch 2004; Nishii et al. 2008; Greenberg 1990; Folkman 2012; Harris et al. 2013. The report on Management Antifraud Programs and Controls, which appears as an exhibit to auditing standard PCAOB AU 316, suggests that a negative workplace environment lowers employee morale and increases the likelihood of employee misconduct against the company.

[2] https://home.kpmg.com/content/dam/kpmg/pdf/2016/06/pl-rethinking-human-resources-in-a-changing-world.pdf.

[3] www.ey.com/US/en/Issues/Talent-management/Talent-Survey-The-generational-management-shift.

[4] www.ey.com/US/en/Newsroom/News-releases/news-ey-one-third-of-full-time-workers-globally-say-managing-work-life-is-difficult.

[5] www2.deloitte.com/au/en/pages/human-capital/articles/overwhelmed-employee-simplify-environment.html.

Recent theories of the firm consider employees as key organizational assets (Zingales 2000; Carlin and Gervais 2009; Berk, Stanton, and Zechner 2010), and empirical studies show that firms with better employee treatments have stronger firm performance and internal controls (Edmans 2011, 2012; Guo, Huang, Zhang, and Zhou 2016). These studies find that employee-friendly policies strengthen the firm's human capital and attenuate internal control inefficiencies. Building on these studies, we posit that a positive workplace environment improves productivity and creates a positive culture of honesty and ethics (PCAOB AU 316); hence, it is an important factor for auditors to consider when they evaluate risks. We also interview four professional external auditors, who describe how, and to what extent, auditors assess the client's workplace environment. Corporate theory, empirical studies, and practitioners all suggest a link between workplace quality to auditor assessments. The challenge is how to investigate that link empirically.

We use novel employee ratings of workplace satisfaction in large publicly traded companies to tackle this challenge. These ratings come from Glassdoor[6] and cover employees' overall satisfaction with the company, as well as satisfaction with senior management, career opportunities, compensation and benefits, and work/life balance. We aggregate almost one hundred thousand assessments of rank-and-file employees to create a panel dataset that contains considerable cross-sectional and time-series variations. Our sample covers almost one thousand S&P 1500 firms from 2008 through 2012 and allows for a comprehensive analysis of workplace environments in large public companies. The workplace environment ratings are publicly observable to researchers, regulators and auditors through Glassdoor's website.

[6] Glassdoor is a well-known career website with an extensive database of employee reviews, salary reports, and other information. As of March 22, 2015, the Glassdoor website is ranked 138th of all websites in the United States in terms of website popularity and web traffic, see www.alexa.com/siteinfo/glassdoor.com.

We first investigate whether auditors charge higher audit fees to clients with lower workplace satisfaction ratings. If lower workplace ratings signal greater risks to the auditor, audit fees might increase for two non-conflicting reasons: First, auditors will put forth more effort to reduce that risk, and second, they will charge a fee premium to compensate for being associated with a risky client (Simunic 1980; Hay, Knechel, and Wong 2006; Causholli, De Martinis, Hay, and Knechel 2010). Consistent with the hypothesis, we find that lower workplace ratings are associated with significantly higher audit fees. We find similar results when we examine subcategories such as assessment of senior management and satisfaction with career opportunities. We also find that audit report lag is longer for clients who have more negative workplace environments. This suggests that auditors perform more procedures and increase their audit scope when engaging with lower-rated clients.

A positive workplace environment has been linked to higher employee productivity and operating performance (Harter, Schmidt, and Hayes, 2002; Whitman, van Rooy, and Viswesvaran, 2010). If a positive corporate climate constitutes an intangible asset, we would expect that auditors consider its value when the company falls on hard times. Auditors might be more optimistic about their clients' ability to continue as a going concern if the workplace climate is positive, yet might be doubtful if clients suffer from internal workplace issues. We find support for this hypothesis: Financially distressed clients with higher employee satisfaction ratings are less likely to receive modified going concern opinions.

These results could be driven by selection bias or omitted variables. Since firms with available workplace ratings are not a random sample of the firm population, we mitigate possible *selection bias* by estimating a two-stage Heckman correction model. We also include industry and year fixed effects to account for the possibility that workplace environments and audit fees are jointly determined by *unobservable variables*. When we compare firms with higher-rated

workplace environments to *propensity-matched groups* of firms with similar observable characteristics yet lower-rated workplace environment we find results that correspond to those in the full sample: Firms with better workplace environments have significantly lower audit fees and shorter audit report lags.

While the Glassdoor dataset incorporates a very large number of reviews by rank-and-file employees for multiple years and many companies, and while it captures novel and important aspects of the corporate workplace environment, it has limitations. First, the number of available ratings varies considerably across firms, which raises the concern that a few extreme reviews can bias the assessment of that firm's workplace environment. Since this concern is less severe for firms with more reviews we show that our baseline findings hold for more extensively reviewed firms; yet we cannot completely eliminate the possibility that unrepresentative or extreme ratings affect our results to some degree. Second, the data are not granular enough to pinpoint through which exact channel low employee ratings increase audit risk. Low ratings might reflect a corporate culture that allows different wrongdoings by various employees, such as asset misappropriation or poor "tone at the top." Since we cannot investigate how specific dimensions of workplace climate increase or attenuate the professional scrutiny of auditors we rely instead on audit fees to capture auditors' overall assessment of audit risk and client business risk.

To gather insights as to *how* the client workplace environment can affect the audit engagement, we interviewed four professional external auditors. The interviewees included two partners and two senior managers who work for large auditing firms in the United States. These auditors argue that the quality of the client's work environment affects employee productivity, effectiveness of job operations, likelihood of asset misappropriation, and efficacy of the control environment. A negative client workplace environment can raise the auditor's professional skepticism and increase testing of internal controls. Our interviews reveal specific audit

procedures used to assess clients' workplace climate and provide insights about the risks associated with a negative workplace environment.

Our empirical analysis provides novel and robust evidence that auditors consider the quality of their clients' workplace environment. These results put our study at the intersection of organizational behavior and accounting. Management research documents beneficial effects of employee satisfaction levels on workforce recruiting, job productivity, and financial performance (Konrad and Mangel 2000; Schneider, Hanges, Brent, and Salvaggio 2003; Black and Lynch 2004; Whitman et al. 2010; Edmans 2011, 2012). We complement these results by showing that satisfaction levels are inversely related to audit fees, audit report lag, and going concern opinions. Extant archival accounting research examines factors that affect auditing outcomes such as the pricing of audit services (Hay et al. 2006), auditor decisions to issue modified going concern opinions (Carson et al. 2013), and audit report lag (Ettredge, Li, and Sun 2006; Krishnan and Yang 2009). We contribute to this literature by introducing novel measures of client workplace environment, showing that these measures help predict corporate audit outcomes, and documenting how auditors' assessment of client workplace environment affects the audit process.

Our findings have implications for senior corporate officers, practicing auditors, and the Public Company Accounting Oversight Board (PCAOB). Senior executives should be aware of the adverse consequences to the external audit process that stem from a negative work environment. The auditors we interviewed pointed out that survey-based employee feedback could supplement existing audit procedures. One partner mentioned that the PCAOB has been urging auditors to carefully look for negative evidence, and that auditors are increasingly interested in external data that substantiate or contradict information and assumptions provided by clients. Since our employee ratings are publicly available through the Glassdoor's website, we

suggest that the PCAOB provide guidance about using them to complement auditors' assessment of their clients' workplace environment.

II. RELATED LITERATURE

Academic studies document tangible benefits from management practices that lead to higher job satisfaction and better workplace climates. For example, practices perceived as enhancing employee well-being can improve employee satisfaction, organizational citizenship behaviors and customer satisfaction (Organ and Ryan 1995; Nishii, Lepak, and Schneider 2008). Comprehensive procedures regarding recruitment, incentive compensation, employee involvement and training are associated with higher employee productivity and lower employee turnover (Huselid 1995).[7] Employee satisfaction measures are also positively associated with financial performance (Huselid 1995; Schneider et al. 2003). Teamwork, employee involvement in decision-making and re-engineering activities, and profit sharing have been significant components of the turnaround in productivity growth in the U.S. during the 1990s, according to Black and Lynch (2004). Edmans (2011, 2012) uses annual survey data of the "*100 Best Companies to Work For in America*" to measure employee satisfaction, and finds that employee satisfaction is positively associated with shareholder returns. Edmans, Li, and Zhang (2014) conclude that high employee satisfaction can be a valuable tool for recruitment, retention, and motivation in flexible labor markets, where firms face fewer constraints on hiring and firing.

III. HYPOTHESES DEVELOPMENT

During the external audit, auditors assess audit risk, client business risk, and auditor business risk (Hay et al. 2006; Johnstone 2000; Stanley 2011). In an audit of financial statements, *audit risk* is the possibility that the auditor expresses an inappropriate audit opinion

[7] Organizations have also increased their productivity by adopting work-life programs to help employees balance work and family obligations (Lobel 1999; Konrad and Mangel 2000).

when the financial statements are not presented fairly in conformity with the applicable financial reporting framework (Auditing Standard No. 8; Johnstone 2000).[8] *Client business risk* is the danger that the client's future economic condition will deteriorate (Johnstone 2000; Stanley 2011). Finally, *auditor business risk* is the risk that the auditor will suffer loss or injury to his or her professional practice because of the engagement (Johnstone 2000; AU 312.02 footnote 2).[9]

A healthy workplace environment is necessary for having an effective control environment and financial reporting process (Guo et al. 2006). Organ and Ryan (1995) indicate that employees with high job satisfaction and positive attitudes display good organizational citizenship behavior and contribute positively to the company's objectives. Employees that trust upper management produce accurate financial information and communicate more effectively (Garrett, Hoitash, and Prawitt 2014). Furthermore, employees that are treated fairly in the workplace engage in behavior that is more ethical and are more willing to report ethical problems (Trevino and Weaver 2001). AICPA's report on *Management Antifraud Programs and Controls* also affirms that a positive workplace environment is an essential factor for creating a culture of honesty and high ethics; the report suggests that wrongdoing occurs less frequently when employees feel positively about their firms.

A negative workplace environment, on the other hand, has detrimental effects. Mahadeo (2007) asserts that a negative work environment will produce low levels of employee morale and loyalty; employees under such environment will be more apt to commit fraud. Folkman (2012) also warns that disgruntled employees can irreversibly damage a company's brand, cause expensive mistakes, and leak company internal information. Guo et al. (2016) find that a low

[8] In AU 312.02, audit risk is defined as ''the risk that the auditor may unknowingly fail to appropriately modify his or her opinion on financial statements that are materially misstated'' (AU 312.02).

[9] Footnote 2 of AU 312.02 also states that the exposure to loss and injury to the auditor's professional practice is "present even though the auditor has performed the audit in accordance with generally accepted auditing standards and has reported appropriately on those financial statements. Even if an auditor assesses this exposure as low, the auditor should not perform less extensive procedures than would otherwise be appropriate under generally accepted auditing standards."

employee treatment index leads to employee failures in properly implementing internal control tasks. Finally, management actions that lower employee morale increase employee theft (Greenberg 1990), and abusive supervision increases job frustration and reduces perceived organizational support (Harris, Harvey, Harris, and Cast 2013).[10]

Auditors who observe a negative client workplace environment would heighten their professional skepticism and their assessment of various risks. Other things equal, a negative assessment of a client's work environment increases the auditor's assessment of audit risks. Given that auditor business risk and audit risks are related (AU 312.02; Jubb, Houghton, and Butterworth 1996; Stanley 2011), auditors are also likely to associate clients with poor workplace climate as having higher auditor business risks. Finally, auditors would assess clients with negative work environments to have higher client business risks since such adverse conditions lead to poor productivity and business performance.

We expect auditors to increase their effort to reduce these risks and to charge a fee premium to compensate for being associated with a risky client (Simunic 1980; Hay et al. 2006; Causholli et al. 2010). This leads to our first hypothesis:

> **H1:** The quality of a client's workplace environment is negatively associated with audit fees charged to the client.

If a client's negative workplace environment increases the auditor's assessment of risk, auditors will increase their efforts and expand the audit scope. This, in turn, should increase the amount of audit work as well as time spent conducting the audit. Hence, we formulate the following hypothesis:

> **H2:** There is a negative association between the quality of a client's workplace environment and audit report lag.

[10] Abusive supervision is defined as subordinates' perceptions of the extent to which supervisors engage in the sustained display of hostile verbal and nonverbal behaviors, excluding physical contact (Harris et al. 2013). Vicarious abusive supervision is defined as the observation or awareness of abusive supervision that is not experienced directly (Harris et al. 2013).

Note that audit reporting lag is a conservative measure since greater audit effort can also lead to more intensive auditing without prolonging the audit process.

Auditors are required to issue a modified going concern opinion if they substantially doubt their client's ability to continue as a going concern in the near future (Carson et al. 2013; PCAOB AU 341). We posit that auditors' substantial doubt is higher for a distressed client with a negative workplace environment for two reasons. First, organizational *performance* appears to be higher when employees perceive role clarity, feel appreciated, enjoy good relations with coworkers and have opportunities to learn (Huselid 1995; Harter et al. 2002; Black and Lynch 2004). Harter et al. (2002) and Whitman et al. (2010) document associations between employee satisfaction and unit-level measures of employee engagement, employee retention, accident rates, customer satisfaction, productivity, and profits. Second, *internal matters*, such as work stoppages or other labor difficulties, represent events and conditions that may significantly increase auditors' substantial doubt (PCAOB AU 341 paragraph 6). Companies with more positive workplace environments are less likely to encounter such internal labor difficulties. This leads to our third hypothesis:

> **H3:** Among financially distressed clients, the quality of a client's workplace environment is negatively associated with the auditor's issuance of a modified going concern opinion.

While the above arguments suggest that a poor work environment constitutes a risk factor, the specific channels are not readily apparent. How auditors assess the client's work climate, and how these assessments affect the audit are underexplored issues. We presented these questions to four professional auditors (two partners and two senior managers), who work for large auditing firms in the United States. Detailed excerpts from the interviews are in the appendix.

IV. DATA AND SPECIFICATIONS

Sample Construction

To measure the quality of client workplace environment, we obtain employee reviews from Glassdoor, a job and career website. Glassdoor has collected hundreds of thousands of workplace assessments by current and former employees since 2008. Employees rate their overall company and provide assessments of senior management, career opportunities, compensation and benefits, and work/life balance in a 5-point Likert scale.

We intersect Glassdoor's workplace assessments with AuditAnalytics, Compustat, CRSP and Execucomp for the years 2008 to 2012. For this sample period, Execucomp covers 2,043 firms; 986 of these firms (48.3 percent) have sufficient workplace assessment data (102,079 employee reviews in total) to enter our initial sample. We only include reviews by current employees so that ratings reflect the current workplace environment, require that a firm has at least three reviews in a year to reduce the impact of extreme reviews, and then use annual ratings to measure how employees assess their workplace environment.

We face several sample selection issues when drawing inferences from survey results that are provided voluntarily. First, employees who assess their companies publicly may have an axe to grind or may have incentives to boost their company's image. Therefore, Glassdoor requires users to sign up using Facebook, Google, or email and provides users a 10-day access. To get unlimited access to Glassdoor content, users are required to submit anonymous salaries, company reviews, or interview experiences. Through this "give-to-get" model Glassdoor grows its content and reduces the risk of unrepresentative employee reviews. Second, Glassdoor's policies might bias the employee assessment we observe since it uses technology filters and algorithms to detect fraud and gaming, employs human moderators to review content, and provides services to employers. Glassdoor's community guidelines alleviate this concern.

Glassdoor promises to never edit, alter, suppress, filter, or delete posts because of their content or rating. Glassdoor does not remove reviews after being informed that they contain false facts, breach confidentiality or non-disparagement agreements; it claims to require the same standard of review for all content and therefore does not remove negative reviews for employers who buy its services.

To further mitigate potential selection bias, we estimate a two-stage Heckman correction model and report the first stage probit regression results in Table A1 of the Appendix. In order to satisfy the exclusion restriction for a Heckman correction model, we follow Huang, Li, Meschke, and Guthrie (2015) and include the industry average of employee review availability as an exclusive first-stage instrument. While we expect the *firm-level* availability of employee ratings to be associated with the *industry average* of employee review availability, we have no good reason to expect that this industry average of employee review availability will directly impact the association between employee ratings and engagement risk in a particular firm. Table A1 shows that our exclusive instrument, ***Ind. (Employee assessment indicator)***, loads significant and positively in the first-stage selection model. In addition, R&D intensive firms, growth firms, S&P 500 firms, and firms that have larger assets, more employees, shorter history, and younger CEOs are more likely to have sufficient employee assessments to be included in our sample. We use the Area under the Receiver Operating Characteristic curve (hereafter, AUC) to measure how accurately our probit regression model differentiates between firms that have sufficient employee reviews in a year and firms that do not. The AUC of our probit model is 0.88, which is comfortably above the threshold of 0.70 proposed by Hosmer and Lemeshow (2000). We control for possible selection effects by including the inverse Mill's ratios in all second-stage regressions that involve employee assessments. Our final sample contains 2,837 annual observations of

workplace environment, audit outcomes, and firm characteristics for 905 large public U.S. firms from 2008 through 2012.

Summary Statistics

Our summary statistics in Table 2 indicate that average employee assessments cluster around the mid-point of the 5-point Likert scale, which indicates a *neutral* rating. Among the subcategories, average ratings are highest for work/life balance (3.48) and lowest for senior management (2.93). The quantile statistics of ratings imply that the distributions are quite symmetric and show considerable variations.

Audit fees is the main outcome variable in our data analyses. The average firm in our sample pays about $6 million in annual audit fees. Because the median value of $3 million suggests that the distribution has long right tail we use a logarithmic transformation to reduce the influence of outliers in audit fees. To examine whether audits are completed faster in firms with a more positive workplace environment, we examine *audit lag*, the time elapsed from the firm's fiscal year end until the signature of its audit report. The average audit lag in our sample is 56 days, and the quantile distribution shows that audit lag is tightly distributed: It takes just over a week to move from the 25th percentile (52 days) to the 75th percentile (60 days). As with audit fees, we use the natural logarithm of audit lag as the dependent variable in our regression analysis to reduce the influence of outliers.

Following prior literature (Hay et al. 2006; Minutti-Meza 2013; Lobo and Zhao 2013) we include several firm characteristics as control variables in our regressions. The firms in our sample are, on average, large ($33 billion in total assets), 97 percent are audited by a Big N audit firm, and very few exhibit material weaknesses (one percent).[11] To reduce the influence of outliers, we winsorize continuous variables at the 1st and 99th percentiles. For analyses on how

[11] Only 4 percent of the financially distressed firms receive going concern opinions from their auditors, and these firms with going concern opinions constitute less than 1 percent of the sample.

workplace environment affects going concern opinions, we augment the sample with relevant control variables (Dechow, Ge, and Schrand 2010; Carson et al. 2013). We report descriptive statistics for these augmented samples in Table A2 of the Appendix.

Econometric Specifications

Our empirical model to examine the effects of workplace environment on audit fees and audit report lag is a linear specification,

$$y_{ijt} = \alpha + \beta\overline{EA}_{ijt} + \gamma' x_{ijt} + \delta'\mu_j + \varphi'\nu_t + \varepsilon_{ijt}, \quad (1)$$

where *i* indicates firms, *j* indicates industries, and *t* indicates years. The outcome variable, y_{ijt}, represents the natural logarithm of audit fees, *ln(Audit fees)*, and the natural logarithm of audit lag, *ln(Audit lag)*. The covariate $\overline{EA}_{ijt}$ is the annual average of employee workplace assessments such as overall company rating, and subcategories on senior management, career opportunities, compensation and benefits, and work/life balance. The vector x_{ijt} controls firm and audit characteristics (Hay et al. 2006), μ_j represents two-digit SIC industry fixed effects, and ν_t represents year fixed effects.[12] We assume that the firm-year specific error term, ε_{ijt}, is heteroskedastic and correlated within firms and follow Petersen (2009) in reporting robust test statistics clustered by firms in all our regressions.

To examine the effect of workplace environment on going concern opinions, we replace the outcome variable in Equation (1) with a *Going concern indicator* and use a probit regression specification. Consistent with the literature (e.g., Carson et al. 2013), in going concern regressions we control for firm size, leverage, cash flow, external financing, client importance, firm complexity, and stock performance.

[12] We use two-digit SIC codes to identify industries in all analyses except in Table 6 of going concern, where the sample size only allows us to perform regressions with industry fixed effects in one-digit SIC codes.

Firms with positive employee reviews may systemically differ from firms with negative employee reviews. To alleviate this concern we apply propensity score matching to identify firms with similar characteristics but different employee ratings. We conduct regressions in both the full sample and matched samples. To be conservative we use results from our matched samples to assess the economic magnitude of our findings.

Unobservable factors can affect employee assessments of workplace environment and audit variables simultaneously. We use panel data with *industry fixed effects* to control for time-invariant unobservables within an industry, and we use *year fixed effect* to control for the influence of macro events. In addition, we identify episodes during which the omitted-variable bias may be more severe. We expect that workplace assessments might be lower and audit fees might be higher during periods of active external financing or significant employee downsizing. However, our results indicate that the negative relation between workplace environment and audit fees is not driven by these conditions.

Coles, Lemmon and Meschke (2012) document many challenges that finance and accounting researchers face in order to address endogeneity, and we do not claim to fully address all conceivable concerns. By mitigating endogeneity issues outlined above we strengthen the confidence that our findings are not merely due to spurious correlation. Instead, employee assessments of their workplace environment are likely an important predictor of audit outcomes.

V. RESULTS

Propensity Score Matched Sample

Throughout our analyses, we provide results for the full sample along with results for a propensity-score matched sample. Differences in audit fees, audit report lag, or going concern opinions in the full sample may be biased if we do not adequately control for the covariates that

affect employees' assessments of their work environment. We split our sample at the median of the *Company rating* variable and construct an indicator variable, *High rating*, which equals one if *Company rating* exceeds its median value. We then apply propensity score matching to a probit model that predicts whether a company has *High rating = 1*, with caliper = 1 percent, the nearest neighbor, and no replacements. We expect several factors to affect a firm's propensity of being rated highly by its employees. Those include firm size, firm age, financial leverage, assets tangibility, whether the CEO is a founder, whether the firm is engaged in restructuring activities, and downsizing. We also include performance measures such as return on assets, stock return and market-to-book ratio in the probit model because prior literature links workplace quality to firm performance (Schneider et al. 2003). Panel A of Table 3 shows that larger firms, firms with lower leverage, more tangible assets, no restructuring activities, no downsizing, and growth firms are more likely to attain high ratings. Our model fits the data quite well; its likelihood-ratio test statistics are significant at the one percent level and the AUC is 0.71.

In Panel B of Table 3, we compare the means of workplace environment measures, audit outcomes, and firm characteristics between the treatment group and the control group. Since we apply very strict criteria to ensure high-quality matches, the matched sample covers 1,942 annual observations and is about 30 percent smaller than the full sample. By construction, firms in the treatment group exhibit higher overall *Company ratings* and higher ratings in all four subcategories of employee assessment when compared to firms in the control group. More importantly, treatment firms pay significantly lower audit fees and experience significantly shorter audit report lag than control firms. The economic magnitude of the difference is considerable: The average treatment firms pay audit fees that are 9.52 percent, or around $317,000, lower than the average control firm does. Audit report lag is more than one day shorter for treatment firms. Does a day make a difference? Ettredge et al. (2006) document that

regulatory requirements result in a very tight distribution of audit report lag; in our sample, it takes about a week to move from the 25th to the 75th percentile of the distribution. A day's difference is equivalent to 10 percent of the standard deviation of audit report lag. In addition, audit reporting lag is a conservative measure since greater audit effort may intensify the audit without prolonging the process.

While workplace environment and audit outcomes differ between our treatment and control group, observable firm characteristics do not. This allows us to construct matched samples that are similar in corporate policies and performance but different in employee ratings. The comparisons of means show that higher-rated firms exhibit significantly lower audit fees and shorter audit lags compared to lower-rated firms. Although propensity score matching may suffer from an omitted variable problem (Shipman, Swanquist, and Whited 2016), practitioners can still gain important insights by using Glassdoor data for their assessment of clients' workplace environment as long as these ratings are not merely a combination of factors already known to affect audit process. We examine next whether our findings hold in a multivariate setting.

Audit Fees

In Table 4, we report multivariate regression results for audit fees in the full sample and the propensity-score matched sample. Panel A examines the effect of the overall *Company rating* on audit fees. The coefficients on *Company rating* are negative for both the full sample and the matched sample and are statistically significant at the 1 percent level. In terms of economic significance, a one standard deviation increase in *Company rating* for the matched sample is associated with a 3.5 percent decrease of audit fees, which amounts to a decrease in audit fees of

around $205,000.[13] Consistent with our hypothesis, audit fees are lower for clients with a higher-rated workplace environment.

We also find in most of the control variables signs consistent with prior literature. Higher audit fees are incurred in firms that have larger asset size, higher financial risk (*Leverage ratio* and *Loss indicator*) and greater complexity (*Intangible ratio*, *Receivables and inventories ratio*, *Extraordinary indicator*, *Restructuring indicator*, and *Foreign indicator*), that received a material weakness issuance, and that engage in mergers and acquisitions (*Merger indicator*). We include in audit fee regressions the inverse Mills ratio from a Heckman correction model to control for potential selection bias due to self-reported employee assessments.

The inverse Mills ratio is significantly negative for the full and for the matched sample, which indicates that our sample firms, on average, pay lower audit fees than other S&P 1500 firms that have too few employee assessments to be included in the sample. Put differently, audit fees are negatively related to information that affects the sample selection. Because that information can potentially bias our results, we include the inverse Mills ratio in all second-stage regressions that involve employee assessments. While it is impossible to completely eliminate selection bias when relying on voluntarily provided survey data, our use of a two-stage Heckman model mitigates that problem.

In addition to the overall company rating, we also use several subcategories to assess the impact of the corporate work environment on audit fees. Panel B of Table 4 reports results for the full sample, and Panel C shows results for the matched sample. Firms with a higher rated *senior management* team and better *career opportunities* pay significantly lower audit fees; employee ratings of *compensation* or *work/life balance* are less reliable predictors of audit fees.

[13] $\{\exp[0.56\times(-0.0635)]-1\}\times\$5{,}868{,}025 = -\$205{,}000$, where 0.56 is the sample *standard deviation* of the Company rating variable from Table 2, -0.0635 is the *coefficient* on Company rating in column (2) of Panel A, Table 4, and $5,868,025 is the sample *mean* of Audit fees from Table 2.

Among the various dimensions of work environment, assessments of upper management and of career development appear to have greater impact on audit outcomes.

We focus on company ratings as a comprehensive measure of workplace environment and use other ratings as supplementary measures that are related to potential dimensions of workplace environment. For the full and the propensity-score matched sample we find that the multivariate results in Table 4 are consistent with the univariate results: firms with a more positive workplace environment incur lower audit fees.

Audit Report Lag

The auditors we interviewed mentioned that a client's negative workplace environment could increase the amount of audit work. Whether or not that additional work actually prolongs the audit remains an open question. We therefore investigate the link between client workplace environment and audit reporting lag. *Audit lag* is the natural logarithm of the days elapsed from the firm's fiscal year end until the signature of its audit report.

Panel A of Table 5 displays the effect of company rating on audit lag. Column (1) provides results for the full sample, and column (2) shows results for the propensity-score matched sample. The coefficients on *Company rating* are significantly negative for both the full sample and the matched sample. Audits are completed more timely if client firms have higher rated workplace environments as measured by company ratings.

Panel B investigates the effect of various subcategory ratings on audit lag for the full sample, and Panel C does the same for the matched sample. The results mirror the findings from Panel A: Firms with more positive workplace environments, as measured by higher-rated senior management, and better career opportunities, have significantly shorter audit report lag. In terms of economic significance, one standard deviation increase from the mean of *Company rating* is associated with 1.11 percent decrease of audit report lag from the mean, equivalent to 6.56

percent of the standard deviation in *ln(Audit lag)*.[14] Although the marginal effect of *Company rating* is small in economic magnitude, it accounts for a non-trivial amount of variation in audit reporting lag. Overall, we find that it takes auditors more time to complete audits of clients that exhibit more negative workplace environments, measured by overall company assessments and subcategory ratings of senior management and career opportunities. This is consistent with auditors performing additional audit procedures for these clients.

Going Concern Opinions

In this section, we examine the association between client workplace environment and auditor issuances of modified going concern opinions. We restrict the sample to distressed firms with negative net income or operating cash flow (Carson et al. 2013) and provide the corresponding descriptive statistics in Table A2 of the Appendix. Companies with positive workplace environments often exhibit higher employee productivity and operating performance (Harter et al. 2002; Whitman et al. 2010). Auditors might therefore be more optimistic about their clients' ability to continue as a going concern if the distressed clients remain positive in workplace environment.

In Table 6 we report probit regression results for the full sample. The negative coefficient on Company rating is statistically significant at the one percent level and indicates that firms with more positive workplace environment are less likely to receive going concern opinions. Higher ratings of *senior management*, and better *career opportunities* also predict a lower probability of going concern opinions. Due to the lack of variations from a small sample, specifications in columns (2) and (3) do not allow for using individual year indicators; hence, we

[14] $\exp[0.56\times(-0.0199)] - 1 = -0.0111$, and $[0.56\times(-0.0199)]\div 0.17 = -0.0656$, where 0.56 is the sample *standard deviation* of Company rating in Table 2, -0.0199 is the *coefficient* on Company rating in column (2) in Panel A of Table 5, and 0.17 is the sample *standard deviation* of ln(Audit lag) in Table 2.

instead control for aggregate economic conditions by including a financial crisis indicator that equals to one in 2008 and 2009 and zero otherwise. Consistent with prior studies (e.g., Carson et al. 2013), we find that the probability of receiving a going concern opinion is lower in larger firms, firms with more cash, lower leverage and better performance, and firms without restructuring activities. Overall, these results suggest that distressed firms with better workplace environments are less likely to receive going concern opinions from their auditors.

In untabulated tests, we apply propensity score matching to construct a matched sample to alleviate the concern that firms that receive going concern opinions are systematically different from firms that do not. Similar to the propensity score matching in Table 3, we split the going concern sample at the median of the C*ompany rating* variable. We first create the indicator variable *High rating*, which is equal to one if *Company rating* is greater than its median. We then apply propensity score matching to the going concern sample with the same probit specification as in Panel A of Table 3 to identify treatment group (*High rating* = 1) and control group (*High rating* = 0). Due to the small size of the matched sample (208 observations), we cannot perform multivariate regressions with fixed effects. The problem arises because the outcome variable in our going concern analysis is an indicator variable, and several explanatory variables are also indicators. Because of that, in our small matched sample, the outcome of going concern is completely determined by the combination of indicator variables and industry and year fixed effects on the right hand side of regressions. In this matched sample, the high rating group of 104 observations has four going concern issuances, and the low rating group of 104 observations has one going concern issuance. The resulting mean comparison of going concern indicator is not statistically significant with a p-value of 0.176.

Firms with lower ratings on workplace environment might be more likely to restate their financial statements, and we investigate the effect of workplace environment on restatement in

untabulated tests. Since a negative workplace environment may not immediately result in restatements, we examine subsequent restatements up to three years. We find suggestive results that firms with low employee ratings are indeed more likely to have restatements after three years, but the results are only marginally significant at the 10% level.

Robustness Tests

We perform a battery of tests to ensure that our results are robust: First, we include in our baseline audit fee specification additional variables to control for debt and equity issuance, the financial crisis period, corporate downsizing, the company's misstatement propensity (F-Score), and founder-CEO status. Second, we test whether our measure of workplace environment is functionally equivalent to alternate employee relation measures provided by MSCI. Third, we restrict our sample to firms with fifty or more employee reviews and to fifteen or more reviews per year to mitigate the concern that firms with a few extreme employee assessments drive our findings. Lastly, we perform propensity score matching with replacement. We display compressed results for our baseline model and all of these robustness tests in Table 7.

Firms that seek to raise external financing might manage their earnings, which in turn could raise audit fees; these firms might also experience a declining work climate due to economic uncertainty. Yet scenario 2 shows that the association between workplace environment and audit fees remains negative and statistically significant after we control for long-term debt issuance scaled by assets and for the sale of common and preferred stocks scaled by assets. In scenario 3 we include a recession indicator for the sample years between 2008 and 2009 and interact the recession indicator with company ratings. We find that the recession period does not drive our results, and that company ratings are negatively and significantly associated with audit fees during the non-recession period. We also investigate whether corporate layoffs simultaneously worsen the workplace environment and increase audit risk. We follow Datta,

Guthrie, Basuil, and Pandey (2010) and construct a downsizing indicator equal to one if a company reduces its annual work force by five percent or more. Scenario 4 shows that this indicator does not drive the negative relation between workplace environment and audit fees. Next, we include the F-Score measure of Dechow, Ge, Larson, and Sloan (2011) in our audit fee model to see if our results are due to firms with a greater propensity of misstating their financial statements. Scenario 5 shows that controlling for the F-score does not change our results. Family firms pay lower audit fees than non-family firms (Ho and Kang 2013), and active founders receive higher employee ratings (Huang et al. 2015). In scenario 6 we therefore investigate whether companies with active founders drive our results, yet including an indicator equal to one if the CEO is also the founder does not alter our results. In sum, including these additional controls does not reduce the statistical or the economic significance of our baseline result.

Corporate social responsibility research typically relies on ratings from MSCI (formerly KLD Research and Analytics) to capture environmental, social, and governance policies. MSCI assesses strengths and concerns related to employee relations through a series of indicator variables. Indicators of concerns include union and labor-management relations, health & safety and retirement policies, workforce reductions, among others. Indicators of strengths include cash profit sharing, employee involvement, compensation & benefits, professional development, and human capital management. It is quite possible that the firm-specific policies captured by MSCI indicators are correlated with Glassdoor employee ratings. To investigate whether our findings are driven by corporate policy indicators instead of employee ratings we follow Guo et al. (2016) and include MSCI's total number of strengths of employee relations in the audit fee model. We also add the total number of employee relation concerns. We find that the number of concerns in employee relations are associated with higher audit fees, while the number of strengths in employee relations is unrelated to audit fees. Yet scenario 7 shows that our measure of

workplace environment continues to be significantly and negatively associated with audit fees. Our results suggest that employee perceptions as captured by Glassdoor and corporate policies as captured by MSCI are distinct.

Average ratings may be a biased measure of workplace environment for firms with unrepresentative or extreme employee reviews. Since we require only a small number of ratings in our main specifications to not artificially restrict our sample, we are concerned that companies with a few extreme employee ratings materially bias our results. To investigate this possibility we perform three robustness checks: In scenario 8, we require that each firm in the sample has at least 50 ratings, and in secenario 9, we require firms to have at least 15 reviews in a year to be included in the sample. While both of these thresholds reduce the sample size, we continue to find a negative and significant association between company ratings and audit fees. For scenario 10, we calculate the ratio of the number of ratings to the number of employees, *Reviews/Employees*, to measure the representativeness of ratings to a firm's workforce. This ratio takes into account the cross-sectional variations in the number of ratings among firms. We include this variable in the first-stage regression of our propensity score matching model, so that firms with high ratings and firms with low ratings have similar mean values of *Reviews/Employees*. We also include the *Reviews/Employees* ratio as an additional control variable in the audit fee regression. We continue to find that company ratings are negatively and significantly associated with audit fees. Interestingly, the *Reviews/Employees* ratio is not significantly related to audit fees, nor does it significantly predict whether firms have high company ratings. This seems to suggest that the representativeness of ratings to a firm's workforce does not jointly affect company ratings and audit fees. That said, we cannot completely eliminate the possibility that our results are to some degree affected by unrepresentative or extreme ratings.

Propensity score matching may be sensitive to its design choices, such as the number of control firms matched to each treatment firms, the closeness of the match, and whether or not to include replacement in matching (DeFond, Erkens, and Zhang 2014). So far, we have constructed the matched samples by using propensity score matching *without replacements* and with a 1 percent caliper width and the nearest neighbor: We match only the closest control firm to each treatment firm and apply a narrow caliper to mitigate potential bias in our estimates of the treatment effect. In scenario 11 we use propensity score matching *with replacement* and find that the results do not change materially.

Taken together, all these additional tests suggest our results are robust: Our main result does not change if we control for external financing, economic conditions, corporate downsizing, misstatement propensity, founder-CEO status, and MSCI employee relation measures. Companies with a few extreme employee ratings do not seem to materially bias our results, and alternate specifications of the propensity score matching also yield consistent results.

VI. CONCLUSION

The pervasiveness and economic magnitude of corporate wrongdoings have vast implications for business and society. Wrongdoings by employees are less common in a positive work environment, and practicing auditors we interviewed told us that they consider workplace climate when assessing the engagement risk. While auditors possess proprietary information about their clients' workplaces, accounting researchers cannot easily observe cross-sectional and time-series differences in the quality of the corporate work environment. This leaves us with a conundrum: Accounting standards and practicing auditors suggest that workplace quality affects corporate audits, yet lack of accessible data impedes systematic investigations into that link. In this study, we use a large dataset of almost one hundred thousand employee satisfaction ratings

for almost a thousand large publicly traded U.S. companies from Glassdoor to examine whether a client's workplace environment affects auditors' assessments of client engagement risks.

The auditors we interviewed told us that a negative workplace environment increases their professional scrutiny, and our empirical results bear out that prediction. We find a robust inverse relation between workplace quality and audit fees: If employees rate their company highly, audit fees for that company are lower. We also document a longer audit report lag for companies with worse workplace climate, which suggests that auditors perform more procedures and increase audit coverage in these firms. Among financially distressed firms, we find that those with high employee satisfaction levels are less likely to receive modified going concern opinions when compared to firms with low employee satisfaction levels.

Our study introduces a novel dataset of employee workplace assessments and documents how client workplace environment affects audit fees, issuance of modified going concern opinions, and audit report lag. We also complement studies in organizational behavior by documenting additional benefits from a positive workplace environment. These findings should be of interest to managers, directors, and auditors. Corporate leaders ought to be aware of the adverse consequences to the external audit process that stem from a negative workplace environment. Practicing auditors can make use of Glassdoor data to complement their assessment of their clients' workplace environment.

APPENDIX

Interviews with Practicing Auditors

To gain insights into the mechanisms and channels for which client workplace environment affects the audit engagement, we interviewed four professional external auditors. They included two partners and two senior managers who work for large auditing firms in the United States. Partner A has spent 35 years as an external auditor, Partner B has spent 15 years, and Senior Manager A and B have spent ten years and nine years, respectively. Partner A has been in the partner position for 25 years, Partner B for six years, the third audit professional has been a senior manager for two years, and the fourth auditor has been a senior manager for one year.

Do Auditors Assess Client Workplace Environment as a Risk Factor?

We began the interview by asking the likelihood that a client's workplace environment affects client risks, such as asset misappropriation, misreporting of financial or accounting information, poor employee productivity, and poor company performance. Partner A pointed out:

> "I've dealt with disgruntled employees [of client firms] before like that, and it's interesting, I've been around a lot of frauds and almost every one of them has those characteristics in common. It's not that every person that is that way is going to commit fraud, but when you put all the frauds I've been involved in, they all shared those characteristics."

With regards to workplace environment affecting client business risk, Partner A stated:

> "They're just not going to be productive and their performance is going to be low because they're so fixated with how badly things are going, they spend a lot more time dealing with internal politics than they do just getting their job done."

Partner B explained how client workplace environment affects client risk:

> "Obviously tone and culture and how employees are trained, their ability to feel like they have an oversight and performance kind of process, all that, certainly plays into how you assess risk at that point and how you look at the overall entity's structure and just their entity level type of control environment. I think that plays into how you evaluate the company's control environment foundationally.

> Risk of poor company performance, that's always a risk if you have a negative workplace environment. People aren't going to want to show up and really bring their whole self to the organization every day.
>
> If you have a workplace environment where people don't have a good communication channel where information can flow freely, if you feel like that there's potential for people to or supervisors to squash issues that are brought up, yeah, those are the types of things that you'd be more concerned with and if that's causing negative workplace environment obviously, that's what you're probably more concerned with."

Senior Manager A offered the following views:

> "Any time you got disgruntled employees you have a higher risk of asset misappropriation, people are more likely to rationalize that stealing something from the company is appropriate because the company has punished them in some way or created this environment that's negative for them."
>
> "I think just generally you're going to be less motivated if you're disgruntled and don't like your job and don't like coming to work, so, definitely a drop in productivity, poor company performance."

Senior Manager B responded to the question whether a client's negative workplace environment affects risks such as asset misappropriation, poor employee productivity, and financial misreporting:

> "I think a negative workplace would probably affect those pretty highly because if you have employees that aren't happy working for you… I guess the other way around, if you have employees that really enjoy working for you and respect your company, they're going to think a little bit more before they actually do something bad. Whereas if they're just mad at the company, they hate it, they're not going to care as much if they hurt somebody in the company."

How Do Auditors Assess their Client's Workplace Environment?

Partner A responded that auditors gain insights into clients' workplace environment through *fraud interviews* with high-ranking corporate officials (CEO, CFO, controller, financial reporting director, director of human resources, legal counsel, etc.) and that auditors analyze these responses in *fraud brainstorming sessions*:[15]

[15] Regarding employees that are questioned in fraud interviews, Partner A mentioned that they would interview the CEO, CFO, controller, financial reporting director, but also employees beyond the accounting area, such as the

> "There are specific questions that ask, have you ever overridden a system of internal control, have you ever been aware of anyone that has, how satisfied are you with, do you have enough resources to do your job. They're not directly pointed to, do you feel abused, threatened, how's your morale, but you can tell by the answers to those questions, I mean, a lot of times an employee might say, I don't have time to do anything I'm supposed to do because they work me so hard. I mean, you usually find out about how they feel about the work environment through those questions. So then once we do those, we go into our fraud brainstorming session with our entire engagement team and we talk about the results of the fraud interviews, as well as other fraud indicators."

Partner B assessed a client's workplace environment as part of its control environment:

> "On the entity level control structure, we're always interested in the client's processes and tone that's being set and that can come from just direct conversations with employees as we're doing our walk-throughs, looking at their HR material, their training material, looking at connections between employees, looking at hiring practices, job skills. So that's probably where we try to gain the best understanding."

Senior Manager A added:

> "Most of our assessment of the client workplace environment is from just being in the field and talking to people and the client, we try to know our clients as best we can. Sometimes, depending on who the client is, like some of my clients in their annual presentations at their shareholders will share their client employee satisfaction survey results." […]
>
> "So sometimes it [the client's workplace environment] comes up through [fraud brainstorming session] and we specially talk about, are there pressures, are there things that would make employees rationalize misappropriation of assets or fraudulent financial reporting."

Senior Manager B commented whether auditors directly observed the client's employees:

> "Everybody on the audit team, from the staff to the manager and partner and talking with different people on the client's site, the staff we're talking with would be the staff accountants or the accounting manager, the manager's talking about the controller, CFO, the partners' talking about the CFO, things like that, and I think you get a pretty good feeling when you're asking them questions about what they do and why they're doing this stuff. You can tell, a lot of people know or will give you a lot of sarcastic answers sometimes. We have a required question, hey, are you aware of any unusual items or fraud that occurred at this company during the year. So we ask people and some people just laugh, they're like, you know, this is so and so company. And I'm like, ok wait, don't tell me that unless it's really true. But you just kind of get a feeling from asking questions, just talking with people if they like the company. Especially if they don't like the company, they open up quite a bit to you that they don't like it, so."

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director of human resources, legal counsel, and others who would know about workplace environment or would know about frauds.

How Does the Assessment of Client Workplace Environment Affect the Audit?

We asked our interviewees how a negative assessment of a client's workplace environment would subsequently affect that audit process. Partner A stated:

> "So I think that the first thing we would do is increase our level of professional skepticism and that increased level of professional skepticism could take a number of different avenues. One could be that we may raise the level of risk in an area to maybe a significant risk from just a normal risk. In our firm when we raise that to a significant risk, we basically vary the nature, time, and extent of our procedures. So that could take on a lot of different things. So like an easy example would be, let's say the inventory manager is one of these negative people. Then we might say, well normally we go do inventory observations and two of the material locations and we randomly select another one. Well, we may say, given that this is raised up to a significant risk area, we would go audit more locations or we would change the timing of them and maybe do them on a surprise basis when they're not expecting us to."

Partner A also mentioned that a client's negative workplace environment can affect effectiveness of the client's controls:

> "For example, the company's fraud program, so if they have a fraud hotline or some of the things that they do to have employees sign off on code of conduct and things like that, well, if people aren't taking it seriously, they have a bad attitude and there's a negative environment, some of those things that they implement may not really have that much meaning if people are just not even reading it and they don't care about their jobs and they're mad."

Partner B added:

> "Obviously you could have higher skepticism […] [If a negative client workplace environment] deteriorates any sort of entity level type control, that impact would be prevalent. You know, if you felt like training wasn't really important, if you felt like there wasn't a clear channel to raise issues in the organization appropriately. That could have a deeper impact possibly, so it depends on what's really causing a negative workplace environment. You need to get to that root cause."

Senior Manager A provided the following explanation for how a negative assessment of client workplace environment would affect the audit engagement:

> "If we think that it is a negative environment because upper management is domineering and really tough on the employees and all that, then we might consider, well, is there more pressure on the employees to maybe misstate financial results, are there any other risks that we can think of that might result out of this environment that these people have created. If they're disgruntled because the company isn't doing well and there've been

> layoffs or other things, then we would similarly consider, are people going to be more willing to steal assets of the company because of the situation that they're in or is the accounting department going to feel pressure to manipulate the financial results to make things look better. So we definitely would consider it, try to get to the root cause of why there's a negative environment."

Senior Manager B commented on whether a negative environment for clients' rank-and-file employees would raise concerns of auditors:

> "I mean, if there's that negative environment, I think people don't like their jobs and they don't try as hard and they don't understand what they're doing, if they really enjoy their job, I think they take the time to know what they're doing because they want to please their boss and they want to do what they need to do. And so I think when they have these negative environments that there's a lot more errors that occur, there's a lot more sloppiness that occurs that the people at the top level and going to have to catch and fix, because the people at the lower level just don't care."

The auditors we interviewed told us that the quality of clients' workplace environment can affect clients' risk factors. These risk factors include asset misappropriation, misreporting of financial and accounting information, and poor employee productivity and performance. Auditors employ several channels to assess their clients' workplace environment, including direct observations, fraud interviews and fraud brainstorming sessions. These assessments affect auditors' professional skepticism, control testing, risk thresholds and other aspects of the audit process. Overall, our interviews allow us to formulate reasonable predictions that link corporate workplace climate to auditors' assessments of client risk and provide readers with the perspectives of experienced practitioners.

Table A1

Heckman Correction for Sample Selection

Table A1 displays the first stage probit regression result of Heckman correction for sample selection. The sample period is from 2008 through 2012. Panel A reports descriptive statistics of the sample used at the first stage. The sample includes 8,403 annual observations at the firm/year level. Panel B reports probit regression results of the first-stage selection model. Dependent variable is *Employee assessment indicator*. The exclusive instrument is *Ind. (Employee assessment indicator)*. Industry and year fixed effects are included, and robust z-statistics adjusted for clustering by firm are presented in the parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Descriptive statistics

VARIABLES	Definition	Mean	S.D.	Median
Advertising ratio	Advertising expenses / Assets.	0.01	0.05	0
Assets ($ millions)	A firm's total assets.	18,585	111,208	2,218
ln(Assets)	Natural logarithm of firm's total assets.	7.81	1.78	7.70
CEO age	Age of the CEO.	55.30	6.97	55
ln(CEO age)	Natural logarithm of CEO age.	4.00	0.13	4.01
Employee assessment indicator	= 1 if a firm has >= 3 employee reviews in a year.	0.37	0.48	0
Ind. (Employee assessment indicator)	Industry average of employee assessment indicator.	0.36	0.19	0.35
Firm age	Age of the firm since its first appearance in CRSP.	25.31	19.01	19
ln(Firm age)	Natural logarithm of firm age.	2.93	0.85	2.94
Debt ratio	Total debts / Assets.	0.21	0.18	0.18
Market-to-book	Market value of assets / Book value of assets.	1.72	1.00	1.38
Number of employees	Number of a firm's employees at the end of a year.	19,609	67,990	4,698
ln(Number of employees)	Natural logarithm of number of employees.	8.46	1.69	8.45
R&D ratio	R&D expenses / Assets.	0.03	0.06	0
ROA	Net income / Assets.	0.03	0.11	0.04
S&P 500	= 1 if a firm is included in S&P 500 index.	0.28	0.45	0
Stock return	Average monthly stock returns in a year.	0.01	0.04	0.01
Stock return volatility	Standard deviation of monthly stock returns.	0.12	0.07	0.10

Table A1 (Continued)

Panel B: First-stage selection model

VARIABLES	Employee assessment indicator
Ind. (Employee assessment indicator)	3.246***
	(13.76)
S&P 500 $_{t-1}$	0.382***
	(4.535)
ln(Firm age) $_{t-1}$	-0.131***
	(-3.409)
ln(CEO age) $_{t-1}$	-0.588***
	(-2.787)
ln(Assets) $_{t-1}$	0.167***
	(3.828)
ln(Number of employees) $_{t-1}$	0.374***
	(9.687)
Debt ratio $_{t-1}$	-0.305
	(-1.539)
R&D ratio $_{t-1}$	4.022***
	(6.297)
Advertising ratio $_{t-1}$	0.272
	(0.392)
Stock return $_{t-1}$	-0.858
	(-1.620)
Stock return volatility $_{t-1}$	-0.466
	(-1.140)
Market-to-book $_{t-1}$	0.111***
	(3.519)
ROA $_{t-1}$	0.114
	(0.496)
Constant	-4.724***
	(-3.757)
Industry	Included
Year	Included
Wald chi^2	1129.68***
Observations	8,403
Pseudo R^2	0.34
Area under ROC curve	0.88

Table A2

Descriptive Statistics of the Sample for Going Concern Opinion

Table A2 displays the descriptive statistics of the sample for going concern analysis used in Table 6. The sample period is from 2008 through 2012.

VARIABLES	N	Mean	S.D.	25th %	Median	75th %
Workplace environment						
Company rating	337	2.98	0.58	2.65	3.00	3.33
Senior management rating	337	2.67	0.60	2.33	2.67	3.05
Career opportunities rating	337	2.85	0.54	2.50	2.83	3.21
Compensation/benefits rating	337	3.17	0.52	2.88	3.17	3.50
Work/life balance rating	337	3.44	0.54	3.17	3.46	3.82
Outcome						
Going concern indicator	337	0.04	0.19	0	0	0
Firm characteristics						
Altman Z-score	337	0.71	5.74	0.38	1.47	2.45
Assets ($ millions)	337	8,175	15,774	911	2,744	8,146
ln(Assets)	337	7.91	1.58	6.81	7.92	9.01
Big N indicator	337	0.95	0.21	1	1	1
Cash ratio	337	0.16	0.14	0.05	0.11	0.22
Client importance ratio	337	0.13	0.21	0.02	0.05	0.13
Debt issuance indicator	337	0.60	0.49	0	1	1
Equity issuance indicator	337	0.77	0.42	1	1	1
Ind. adjusted stock return	337	0.10	1.07	-0.32	-0.10	0.17
Leverage ratio	337	0.65	0.28	0.46	0.61	0.83
Δ(Leverage ratio)	337	1.13	0.23	1.00	1.07	1.19
Operating cash flow ratio	337	0.04	0.09	0.01	0.05	0.09
Restructuring indicator	337	0.72	0.45	0	1	1

REFERENCES

Association of Certified Fraud Examiners (ACFE). 2014. 2014 Report to the nations on occupational fraud and abuse. Available at: www.acfe.com/rttn-summary.aspx.

Berk, Jonathan B., R. Stanton, and J. Zechner. 2010. Human capital, bankruptcy, and capital structure. *The Journal of Finance* 65 (3): 891-926.

Black, S. E., and L. M. Lynch. 2004. What's driving the new economy? The benefits of workplace innovation. *The Economic Journal* 114 (493): F97–F116.

Carlin, B. I., and S. Gervais. 2009. Work ethic, employment contracts, and firm value. *The Journal of Finance* 64 (2): 785-821.

Carson, E., N. L. Fargher, M. A. Geiger, C. S. Lennox, K. Raghunandan, and M. Willekens. 2013. Audit reporting for going-concern uncertainty: A research synthesis. *Auditing: A Journal of Practice & Theory* 32 (Supplement 1): 353–384.

Causholli, M., M. De Martinis, D. Hay, and W. R. Knechel. 2010. Audit markets, fees and production: Towards an integrated view of empirical audit research. *Journal of Accounting Literature* 29: 167–215.

Coles, J. L., M. L. Lemmon, and J. F. Meschke. 2012. Structural models and endogeneity in corporate finance: The link between managerial ownership and corporate performance. *Journal of Financial Economics* 103 (1): 149–168.

Datta, D. K., J. P. Guthrie, D. Basuil, and A. Pandey. 2010. Causes and effects of employee downsizing: A review and synthesis. *Journal of Management* 36 (1): 281–348.

Dechow, P. M., W. Ge, C. R. Larson, and R. G. Sloan. 2011. Predicting material accounting misstatements. *Contemporary Accounting Research* 28 (1): 17–82.

Dechow, P., W. Ge, and C. Schrand. 2010. Understanding earnings quality: A review of the proxies, their determinants and their consequences. *Journal of Accounting and Economics* 50 (2–3): 344–401.

DeFond, M. L., D. H. Erkens, and J. Zhang. 2014. Do client characteristics really drive the big N effect? Evidence from matching methods. Marshall School of Business Working Paper No. ACC 02.14. Available at: http://ssrn.com/abstract=2472092.

Edmans, A. 2011. Does the stock market fully value intangibles? Employee satisfaction and equity prices. *Journal of Financial Economics* 101 (3): 621–640.

Edmans, A. 2012. The link between employee satisfaction and firm value, with implications for corporate social responsibility. *The Academy of Management Perspectives* 26: 1–19.

Edmans, A., L. Li, and C. Zhang. 2014. *Employee satisfaction, labor market flexibility, and stock returns around the world*. National Bureau of Economic Research.

Ernst & Young. 2013. Navigating today's complex business risks. Available at: www.ey.com/Publication/vwLUAssets/Navigating_todays_complex_business_risks/$File/Navigating_todays_complex_business_risks.pdf.

Ettredge, M. L., C. Li, and L. Sun. 2006. The impact of SOX Section 404 internal control quality assessment on audit delay in the SOX era. *Auditing: A Journal of Practice & Theory* 25 (2): 1–23.

Folkman, J. 2012. The power of the disgruntled employee. Available at: www.forbes.com/sites/cherylsnappconner/2012/07/23/the-power-of-the-isgruntled-employee/.

Garrett, J., R, Hoitash, and D. F. Prawitt. 2014. Trust and financial reporting quality. *Journal of Accounting Research* 52 (5), 1087–1125.

Greenberg, J. 1990. Employee theft as a reaction to underpayment inequity: The hidden cost of pay cuts. *Journal of Applied Psychology* 75 (4): 561–568.

Guo, J., P. Huang, Y. Zhang, and N. Zhou. 2016. The effect of employee treatment policies on internal control weaknesses and financial restatements. *The Accounting Review* 91 (4): 1167–1194.

Harris, K. J., P. Harvey, R. B. Harris, and M. Cast. 2013. An investigation of abusive supervision, vicarious abusive supervision, and their joint impacts. *The Journal of Social Psychology* 153 (1): 38–50.

Harter, J. K, F. L. Schmidt, and T. L. Hayes. 2002. Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: A meta-analysis. *Journal of Applied Psychology* 87: 268–279.

Hay, D. C., W. R. Knechel, and N. Wong. 2006. Audit fees: A meta-analysis of the effect of supply and demand attributes. *Contemporary Accounting Research* 23 (1): 141–191.

Ho, J. L., and F. Kang. 2013. Auditor choice and audit fees in family firms: Evidence from the S&P 1500. *Auditing: A Journal of Practice & Theory* 32 (4): 71–93.

Hosmer, D. W., and S. Lemeshow. 2000. *Applied Logistic Regression*. 2nd Ed. Hoboken, NJ: John Wiley and Sons, Inc.

Huang, M., P. Li, F. Meschke, and J. P. Guthrie. 2015. Family firms, employee satisfaction, and corporate performance. *Journal of Corporate Finance* 34: 108–127.

Huselid, M. A. 1995. The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal* 38 (3): 635–672.

Johnstone, K. M. 2000. Client-acceptance decisions: simultaneous effects of client business risk, audit risk, auditor business risk, and risk adaptation. *Auditing: A Journal of Practice & Theory* 19 (1): 1–25.

Jubb, C. A., K. A. Houghton, and S. Butterworth. 1996. Audit fee determinants: the plural nature of risk. *Managerial Auditing Journal* 11 (3): 25–40.

Konrad, A. M., and R. Mangel. 2000. The impact of work-life programs on firm productivity. *Strategic Management Journal* 21 (12): 1225–1237.

Krishnan, J., and J. S. Yang. 2009. Recent trends in audit report and earnings announcement lags. *Accounting Horizons* 23 (3): 265–288.

Lobel, S. A. 1999. Impacts of diversity and work-life initiatives in organizations. In *Handbook of gender and work* (pp. 453–474). Thousand Oaks, CA, US: Sage Publications, Inc.

Lobo, G., and Y. Zhao. 2013. Relation between audit effort and financial report misstatements: Evidence from quarterly and annual restatements. *The Accounting Review* 88 (4): 1385–1412.

Mahadeo, S. 2007. Conveying responsibility and accountability. Available at: www.acfe.com/article.aspx?id=571.

Minutti-Meza, M. 2013. Does auditor industry specialization improve audit quality? *Journal of Accounting Research* 51 (4): 779–817.

Nishii, L. H., D. P. Lepak, and B. Schneider. 2008. Employee attributions of the "why" of HR practices: Their effects on employee attitudes and behaviors, and customer satisfaction. *Personnel Psychology* 61: 503–545.

Organ, D. W., and K. Ryan. 1995. A meta-analytic review of attitudinal and dispositional predictors of organizational citizenship behavior. *Personnel Psychology* 48 (4): 775–802.

Petersen, M. A. 2009. Estimating standard errors in finance panel data sets: Comparing approaches. *Review of Financial Studies* 22 (1): 435–480.

Schneider, B., P. J. Hanges, D. Brent, and A. N. Salvaggio. 2003. Which comes first: Employee attitudes or organizational financial and market performance? *Journal of Applied Psychology* 88 (5): 836–851.

Shipman, J. E., Q. T. Swanquist, and R. L. Whited, 2016. Propensity Score Matching in Accounting Research. *The Accounting Review* (in press).

Simunic, D. A. 1980. The pricing of audit services: Theory and evidence. *Journal of Accounting Research* 18 (1): 161–190.

Stanley, J. D. 2011. Is the audit fee disclosure a leading indicator of clients' business risk? *Auditing: A Journal of Practice & Theory* 30 (3): 157–179.

Treviño, L. K., and G. R. Weaver. 2001. Organizational justice and ethics program "follow-through": Influences on employees' harmful and helpful behavior. *Business Ethics Quarterly*, *11* (04): 651–671.

Whitman, D. S., D. L. van Rooy, and C. Viswesvaran. 2010. Satisfaction, citizenship behaviors, and performance in work unit: A meta-analysis of collective construct relations. *Personnel Psychology* 63: 41–81.

Zingales, L. 2000. In search of new foundations. *The Journal of Finance* 55 (4): 1623-1653.

Table 1

Variable Definitions

Workplace environment

Company rating: Average ratings by a firm's employees in a fiscal year on the overall assessment of the company in a 5-point Likert scale: *very dissatisfied*, *dissatisfied*, *neutral*, *satisfied*, and *very satisfied*.

Senior management rating: Average ratings by a firm's employees in a fiscal year on senior management in a 5-point Likert scale: *very dissatisfied*, *dissatisfied*, *neutral*, *satisfied*, and *very satisfied*.

Career opportunities rating: Average ratings by a firm's employees in a fiscal year on career opportunities in a 5-point Likert scale: *very dissatisfied*, *dissatisfied*, *neutral*, *satisfied*, and *very satisfied*.

Compensation/benefits rating: Average ratings by a firm's employees in a fiscal year on compensation and benefits in a 5-point Likert scale: *very dissatisfied*, *dissatisfied*, *neutral*, *satisfied*, and *very satisfied*.

Work/life balance rating: Average ratings by a firm's employees in a fiscal year on work/life balance in a 5-point Likert scale: *very dissatisfied*, *dissatisfied*, *neutral*, *satisfied*, and *very satisfied*.

Audit outcomes

Audit fees: Firm's audit fees.

ln(Audit fees): Natural logarithm of audit fees.

Audit lag: The elapsed time from the end of a firm's fiscal year to the signature of the audit report.

ln(Audit lag): Natural logarithm of audit lag.

Firm characteristics

Altman Z-score: 3.3×ROA + 0.999× (Sales / Assets) + 0.6× (Market value of equities / Total liabilities) + 1.2× (Working capital / Assets) + 1.4× (Retained earnings / Assets).

Assets: Firm's total assets.

ln(Assets): Natural logarithm of assets.

Auditor tenure: Auditor's tenure.

ln(Auditor tenure): Natural logarithm of auditor's tenure.

Big N indicator: Equal to one if the auditor is PricewaterhouseCoopers (PWC), KPMG, Ernst & Young (EY) or Deloitte, and zero otherwise.

Busy indicator: Equal to one if a firm's fiscal year ends in December and zero otherwise.

Cash ratio: Cash and short-term investments / Assets.

Client importance ratio: Client audit fees / Total audit fees by the auditor local office.

Debt issuance indicator: Equal to one if a firm has long-term debt issuance and zero otherwise.

Debt issuance ratio: Long-term debt issuance / Assets.

Debt ratio: Total debts / Assets.

Downsizing indicator: Equal to one if a firm's annual percentage change in number of employees is equal to or smaller than -5 percent and zero otherwise.

Employee relations strengths: Total number of strengths in employee relations (variable EMP_str_num in KLD dataset)

Employee relations concerns: Total number of concerns in employee relations (variable EMP_con_num in KLD dataset).

Equity issuance indicator: Equal to one if a firm has sale of common and preferred stock and zero otherwise.

Equity issuance ratio: Sale of common and preferred stock / Assets.

Extraordinary indicator: Equal to one if a firm reports extraordinary items and zero otherwise.

Firm age: Age of the firm since its first appearance in CRSP.

ln(Firm age): Natural logarithm of firm age.

Foreign indicator: Equal to one if a firm has foreign exchange income (loss) and zero otherwise.

Founder-CEO indicator: Equal to one if the CEO is a founder and zero otherwise.

Going concern indicator: Equal to one if the auditor of a firm issues going concern reports and zero otherwise.

Industry specialization: Equal to one for firms with auditors that have the largest annual market share in an industry and that have more than 10% market share than their closest competitors, and zero otherwise. See Minutti-Meza (2013) for details.

Industry adjusted stock return: Industry adjusted annual stock return, where the median industry stock return is subtracted from annual stock return of a firm.

Intangible ratio: Intangible assets/ Assets.

Large accelerator indicator: Equal to one if a firm is a large accelerated filer and zero otherwise.

Leverage ratio: Total liabilities / Assets.

Δ(Leverage ratio): Leverage ratio $_{t}$ / Leverage ratio $_{t-1}$.

Loss indicator: Equal to one if net income is negative and zero otherwise.

Market-to-book: Market value of assets / Book value of assets.

Material weakness indicator: Equal to one if the auditor of a firm reports material weakness and zero otherwise.

Merger indicator: Equal to one if a firm has acquisitions and zero otherwise.

NoSOX404issue indicator: Equal to one if a firm has no or missing auditor's opinion of internal control and zero otherwise.

Operating cash flow ratio: Operating activities net cash flow / Assets.

Receivables and inventories ratio: (Receivables + Inventories) / Assets.

Restructuring indicator: Equal to one if a firm reports restructuring costs and zero otherwise.

ROA: Net income / Assets.

Sales growth: (Sales $_{t}$ − Sales $_{t-1}$) / Sales $_{t-1}$.

Special item ratio: Special items / Assets.

Stock return: Average monthly stock returns in a year.

Table 2

Summary Statistics

Table 2 represents the summary statistics of the full sample. We use workplace environment data from 2008 through 2012 intersected with AuditAnalytics, COMPUSTAT, and CRSP. Variable definitions are provided in Table 1. All variables are on firm/year level.

VARIABLES	N	Mean	S.D.	25th %	Median	75th %
Workplace environment						
Company rating	2837	3.15	0.56	2.79	3.18	3.52
Senior management rating	2837	2.93	0.59	2.56	2.94	3.30
Career opportunities rating	2837	3.00	0.52	2.67	3.00	3.33
Compensation/benefits rating	2837	3.24	0.52	2.94	3.25	3.56
Work/life balance rating	2837	3.48	0.55	3.17	3.50	3.83
Audit outcomes						
Audit fees ($)	2837	5,868,025	9,619,038	1,449,387	3,105,043	6,510,003
ln(Audit fees)	2837	14.98	1.05	14.19	14.95	15.69
Audit lag (days)	2837	55.72	11.03	52	56	60
ln(Audit lag)	2837	4.01	0.17	3.95	4.03	4.09
Firm characteristics						
Assets ($ millions)	2837	33,174	161,794	1,542	4,649	16,973
ln(Assets)	2837	8.57	1.73	7.34	8.44	9.74
Auditor tenure	2837	14.93	9.52	8	12	20
ln(Auditor tenure)	2837	2.48	0.72	2.08	2.48	3.00
Big N indicator	2837	0.97	0.17	1	1	1
Busy indicator	2837	0.66	0.47	0	1	1
Downsizing indicator	2837	0.18	0.38	0	0	0
Extraordinary indicator	2837	0.00	0.06	0	0	0
Firm age	2837	28.22	20.43	14	21	40
ln(Firm age)	2837	3.07	0.77	2.64	3.04	3.69
Foreign indicator	2837	0.37	0.48	0	0	1
Founder-CEO indicator	2837	0.08	0.27	0	0	0
Going concern indicator	2837	0.00	0.06	0	0	0
Industry specialization	2837	0.21	0.40	0	0	0
Intangible ratio	2837	0.22	0.20	0.04	0.17	0.36
Large accelerator indicator	2837	0.87	0.34	1	1	1
Leverage ratio	2837	0.58	0.23	0.42	0.57	0.73
Loss indicator	2837	0.14	0.35	0	0	0
Market-to-book	2837	1.77	0.93	1.12	1.48	2.08
Material weakness indicator	2837	0.01	0.10	0	0	0
Merger indicator	2837	0.56	0.50	0	1	1
NoSOX404issue indicator	2837	0.00	0.06	0	0	0
Receivables and inventories ratio	2837	0.25	0.17	0.11	0.22	0.33
Restructuring indicator	2837	0.48	0.50	0	0	1
ROA	2837	0.05	0.09	0.02	0.05	0.09
Special item ratio	2837	-0.02	0.05	-0.01	0.00	0.00
Stock return	2837	0.01	0.03	-0.01	0.01	0.03

Table 3

Propensity Score Matching

Table 3 reports propensity score matching results. The sample period is from 2008 through 2012. Panel A displays the probit regression result of the propensity score matching. Dependent variable is *High rating*, which is equal to one if C*ompany rating* is greater than its median and zero otherwise. Industry and year fixed effects are included, and robust z-statistics adjusted for clustering by firm are presented in the parentheses. Panel B compares means of the treatment group (*High rating = 1*) and the control group (*High rating = 0*) after matching. Variable definitions are provided in Table 1. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Panel A

VARIABLES	High rating
ln(Assets)	0.177***
	(4.310)
Leverage ratio	-0.712***
	(-4.258)
ln(Firm age)	-0.00478
	(-0.102)
Founder CEO	0.0748
	(0.639)
Restructuring indicator	-0.125**
	(-1.964)
Intangible ratio	-0.575***
	(-3.104)
Downsizing indicator	-0.344***
	(-4.795)
Market-to-book	0.182***
	(4.180)
Stock return	-1.920**
	(-2.146)
ROA	0.155
	(0.464)
Inverse Mills Ratio	0.158
	(1.282)
Constant	-2.714***
	(-2.608)
Industry	Included
Year	Included
Observations	2,837
LR chi^2	422.66***
Pseudo R^2	0.11
Area under ROC curve	0.71

Table 3 (Continued)

Panel B

	High rating = 1		*High rating = 0*		
VARIABLES	N	Mean	N	Mean	Diff. in Means
Workplace environment					
Company rating	971	3.57	971	2.75	0.82***
Senior management rating	971	3.27	971	2.58	0.69***
Career opportunities rating	971	3.30	971	2.71	0.59***
Compensation/benefits rating	971	3.48	971	3.03	0.44***
Work/life balance rating	971	3.75	971	3.21	0.54***
Audit outcomes					
ln(Audit fees)	971	14.92	971	15.02	-0.10**
ln(Audit lag)	971	4.00	971	4.02	-0.02**
Firm characteristics					
ln(Assets)	971	8.48	971	8.60	-0.12
Downsizing indicator	971	0.17	971	0.17	0.00
ln(Firm age)	971	3.06	971	3.06	0.00
Founder-CEO indicator	971	0.08	971	0.09	-0.01
Intangible ratio	971	0.23	971	0.22	0.01
Leverage ratio	971	0.58	971	0.58	0.00
Market-to-book	971	1.76	971	1.73	0.03
Restructuring indicator	971	0.49	971	0.49	0.00
ROA	971	0.05	971	0.05	0.00
Stock return	971	0.01	971	0.01	0.00

Table 4

The Effect of Workplace Environment on Audit Fees

Table 4 reports linear regression results of audit fees in the full sample and the matched sample. The sample period is from 2008 through 2012. Dependent variables are *ln(Audit fees)*. Panel A examines the effect of company rating on audit fees. Panel B and C examine the effect of subcategories of workplace environment on audit fees in the full sample and the matched sample, respectively. Variable definitions are provided in Table 1. Industry and year fixed effects are included, and robust t-statistics adjusted for clustering by firm are presented in the parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Panel A: The effect of company rating on audit fees

VARIABLES	(1) Full sample	(2) Matched sample
Company rating	-0.0545***	-0.0635***
	(-2.702)	(-2.793)
ln(Assets)	0.496***	0.492***
	(22.63)	(20.19)
Leverage ratio	0.240***	0.234**
	(2.596)	(2.395)
Intangible ratio	0.213**	0.215*
	(1.974)	(1.810)
Receivables and inventories ratio	0.454***	0.256
	(2.882)	(1.556)
Special item ratio	-0.400	-0.0878
	(-1.271)	(-0.241)
ROA	0.140	-0.0633
	(0.626)	(-0.266)
Extraordinary indicator	0.320***	0.343**
	(2.598)	(2.578)
Loss indicator	0.0891**	0.0937**
	(2.043)	(1.994)
Foreign indicator	0.155***	0.137***
	(4.654)	(3.912)
Large accelerator indicator	-0.200***	-0.200***
	(-4.546)	(-4.117)
Merger indicator	0.0571**	0.0216
	(2.051)	(0.715)
Restructuring indicator	0.140***	0.130***
	(5.028)	(4.037)
Big N indicator	0.0923	0.0936
	(1.291)	(1.088)
Busy indicator	0.0494	0.0322
	(1.329)	(0.823)
Going concern indicator	-0.159	-0.299
	(-0.984)	(-1.126)
Material weakness indicator	0.300***	0.422***
	(3.301)	(4.222)

NoSOX404issue indicator	0.00459	-0.0127
	(0.0376)	(-0.0719)
ln(Auditor tenure)	-0.00766	-0.00800
	(-0.342)	(-0.336)
Industry specialization	0.0394	0.0240
	(1.152)	(0.615)
Inverse Mills Ratio	-0.344***	-0.380***
	(-6.226)	(-6.146)
Constant	3.779***	4.023***
	(7.695)	(7.246)
Industry	Included	Included
Year	Included	Included
Observations	2,837	1,942
Adjusted R^2	0.823	0.818

Table 4 (Continued)

Panel B: Full sample – The effect of subcategories of workplace environment on audit fees

VARIABLES	(1)	(2)	(3)	(4)
Senior management rating	-0.0628***			
	(-3.262)			
Career opportunities rating		-0.0671***		
		(-3.135)		
Compensation/benefits rating			-0.0483*	
			(-1.811)	
Work/life balance rating				-0.0268
				(-1.295)
Controls	Included	Included	Included	Included
Observations	2,837	2,837	2,837	2,837
Adjusted R^2	0.824	0.824	0.823	0.823

Panel C: Matched sample – The effect of subcategories of workplace environment on audit fees

VARIABLES	(1)	2)	(3)	(4)
Senior management rating	-0.0815***			
	(-3.621)			
Career opportunities rating		-0.0885***		
		(-3.661)		
Compensation/benefits rating			-0.0544*	
			(-1.844)	
Work/life balance rating				-0.0247
				(-1.064)
Controls	Included	Included	Included	Included
Observations	1,942	1,942	1,942	1,942
Adjusted R^2	0.819	0.819	0.817	0.817

Table 5

The Effect of Workplace Environment on Audit Report Lag

Table 5 reports linear regression results of audit report lag in the full sample and the matched sample. The sample period is from 2008 through 2012. Dependent variables are *ln(Audit lag)*. Panel A examines the effect of company rating on audit lag. Panel B and C examine the effect of subcategories of workplace environment on audit lag in the full sample and the matched sample, respectively. Variable definitions are provided in Table 1. Industry and year fixed effects are included, and robust t-statistics adjusted for clustering by firm are presented in the parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Panel A: The effect of company rating on audit lag

VARIABLES	(1) Full sample	(2) Matched sample
Company rating	-0.0152**	-0.0199***
	(-2.487)	(-2.865)
ln(Assets)	-0.0158**	-0.00370
	(-2.187)	(-0.580)
Leverage ratio	0.0506*	0.0470*
	(1.923)	(1.774)
Intangible ratio	0.0424	0.0278
	(1.476)	(0.975)
Receivables and inventories ratio	0.0875**	0.0265
	(2.195)	(0.669)
Special item ratio	-0.0412	-0.118
	(-0.410)	(-1.135)
ROA	-0.143*	-0.0266
	(-1.826)	(-0.349)
Extraordinary indicator	0.0758***	0.0311
	(3.445)	(1.277)
Loss indicator	-0.00382	0.0104
	(-0.335)	(0.846)
Foreign indicator	0.00640	0.00484
	(0.607)	(0.460)
Large accelerator indicator	-0.0824***	-0.0974***
	(-5.747)	(-6.526)
Merger indicator	0.00637	0.00660
	(0.850)	(0.832)
Restructuring indicator	-0.00575	-0.00701
	(-0.626)	(-0.740)
Big N indicator	0.0220	0.0503
	(0.646)	(1.414)
Busy indicator	0.0396***	0.0486***
	(3.166)	(3.717)
Going concern indicator	0.126***	0.155*
	(2.932)	(1.788)
Material weakness indicator	0.189***	0.239***
	(3.651)	(3.816)

NoSOX404issue indicator	0.0353	0.0392
	(0.647)	(0.560)
ln(Auditor tenure)	0.00107	-0.000754
	(0.155)	(-0.110)
Industry specialization	-0.00400	-0.00552
	(-0.341)	(-0.437)
Inverse Mills Ratio	0.0488***	0.0740***
	(2.813)	(4.163)
Constant	4.347***	4.074***
	(27.59)	(28.07)
Industry	Included	Included
Year	Included	Included
Observations	2,837	1,942
Adjusted R^2	0.235	0.224

Table 5 (Continued)

Panel B: Full sample – The effect of subcategories of workplace environment on audit lag

VARIABLES	(1)	(2)	(3)	(4)
Senior management rating	-0.0150**			
	(-2.498)			
Career opportunities rating		-0.0174***		
		(-2.730)		
Compensation/benefits rating			-0.0183**	
			(-2.411)	
Work/life balance rating				-0.0112*
				(-1.868)
Controls	Included	Included	Included	Included
Observations	2,837	2,837	2,837	2,837
Adjusted R^2	0.236	0.236	0.236	0.234

Panel C: Matched sample – The effect of subcategories of workplace environment on audit lag

VARIABLES	(1)	(2)	(3)	(4)
Senior management rating	-0.0211***			
	(-3.019)			
Career opportunities rating		-0.0243***		
		(-3.100)		
Compensation/benefits rating			-0.0142*	
			(-1.805)	
Work/life balance rating				-0.0149**
				(-2.255)
Controls	Included	Included	Included	Included
Observations	1,942	1,942	1,942	1,942
Adjusted R^2	0.224	0.225	0.221	0.221

Table 6

The Effect of Workplace Environment on Going Concern Opinions

Table 6 reports probit regression results of going concern opinions. The sample period is from 2008 through 2012. Dependent variables are *Going concern indicator*. Variable definitions are provided in Table 1. Industry and year fixed effects are included, and robust z-statistics adjusted for clustering by firm are presented in the parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

VARIABLES	(1)	(2)	(3)	(4)	(5)
Company rating	-4.169***				
	(-2.710)				
Senior management rating		-2.542***			
		(-3.904)			
Career opportunities rating			-1.262***		
			(-2.715)		
Compensation/benefits rating				0.798	
				(0.562)	
Work/life balance rating					-0.394
					(-0.456)
ln(Assets)	-2.757***	0.219	0.144	-1.187***	-1.185***
	(-3.707)	(0.558)	(0.522)	(-2.612)	(-2.648)
Altman Z-score	-0.165***	0.136**	0.0461	0.374	0.201
	(-2.762)	(2.402)	(0.865)	(1.486)	(0.838)
Leverage ratio	27.72***	10.55***	5.323***	13.77***	12.95***
	(3.154)	(4.183)	(5.226)	(6.036)	(5.686)
Δ(Leverage ratio)	-37.86***	-7.752***	-3.589***	-11.80***	-12.47***
	(-2.839)	(-3.289)	(-2.663)	(-4.644)	(-5.062)
Cash ratio	-47.35***	-10.26**	-4.862*	-27.01***	-23.05***
	(-3.201)	(-2.538)	(-1.708)	(-2.957)	(-4.463)
Operating cash flow ratio	-103.2***	-20.85***	-12.99***	-52.55***	-48.12***
	(-3.188)	(-3.300)	(-3.459)	(-4.864)	(-5.148)
Ind. adjusted stock return	-1.552*	-0.163	-0.0206	-0.849***	-0.702**
	(-1.842)	(-0.823)	(-0.223)	(-2.615)	(-2.380)
Restructuring indicator	9.821***	4.294***	1.698*	4.086***	3.913***
	(2.920)	(3.590)	(1.821)	(3.486)	(3.263)
Debt issuance indicator	-2.166	-1.533**	-0.867	-0.106	-0.0752
	(-1.344)	(-1.969)	(-1.474)	(-0.176)	(-0.128)
Equity issuance indicator	-1.278*	0.728	0.155	-0.829	-0.906
	(-1.933)	(1.398)	(0.333)	(-1.508)	(-1.593)
Big N indicator	-2.130	-1.645	-0.280	0.203	0.109
	(-0.901)	(-1.412)	(-0.296)	(0.167)	(0.0786)
Client importance ratio	-7.928	-3.826**	-0.554	-3.694*	-2.673

	(-1.537)	(-1.970)	(-0.593)	(-1.710)	(-1.413)
Inverse Mills Ratio	-13.81***	-1.812*	-0.431	-4.465***	-4.502***
	(-3.059)	(-1.717)	(-0.524)	(-2.613)	(-3.032)
Constant	94.20***	-1.416	-2.039	23.11**	28.23**
	(3.134)	(-0.164)	(-0.335)	(2.073)	(2.451)
Industry	Included	Included	Included	Included	Included
Year	Included	Included	Included	Included	Included
Observations	337	337	337	337	337
Pseudo R^2	0.79	0.69	0.60	0.74	0.74
Area under ROC curve	0.99	0.98	0.97	0.99	0.99

Table 7

Robustness

Table 7 examines the robustness of the effect of workplace environment on audit fees in matched samples. The sample period is from 2008 through 2012. Dependent variables are *ln(Audit fees)*. For conciseness, we only report regression coefficients of *Company rating* and numbers of observations in audit fee models. We construct each propensity score matched sample by a probit specification that is similar to Panel A of Table 3 and includes additional control variables from the corresponding scenario. Scenario (1) reprints estimates from column (2), Panel A of Table 4 as the "Baseline." Scenario (2) controls for external financing by including *Debt issuance ratio* and *Equity issuance ratio* in the audit fee model. Scenario (3) controls for financial crisis period by including in the audit fee model an indicator variable, *Financial crisis*, which equals one during the time period of 2008-2009, and its interaction term with *Company rating*. Scenario (4) controls for downsizing by including *Downsizing indicator* in the audit fee model. Scenario (5) controls for *F-score* (Dechow e al. 2011) in the audit fee model. Scenario (6) controls for *Founder-CEO indicator* in the audit fee model. Scenario (7) controls for *MSCI Employee Strengths and Concerns* in the audit fee model. Scenario (8) requires that each firm in the sample has at least 50 ratings. Scenario (9) requires firms to have at least 15 reviews in a year to be included in the sample. Scenario (10) controls for *Reviews/Employees*, the ratio of the number of ratings to the number of employees, in the audit fee model. In Scenario (11), propensity score matching *with replacements* is applied to construct the sample. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Scenario	Company rating	N
(1) Baseline	-0.0635***	1,942
(2) Control for external financing	-0.0606***	1,846
(3) Control for financial crisis period	-0.0717***	1,942
(4) Control for downsizing	-0.0632***	1,942
(5) Control for *F-score*	-0.0634***	1,534
(6) Control for *Founder-CEO indicator*	-0.0636***	1,942
(7) Control for *MSCI Employee Strengths and Concerns*	-0.0551**	1,814
(8) At least 50 reviews per firm	-0.0848**	896
(9) At least 15 reviews per firm/year	-0.112**	680
(10) Control for *Reviews/Employees*	-0.0516**	1,948
(11) Propensity score matching with replacements	-0.0564**	2,760