

Financial Misconduct, Reputation Damage and Changes in Employee Satisfaction*

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Abstract

We use Glassdoor data to study the effects of the public announcement of financial misconduct on employees' perceptions of firms and managers and the main drivers of any change in perceptions. We find fraud announcements are associated with a 0.27 standard deviation decline in employees' overall company ratings and 0.20 to 0.33 standard deviation declines in ratings of career opportunity, compensation, senior leadership, work-life balance, culture and values, and recommendation. Using a machine learning method to analyze employee comments, we find that employees provide fewer positive comments and more negative ones and general feedback about firm culture and values, which indicates that reputational damage is the main reason behind the decrease in employee perceptions.

Keywords: Financial Misconduct, Employee Satisfaction, Corporate Culture, Reputation Damage

JEL Code: G3, M4

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1 Introduction

Financial misconduct can affect firms' top managers, investors, consumers, and other firms in the same industry in various ways (Agrawal et al. [1999]; Erickson et al. [2006]; Sadka [2006]; Beatty et al. [2013]; Li [2016]). Our paper uses new and proprietary micro-data from Glassdoor.com for the period between 2012 and 2020 to investigate changes in employees' perception of firms and managers after the public announcement of misconduct. Employee satisfaction is crucial for firm productivity and proxies for a firm's ability to attract and retain talented employees. Brown and Matsa [2016] document that employees pay attention to firms' conditions and that corporate distress affects firms' job application pools. It is thus reasonable to expect that employees adjust their perceptions of the firm after a public announcement of financial misconduct.

Firm culture and values are critical to a company's success. Graham et al. [2019] conduct a survey and find that more than half of executives believe that corporate culture is a top-three driver of firm value, and most of them believe that improving their culture would increase their firms' value. Among the different categories of the firm culture, integrity, which includes ethics, honesty, and similar values, is one of the most important. Guiso et al. [2015a] shows that integrity is the most frequently advertised value by S&P500 companies. They find that, when employees perceive top managers as ethical, a firm's performance is stronger. Financial misconduct, as a strong signal of dishonesty and irresponsibility of top managers, is likely to hurt rank-and-file employees' belief in the integrity of their employers. In this paper, we use a machine learning method to analyze Glassdoor comments and show that reputational damage relating to firm culture explains changes in employee satisfaction after an announcement of corporate financial misconduct.

First, we estimate the effects of the announcement of misconduct on employees' ratings of their employers. We find that the average rating of a company declines by 0.27 standard deviation (sd) in the years that follow the announcement. This estimate is statistically significant and robust to the inclusion of a wide array of factors, including year, month, firm, or state fixed effects; time-varying firm- and state-level trends; and characteristics of both firms and employees. Employees' perceptions of firm culture and values, senior leadership, CEO rating, and career opportunities

are the most harmed aspects. This finding is consistent with the view that financial misconduct reflects weak leadership (Graham et al. [2005]; Fich and Shivdasani [2007]) and leads to employee dissatisfaction with the firm culture. The ratings of work-life balance also decline significantly, but the magnitudes are smaller.¹ We also find that the effects are stronger among employees who are older and who have worked longer at the firm. These groups of employees are more likely to have higher positions and therefore are more likely to be concerned about the firm’s reputation.

Next, we explore the impetus behind the decrease in employee satisfaction following the announcement of misconduct and find that the reputational damage relating to firm culture is the main reason. Companies care about how the public and the media perceive them, and their reputation represents an important subset of intangible capital (e.g., Barth et al. [1998]). The reputation of a firm’s culture is damaged by the public disclosure of financial misconduct, and this damage could harm a firm’s long-term performance. As a result, it is reasonable for employees to show concern. We use a machine learning method, the nonnegative matrix factorization method (NMF), to analyze employee comments collected by Glassdoor. Glassdoor asks employees to provide company pros and cons and general feedback on the firm. The unsupervised machine learning method first identifies eight different topics employees mention in their comments and then determines the topic of each sentence. After that, we examine the effects of the public announcement of financial misconduct on the frequency of each topic employees mention in their comments. We find that the positive comments about firm culture and management significantly decline and the negative comments and general feedback about firm culture increase after a misconduct announcement. We do not find a consistent pattern of changes for any other topics, like compensation, benefits, flexibility, and so on. These results clearly show that corporate culture is what employees are most unsatisfied with and that they express their worries about the reputational damage to firm culture in their comments.

We also address other potential reasons behind the decline of employee satisfaction. The first is short-term litigation costs and any related stock return drop. Penalties and legal settlement

¹The systematic decreased ratings may reflect employees’ response bias. To identify the main drivers of employees dissatisfaction, we will analyze their comments, which are less likely to be affected by behavioral biases, in Section 4.

costs following the public disclosure of misconduct lead to an immediate negative stock return and increase in financial distress, which may cause employees to worry about firm performance. We construct quarterly stock crash measures and show that there is no significant association between employee ratings and stock crashes, which implies that the decrease in employee ratings does not mainly reflect concern about stock crashes. The second alternative channel could be reduced compensation and a higher risk of layoffs. After financial misconduct is exposed, a firm may adjust its labor investment; Kedia and Philippon [2009] show that firms shed labor and capital when misreporting is detected. We use Glassdoor salary data and document that, after an announcement of misconduct, employee salaries are unaffected on average, although nonregular workers do experience wage declines. Given regular workers do not suffer similarly and employees who are likely to hold higher positions adjust downward their ratings to a larger extent, it is implausible that decreased compensation drives decreased employee ratings after announcements of misconduct. Finally, employees may worry about a productivity decline in the firm. However, Kedia and Philippon [2009] demonstrate that, when misconduct is detected and firms shed labor and capital, their productivity improves. Thus, concerns about productivity should not be the main reason for declines in employee satisfaction following misconduct announcements. In summary, neither a stock crash, nor a compensation decrease, nor a productivity decline explain changes in employee satisfaction after the disclosure of misconduct.

We provide a few additional analyses. First, we document that employees decrease their ratings and change their comments about corporate culture shortly after misconduct announcements, which is consistent with the results from the full sample. Second, we conduct a placebo test by focusing on less-severe accounting misstatements, which are unlikely to affect firm culture and reputation. Supporting our hypothesis, we do not find significant effects. Lastly, we document that our results are robust to an alternative sample selection procedure.

Our paper contributes to a few branches of literature. The first branch focuses on the financial misconduct. For example, Karpoff et al. [2008a] show that the legal penalties on firms with financial misconduct are small, relative to the penalties imposed by the market. Beatty et al. [2013] find that high-profile financial misconduct prompts competitors to increase investment, possibly because

the misconduct companies are increasing investment, relative to trends in those years [Kedia and Philippon, 2009], which pressures competitors to follow along. Building on Beatty et al. [2013], Li [2016] finds that the harm of financial misstatements is not limited to high-profile scandals; a broader sample of incidents yields the same results, and declines are apparent not only in capital investment but also R&D, advertising, and price setting. Relatedly, Choi and Gipper [2019] examine the effects of fraudulent financial reporting on wages and employee turnover. They find that fraud firms' wages decline and the separation rate is higher during and after fraud periods. Ji et al. [2017] examine whether employee dissatisfaction helps predict firms' manipulation of performance metrics. Our paper documents a new real effect of financial misconduct: the decline of employee's positive perception of the firm after the public announcement of misconduct. We also show that reputational damage relating to firm culture is the main reason behind the decreased satisfaction. This helps explain declines in firm value following announcements of misconduct. This decline in employee satisfaction also proxies for a firm's decreased ability to attract and retain personnel.²

A second branch of the literature focuses on corporate culture. Some papers demonstrate the importance of corporate culture. For example, Guiso et al. [2015a] examines various dimensions of corporate culture that relate to a firm's performance. Integrity, among other categories of corporate culture, is shown the most valuable dimension. In a related paper, Guiso et al. [2015b] argue that corporate culture is also a laboratory for studying the role of societal culture in explaining the causes of national prosperity. Other papers pay attention to the effects of bad firm culture. Pacelli [2019] documents an association between weak corporate culture and analysts providing products catered to institutional clients at the expense of individual investors. Liu [2016] shows that firms with high corruption are more likely to misbehave. Our paper uses a machine learning method to analyze Glassdoor comments and finds that the reputational damage relating to corporate culture leads to decreased employee perceptions of a firm after a misconduct disclosure. Since these perceptions affect a firm's ability to attract and retain employees, our finding highlights the importance of corporate culture for a firm's long-term performance.

²Broadly speaking, our paper also relates to accounting research that examines the effects of earnings targets on employees (e.g., [Caskey and Ozel, 2017]) and trust in management (e.g., [Tsui and Vance, 2019]).

A third branch of the literature discusses the value of human capital for a firm. Both practitioners and researchers emphasize the increasing importance of human capital for modern firms (Zingales [2000]; Fedyk and Hodson [2019]). Brown and Matsa [2016] examine the impact of corporate distress on firms job applicant pool. They find that an increase in an employers distress results in fewer and lower-quality applicants. Our paper demonstrates that financial misconduct decreases employee satisfaction and thus hurts the ability of a firm to attract talented employees, due to the firm’s damaged reputation. Our paper also provides microeconomic evidence consistent with Garrett et al. [2014], which shows that financial misconduct can erode trust in an organization and thus lower productivity and financial performance.

Our paper is organized as follows. Section 2 introduces the data and provides summary statistics. Section 3 presents the research design and results for changes in employee ratings after misconduct announcements. Section 4 shows that reputational damage of firm culture explains the decrease in employee perceptions. Section 5 provides additional tests. Section 6 concludes.

2 Data and Summary Statistics

2.1 Glassdoor data

Our primary data are drawn from Glassdoor, a large crowd-sourcing company that gathers information on both compensation and perceptions of workplace practices. We use employee ratings and comments collected between 2012 and 2020 and employee salaries before 2016. Individuals who visit Glassdoor are asked to take surveys regarding their salary, nonwage benefits, ratings of their company across several dimensions, and their comments on their employers. The majority of employer ratings follow a Likert scale, ranging from one to five stars, although a few questions are binary (e.g., CEO approval - yes/no). Figure 1 shows the company review questionnaire from the Glassdoor website.

[Insert Figure 1]

Our research joins an emerging empirical literature that exploits variation in online reviews

(Dai et al. [2018]; Fradkin et al. [2018]). Although one of our concerns is nonrandom selection into Glassdoor – that is, only very happy or very upset employees post their opinions – recent experimental research from Marinescu et al. [2018] suggests that providing formal or informal incentives can significantly reduce the potential for bias in data from self-reported reviews. For example, Glassdoor’s “give to get” model requires individuals to contribute information about their company if they want to receive information about other companies’ compensation and ratings.

We also reproduce the external validity examination of the Glassdoor sample in Liu et al. [2018], comparing the sample to nationally representative data collected by the US Census Bureau and the Bureau of Labor Statistics. According to the patterns in Figure A.1, Figure A.2, and Figure A.3, although the Glassdoor data tend to come from workers with higher incomes and more education, compared to census data, significant overlaps in the wage distribution and composition of most industries and occupations are present, which minimizes sample selection concerns. In sum, these exercises give us confidence that the variation inherent in the Glassdoor data is useful for causal inferences.

[Insert Table 1]

Table 1 presents the summary statistics of Glassdoor ratings for the full sample and the regression sample. The AAER sample consists of firms that have had AAERs. The non-AAER sample includes firms that have never had AAERs. In this paper, we restrict our baseline sample to observations with nonmissing values for all dependent and independent variables.³ In the full Glassdoor sample, the average ratings of firms in different dimensions range from 3.03 to 3.39. Sixty-one percent of employees recommend their employers, and 30% of them think their CEO does a good job. After the sample is restricted to individuals with nonmissing ratings and other personal information controlled in the analysis, the number of observations drops substantially. Nevertheless, the average ratings of firms in the remaining sample still resemble those in the full sample. Within the regression sample, employees’ average ratings are very close between firms

³A large proportion of the raw data has been dropped, but the final sample is still representative, as shown in Table 1 and Table 2.

that committed misconduct versus those that have never done so, except for benefit and work/life balance, which are rated slightly higher in the AAER firms.

[Insert Table 2]

Table 2 summarizes the main features of Glassdoor reviewers. The majority of reviewers have a bachelor's degree or higher. They are also younger, relative to the age distribution of US job market participants. Over 50% of the sample are between 25 and 39 years old, while workers over 50 years of age constitute only 10.89% of the sample. Fifty-two percent of reviewers are male, and over 75% are full-time workers. Around 27% of reviewers work in the states where the headquarters is located. Worker characteristics are similar between the full Glassdoor sample and the regression sample. Perhaps surprisingly, the individuals associated with firms that we focus on through the AAER data are not statistically distinguishable, at least in terms of major demographic characteristics, from those at firms not contained in the AAER data, suggesting that the Glassdoor sample is sufficiently comprehensive. We do, however, find that individuals in the AAER sample are less likely to be female, with an incidence of 38.24% versus 45.09% in the non-AAER sample.

2.2 Accounting and Auditing Enforcement Releases

We use AAERs as our primary source of information about public disclosure of misconduct. Since 1982, the Securities and Exchange Commission (SEC) has issued AAERs either during or at the conclusion of an investigation of a company, an auditor, or an officer for alleged accounting and/or auditing misconduct. These announcements provide varying degrees of detail on the nature of the misconduct, the individuals and entities involved, and their effect on the financial statements. In addition to the release date, AAERs also contain the year and quarter information of the period when the misconduct occurred.

[Insert Figure 2]

This dataset consists of 3,813 SEC AAERs issued between May 17, 1982, and September 30, 2016. These AAERs cover 1,540 firm misstatements, of which 1,019 affect the firms' quarterly

and/or annual financial statements. We have roughly 600 companies in our sample. These data, however, are likely to suffer from Type II error – that is, companies that have not been caught are classified as not having committed financial misconduct. Consequently, we may underestimate the potential effect of misconduct on firm ratings.

2.3 Audit Analytics Advanced Non-Reliance Restatement database

We also use the Audit Analytics Advanced Non-Reliance Restatement database, updated in 2018. Nonreliance restatements refer to restatements that undermine previous and/or current financial statements, due to material accounting misstatements that must be restated in an 8-K⁴ item 4.02 filing. Nonreliance misstatements exclude nonmaterial errors, such as “out-of-period” adjustments, and revision restatements, such as voluntary or mandatory changes in accounting standards. The Audit Analytics database includes all restatements filed after January 2000 for all publicly traded companies listed on one of the main US exchanges. Key for our analysis, the Audit Analytics database tracks the years when a firm restates, which like announcement years in AAERs, correspond to each filing.

2.4 Financial Data

We also gather a range of financial characteristics about organizations from Compustat to enable controlling and testing for potential changes in organizational performance following misconduct. If, for example, ratings change in response to performance shocks, and these shocks are correlated with misconduct, we may spuriously attribute movement in employee beliefs to economic changes in the organization. These financial characteristics help us explicitly control for these concerns. Lastly, we use stock return data from the Center for Research in Security Prices (CRSP) to test whether our main results are mainly driven by stock market fluctuation.

⁴In addition to filing annual reports on Form 10-K and quarterly reports on Form 10-Q, public companies must report certain material corporate events on a more current basis. Form 8-K is the “current report” companies must file with the SEC to announce major events that shareholders should know about.

3 Employees' Perception after Announcement of Misconduct

3.1 Identification Strategy

Our baseline empirical specification applies a multiple-period difference-in-difference estimator of the following form.

$$y_{ift} = \gamma 1[t \geq \text{MisconAnnounce}]_{ft} + \beta D_{it} + \phi X_{ft} + \zeta_f + \lambda_t + \epsilon_{ift} \quad (1)$$

where y_{ift} denotes several different ratings of an individual i in firm f and month-year t , $1[t \geq \text{MisconAnnounce}]_{ft}$ denotes an indicator for the years following the public announcement of the misconduct⁵, D_{it} denotes individual-level demographic controls (e.g., education, age, gender), X_{ft} denotes firm-level financial controls, and ζ and λ denote firm and time (year and month) fixed effects. Our inclusion of firm and time fixed effects is to control for unobserved firm characteristics that could affect employee perceptions and to control for economic shocks concurrent with the announcement of misconduct, which could spuriously generate a negative gradient on the misconduct. ϵ_{ift} is the error term. We cluster standard errors at the firm level to allow for autocorrelation in the error term within the firm over time [Bertrand et al., 2004].

Our primary coefficient of interest is γ , which characterizes the average response of our employee rating of the company to the public announcement of financial misconduct. The change in rating could reflect, for example, a decline in the employees' perception of the company or a decline in the employees' expectations about the public perception of the company; either way, the firm's reputational capital suffers. Identification of γ requires that unobserved determinants of employee perceptions are uncorrelated with the public announcement of the financial misconduct. We argue that the public announcement of financial misconduct is plausibly exogenous because firms do not know when the SEC will start an investigation, although they endogenously choose when to commit the misconduct. The time interval between the misconduct and its public announcement

⁵In cases in which firms have multiple AAERs in different years, we use the year that the first AAER was announced to generate $1[\geq \text{MisconAnnounce}]_{ft}$. For AAERs announced between 1995 and 2016 and successfully matched to the AAER Annual file, only two firms have multiple AAERs. Therefore, the way in which we deal with firms that have multiple AAERs is unlikely to affect our analysis.

varies from case to case.

Before concluding the regulatory proceeding of an AAER case and publicly announcing the case, the SEC formally investigates. During this period, the targeted firm may issue a press release indicating that it is the target of an SEC informal inquiry or formal investigation [Karpoff et al., 2008b]. There are a few reasons that we use the public announcement of AAERs, instead of press releases, to investigate the reaction of employees. First, there are uncertainties about whether a firm would be issued an AAER after the investigation. In some cases, the SEC drops the case after an investigation and the dropped cases are not in the AAER sample. Therefore, practically it is difficult to figure out the treated and control groups. Second, We are interested in documenting the effects of revealed firm financial misconduct rather than the suspicion of a fraud. At the beginning of an investigation, both the public and employees are unsure about the results of the investigation and how serious it is. Thus, it is more reasonable to document the employees' reactions after the SEC settles a case.

3.2 Main Results

Table 3 documents our main results associated with Equation 1. We standardize all employee ratings, except for the indicator variables “recommend or not” and “whether you think CEO does a good job,” to have a mean of zero and one standard deviation to facilitate comparison. Column 1 presents a baseline specification containing individual controls and firm and time fixed effects, illustrating that the years following the public announcement of misconduct are associated with a 0.31 standard deviation decline in an employee’s overall rating of the company. Inclusion of individual-level controls and firm fixed effects purge time-invariant variation in firm performance that could be correlated with an announcement of the financial misconduct. However, there could be time-varying negative shocks concurrent with the misconduct disclosure that also affect employee perceptions. To address the potential for time-varying state-level concurrent economic shocks, column 2 controls for state \times year fixed effects; the gradients remain identical. Column 3 addresses a similar concern, which is the potential concurrent time-varying industry-level economic shocks, by using industry \times year fixed effects. Our estimated coefficients across these specifications are

statistically indistinguishable from one another.

[Insert Table 3]

Dechow et al. [1996] discuss how the cost of capital dramatically rises following the public announcement of earnings manipulations. To overcome potential mechanical and productivity-related identification concerns, in Column (4), we control for notable time-varying firm economic characteristics, including Tobin’s q and market-to-book ratio. Dechow et al. [2010] also discuss financial statement variables that are associated with misstatements. These factors may simultaneously change employee ratings and cause endogeneity issues. Following Dechow et al. [2010], we control for these variables, including total accruals, change in receivables, change in inventory, percentage of soft assets, change in cash sales, change in return on assets, and equity or debt issuance, in Column (4). Prior literature, like Schrand and Zechman [2006], also documents that AAER firms are larger than non-AAER firms. Therefore, we also control for total assets in Column (4). The coefficient remains robust and statistically significant. While we recognize that the inclusion of these variables is susceptible to the “bad control” critique discussed by Angrist and Pischke [2009] because the variables may also be affected by the public announcement of financial misconduct, we simply present these results as further evidence that we are not capturing the effects of the market shock *per se*.

Another identification concern is that misconduct might sometimes be investigated by the SEC much earlier than it is announced in some cases. In these cases, employees would know about the misconduct and react before the formal announcement. However, employees may not have strong reactions before knowing the results of any investigation. As mentioned in the previous section, the SEC drops some cases after investigations. Moreover, the issue of early reactions, even if it exists, would only attenuate the effects we document, because employees would react to the public revelation when $1[t \geq \text{MiconAnnounce}]_{ft} = 0$. To directly address this issue, we use three years before the public announcement of financial misconduct as the pseudo announcement year and conduct analyses by using Equation 1. The untabulated results show that there are no significant effects when we use pseudo announcement years, instead of the actual announcement years, which

confirms that the declines in employee ratings mainly happen after the public announcement of financial misconduct.

[Insert Table 4]

While our baseline results focus on overall employee ratings, Glassdoor also provides a range of specific dimensions about firm ratings that are useful to examine in greater detail. These ratings include career opportunities, compensation and benefits, work-life balance, senior management, and culture and values. The survey also asks whether the CEO does a good job and whether an employee would recommend the company to others. Table 4 presents the results for other ratings by using the same specification to the last column in Table 3. We find a systematic negative association between the public announcement of misconduct and most company ratings. The effects are the strongest for employee ratings of firm culture and values, senior leadership, CEO rate, and career opportunities. These ratings drop by approximately 0.26 to 0.34 sd after the announcement of misconduct. The large declines in ratings of senior leadership and CEO rating are consistent with employees attributing the misdeed to the executives of the company. The negative association with firm culture and values indicates that employees are concerned about the reputations of their employers. Relatedly, employees may reasonably worry about their careers and decrease their ratings of career opportunities. Nonetheless, we also find marginally significant negative associations with measures of work-life balance in Column (6).

The results shown in Table 4 could be explained in several ways. First, employees may be unsatisfied with various aspects of firms after the fraud disclosure, and, in turn, most categories of ratings decline. Second, the majority of employer ratings on Glassdoor's questionnaire follow a Likert scale, which may reflect employees' response styles. Response styles are a respondents tendency to answer survey questions in certain ways, regardless of the content, and therefore they contribute to systematic error. Two of typical response styles are the disacquiescence response style (Baumgartner and Steenkamp [2001]; Stenning and Everett [1984]) and question-order bias [Blankenship, 1942].⁶ As shown in Figure 1, Glassdoor asks for overall ratings and employees'

⁶Disacquiescence response style is the respondents' tendency to disagree with items, regardless of content, and

comments first and then asks their opinions about different aspects of firms. If employees are unhappy with firms' financial misconduct, give low overall ratings, and provide complaints, they may exhibit response bias and tend to give lower ratings for other aspects of their employers, regardless of the content. Because of the factors mentioned above, it is difficult to identify the main drivers behind dissatisfaction simply based on employee ratings. Since employee comments are less likely to be contaminated by any response bias, we will analyze employees' comments to figure out the main drivers in Section 4.

3.3 Heterogeneous Treatment Effects

We now examine several dimensions of heterogeneity that not only provide interesting insights but also help validate our argument about retention and recruitment. Employees who have longer tenures and hold higher positions accumulate more firm-specific human capital and are more immersed in firm culture. Therefore, they are more tied to employers and are likely to pay more attention to financial misconduct that harms a firm. The hypothesis is that employees with longer tenures and higher positions react more strongly to fraud disclosure than other employees. We generate a dummy variable that equals one if an employee works in a firm for more than one year and zero otherwise. Since Glassdoor does not measure of employee positions, we use a few variables, such as education, age, worker status, and whether someone works in the state of the headquarters to proxy for an employee's position.

Table 5 presents the results. We use the same specification as in Column (4), Table 3. In Panel A, we divide the sample into two groups based on employees' length of employment. We find stronger negative effects for individuals with longer tenures, which is consistent with our hypothesis. Moreover, given that these workers have more work experience and are in a more advantaged situation on the job market than other employees, the pattern we find supports the argument that the impetus for the employee dissatisfaction is more likely to be skepticism about firm culture and values, rather than the job security or salary concerns.

only the low response categories are used. Question-order bias is the phenomenon that a respondent may answer questions differently based on the order in which questions appear in a survey.

[Insert Table 5]

In Panels B and C, we find stronger effects for individuals who are older than 30 and those who are regular workers. Consistent with our hypothesis, elder and regular employees are more likely to hold higher positions in a company, and therefore, compared to new staff and temporary workers, reputational damage to firm culture and values matter more for them. In untabulated results, we do not find a statistically significant difference between employees with high education and those with low education.

4 Damage to Corporate Culture Reputation

We have shown above that employees’ perceptions of firms and managers declines in the previous section, but it is important to understand why. In this section, we use machine learning to analyze the Glassdoor employee comments and demonstrate that reputational damage relating to firm culture drives the changes of employee perceptions after the public announcement of financial misconduct.

4.1 Glassdoor Comments and Machine Learning Method

In addition to the employee ratings, Glassdoor also collects employees’ detailed comments for their employers. As shown in Figure 1, employees were asked to provide positive comments (“pros”), negative comments (“cons”), and general feedback (“advice to management”).⁷ Since employees are free to write any opinions about their companies in this part of the survey, the topics they mention directly imply what they care most about. To figure out the topics employees write in their comments, we use a machine learning method, the nonnegative matrix factorization method (NMF), to analyze the comments. NMF is a widely used unsupervised machine learning method for the analysis of high dimensional data (e.g., Cichocki and P.H.A.N. [2009], Fevotte and Idier [2011]). It automatically extracts meaningful features from a set of nonnegative data vectors. Specifically,

⁷An example of positive comments is “Great people, great diverse environment.” An example of negative comments is “Always changing how you do your job, and not always for the better.” An example of general feedback is “Value your employees, create more advancement opportunities.”

when conducting text mining, NMF identifies topics from a set of texts by identifying the words found simultaneously in different sentences. There are a few steps to analyze employees' comments. First, we remove some uninformative but frequently used words from the sentences to facilitate the machine learning method to identify topics that employees talk about more accurately. The removed word list includes "excellent," "good," "great," "like," "nice," "better," "pretty," "decent," "bad," "poor," "don't," "stop," "really," "lot," "make," and "doing." These words are either degree adverbs or only express employees positive or negative opinions. Since Glassdoor questionnaire asks pros and cons separately and our purpose is to identify the topics mentioned in comments, these words are useless and even prevent NMF from identifying topics. Second, we group all sentences in three categories of comments and use NMF to identify topics covered in these sentences and the top key words related to each topic. Based on the key words in each topic, we summarize the theme of each topic. Table A.1 shows eight topics and 10 key words for each topic. For example, the top words of the first topic contain "environment," "balance," and "home." It is reasonable to say this topic is about work/life balance. Similarly, the two most frequently used words of the second topic are "company" and "culture." Therefore, we summarize the theme of this topic as firm culture. The rest of the topics mentioned in Glassdoor employee comments are compensation, coworkers, management, respectfulness, benefits, and flexibility.

[Insert Table 6]

In the next step, we determine the topic, among the eight identified ones, of each sentence. Then we generate eight variables, each one for a certain topic, that measure the number of sentences talk about a certain topic in a comment. In the final data, the unit of observation is an employee comment. Table 6 presents the summary statistics of the Glassdoor comments data. Employees mention flexibility the most. On average, they use 0.5 and 0.9 sentences to provide positive and negative comments for this issue in each comment. Except for flexibility, work/life balance, firm culture, management, and coworkers are comparatively more popular topics. Compensation, benefits, and respectfulness are less popular but regularly mentioned. Generally speaking, there is no clear difference between the frequency of topics that employees in AAER firms mention versus

those that employees in non-AAER firms mention.

4.2 Damage to Firm Culture after the Public Announcement of Financial Misconduct

In this section, we show that reputational damage to firm culture is the main reason behind the decline of employee satisfaction after a public announcement of financial misconduct. We use the Glassdoor data introduced in the previous section and the specification below.

$$y_{ift} = \gamma 1[t \geq \text{MisconAnnounce}]_{ft} + \beta D_{it} + \phi X_{ft} + \zeta_f + \lambda_t + \epsilon_{ift} \quad (2)$$

where y_{ift} denotes the number of sentences mentioning a particular topic of employee i in firm f and month-year t . The definitions of other variables are the same as those in Equation 1.

[Insert Table 7]

Table 7 shows the results of employee comments. We find strong and consistent patterns of the firm culture. Based on Panel A, the positive comments about firm culture significantly decline after the public announcement of financial misconduct. Consistently, the results in Panel B show that the negative comments about firm culture increase significantly. Moreover, the increased general feedback about firm culture after the announcement of financial misconduct in Panel C echoes the findings in Panels A and B. The above-mentioned results imply that employees are unsatisfied with the firm culture in the company and complain more about it after the disclosure of fraud. In addition to firm culture, employees also decrease their positive comments about firm management after the public announcement of financial misconduct, which supports the argument that employees hold top managers responsible for the misconduct. We do not find significant changes in negative comments and general feedback about firm management. Moreover, the positive comments about benefits slightly increase, which might imply that employers try to improve benefits to retain personnel after the announcement of misconduct. All other types of comments do not change significantly.

Companies care about how the public and the media perceive their brands, which represents an important subset of intangible capital (e.g., Barth et al. [1998]). After a clear and publicly observed

sign of firm dishonesty and unethical (an announcement of financial misconduct), the reputation of firm culture is impaired. The strong reactions of employees highlight the importance of corporate culture. The damaged reputation not only hurts the value of firm brands but also substantially decreases employees' perception of the firm and management, which, in turn, hurts firms' ability to attract and retain employees.

[Insert Table 8]

Next, we investigate the heterogeneous effects of the public announcement of financial misconduct on employees' comments. Similar to the analysis of employee ratings, we expect that, if there are any heterogeneous results, employees who hold higher positions in the company would react more strongly to the disclosure of misconduct. We show the results in Table 8. In most cases, the magnitude of the effects does not vary a lot among different groups of employees. A few exceptions are that employees with higher education write more negative comments about firm culture as do employees who work in headquarters states. These findings are consistent with our hypothesis. Both groups of employees are likely to hold higher positions than other employees. Therefore, it is reasonable for them to care more about the reputational damage of firm culture.

4.3 Alternative Channels

The changes in topics employees discuss in their comments documented above reveal for the impetus for the decline of employees' perceptions of the firm after the fraud disclosure. In this section, we discuss a few alternative channels through which the disclosure of misconduct might affect employee ratings.

First, since a firm's stock return could crash shortly after the misconduct disclosure, an alternative explanation is that employees' negative responses to the financial misconduct may be driven by stock market fluctuation. To test this possibility, we examine the changes of employee ratings when a firm's stock crashes. We follow Hutton et al. [2009], Kim et al. [2011a] and Kim et al. [2011b] to construct the firm-specific stock crash measures. These measures have been widely used (e.g., Hong et al. [2017], Chakravarthy et al. [2017]). First, we estimate the firm-specific weekly

stock returns for each firm and year from the following index model regression.

$$r_{jt} = \alpha_j + \beta_1 r_{m,t-1} + \beta_2 r_{i,t-1} + \beta_1 r_{m,t} + \beta_1 r_{i,t} + \beta_1 r_{m,t+1} + \beta_1 r_{i,t+1} + \epsilon_{jt} \quad (3)$$

where r_{jt} is the return on stock j in week t , $r_{m,t}$ is the CRSP value-weighted market index, and $r_{i,t}$ is the Fama and French value-weighted industry index. ϵ_{jt} is the error term. We add the lead and lag terms for the market and industry indexes in the regression to allow for asynchronous trading [Dimson, 1979]. Next, we construct the firm-specific weekly return for firm j in week t , $W_{j,t}$, as the natural log of one plus the regression residual in Equation 3, that is, $W_{j,t} = \ln(1 + \epsilon_{jt})$. After that, following Hutton et al. [2009], we generate a dummy variable, BIGCRASH, that equals one if firm-specific weekly returns are three standard deviations below the mean firm-specific weekly returns over the fiscal year. Moreover, we also generate another two dummy variables, MIDCRASH and SMALLCRASH, that equal one if firm-specific weekly returns are two or one standard deviations below the mean firm-specific weekly returns over the fiscal year, respectively. Last, we generate three corresponding firm-quarter level dummy variables that equal one if at least one week in a certain firm-quarter has a big, medium, or small stock crash, respectively. We use the following specification to test employee ratings change along with the stock crash.

$$y_{ift} = \gamma 1[t = StockCrash]_{ft} + \beta D_{it} + \phi X_{ft} + \zeta_f + \lambda_t + \epsilon_{ift}$$

where $1[t = StockCrash]_{ft}$ are dummy variables equal one if at least one week in firm f and quarter t has a big, medium, or small stock crash, respectively. The definitions of other variables are the same as those in Equation 1.

[Insert Table 9]

Table 9 presents the results. In Panel A, the coefficients are close to zero for all types of ratings, which clearly shows that employee ratings do not vary when there are small stock crashes. In Panel B, only the coefficient of CEO rating is significantly negative. Some of the coefficients in Panel C are negative, but they are not statistically significant. In summary, the pattern in Table 9 implies

that employees do not change their perceptions of their employers significantly with stock market variations. Thus, the decline of employee perceptions after the public announcement of financial misconduct is unlikely to be driven by stock crashes.

Moreover, we investigate the second potential economic channel: whether changes in employee satisfaction are mainly affected by earnings declines for employees after the announcement of misconduct. We use the same specification as in Equation 1 but with salary as the dependent variable. We do not find a significant coefficient on $1[t \geq \text{MisconAnnounce}]_{ft}$ when using the full sample. This outcome indicates that the average employee earnings do not decline after a misconduct announcement. Thus, it is unlikely to drive the decrease in employee perceptions. When restricting the sample to nonregular workers, the untabulated results show that an announcement of misconduct has a negative impact on salaries. This finding is consistent with the report by Kedia and Philippon [2009] that, after the misconduct is detected, firms shed labor and capital. Nonregular workers have lower bargaining power in the labor market. Thus, they suffer more from the discovery of the misconduct and experience wage declines after an announcement. According to Table 5, employees who decrease their perceptions of employers to a larger extent are those who are regular workers and do not suffer from salary decrease. This, again, supports the argument that the decrease in employee perceptions is not driven by the salary decline.

Another potential explanation could be employees' worry about a productivity decline of their employer after the financial misconduct. However, Kedia and Philippon [2009] demonstrate that, when the misconduct is detected, firms shed labor and capital and productivity actually improves, rather than worsens. This finding contradicts the concern that misconduct firms' productivity deteriorates following the public announcement of the misconduct, resulting in declines in employee ratings.

Based on these analyses, it appears that employees do not adjust their ratings of employers significantly because of concerns about litigation costs, stock crashes or lost earnings. On the contrary, their comments, specifically the decrease of positive comments and the increase of negative ones and general feedback of firm culture, express clearly that the reputation of firm culture is what they are concerned about. Therefore, the damage to this reputation is likely to be the impetus

for their comments. Chakravarthy et al. [2014] show that fraud firms take actions to repair their reputations after serious accounting restatements, which also supports our findings that financial misconduct hurts a firm’s reputation and its employees’ perceptions of the firm and its managers.

5 Additional Tests

5.1 Short Window Results

In this section, we report additional tests. First, we document the effects of financial misconduct announcements in a short period. We use the following regression form.

$$y_{ift} = \gamma 1[t \geq \text{MisconAnnounce} \& t \leq \text{MisconAnnounce} + 1]_{ft} + \beta D_{it} + \phi X_{ft} + \zeta_f + \lambda_t + \epsilon_{ift} \quad (4)$$

where $1[t \geq \text{MisconAnnounce} \& t \leq \text{MisconAnnounce} + 1]_{ft}$ denotes an indicator variable that equals one in the misconduct announcement year and the year after.⁸ We exclude observations with $t > \text{MisconAnnounce} + 1$ for firms with AAERs since they do not belong to either treated or control groups. The definitions of other variables are the same with Equation 1.

[Insert Table A.2]

The short window results shown in Table A.2 have a similar pattern to those in Table 3 and Table 4. The magnitude of the coefficients is larger for the majority of ratings in short window results, which is reasonable as employees are likely have the strongest dissatisfaction right after the public announcement of misconduct but firms would work to repair their damaged reputation later on.

[Insert Table A.3]

In addition to the effects on employee ratings in short window, we present the short window effects on employee comments in Table A.3. Employees write more negative comments and more

⁸Since the misconduct announcements could happen at any time in a year, we use a two-year window to allow employees to have some time to report their opinions on Glassdoor.

general feedback about firm culture in short run after the misconduct announcement and there is no change for other topics, which resemble the results documented in Table 7. The only exception is that, in the short run, we do not find that employees decrease their positive comments about firm culture and management. The coefficients are still negative, but, because of increased standard deviation, the results are not statistically significant.

5.2 Less Severe Accounting Misstatements

In this section, we conduct a placebo test by focusing on less-severe misstatements. Although both AAERs and Audit Analytics Restatement data are sources of information on firms' financial misconduct, AAERs are public letters issued by the SEC indicating enforcement issues and usually emphasize more visible problems that were not corrected by a restatement. In contrast, Audit Analytics Restatement data include all restatements filed after January 2000 for all publicly traded companies listed on one of the main US exchanges. Restatements in Audit Analytics can result from benign errors as well as intentional misrepresentation. Most of these misstatements attract the attention of research analysts but not that of the public. Therefore, they are not severe enough to hurt the reputation of the firm culture. If employees' response to the public announcement of AAERs is mainly driven by the damaged reputation of the firm culture, we should not find significant effects after restatements tracked in Audit Analytics Restatement data. Moreover, we divide restatements into two groups: One with nonpositive yearly size-adjusted cumulative stock return in the release year and the other with positive yearly size-adjusted cumulative stock return in the release year. If employees only care about the stock return but not the firm reputation, we would expect to find that their perceptions' drop when the yearly size-adjusted cumulative stock return is negative, even though these cases are not severe enough to hurt firm reputation.

[Insert Table A.4]

Table A.4 presents the results of the placebo test. In Panel A, we use restatements with positive yearly size-adjusted cumulative stock return and the control sample. We do not find significant effects on any employee ratings. In Panel B, we only use restatements with non-positive yearly

size-adjusted cumulative stock return and the control group to conduct the analysis. The coefficients of interest become more negative, but only the coefficient of work-life balance is statistically significant. The results in Table A.4 are consistent with our argument that employee reactions to announcements of firm financial misconduct is mainly driven by the damaged reputation of corporate culture.

5.3 Alternative Sample Selection

When using Equation 1 to conduct the main tests we restrict the sample to observations with nonmissing values for all dependent and independent variables. We drop a large proportion of the raw data because many observations have missing values for our controls (e.g., age, education, and gender). We do so because these controls are important for addressing individual heterogeneity in employee ratings. However, we may be discarding relevant information if these observations are missing at random. We conduct a robustness check by restricting our sample only to individuals who report basic personal information, such as age, gender, and education and keeping individuals who do not report other information, such as length of employment. We then create an indicator denoting whether the control variable is missing and replace the missing value with a value of -99.⁹

[Insert Table A.5]

Table A.5 presents the results from alternative sample selection. Column (1) shows that, after a misconduct announcement, employees' average overall rating for firms decreases around 0.20 sd, but the coefficient is not statistically significant. One reason for this outcome could be that these observations contain greater measurement error, because the respondents are not incentivized to report truthfully via the “give-to-get” model.

The results of other ratings, except for “recommend the firm or not,” nonetheless are statistically significant. Culture value and leadership are affected by misconduct announcements the most, although the magnitudes are smaller than those in Table 3. In this sense, even under the assumption that these missing values are missing at random and should be included in our baseline sample,

⁹Any value except zero works here. The indicator variable would capture the effects of the sample with missing values separately. Thus the replaced value will not affect the main coefficient.

the main result that the misconduct is negatively associated with employee ratings (and most of the specific dimensions) continues to be robust.

6 Conclusion

Using novel micro-data from Glassdoor, we empirically examine how the public announcement of financial misconduct affects employees' perceptions of firms and managers and the economic channel behind the employee perceptions change. Our empirical strategy exploits variation in employee ratings before versus after the public announcement of the misconduct, conditional on an array of time-varying individual- and firm-level covariates. Our baseline specification suggests that overall company ratings decline by 0.27 s.d. following the announcement of misconduct, driven in large part by declines in ratings on firm culture and values, senior leadership, CEO rating, and career opportunities. We also examine the effects for an array of subsamples, finding, for example, that the decline in ratings is largest for regular workers, elder employees and those who have longer employment histories with their firm.

Next, we show that reputational damage relating to firm culture and values is the main reason behind this decline of employee perceptions. We use an unsupervised machine learning method, the nonnegative matrix factorization method (NMF), to analyze all sentences in employee comments and identify eight different topics they talk about. Next, we assign one of the eight topics to each sentence and measure the number of sentences that mention a certain topic in each comment. We find that employees provide substantially less positive comments and more negative comments and general feedback about firm culture after the announcement of misconduct. The number of sentences that mention other topics does not vary significantly. This pattern implies that reputational damage relating to firm culture is the impetus for the decrease of employee perceptions after the public announcement of financial misconduct. The findings highlight the importance of firm culture. After damage to firm culture, firms' ability to attract and retain employees decreases.

We also discuss other potential economic channels behind the employees' rating decline after the announcement of misconduct. The first is litigation cost and related stock-return-crash risk. We

show that employee ratings do not have a positive association with stock crashes. Another potential channel is the reduced compensation and higher risk of layoffs. Using the Glassdoor salary data, we find that employee salaries are unaffected on average after disclosure of misconduct, though nonregular workers, who have lower bargaining power in the labor market, experience wage declines. Since employees who work longer adjust their ratings downward to a larger extent, it is unlikely that nonregular workers play the central role in rating decline. Last, employee perceptions may decline because of decreased productivity. However, Kedia and Philippon [2009] provide opposite results, showing that firms' productivity improves after shedding extra labor and capital.

While our empirical results highlight a tight link between financial misconduct and employee satisfaction, our results have broader ramifications for firm culture and human capital in organizations. Our paper provides new evidence of the underlying determinants of employee perceptions about a company and the corresponding effects on attracting and managing human capital.

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Appendix A Variable Definitions

Dependent variables:

Overall rating is employees' overall ratings for the firms.

Career opportunity is employees' ratings for their career opportunities in the current firms.

Compensation benefit is employees' ratings for the benefit (compensation other than salary) they get from the firms.

Senior leadership is employees' ratings for the capability of the senior leadership in the firms.

Work-Life balance is employees' ratings for their work-life balance.

Culture value is employees' ratings for the firms' corporate culture.

Recommend is a dummy variable that equals one when an employee thinks he or she will recommend working for the current employer to others.

Size adjusted stock market cumulative return is the yearly stock market cumulative return. It is generated by using the CRSP daily return data.

Base pay is employees' reported base pay and it is normalized to 1/1/2017 dollars using the CPI.

Dependent variables:

Total asset is the total asset from Compustat data.

Tobin's q is calculated as $(at + (csho * prcc_f) - ceq)/at$ by using Compustat data. *at* is the total asset; *csho* is the closing stock price; *prcc_f* is the number of shares outstanding (in millions of shares) on the balance sheet date; *ceq* is common/ordinary equity - total.

Market to book ratio is calculated as $mkvalt/(bklps * csho)$ by using Compustat data. *mkvalt* is the market value - total; *bklps* is the book value per share; *csho* is the closing stock price.

Total accruals is calculated as $\Delta(\text{Common equity} + \text{Noncontrolling interest} - \text{Cash})/\text{Average assets}$ by using Compustat data.

Change in receivable is calculated as $\Delta\text{Net accounts receivable}/\text{Average assets}$ by using Compustat data.

Change in inventory is calculated as $\Delta\text{Inventory}/\text{Average assets}$ by using Compustat data.

Percentage of soft assets is calculated as $(\text{Total assets} - \text{Cash} - \text{Net PP\&E})/\text{Total assets}$ by using Compustat data.

Change in cash sales is calculated as $((\text{Sales}_t - \Delta\text{Net accounts receivable}_t) - (\text{Sales}_{t-1} - \Delta\text{Net accounts receivable}_{t-1})) / (\text{Sales}_{t-1} - \Delta\text{Net accounts receivable}_{t-1})$ by using Compustat data.

Change in return on assets is calculated as $\Delta(\text{Net income from continuous operations}/\text{Average assets})$ by using Compustat data.

Equity or debt issuance is a dummy variable that equals one if the firm issues equity or debt during the period, and zero otherwise.

Employee characteristics:

Female is a dummy variable that equals one if an employee is a women and zero if an employee is a man; otherwise, it is recorded as missing.

Age is an employees' age.

Education = College is a dummy variable that equals one if an employee's highest education is college and zero if an employee's education is higher or lower than college; otherwise, it is recorded as missing.

Education > College is a dummy variable that equals one if an employee's highest education is higher than college and zero if an employee's education is lower than or equal to college; otherwise, it is recorded as missing.

Regular worker is a dummy variable that equals one if an employee is a regular full-time worker and zero if an employee is part time, contract, intern, freelance, or other type of worker; otherwise, it is recorded as missing.

Length of employment is the year of employment in the current firm.

Headquarters state is a dummy variable that equals one if an employee works in the state in which the firm's headquarters is located, and equals zero if an employee works in a state that is different from the state in which the firm's headquarters is located; otherwise, it is recorded as missing.

Figure 1: Glassdoor Company Review Questionnaire

Rate a Company
It only takes a minute! And your anonymous review will help other job seekers.

Company
Amazon

Overall Rating*
★★★★★

Are you a current or former employee?

Employment Status*
Select

Review Title*

Pros* 5 word minimum
Share some of the best reasons to work at Amazon

Cons* 5 word minimum
Share some of the downsides of working at Amazon

Advice to Management

Ratings (Optional)

Career Opportunities
★★★★★

Compensations & Benefits
★★★★★

Work/Life Balance
★★★★★

Senior Management
★★★★★

Culture & Values
★★★★★

Rate CEO Job Performance, Jeff Bezos
👍 👎

Recommend to a friend?
👍 👎

6 Month Business Outlook
👍 👎

About You (Optional)

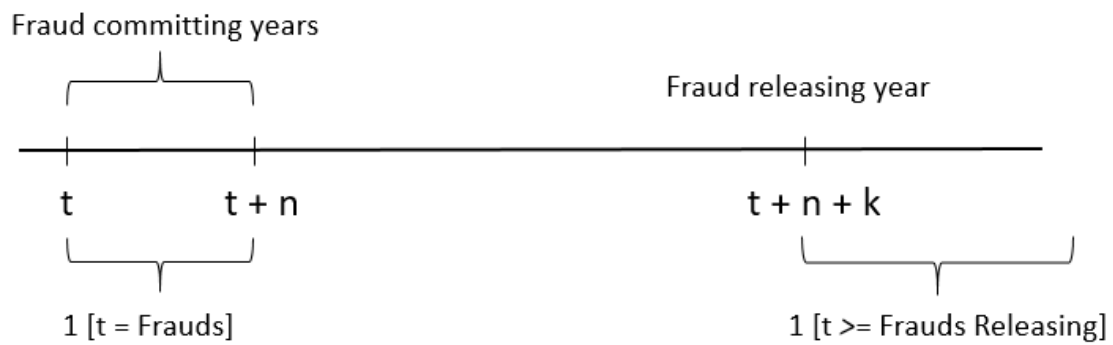
Job Title

Length of Employment
Select

Location

This figure shows the company review questionnaire from the Glassdoor website.

Figure 2: Timeline



This figure shows the timeline of misconduct committing years, the misconduct announcement year, and the ways we define the key independent variables.

Table 1: Summary Statistics of Glassdoor Ratings

This table presents the mean and observations of Glassdoor ratings separately for the full sample and the regression sample. AAER sample consists of firms that have ever had AAERs. The non-AAER sample includes firms that have never had AAERs in history.

	Average Ratings							
	Overall Rating	Career	Benefit	Leadership	Work Life	Culture	Recommend	CEO Rate
Full Sample	3.39	3.16	3.25	3.03	3.32	3.35	0.61	0.30
Obs.	7,439,215	6,450,982	6,444,142	6,360,021	6,462,394	6,368,585	6,090,124	4,465,523
<i>Regression Sample</i>								
Full Regression Sample	3.38	3.21	3.35	2.95	3.27	3.37	0.62	0.32
Obs.	255,979	234,881	234,830	232,173	235,021	233,503	221,946	202,970
AAER Sample	3.42	3.24	3.43	2.94	3.35	3.35	0.63	0.32
Obs.	35,127	32,272	32,289	31,981	32,303	32,089	30,557	28,184
Non AAER Sample	3.38	3.20	3.33	2.95	3.25	3.37	0.62	0.32
Obs.	220,852	202,609	202,541	200,192	202,718	201,414	191,389	174,786

Table 2: Summary Statistics of Glassdoor Reviewers

This table presents the summary statistics of Glassdoor reviewers' demographic information (education, age, and gender) and a few job-related variables (employment status, whether working in the headquarters state). The first two columns present the summary statistics for reviewers in the full sample. The next four columns present summary statistics for reviewers in the regression sample.

	Full Sample		Regression Sample			
			AAER Sample		Non AAER Sample	
	# of Obs.	Pct	# of Obs.	Pct	# of Obs.	Pct
<i>Education</i>						
High School	211,206	11.05	3,732	10.62	28,527	12.92
Associate	46,198	2.42	747	2.13	5,284	2.39
Bachelors	1,303,705	68.22	22,716	64.67	152,616	69.10
Masters	308,224	16.13	6,907	19.66	30,224	13.69
MBA	27,300	1.43	742	2.11	3,136	1.42
JD	3,955	0.21	71	0.20	304	0.14
MD	814	0.04	15	0.04	51	0.02
PhD	9,491	0.50	197	0.56	710	0.32
<i>Age</i>						
< 25	464,395	21.97	6,078	17.30	52,478	23.76
25 to 29	513,630	24.30	7,604	21.65	53,360	24.16
30 to 39	581,608	27.52	10,055	28.62	60,300	27.30
40 to 49	323,899	15.32	6,777	19.29	32,778	14.84
50 to 59	183,646	8.69	3,799	10.82	17,901	8.11
>= 60	46,603	2.20	814	2.32	4,035	1.83
<i>Gender</i>						
Female	2,012,756	47.95	13,434	38.24	99,585	45.09
Male	2,184,591	52.05	21,693	61.76	121,267	54.91
<i>Employment Status</i>						
Regular	4,535,118	75.13	27,495	78.27	158,587	71.81
Part Time	913,152	15.13	3,973	11.31	42,832	19.39
Contract	264,000	4.37	1,420	4.04	7,876	3.57
Intern	268,818	4.45	2,187	6.23	10,759	4.87
Freelance	53,727	0.89	52	0.15	788	0.36
Other	1,803	0.00	0	0.00	10	0.00
<i>In the Head QuarterState</i>						
Yes	-	-	9,295	26.46	44,331	20.07
No	-	-	25,832	73.54	176,521	79.93

Table 3: Effects of Financial Misconduct Announcement on Employees' Overall Ratings

This table presents regression outputs using the following specification.

$$y_{ift} = \gamma 1[t \geq \text{MisconAnnounce}]_{ft} + \beta D_{it} + \phi X_{ft} + \zeta_f + \lambda_t + \epsilon_{ift}$$

where y_{ift} denotes employees' overall rating for the firms, $1[t \geq \text{MisconAnnounce}]_{ft}$ denotes an indicator for the years following the public announcement of the misconduct, D_{it} denotes individual-level controls including gender, age, education, regular worker indicator, length of employment, headquarters state indicator), X_{ft} denotes time-varying firm-level controls, ζ and λ denote firm and time (year and month) fixed effects. We cluster standard errors at the firm level to allow for arbitrary degrees of autocorrelation in shocks within the firm over time (Bertrand et al. [2004]). Please refer to Appendix A for the construction of each variable. We add individual-level controls, year and month fixed effects, and firm fixed effects in all columns. We standardize the overall rating to have zero mean and one standard deviation. In Column (2), we add state-level time trend controls. In Column (3) we add state fixed effects and industry-level time trend controls. In Column (4) we add total asset, Tobin's q, market to book ratio, total accruals, change in receivables, change in inventory, percentage of soft assets, change in cash sales, change in return on assets, and equity or debt issuance.

VARIABLES	(1)	(2)	(3)	(4)
	Overall Rating			
1 [t>=MisconAnnounce]	-0.305*	-0.304**	-0.300*	-0.274*
	[0.157]	[0.155]	[0.158]	[0.143]
female	-0.045***	-0.046***	-0.048***	-0.045***
	[0.006]	[0.006]	[0.006]	[0.006]
Age	-0.010***	-0.010***	-0.010***	-0.009***
	[0.000]	[0.000]	[0.000]	[0.000]
Education = College	0.044***	0.043***	0.042***	0.044***
	[0.006]	[0.006]	[0.006]	[0.006]
Education > College	0.052***	0.050***	0.050***	0.055***
	[0.010]	[0.010]	[0.010]	[0.010]
Regular Worker	-0.140***	-0.141***	-0.143***	-0.135***
	[0.015]	[0.015]	[0.015]	[0.015]
Length of Employment	0.003***	0.003***	0.004***	0.003***
	[0.001]	[0.001]	[0.001]	[0.001]
Head Quarter State	0.029***	0.042***	0.064***	0.031***
	[0.010]	[0.010]	[0.010]	[0.010]
Year, Month FE	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
State * Year FE	No	Yes	No	No
State FE	No	-	Yes	No
Industry * Year FE	No	No	Yes	No
Firm level ctrls	No	No	No	Yes
Observations	255,979	255,979	255,979	239,727
R-squared	0.114	0.115	0.116	0.117

Table 4: Effects of Financial Misconduct Announcement on Employees' Other Ratings

This table presents regression outputs using the following specification.

$$y_{ift} = \gamma 1[t \geq \text{MisconAnnounce}]_{ft} + \beta D_{it} + \phi X_{ft} + \zeta_f + \lambda_t + \epsilon_{ift}$$

where y_{ift} denotes our individual-level outcome of interest, $1[t \geq \text{MisconAnnounce}]_{ft}$ denotes an indicator for the years following the public announcement of the misconduct, D_{it} denotes individual-level controls including gender, age, education, regular worker indicator, length of employment, headquarters state indicator), X_{ft} denotes time-varying firm-level controls, which are the same with those variables in Column (4), Table 3, ζ and λ denote firm and time (year and month) fixed effects. We cluster standard errors at the firm level to allow for arbitrary degrees of autocorrelation in shocks within the firm over time (Bertrand et al. [2004]). Please refer to Appendix A for the construction of each variable. The dependent variables in each column are career opportunity, compensation benefit, senior leadership, work-life balance, culture value, and recommend, respectively. We standardize all ratings except for recommend to have zero mean and one standard deviation.

VARIABLES	(1) Culture	(2) Leadership	(3) CEO Rate	(4) Career	(5) Benefit	(6) Work Life	(7) Recommend
1 [t >= MisconAnnounce]	-0.257*** [0.088]	-0.334*** [0.087]	-0.275*** [0.096]	-0.327*** [0.097]	-0.200*** [0.040]	-0.242* [0.136]	-0.124 [0.076]
female	-0.025*** [0.006]	-0.047*** [0.006]	0.007 [0.005]	-0.024*** [0.007]	0.006 [0.006]	-0.064*** [0.006]	-0.021*** [0.003]
Age	-0.010*** [0.000]	-0.009*** [0.000]	-0.006*** [0.000]	-0.011*** [0.000]	-0.004*** [0.000]	-0.010*** [0.001]	-0.004*** [0.000]
Education = College	0.044*** [0.007]	0.057*** [0.007]	0.047*** [0.006]	0.019** [0.009]	-0.003 [0.008]	0.052*** [0.008]	0.022*** [0.003]
Education > College	0.050*** [0.011]	0.065*** [0.012]	0.068*** [0.010]	0.001 [0.016]	-0.047*** [0.013]	0.105*** [0.014]	0.031*** [0.005]
Regular Worker	-0.117*** [0.015]	-0.190*** [0.016]	-0.003 [0.012]	0.023 [0.018]	0.102*** [0.023]	-0.284*** [0.014]	-0.064*** [0.006]
Length of Employment	0.002** [0.001]	-0.005*** [0.001]	-0.003*** [0.001]	0.000 [0.001]	0.004*** [0.001]	-0.002* [0.001]	0.001* [0.000]
Head Quarter State	0.041*** [0.011]	0.057*** [0.011]	0.052*** [0.009]	0.063*** [0.013]	0.013 [0.010]	0.102*** [0.013]	0.024*** [0.004]
Year, Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm level ctrls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	218,423	217,155	189,869	219,722	219,670	219,864	207,522
R-squared	0.126	0.100	0.122	0.095	0.185	0.128	0.093

Table 5: Effects of Financial Misconduct Announcement on Employees' Ratings: Heterogeneous Effects

This table presents regression outputs using the following specification.

$$y_{ift} = \gamma_1 1[t \geq \text{MisconAnnounce}]_{ft} + \gamma_2 1[t \geq \text{MisconAnnounce}]_{ft} \times 1[\text{Subgroup}] + \beta D_{it} + \phi X_{ft} + \zeta_f + \lambda_t + \epsilon_{ift}$$

where y_{ift} denotes employees' overall rating for the firms, $1[t \geq \text{MisconAnnounce}]_{ft}$ denotes an indicator for the years following the public announcement of the misconduct, $1[\text{Subgroup}]$ denotes an indicator for whether an employee belongs to a certain group. In Panel A, we divide the sample by length of employment. Long employment is an indicator variable that equals one if the employment period longer than or equal to one year. In Panel B, we divide the sample by whether an employee is older than 30. In Panel C, we divide the sample by whether an employee is a regular worker. D_{it} denotes individual-level controls (including gender, age, education, regular worker indicator, length of employment, headquarters state indicator), X_{ft} denotes time-varying firm-level controls, which are the same with those variables in Column (4), Table 3, and ζ and λ denote firm and time (year and month) fixed effects. We cluster standard errors at the firm level to allow for arbitrary degrees of autocorrelation in shocks within the firm over time (Bertrand et al. [2004]). Please refer to Appendix A for the construction of each variable. We standardize the overall rating to have zero mean and one standard deviation.

VARIABLES	(1) Overall	(2) Culture Value	(3) Leadership	(4) CEO Rate
Panel A: Length of Employment				
1 [t >= MisconAnnounce]	-0.240* [0.137]	-0.229*** [0.088]	-0.292*** [0.081]	-0.238*** [0.089]
1 [t >= MisconAnnounce] X LongEmp	-0.044** [0.020]	-0.035 [0.022]	-0.050** [0.021]	-0.044* [0.026]
Observations	239,727	218,423	217,155	189,869
R-squared	0.118	0.127	0.101	0.123
Panel B: Age				
1 [t >= MisconAnnounce]	-0.246* [0.146]	-0.235*** [0.091]	-0.298*** [0.090]	-0.245** [0.098]
1 [t >= MisconAnnounce] X Age>30	-0.052* [0.030]	-0.037 [0.025]	-0.064** [0.031]	-0.057* [0.030]
Observations	239,727	218,423	217,155	189,869
R-squared	0.117	0.127	0.101	0.122
Individual level controls	Yes	Yes	Yes	Yes
Year, Month FE	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Firm level controls	Yes	Yes	Yes	Yes

VARIABLES	(1) Overall	(2) Culture Value	(3) Leadership	(4) CEO Rate
Panel C: Worker Status				
1 [t >= MisconAnnounce]	-0.241*	-0.216**	-0.284***	-0.239**
	[0.146]	[0.092]	[0.092]	[0.100]
1 [t >= MisconAnnounce] X Regular Worker	-0.054	-0.066*	-0.080*	-0.055
	[0.040]	[0.035]	[0.047]	[0.041]
Observations	239,727	218,423	217,155	189,869
R-squared	0.117	0.126	0.101	0.122
Individual level controls	Yes	Yes	Yes	Yes
Year, Month FE	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Firm level controls	Yes	Yes	Yes	Yes

Table 6: Summary Statistics of Glassdoor Comments

This table presents the summary statistics of Glassdoor comments data separately for the full sample and the regression sample. AAER sample consists of firms that have ever had AAERs. The non-AAER sample includes firms that have never had AAERs in history. The unit of observation is one employee comment for their employers. Each comment consists of a few sentences. The eight variables in the table measure the number of sentences mention a certain topic in each comment. The eight topics are work/life balance, culture, compensation, coworkers, management, respectfulness, benefits and flexibility. This table shows the mean of these measures.

	culture	manage	compen	benefit	worklife	coworker	respect	flexib	Obs.
<i>Pro</i>									
AAER Sample	0.24	0.10	0.10	0.27	0.35	0.20	0.09	0.50	35,127
Non AAER Sample	0.23	0.11	0.11	0.25	0.31	0.18	0.10	0.59	220,852
<i>Con</i>									
AAER Sample	0.29	0.33	0.16	0.07	0.33	0.13	0.18	0.92	35,127
Non AAER Sample	0.25	0.34	0.18	0.06	0.33	0.12	0.20	0.98	220,852
<i>Feedback</i>									
AAER Sample	0.17	0.24	0.09	0.03	0.24	0.18	0.42	0.56	21,431
Non AAER Sample	0.16	0.23	0.10	0.03	0.25	0.17	0.43	0.57	136,872

Table 7: Effects of Financial Misconduct Announcement on Employees' Comments

This table presents regression outputs using the following specification.

$$y_{ift} = \gamma 1[t \geq \text{MisconAnnounce}]_{ft} + \beta D_{it} + \phi X_{ft} + \zeta_f + \lambda_t + \epsilon_{ift}$$

where y_{ift} denotes the number of sentences in each comment mention a certain topic, $1[t \geq \text{MisconAnnounce}]_{ft}$ denotes an indicator for the years following the public announcement of the misconduct, D_{it} denotes individual-level controls including gender, age, education, regular worker indicator, length of employment, headquarters state indicator), X_{ft} denotes time-varying firm-level controls, which are the same with those variables in Column (4), Table 3, ζ and λ denote firm and time (year and month) fixed effects. We cluster standard errors at the firm level to allow for arbitrary degrees of autocorrelation in shocks within the firm over time (Bertrand et al. [2004]). Please refer to Appendix A for the construction of each variable. The eight topics are work/life balance, culture, compensation, coworkers, management, respectfulness, benefits and flexibility. We standardize all ratings except for recommend to have zero mean and one standard deviation.

VARIABLES	(1) culture	(2) manage	(3) compen	(4) benefit	(5) worklife	(6) coworker	(7) respect	(8) flexib
Panel A: Positive Comments								
1 [t >= MisconAnnounce]	-0.102** [0.043]	-0.050* [0.028]	-0.012 [0.020]	0.032** [0.014]	-0.029 [0.070]	0.019 [0.040]	0.020 [0.019]	0.032 [0.144]
Observations	239,727	239,727	239,727	239,727	239,727	239,727	239,727	239,727
R-squared	0.054	0.014	0.029	0.105	0.030	0.034	0.017	0.035
Panel B: Negative Comments								
1 [t >= MisconAnnounce]	0.126*** [0.030]	-0.010 [0.057]	0.070 [0.055]	-0.010 [0.019]	0.060 [0.077]	0.054 [0.033]	0.100 [0.075]	-0.043 [0.221]
Observations	239,727	239,727	239,727	239,727	239,727	239,727	239,727	239,727
R-squared	0.051	0.029	0.036	0.023	0.015	0.014	0.017	0.021
Panel C: General Feedback								
1 [t >= MisconAnnounce]	0.040*** [0.009]	0.033 [0.047]	-0.051 [0.033]	0.002 [0.011]	-0.073 [0.068]	0.037 [0.065]	0.054 [0.085]	0.022 [0.068]
Observations	147,893	147,893	147,893	147,893	147,893	147,893	147,893	147,893
R-squared	0.033	0.013	0.022	0.011	0.008	0.012	0.018	0.010
Individual level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year, Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 8: Effects of Financial Misconduct Announcement on Employees' Comments: Heterogeneous Effects

This table presents regression outputs using the following specification.

$$y_{ift} = \gamma_1 1[t \geq \text{MisconAnnounce}]_{ft} + \gamma_2 1[t \geq \text{MisconAnnounce}]_{ft} \times 1[\text{Subgroup}] + \beta D_{it} + \phi X_{ft} + \zeta_f + \lambda_t + \epsilon_{ift}$$

where y_{ift} denotes the number of sentences in each comment that mention a certain topic, $1[t \geq \text{MisconAnnounce}]_{ft}$ denotes an indicator for the years following the public announcement of the misconduct, $1[\text{Subgroup}]$ denotes an indicator for whether an employee belongs to a certain group. In Panel A, we divide the sample by education. High education is an indicator for education higher than or equal to college. In Panel B, we divide the sample by whether an employee works in the state that the headquarter is located. D_{it} denotes individual-level controls (including gender, age, education, regular worker indicator, length of employment, headquarters state indicator), X_{ft} denotes time-varying firm-level financial controls, which are the same as those variables in Column (4), Table 3, and ζ and λ denote firm and time (year and month) fixed effects. We cluster standard errors at the firm level to allow for arbitrary degrees of autocorrelation in shocks within the firm over time (Bertrand et al. [2004]). Please refer to Appendix A for the construction of each variable. We standardize the overall rating to have zero mean and one standard deviation.

VARIABLES	(1) pro_culture	(2) pro_manage	(3) con_culture	(4) con_manage
Panel A: Education				
1[t>=MisconAnnounce]	-0.089** [0.038]	-0.055** [0.025]	0.120*** [0.029]	-0.018 [0.049]
1[t>=MisconAnnounce] X>=College	-0.011 [0.009]	-0.005 [0.004]	0.019* [0.010]	0.002 [0.009]
Observations	272,598	272,598	272,598	272,598
R-squared	0.054	0.014	0.051	0.029
Panel B: Location				
1 [t>=MisconAnnounce]	-0.101** [0.043]	-0.047* [0.027]	0.129*** [0.030]	-0.009 [0.057]
1 [>= MisconAnnounce] X HeadQuarter State	-0.005 [0.011]	-0.018*** [0.006]	-0.017 [0.012]	-0.009 [0.012]
Observations	239,727	239,727	239,727	239,727
R-squared	0.054	0.015	0.051	0.029
Individual level controls	Yes	Yes	Yes	Yes
Year, Month FE	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Firm level controls	Yes	Yes	Yes	Yes

Table 9: Effects of Stock Crash on Employees' Ratings

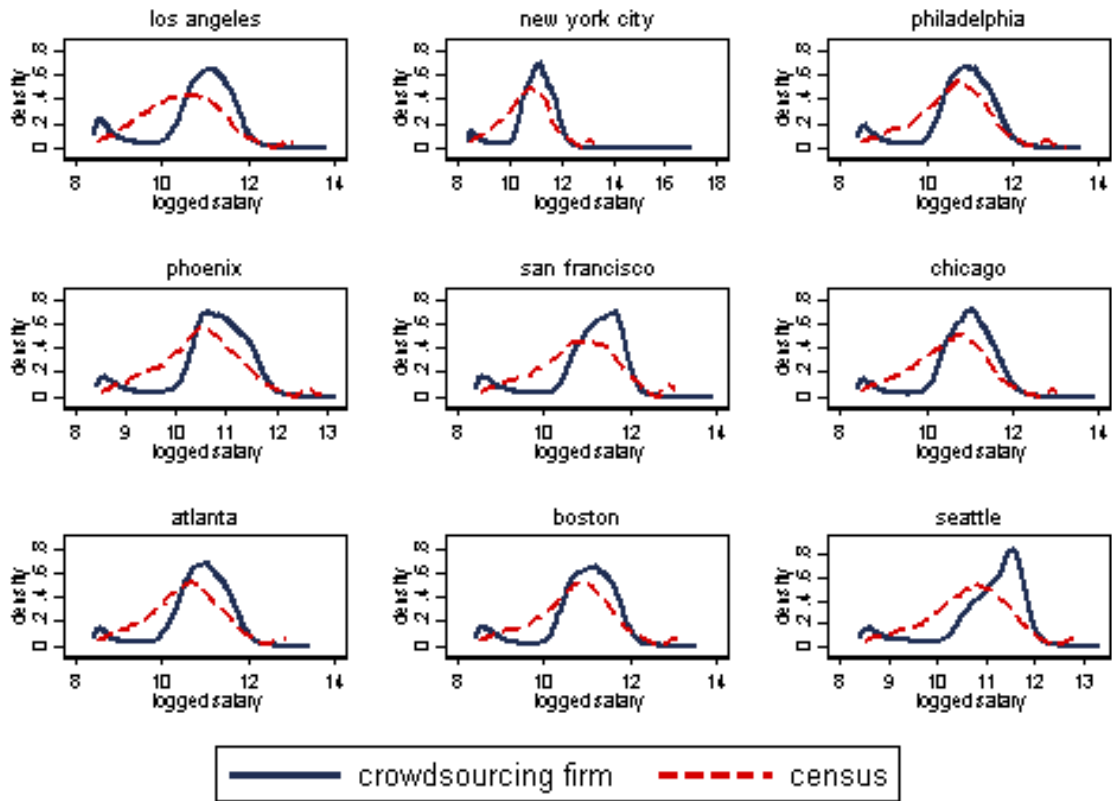
This table presents regression outputs using the following specification.

$$y_{ift} = \gamma 1[t = StockCrash]_{ft} + \beta D_{it} + \phi X_{ft} + \zeta_f + \lambda_t + \epsilon_{ift}$$

where y_{ift} denotes whether there is at least one week in quarter t suffer from a stock crash, $1[t \geq MisconAnnounce]_{ft}$ denotes an indicator for the years following the public announcement of the misconduct, D_{it} denotes individual-level controls including gender, age, education, regular worker indicator, length of employment, headquarters state indicator), X_{ft} denotes time-varying firm-level financial controls, which are the same with those variables in Column (4), ζ and λ denote firm and time (year and month) fixed effects. We cluster standard errors at the firm level to allow for arbitrary degrees of autocorrelation in shocks within the firm over time (Bertrand et al. [2004]). Please refer to Appendix A for the construction of each variable. The dependent variables in each column are career opportunity, compensation benefit, senior leadership, work-life balance, culture value, and recommend, respectively. We standardize all ratings except for recommend to have zero mean and one standard deviation.

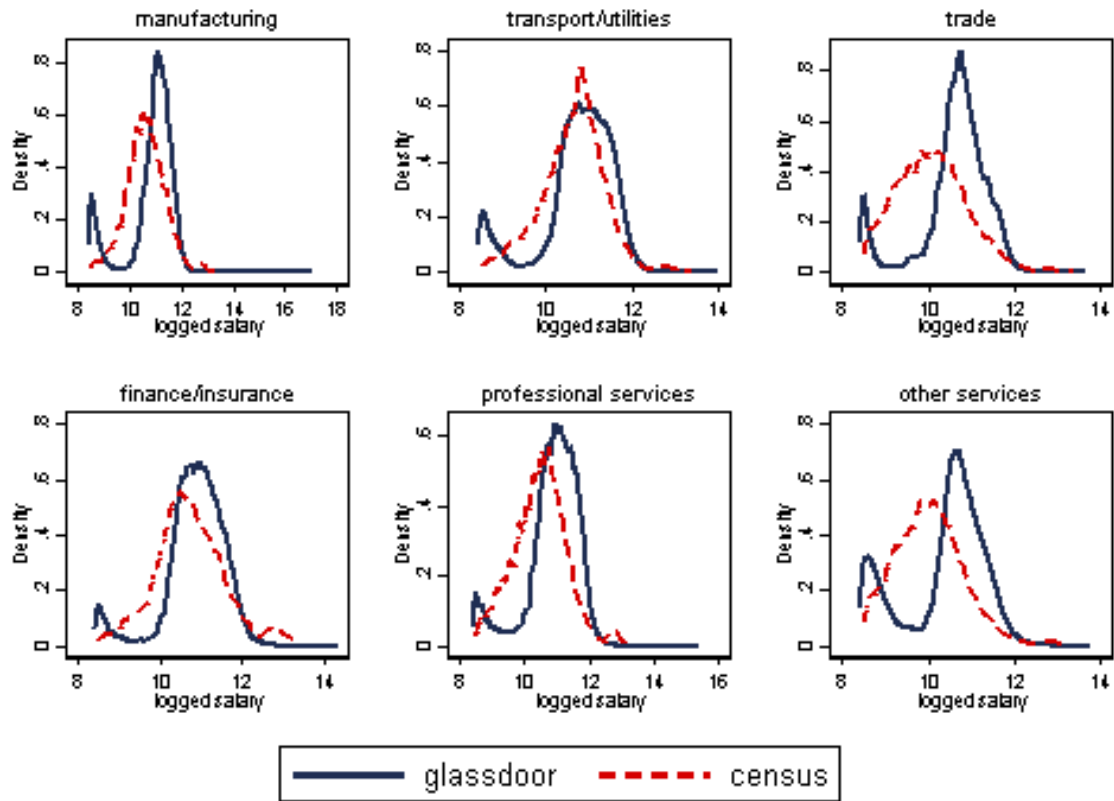
VARIABLES	(1) Overall	(2) Culture	(3) Leadership	(4) CEO Rate	(5) Career	(6) Benefit	(7) Work Life	(8) Recommend
Panel A: Small								
1 [t = Stock Crash]	0.000 [0.007]	0.003 [0.007]	-0.000 [0.008]	0.002 [0.006]	0.002 [0.008]	-0.004 [0.007]	-0.001 [0.007]	0.002 [0.003]
Observations	177,308	164,437	163,565	142,561	165,373	165,380	165,471	157,658
R-squared	0.121	0.131	0.102	0.127	0.094	0.189	0.128	0.095
Panel B: Medium								
1 [t = Stock Crash]	0.004 [0.006]	-0.001 [0.005]	0.003 [0.006]	-0.013** [0.006]	0.003 [0.006]	0.000 [0.005]	0.001 [0.005]	-0.003 [0.003]
Observations	177,308	164,437	163,565	142,561	165,373	165,380	165,471	157,658
R-squared	0.121	0.131	0.102	0.127	0.094	0.189	0.128	0.095
Panel C: Large								
1 [t = Stock Crash]	-0.008 [0.010]	-0.000 [0.010]	-0.004 [0.009]	-0.014 [0.010]	-0.015 [0.009]	0.000 [0.008]	-0.001 [0.009]	-0.007 [0.006]
Observations	177,308	164,437	163,565	142,561	165,373	165,380	165,471	157,658
R-squared	0.121	0.131	0.102	0.127	0.094	0.189	0.128	0.095
Individual level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year, Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Figure A.1: Comparison of Earnings Distributions by Metro Area



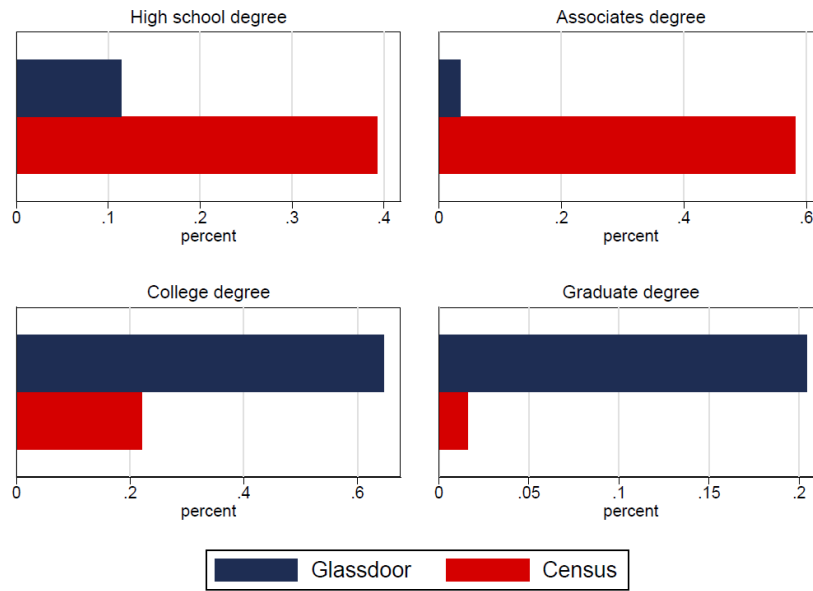
This figure uses American Community Survey (ACS) and proprietary individual data from Glassdoor to plot the distribution of logged earnings between 2008 and 2016 by metro area deflated using the personal consumption expenditures index (2009 base year). The sample is restricted to individuals with over \$5,000 in annual salary.

Figure A.2: Comparison of Earnings Distributions by Industry

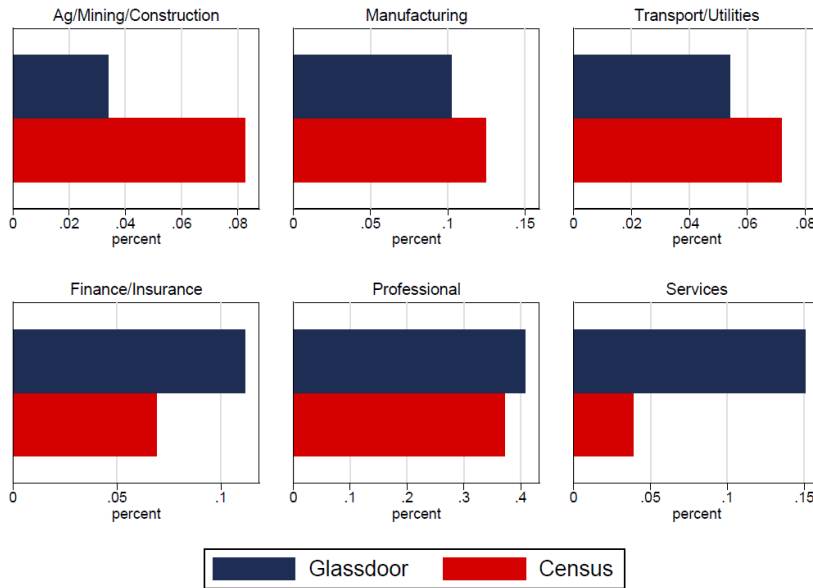


This figure uses American Community Survey (ACS) and proprietary individual data from Glassdoor to plot the distribution of logged earnings between 2008 and 2016 by major industry deflated using the personal consumption expenditures index (2009 base year). The sample is restricted to individuals with over \$5,000 in annual salary.

Figure A.3: Comparison of Education and Industry Employment



(a)



(b)

This figure uses American Community Survey (ACS) and proprietary individual data from Glassdoor to plot (a) the share of workers with less than 13 years of school (high school), an associates degree, a college degree, and a graduate or PhD degree; (b) the share of workers employed in different industries. The sample is restricted to full-time workers.

Table A.1: Key Words of Each Topic Covered in Glassdoor Comments

This table presents the top ten key words of each topic covered in Glassdoor comments, based on the non-negative matrix factorization method (NMF).

Topic Summary	Top Word 1	Top Word 2	Top Word 3	Top Word 4	Top Word 5	Top Word 6	Top Word 7	Top Word 8	Top Word 9	Top Word 10
Work/Life Balance	work	place	environment	life	balance	hard	fun	team	home	schedule
Culture	company	culture	growing	growth	small	working	years	opportunities	grow	large
Compensation	pay	low	competitive	average	little	rate	raises	attention	hours	high
Coworkers	people	working	friendly	hire	smart	care	culture	worked	fun	know
Management	management	upper	team	staff	senior	communication	new	training	needs	lack
Respectfulness	employees	care	treat	listen	respect	managers	new	customers	value	training
Benefits	benefits	health	salary	environment	401k	package	compensation	insurance	competitive	employee
Flexibility	time	job	hours	long	working	flexible	training	schedule	day	just

Table A.2: Effects of Financial Misconduct Announcement on Employees' Ratings in Short Window

This table presents regression outputs using the following specification.

$$y_{ift} = \gamma 1[t \geq \text{MisconAnnounce} \& t \leq \text{MisconAnnounce} + 1]_{ft} + \beta D_{it} + \phi X_{ft} + \zeta_f + \lambda_t + \epsilon_{ift}$$

where y_{ift} denotes our individual-level outcome of interest, $1[t \geq \text{MisconAnnounce} \& t \leq \text{MisconAnnounce} + 1]_{ft}$ denotes an indicator equals one in the announcement year and the year after, D_{it} denotes individual-level controls including gender, age, education, regular worker indicator, length of employment, headquarters state indicator), X_{ft} denotes time-varying firm-level controls, which are the same with those variables in Column (4), Table 3, ζ and λ denote firm and time (year and month) fixed effects. We cluster standard errors at the firm level to allow for arbitrary degrees of autocorrelation in shocks within the firm over time (Bertrand et al. [2004]). Please refer to Appendix A for the construction of each variable. The dependent variables in each column are career opportunity, compensation benefit, senior leadership, work-life balance, culture value, and recommend, respectively. We standardize all ratings except for recommend to have zero mean and one standard deviation.

VARIABLES	(1) Overall	(2) Culture	(3) Leadership	(4) CEO Rate	(5) Career	(6) Benefit	(7) Work Life	(8) Recommend
1 [t >= MisconAnnounce & t <= MisconAnnounce + 1]	-0.294* [0.170]	-0.272*** [0.105]	-0.377*** [0.125]	-0.232*** [0.073]	-0.365*** [0.107]	-0.245*** [0.068]	-0.247* [0.140]	-0.133 [0.085]
Individual level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year, Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm level ctrls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	213,664	194,722	193,531	168,867	195,866	195,808	195,982	184,889
R-squared	0.113	0.125	0.099	0.122	0.096	0.182	0.127	0.090

Table A.3: Effects of Financial Misconduct Announcement on Employees' Comments in Short Window

This table presents regression outputs using the following specification.

$$y_{ift} = \gamma 1[t \geq \text{MisconAnnounce} \& t \leq \text{MisconAnnounce} + 1]_{ft} + \beta D_{it} + \phi X_{ft} + \zeta_f + \lambda_t + \epsilon_{ift}$$

where y_{ift} denotes the number of sentences in each comment mention a certain topic, $1[t \geq \text{MisconAnnounce} \& t \leq \text{MisconAnnounce} + 1]_{ft}$ denotes an indicator equals one in the announcement year and the year after, D_{it} denotes individual-level controls including gender, age, education, regular worker indicator, length of employment, headquarters state indicator), X_{ft} denotes time-varying firm-level controls, which are the same with those variables in Column (4), Table 3, ζ and λ denote firm and time (year and month) fixed effects. We cluster standard errors at the firm level to allow for arbitrary degrees of autocorrelation in shocks within the firm over time (Bertrand et al. [2004]). Please refer to Appendix A for the construction of each variable. The eight topics are work/life balance, culture, compensation, coworkers, management, respectfulness, benefits and flexibility. We standardize all ratings except for recommend to have zero mean and one standard deviation.

VARIABLES	(1) culture	(2) manage	(3) compen	(4) benefit	(5) worklife	(6) coworker	(7) respect	(8) flexib
Panel A: Positive Comments								
1 [t ≥ MisconAnnounce & t ≤ MisconAnnounce + 1]	-0.083 [0.051]	-0.053 [0.033]	-0.007 [0.019]	0.048* [0.027]	-0.053 [0.061]	0.020 [0.049]	0.034* [0.017]	0.040 [0.156]
Observations	213,664	213,664	213,664	213,664	213,667	213,664	213,664	213,664
R-squared	0.057	0.015	0.031	0.108	0.030	0.035	0.018	0.035
Panel B: Negative Comments								
1 [t ≥ MisconAnnounce & t ≤ MisconAnnounce + 1]	0.132*** [0.036]	-0.001 [0.054]	0.094 [0.081]	-0.001 [0.021]	0.046 [0.090]	0.066* [0.038]	0.087 [0.077]	-0.086 [0.216]
Observations	213,664	213,664	213,664	213,664	213,667	213,664	213,664	213,664
R-squared	0.052	0.029	0.035	0.024	0.016	0.014	0.017	0.021
Panel C: General Feedback								
1 [t ≥ MisconAnnounce & t ≤ MisconAnnounce + 1]	0.029*** [0.009]	0.018 [0.058]	-0.037 [0.027]	-0.008 [0.015]	-0.077 [0.066]	0.054 [0.062]	0.038 [0.054]	0.028 [0.121]
Observations	132,184	132,184	132,184	132,184	132,184	132,184	132,184	132,184
R-squared	0.034	0.014	0.022	0.012	0.009	0.013	0.018	0.010
Individual level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year, Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table A.4: Effects of Accounting Restatement Announcement on Employees' Ratings

This table presents regression outputs using the following specification.

$$y_{ift} = \gamma 1[t \geq \text{RestateAnnounce}]_{ft} + \beta D_{it} + \phi X_{ft} + \zeta_f + \lambda_t + \epsilon_{ift}$$

where y_{ift} denotes our individual-level outcome of interest, $1[t \geq \text{RestatementAnnouncement}]_{ft}$ denotes an indicator for the years after the announcement of a firm's first restatement, D_{it} denotes individual-level controls (including gender, age, education, regular worker indicator, length of employment, headquarters state indicator), X_{ft} denotes time-varying firm-level financial controls, which are the same as those variables in Column (4), and ζ and λ denote firm and time (year and month) fixed effects. We cluster standard errors at the firm level to allow for arbitrary degrees of autocorrelation in shocks within the firm over time (Bertrand et al. [2004]). Please refer to Appendix A for the construction of each variable. The dependent variables by column are overall rating, career opportunity, compensation benefit, senior leadership, work-life balance, culture value, and recommend, respectively. We standardize all ratings except for recommend to have zero mean and one standard deviation.

VARIABLES	(1) Overall	(2) Culture Value	(3) Leadership	(4) CEO Rate	(5) Career	(6) Benefit	(7) Work Life	(8) Recommend
Panel A: Restatements (Positive Return)								
1 [t >= RestateAnnounce]	0.003 [0.030]	-0.011 [0.031]	0.008 [0.024]	-0.031 [0.043]	0.014 [0.023]	-0.023 [0.021]	-0.020 [0.025]	-0.002 [0.015]
Observations	204,569	186,242	185,174	161,779	187,366	187,308	187,450	176,783
R-squared	0.118	0.127	0.102	0.126	0.096	0.187	0.131	0.094
Panel A: Restatements (Negative Return)								
1 [t >= RestateAnnounce]	-0.018 [0.023]	-0.015 [0.024]	-0.005 [0.024]	-0.030 [0.039]	0.013 [0.025]	-0.008 [0.021]	-0.041** [0.020]	-0.011 [0.011]
Observations	217,552	198,698	197,610	173,123	199,873	199,842	200,002	189,042
R-squared	0.116	0.124	0.100	0.121	0.094	0.183	0.127	0.093
Individual level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year, Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table A.5: Effects of Financial Misconduct Announcement on Employees' Ratings: Including Observations with Missing Control Variables

This table presents regression outputs using the following specification.

$$y_{ift} = \gamma 1[t \geq \text{MisconAnnounce}]_{ft} + \beta D_{it} + \phi X_{ft} + \zeta_f + \lambda_t + \epsilon_{ift}$$

where y_{ift} denotes our individual-level outcome of interest, $1[t \geq \text{MisconAnnounce}]_{ft}$ denotes an indicator for the years following the public announcement of the misconduct, D_{it} denotes individual-level controls (including gender, age, education, regular worker indicator, length of employment, headquarters state indicator), X_{ft} denotes time-varying firm-level financial controls, which are the same as those variables in Column (4), and ζ and λ denote firm and time (year and month) fixed effects. We cluster standard errors at the firm level to allow for arbitrary degrees of autocorrelation in shocks within the firm over time (Bertrand et al. [2004]). Please refer to Appendix A for the construction of each variable. The dependent variables by column are overall rating, career opportunity, compensation benefit, senior leadership, work-life balance, culture value, and recommend, respectively. We standardize all ratings except for recommend to have zero mean and one standard deviation.

VARIABLES	(1) Overall	(2) Culture Value	(3) Leadership	(4) CEO Rate	(5) Career	(6) Benefit	(7) Work Life	(8) Recommend
1 [t>=MisconAnnounce]	-0.199 [0.121]	-0.198*** [0.076]	-0.199*** [0.071]	-0.186** [0.082]	-0.179** [0.073]	-0.135* [0.070]	-0.161 [0.138]	-0.095 [0.067]
Individual level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year, Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	354,010	310,540	311,747	270,506	315,796	315,686	315,955	294,905
R-squared	0.112	0.122	0.097	0.117	0.093	0.175	0.120	0.091