

How Much Does Workplace Sexual Harassment Hurt Firm Value?

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Abstract

We investigate the impact of workplace sexual harassment on firm value by estimating the incidence of sexual harassment (SH) through textual analysis of online job reviews. During 2011-2017, the value-weighted portfolio of firms in the top quantiles (top 1% to 5%) of the SH score earned a five-factor annualized alpha ranging from -8.4% to -21.2% , representing an annual shareholder value loss of \$0.9 to \$2.2 billion per harassment-prone firm. High SH scores are also associated with sharp declines in operating profitability and increases in labor costs. These results indicate that sexual harassment has a highly detrimental effect on firm value.

Keywords: sexual harassment, firm value, stock returns, operating profitability, environmental, social, and governance (ESG)

JEL Codes: J16, G34, G14

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1. Introduction

Sexual harassment in the workplace is an egregious form of hostile corporate environment, and is associated with significant negative psychological, health, and job-related consequences. Recent events such as the #MeToo movement have triggered an eruption of denunciations and spurred renewed attention to sexual harassment and abuse. Prior studies find that workplace sexual harassment results in negative consequences such as higher employee turnover, lower employee productivity, increased absenteeism, and increased sick leave costs (e.g., Willness, Steel, and Lee 2007; Chan, Chow, Lam, and Cheung 2008). In this paper, we examine the impact of sexual harassment on the value of the firm, an important but largely unexplored research question.

A key challenge to our research question—one that explains the lack of prior empirical research on the economic impact of workplace sexual harassment—is estimating the incidence of sexual harassment among a large panel of firms. News reports or legal filings are likely to drastically understate the full extent of sexual harassment because firms and victims are not incentivized to disclose sexual misconduct cases. In fact, victims' most common reactions are avoidance and denial (Fitzgerald, Swan and Fischer 1995). The U.S. Merit Systems Protection Board's 1995 survey reports that only 6% of harassed employees took legal actions (Pina and Gannon 2012).

Prior research on sexual harassment measures workplace harassment by conducting random sample surveys with employees (e.g., Adams-Roy and Barling 1998; Bergman et al., 2002; Berdahl and Aquino 2009). While surveys provide useful snapshots about the work environment, it is infeasible to produce frequent and regular surveys on large cross-sections of firms, and panel data are required for estimating firm value effects of sexual harassment. Furthermore, surveys do not

capture the opinions of employees who have experienced traumatic events and subsequently departed the firm.

To address these issues, we estimate the incidence of sexual harassment within a firm by performing textual analysis of online job reviews. Specifically, we retrieve job reviews from two major career intelligence websites (Glassdoor.com and Indeed.com) that archive company reviews from current and former employees of more than 9,100 companies. We collect over 3 million reviews of U.S. firms published between 2011 and 2017, but limit our sample to public firms with at least 200 published reviews to minimize the impact of outliers. Our final sample includes 1.65 million reviews covering nearly 1,100 unique firms. We perform textual analysis to identify reviews that contain both “sex” and “harass” (or inflections of the two words such as “sexual” and “harassment”).¹ We read all flagged reviews to make sure the reviews actually refer to sexual harassment incidents. Finally, we calculate the proportion of sexual harassment reports by firm and year to obtain a firm-level annual measure of sexual harassment (the *SH* score).

While measures of intangibles such as sexual harassment are necessarily noisy, we argue that our approach has several unique advantages. First, victims who feel ashamed or afraid of retaliation are often reluctant to reveal traumatic experiences to the media. However, they are more willing to disclose via anonymous means (e.g., Suzuki and Calzo 2004) and with open-ended, non-standardized prompts (Mitchell et al., 2007), making our approach advantageous relative to media-based methods (Cline, Walkling, and Yore 2018). Second, compared to surveys and interviews, job reviews constitute a much larger sample of observations across employees, firms, and time. Third, job reviews can capture the opinions of employees who are no longer at the firm, which is

¹ We also consider an extended word list (“sex” in combination with any of the words on an augmented list that includes “abuse,” “allegation,” “assault,” “crime,” “misconduct,” “violation,” and “violence”). The additional keywords only modestly increase the count of sexual harassment reviews without materially changing the results.

relevant given the propensity of sexual harassment victims to leave the firm (e.g., Fitzgerald et al. 1997; McDonald 2012). Finally, textual analysis is an efficient tool to extract value-relevant information from voluntarily and mandatorily disclosed publications, and the dictionary for sexual harassment is well-defined and unambiguous, mitigating a major source of noise for a text-based measure.²

Given firms' incentive to conceal information about hostile work environments, we aim to use employee reviews to identify harassment incidence before such events are revealed to the public. However, we also wish to reduce noise in employee harassment reporting. To improve the signal-to-noise ratio in our classification, we define a firm to be a high-SH firm if its SH score is in the top quantiles (the 99th, 98th, or 95th percentile) of the yearly distribution, and a low-SH firm otherwise. Focusing on the top offenders increases the chance of capturing reliable harassment incidences and reduces the chance of miscategorizing regular firms as firms with severe harassment issues.

We validate our SH measure in several ways. First, we compare it with the sexual harassment litigation cases reported by the U.S. Equal Employment Opportunity Commission (EEOC). Even though the EEOC only lists 47 public firms with sexual harassment lawsuits during our sample period, we verify that such firms are more likely to be the high-SH type. Second, none of the firms in our high-SH subsample appears on Fortune's list of Best Workplaces for Women. Third, employee satisfaction ratings from Inherisight.com, where a mostly female clientele posts reviews of employers, correlate negatively with our SH score.

² For example, Li (2008) shows that annual reports of firms with poorer performance are less readable, and Asay, Libby and Rennekamp (2018) show that managers' choices of tone and vocabulary vary with the news they are communicating. Loughran and McDonald (2016) offer a comprehensive survey of textual analysis in accounting and finance. Relatedly, Pacelli (2019) uses Glassdoor data to validate his finding that employee opinions contain valuable information.

Following the literature on the economic impact of corporate intangibles (e.g., Edmans 2011; Li and Nagar 2016), we use stock returns as the main firm performance metric and measure the economic impact of sexual harassment by relating our sexual harassment score to future stock returns.³ We do not use profitability ratios as the main value metrics, because these ratios are confounded with endogeneity issues such as reverse causality, omitted variables, and measurement error.⁴ However, we do use profitability and labor expenses as supplementary performance metrics. The combination of operating performance and stock returns provides important clues about the channels through which sexual harassment affects firm value.

In our empirical tests, we find that our measure of sexual harassment has a strong adverse impact on firm value. Each year, we sort firms into high- and low-SH portfolios at the end of June. Using any of the annual SH score quantile breakpoints (top 1%, 2%, or 5%) to classify high-SH firms, high-SH portfolios generated an annualized alpha ranging from -8.4% to -21.2% during our sample period from July 2011 to December 2017. For example, firms with a top 2% SH score earn an annualized alpha of -17.3% ($t = 3.94$) and -18.2% ($t = 4.55$) for equal-weighted and value-weighted portfolios, respectively, after controlling for the Fama and French (2015) five factors.

These strong stock return effects may be attributable to the fact that sexual harassment reveals a horrendous work environment, and negative news exerts a larger impact than comparable good

³ We estimate the SH score once a year using job reviews posted during the prior year, and use SH to predict stock returns in the next year. Therefore, stock performance is measured over the one-year period after SH is estimated, and there is no look-ahead bias. We find the return predictability of SH disappears after one year.

⁴ A crucial difference between future stock returns and financial ratios such as Tobin's Q is that returns cannot be predicted in an efficient market while Q can be predicted by ex ante variables (such as governance or growth-related variables). As a result, causality is unambiguous only if we use future returns to measure performance. For example, a negative relation between Tobin's Q and the SH score may exist because certain omitted variable related to Q leads to a high SH (e.g., poorly performing firms with low Q are too resource constrained to spend efforts on curbing sexual harassment). In contrast, a negative relation between the SH score and abnormal future return allows causal interpretation, because omitted variables should not possess return predictability, especially if the magnitude of the abnormal return is high, and measurement error in SH will lead to weakened return predictability. Section 4.4 has a more detailed discussion of reverse causality, measurement error, and omitted variables.

news per the prospective theory of Kahneman and Tversky (1979). It may also be related to the tendency of firms to withhold bad news, and to the fact that the high-SH firms in our sample are smaller than typical firms of other studies (e.g., Huang 2018; Green Huang, Wen, and Zhou 2019).

Our results are confirmed by Fama-MacBeth monthly return regressions. High-SH firms earn lower monthly returns after controlling for firm size, value, momentum, employee satisfaction, number of employees, profitability, and industry. The ability of the SH score to strongly predict returns in the next year likely suggests that investors are not fully aware of firms' sexual harassment problems, and investors under-appreciate the value-relevance of workplace sexual harassment (in line with the literature documenting that investors underreact to intangibles).

Finally, to shed light on the mechanism through which sexual harassment affects firm value, we test the impact of sexual harassment on the firm's accounting performance. We use profitability ratios as summary measures of operating performance and find that high-SH firms exhibit a large decline in operating profitability over a four-year period from $t - 2$ to $t + 2$, where t is the fiscal year-end of high-SH classification. In contrast, this decline is not mirrored in low-SH firms—their ROA and ROE remain fairly constant over the same period. Multivariate regressions confirm these results. We also find that labor costs rise significantly after firms are identified as high-SH firms. These results supplement the stock performance evidence and suggest that sexual harassment harms firm value through lost productivity and higher costs. These findings are compatible with the evidence from prior literature that sexual harassment has a major negative impact on employee productivity.

Our paper is related to two streams of research. First, it is related to the literature on sexual harassment and gender inequality (e.g., Hersch 2011; Wiswall and Zafar 2018). More particularly, we contribute to the literature on the consequences of workplace sexual harassment by focusing on

the effects on firm value. Prior literature (e.g., Fitzgerald et al. 1997; Willness et al. 2007; Chan et al. 2008) examines harassment effects on employee psychology, productivity and organizational behavior; however, few papers examine the impact of sexual harassment on firm value.

Second, our paper adds to the growing literature on the environmental, social, and governance (ESG) impact on firms. For example, institutional investors are linked to ESG performance of public firms (McCahery, Sautner and Starks 2016; Fernando, Sharfman, and Uysal 2017; Shive and Forster 2020). Further, corporate social responsibility is associated with reduced agency issues among managers (Ferrell, Liang, and Renneboog 2016). Our paper shows that poor ESG performance associated with sexual harassment may hurt firm financial performance.

A recent paper by Hersch (2018) argues that the direct cost of sexual harassment to the victims are substantially underestimated by current legal practices. In particular, the current \$300,000 federal cap on sexual harassment damages should be much higher.⁵ In contrast, we estimate the economic impact of sexual harassment by examining stock performance. Our estimate of annual shareholder value loss (\$0.9 to \$2.2 billion per harassment-prone firm) indicates that the equity value loss associated with lowered profitability is a much larger potential cost of workplace sexual harassment than the direct compensation to affected employees.

Other studies also show that return-predictive information can be obtained from crowdsourced data. Green et al. (2019) extract information from Glassdoor.com and find that improvements in employee ratings lead to future superior stock performance, and Huang (2018) finds that favorable customer ratings from Amazon.com forecast higher returns. While these papers find valuable

⁵ Title VII is the federal law that protects against sexual harassment, and the \$300,000 cap on damages was instituted as part of the Civil Rights Act of 1991; see <https://www.forbes.com/sites/kimelsesser/2019/03/26/is-7-6m-the-value-of-sexual-harassment/#8f17891312ab>.

private information from employee or customer satisfaction, we focus on employee reviews about sexual harassment to gauge the economic impact of workplace sexual harassment on firm value.

Cline et al. (2018) conduct an event study of media reports of executive indiscretions (both sexual and non-sexual). They find an immediate 0.63% loss in shareholder value when an executive is reportedly involved in a sexual indiscretion. Our paper differs in that we use a novel measure of sexual harassment by extracting information from job reviews rather than news outlets, and by considering sexual harassment reports from the entire employee base rather than focusing on executives. A crucial advantage of our approach is that we detect harassment events before they become widely public, and we measure stock price effects over a one-year period rather than over a short event window, therefore capturing a fuller market reaction on sexual harassment.

Our sexual harassment measure may under-classify harassment firms, because if victims choose not to report the harassment incidences, the SH score will not identify these firms. Nonetheless, among the high harassment firms in our sample, we find large negative abnormal returns. Therefore, our SH measure likely reflects information beyond common knowledge including well-publicized corporate governance measures. While we do not rule out the possibility that a high SH score reflects a hidden corporate culture that harbors sexual harassment among other problems, our evidence suggests that a hostile corporate social environment that tolerates sexual harassment has a large negative impact on firm value.

2. Hypotheses

Previous economic research has theorized that sexual harassment negatively affects the victim's identity, causing a loss of utility (Akerlof and Kranton 2000, 2005). In turn, such demoralizing consequences for individuals translate into a negative impact on firm value through

loss of productivity, higher employee turnover, and higher wage requirements (Fitzgerald et al. 1997; O’Leary-Kelly, Bowes-Sperry, Bates, and Lean 2009).⁶

Our first hypothesis is on the relation between workplace sexual harassment and future performance. If the market is fully efficient and the sexual harassment-related news is well-telegraphed to the market, there will be no relation between reports of a harassing environment and future returns. However, research indicates that investors tend to underreact to intangible information so that high employee morale and customer reviews positively predict stock performance (Edmans 2011; Huang 2018; Green et al. 2019). Furthermore, if firms tend to hide bad news (e.g., Li, 2008; Kothari, Shu, and Wysocki 2009; deHaan, Shevlin, and Thornock 2015), and if our sexual harassment score identifies harassment-prone firms before incidents become public, we have more reason to expect our SH score to predict negative abnormal returns. Our first hypothesis is therefore:

H1. Firms with severe sexual harassment problems have poor future stock returns.

We also investigate whether the abnormal returns of the high-SH firms are associated with a reduction in accounting performance. As discussed in Edmans (2011) and Li and Nagar (2013), it is difficult to measure the precise pathways through which intangible assets affect operating metrics, because there are multiple channels that are not mutually exclusive. For example, sexual harassment can have costly consequences that include the attrition of talented employees and customers, and a decrease in creativity and quality of the decisions made by groups that include perpetrators and victimized employees (Cox and Blake 1991). In addition, there are large reputational costs to gender discrimination lawsuits and reduced employee morale (Bradford 2004).

⁶ Other theories treat sexual harassment as a job feature that is compensated through additional salary (Basu 2003; Hersch 2011). However, these theories are inconsistent with the negative market reactions to announcement of executive sexual indiscretions (Cline et al. 2018).

We therefore use operating profitability to capture these consequences and make the following prediction:

H2. Firms with severe sexual harassment problems experience a reduction of operating profitability.

We measure firms' sexual harassment scores at the end of June each year based on employee reviews over the preceding year. Each year (t), we identify high-SH firms and trace the accounting profitability (ROA and ROE) in the four years around year t , to allow for the possibility that sexual harassment problems and the associated productivity effects start before year t and persist for a period after year t . However, to avoid endogeneity issues in testing the effect of sexual harassment on stock returns, we measure the abnormal returns in the 12-month period starting July of year t .

3. Sample and Sexual Harassment Measurement

3.1 Sample Construction

Our measure of sexual harassment comes from the textual analysis of over 3.036 million unique job reviews for 9,315 unique firms posted on Glassdoor.com and Indeed.com.⁷ After including a screen of a minimum of 200 reviews over the sample period and the other requirements noted below, our sample consist of 1.65 million reviews over 6,315 firm-years and 1,097 unique firms. We use online job reviews as substitutes for in-person interviews, because conducting in-depth interviews of employees for each public firm for every year is impractical. In addition, online reviews offer anonymity to reviewers, which alleviates their fear of reprisals (e.g., Mitchell et al., 2007). Glassdoor and Indeed are chosen as they are among the largest career intelligence sites and they have broad user bases that allow an examination of a large panel of firms from across the U.S.

⁷ The precise legal definition of sexual harassment is irrelevant to our purposes. This is because the intentions of the perpetrator and whether the harassment is physical or verbal are legally irrelevant: the victims or plaintiffs only need to show that a reasonable person who shares the perspective of the victim would also consider the behavior as abusive or offensive (Schneider, Pryor and Fitzgerald 2010; Gregory 2004). In addition, the EEOC points out that the definition of sexual harassment is independent of the sex or gender of both the perpetrator and victim.

Each review from the two websites contains the following information: company name, date of publication, reviewer's position (job title), reviewer's location, and a free-form review. Users optionally can identify the pros and cons of their work experience and rate their employer (on a 1 to 5 scale) on the following five categories: job/work life balance, compensation benefits, job satisfaction, management, and job culture. *Star rating* is the mean rating across all five categories.

Our sample period is limited by review availability. We start our sample period in 2011, when reviews from both Glassdoor and Indeed were available; these two sites began operating in 2008 and 2011, respectively. Our review sample ends in September 2017. Figure IA.1 in the Internet Appendix shows examples of reviews.

Because we want to examine firm value effects of alleged sexual harassment, we further limit our sample to publicly traded firms listed on CRSP (listed on NYSE, AMEX, or NASDAQ, with share code 10 or 11). Stock return data are from CRSP, and accounting data are from Compustat. We also require each firm-year to have non-negative total assets (*AT*) and common equity (*CEQ*).

We ensure that our measure of sexual harassment is not overly sensitive to the opinions of individual reviewers by limiting the sample to firms with at least 200 reviews over our entire sample period. Further, the results hold even if stricter review minimums are implemented (see Section 5.2). We also retrieve reviews for the subsidiaries of these firms and incorporate them under the parent company. Firm subsidiaries were identified through Glassdoor and Indeed websites, firms' websites, and 10-K documents and annual reports. Table 1 reports descriptive statistics for the full sample.

We also examine whether reviews are duplicated either for nefarious purposes or by accident by reviewers. We compute the generalized edit distance between reviews published within seven days for a given firm, location, and job title. We require reviews to have at least 150 characters.

We only identify 0.007% of reviews being potential duplicates, and none of these repeat reviews contain reports of sexual harassment. Consequently, duplicate reviews have no impact on our harassment measure.

As expected, the distribution of our subsample of sexual harassment reviews is skewed heavily towards dissatisfied employees, as enduring sexual harassment is extremely demoralizing. To control for this issue, we use *Star*, the overall satisfaction score, as a control variable to ensure it is not employee dissatisfaction that is causing the negative effects we document.

3.2 The Sexual Harassment Measure

We perform textual analysis on the parsed free-form component of the Indeed reviews, or in the case of the Glassdoor reviews, of the pros, cons, and advice to management sections of the reviews. To derive our sexual harassment measure, we flag reviews that contain both “sex” and “harass” (or their inflections such as “sexual,” “sexually,” “harassment,” “harassed”), in no particular order.

To reduce errors in our sexual harassment measurement, we manually check each of the flagged reviews to ensure the reviewers are indeed making references to sexual harassment occurrences. For example, we do not count the review “Company culture. Does *not* tolerate sexual harassment”⁸ as an instance of sexual harassment (italics added for emphasis).⁹

We define the *SH* score as the number of sexual harassment reviews at the firm-year level, divided by the total number of reviews per firm-year. Therefore, $SH_{i,t}$ is the percentage of reviewers from firm i that mention sexual harassment in year t . We use the percentage rate instead of the number of harassment reviews because using an absolute number of reviews would bias the high-

⁸ This review is for Visa, Inc., published on 9/11/2017.

⁹ Because the definition of sexual harassment is independent of the sex, gender, or job status of both the plaintiff and the perpetrator, we do not control for these characteristics.

SH sample towards firms that have larger workforces. Also, a high rate of sexual harassment in a given year is indicative of a lax culture regarding sexual harassment (Fitzgerald et al. 1997).

Our sexual harassment indicator, $HiSH_{i,t}$, is equal to one if $SH_{i,t}$ is in the top quantile of the SH_t distribution in year t , and zero otherwise. We choose three different quantiles (99th, 98th, and 95th) to demonstrate the robustness of our results. For example, using the 99th quantile (denoted as the $HiSH_{99}$ definition), $HiSH$ firms are those with $SH_{i,t}$ score above the 99th percentile in year t , and $LoSH$ firms are the remaining firms. Panel B of Table 1 reports descriptive statistics for the subsamples of $HiSH$ and $LoSH$ firms. It shows that high-SH firms have a smaller mean market capitalization (about \$10 billion by any of the measures) than the remaining firms. They are also smaller than the firms studied by Huang (2018) and Green et al. (2019), which have a mean market capitalization of roughly \$25 billion.

Table 2 reports the yearly values of the 50th, 90th, and the three breakpoints (95th, 98th, and 99th) of SH percentiles, and shows that reports of sexual harassment increase with time.¹⁰ By using the top quantiles of the yearly SH distributions as the cut-off value, we focus on the “worst offenders,” that is, firms with a high incidence rate of sexual harassment, firms with a lax culture regarding harassment, or firms that do not adjust their HR policies to eliminate workplace harassment. Our SH score likely understates harassment prevalence, considering the possibility that many victims choose not to report harassment incidences in the job reviews.¹¹

The sexual harassment incidence rate reported in Table 1 appears rather low. However, even such an incidence rate could have significant consequences. For example, one restaurant chain had

¹⁰ Table 2 also shows that reports of sexual harassment on social media predate the October 2017 #MeToo movement (Tarana Burke created the Me Too movement in 2006). Because our return tests do not consider reviews published after June 2017, our results do not reflect the #MeToo movement.

¹¹ We do not rule out the possibility that some employees report fake harassment incidences. However, both Glassdoor and Indeed use filters (undisclosed to the public) to ensure that reviews are authentic. Moreover, fake reports should introduce noise to the SH score and weaken its return predictability. The high magnitude of abnormal returns we document suggest that such fake reporting is inconsequential.

an SH incidence rate of 1.4% in 2014. As a simple order-of-magnitude estimate, assuming the reviewers are representative of the firm's 8,200 employees (reviewers represent 10.2% of that firm's workforce), such SH incidence rate would represent roughly 100 employees involved in sexual harassment that year.

Panel B of Table 2 shows the percentage of high-SH firms as defined by $HiSH_{99/98/95}$, by industry. Even though our tests use industries defined at the 2-digit SIC code (SIC2) level, in Table 2, we use Fama-French 12 (FF12) industries for brevity. Statistics by SIC2 industries are available in the Internet Appendix Table IA.1. The industry with the lowest incidence of sexual harassment is utilities, while wholesale and retail, consumer durables, and oil, gas and mining industries are among those with the highest proportion of high-SH firms.

Finally, we examine the stability of high-SH firms over time. In Internet Appendix Table IA.2, the transition matrices between $HiSH_{99/98/95_{t-1}}$ and $HiSH_{99/98/95_t}$ show that former high sexually harassing firms have a higher probability to be high harassing firms in the current year than former low harassing firms. For example, a $HiSH_{98}$ firm in year $t - 1$ is 4.2 times more likely to be $HiSH_{98}$ in year t than a $LoSH_{98}$ firm in year $t - 1$. However, this persistence is not nearly equivalent to firm fixed effects, as most high-SH firms enter the sample each year anew. For example, approximately 94% of all $HiSH_{98}$ firms in year t are firms that were not $HiSH_{98}$ in year $t - 1$.

3.3 Validating the Sexual Harassment Measure

Our SH score is constructed by summarizing the collective employee opinion on the incidence of sexual harassment within each firm. Put differently, we use the crowdsourced opinion from employees to construct the SH score. This approach does *not* require that each review is objective and authentic about sexual harassment. Individual reviews may be biased for various reasons, but as long as such biases do not vary systematically across firms and the sample is sufficiently large,

the collective opinion from crowdsourced data should be informative (e.g., Huang (2018), Green et al. (2019), and Pacelli (2019)).

The ultimate test for whether the SH score contains mostly valid information rather than noise about workplace sexual harassment is to examine whether the SH score predicts abnormal stock returns, because in an efficient stock market it is extremely unlikely that a return-predicting measure contains mostly noise. Nonetheless, before examining the relationship between SH and firm performance, we adopt several strategies to validate our sexual harassment measure.

First, we compare the proportion of high-SH firms in subsamples sorted by whether the firm is sued by the EEOC for sexual harassment. Table 2 (Panel C) shows that the firms sued by the EEOC have a higher probability to have employee reviews mentioning sexual harassment. Using the *HiSH_99* definition, we find that firms sued by the EEOC have a mean *HiSH* of 2.13%, compared with 0.85% of those not sued (*p*-value of the test for difference in mean is 0.001), indicating that the sued firms are more likely to also be classified as *HiSH* firms by the job reviews. Using *HiSH_98* or *HiSH_95* for high-SH definition yields the same conclusion, suggesting that the SH score captures valid information about the incidence of workplace harassment.

We also compare the geographical sexual harassment rate between our job reviews data and the EEOC harassment charges data (for this exercise we do not require firms to be publicly traded for both samples to maximize sample size). For both samples and for the 2011-2017 period, we compute the average state-level SH rate as a proportion of all national cases, and sort states into quintiles. Figure IA.2 shows similar patterns of harassment rate between the two samples.

Second, we compare our measure to Fortune's Best Workplaces for Women (BWW) lists. We expect companies earning this award to be safe places for women, and therefore to have a low

incidence of sexual harassment. We retrieve Fortune's rankings from 2015-2017,¹² and manually match with our dataset. Because most companies on Fortune's BWW list are private companies, we are able to match only 50 firm-years (See Table IA.3). We find that none of the companies that appears on the BWW list is a high-SH company, lending credence to our measure.

Third, we match our SH score to employee ratings posted on the InHerSight website (Inhersight.com), where (predominantly female) employees rate aspects of job satisfaction and workplace experiences. The employee ratings include an overall satisfaction rating and several component ratings such as personal development, career opportunities, and family support. We find a strong negative association between our SH score and InHerSight ratings. For example, in the subsample of firms with both InHerSight and our job reviews data, when we sort firms into InHerSight overall satisfaction rating, the lowest tercile has a mean SH score of 0.086%, more than double the mean SH score of the highest satisfaction tercile (0.035%), with the difference significant at the 1% level.

4. Results

We first chart the impact of SH on firm stock returns to identify whether high-SH firms earn significantly different returns over the entire sample period. Figure 1 plots the stock performance of high- and low-SH firms using the *HiSH_98* definition. It shows the cumulative returns of the high-SH and low-SH portfolios that are formed at the end of June 2011, rebalanced at the end of each June, and held to December 2017. Portfolios are formed at the end of June to ensure that all book values are publicly available to investors (Fama and French 1993). Over our sample period, the equal-weighted (value-weighted) low-SH portfolio has cumulative returns that are 148%

¹² <http://fortune.com/tag/100-best-workplaces-for-women/>.

(157%) higher than the high-SH portfolio. This preliminary evidence supports our main prediction: high-SH firms earn lower future returns.

4.1 Alpha Tests

To test our hypothesis H1, we estimate regressions of monthly returns for *HiSH*, *LoSH*, and *Hi-Lo SH* portfolios. We use both the Carhart (1997) 4-factor (FF4), and Fama and French (2015) 5-factor (FF5) regressions:

$$(1) R_{it} = \alpha + \beta_{MKT} (MKT - RF_t) + \beta_{SMB} SMB_t + \beta_{HML} HML_t + \beta_{MOM} MOM_t + \varepsilon_{it}$$

$$(2) R_{it} = \alpha + \beta_{MKT} (MKT - RF_t) + \beta_{SMB} SMB_t + \beta_{HML} HML_t + \beta_{RMW} RMW_t + \beta_{CMA} CMA_t + \varepsilon_{it},$$

where R_{it} is the return over the risk-free rate from portfolio i (indicating high- or low-SH) for month t (for industry-adjusted regressions, the return is over the industry-average returns, where industry is defined using two-digit SIC codes). The high- and low-SH portfolios are determined using the job reviews over the one-year period ending June prior to month t . R_{it} is regressed on the market premium ($MKT - RF_t$), and SMB_t , HML_t , MOM_t , RMW_t , and CMA_t factors. Alpha (α) is the intercept that captures the abnormal monthly returns of the portfolio after controlling for the 4 or 5 risk factors.

Table 3 shows the results from the regressions where the dependent variable is the monthly return in excess of the T-bill rate. Panels A, B, and C report results when we use the *HiSH_99*, *HiSH_98*, and *HiSH_95* definitions of high-SH firms, respectively. Consistent with our hypothesis that *HiSH* firms earn lower excess returns, the alphas for the high-low *SH* portfolio are negative and significant for both the Fama-French 5-factor and Carhart 4-factor risk-adjustment and for both equal-weighted and value-weighted portfolios. In all cases, the short side of the hedge portfolios drives the results, indicating that firms with high incidence of sexual harassment earn significantly

negative returns.¹³ For instance, using the *HiSH_99* definition, high-SH firms earn a five-factor monthly alpha of -1.918% (equal-weighted; $t = 3.55$). For value-weighted portfolios, the five-factor high-SH portfolio alpha is -1.968% ($t = 4.86$), or an annual alpha of -21.2% .¹⁴ These negative excess returns earned by *HiSH* firms lead to even larger significant negative returns for the hedge portfolios.

We observe similar results using the *HiSH_98* and *HiSH_95* definitions, with *HiSH_95* leading to the lowest magnitude of underperformance for *HiSH* firms. This is expected, as firms classified as high harassment firms using the *HiSH_95* but not the *HiSH_98* definition are firms with lower rates of incidence of sexual harassment, which weakens the relationship between sexual harassment and returns. Using the *HiSH_98* definition, the value-weighted high-SH portfolio earns a five-factor alpha of -1.657% ($t = 4.55$), or an annual alpha of -18.2% , which is slightly lower in magnitude than when using the *HiSH_99* definition.

Table 4 reports the alpha test results with industry-adjusted return (using 2-digit SIC codes) instead of T-bill adjusted return as the dependent variable. Using industry-adjusted returns in calculating alpha leads to a similarly negative abnormal return for high-SH firms. Therefore, the results are not caused by an industry effect. We also note that, for both the T-bill adjusted returns and industry-adjusted returns, most alphas are greater for value-weighted portfolios than for equal-weighted ones, suggesting that sexual harassment impacts returns of both large and small firms. Moreover, the results are not driven by return outliers. As can be seen in Panel E of Table 1, the

¹³ The finding that the long-side of the hedge portfolio, which is the vast majority of the sample firms, earns a moderately and significantly positive alpha, is related to sample selection; we restrict our sample firms to have a minimum of 200 reviews and these firms tend to perform slightly better than the CRSP value-weighted index. Defining low-SH firms differently, e.g. as those with a zero SH score, does not alter results.

¹⁴ The literature (e.g., Edmans 2011) typically multiplies the monthly alpha (α) by 12 to get the annualized alpha. This simplified annualization leads to large errors when applied to negative α . Instead, our annualized alpha is $(1 + \alpha)^{12} - 1$.

extreme left-tail returns for *HiSH* firms are *higher* than those for *LoSH* firms using any of the high-SH definitions, so outliers are not causing the poor high-SH stock returns.

We estimate the annual dollar loss for the *HiSH* firms in our sample as follows. Using *HiSH_99* to define high-SH firms, during June 2011 to December 2017, the total market capitalization of the high-SH portfolio (which consists of the 54 firms classified as *HiSH* firms in one of the years at portfolio formation at the end of June) was \$549.5 billion (in 2017 dollars), which translates to a total loss of \$116.5 billion per year ($= \$549.5 \text{ billion} \times 21.2\%$) for these firms, or an average annual dollar loss of \$2.16 billion per firm.

Using the *HiSH_98* definition, the total market capitalization of the 101 *HiSH* firms was \$1,067.0 billion (2017 dollars), which translates to a total loss of \$194.2 billion per year ($\$1,067 \text{ billion} \times 18.2\%$), or an average annual dollar loss of \$1.92 billion per firm. Even using *HiSH_95*, the least stringent definition of high-SH firms, the total annual market loss to the 237 *HiSH* firms was \$221.5 billion ($\$2,636.4 \text{ billion} \times 8.4\%$), or an average annual dollar loss of \$0.93 billion per firm. These estimated losses in market capitalization likely understate the true extent of the damages from sexual harassment, to the extent that our SH score does not fully capture harassment at work. In addition, the finding that using either *HiSH_98* or *HiSH_95* to define *HiSH* firms leads to a similar estimate of total dollar losses to harassment-prone firms suggests that the economically important sexual harassment effects concentrate among firms with a top 2% SH score.

Green et al. (2019) and Huang (2018) document economic impacts of employee or customer satisfaction on abnormal stock returns ranging from 7% to 10% per annum. While substantial, such estimates are lower than the high end of our estimate of the firm value impact of sexual harassment. Several considerations may help to explain the higher potential magnitude of the effect of sexual harassment. First, sexual harassment is an extreme form of hostile environment relative to more

conventional employee and customer ratings, and negative news exerts a disproportionately strong impact on agents relative to positive news (Kahneman and Tversky 1979; Skinner and Sloan 2002; Beber and Brandt 2010). Second, sexual harassment often comes out as a major surprise to the market given the incentive of firms to cover up disgraceful information, so if our SH measure detects sexual harassment before it is well publicized, we capture a greater market reaction than if we rely on media reports. Third, the high-SH firms in our sample are on average smaller than firms in the aforementioned studies, and small firms tend to be more heavily affected by news.

4.2 Fama-MacBeth Regressions

To further examine the impact of sexual harassment on firm value and to control for firm characteristics, we run two-step Fama-MacBeth tests. In the first step, we estimate the following monthly cross-sectional regressions:

$$(3) R_{it} = b_0 + b_1 HiSH_{it-1} + c X_{it-1} + \varepsilon_{it},$$

where R_{it} is firm i 's monthly return for month t , $HiSH_{it-1}$ is an indicator variable equal to 1 if firm i 's SH score (estimated using job reviews over the one-year period ending June prior to month t) is in the top quantiles (99th, 98th, or 95th percentile) of the yearly SH distribution, and X_{it-1} is a vector of control variables for firm i observable in month $t - 1$, all defined in Table A.1. In the second step, we obtain the mean regression coefficients and assess their statistical significance by t -statistics that use Newey-West autocorrelation-adjusted heteroscedasticity-robust standard errors. Table 5 reports the results.

Consistent with our previous results, $HiSH$ firms are associated with lower returns. Using any of the three high-SH definitions, the negative effect of $HiSH$ remains even after controlling for firm characteristics, including characteristics that could be related to, or proxy for, the incidence of sexual harassment. For example, sexual harassment is negatively associated to firm value, even

after controlling for whether the firm is part of Fortune's Best Companies to Work For list, the Employment Treatment Index (*ETKLD*; Bae, Kang, and Wang 2011), or controlling for firm-specific average employee satisfaction, as proxied by the platform-provided *Star* rating.¹⁵ *HiSH* obtains the highest statistical significance when we use the *HiSH_98* definition (Column 2, coefficient = -1.015 , $t = 3.45$), but even using the least stringent *HiSH_95*, *HiSH* remains significant at the 5% level (Column 3, coefficient = -0.531 , $t = 2.27$). The results remain if we industry-adjust the returns, showing that the results are not driven by industry.

One interesting aspect of the results in Table 5 is the insignificance of previously identified return predictors such as size and book-to-market. Other research has also noted a decline in these anomalies in recent periods (McLean and Pontiff 2016; Green et al. 2019) and our results mirror this research.¹⁶ Consequently, the sexual harassment effect we report is unrelated to these previously documented effects.

Furthermore, Table 6 shows that the negative return effects of *HiSH* persist in the long run. We estimate Fama-MacBeth regressions on one-year buy-and-hold returns (*BHR*) from time t to $t+11$, where t is the month of the cross-sectional regression. The results continue to show *HiSH* has a significant negative effect on future one-year returns. However, we find the return predictability of SH disappears after one year (results untabulated), showing that markets do incorporate the impact of sexual harassment on firm value in the long-term.

¹⁵ The *HiSH* effect remains if we use the ex ante, year-over-year change in (rather than the level of) *Star*, its five subcategories, or ROA in the Fama-MacBeth return regressions.

¹⁶ To ensure our Fama-MacBeth regressions are set up correctly, we relax the sample period (2011-2017) and review restrictions and run regressions of monthly return on size, value and momentum over July 1963-December 2013, and find similar results to those reported by Fama and French (2015).

4.3 Operating Performance

As discussed earlier, we use stock returns as our main measure of firm value to minimize endogeneity concerns. However, we also examine operating performance. Even though we cannot draw causal inferences from these metrics alone, combining operating performance and stock returns provides useful clues about the channels through which sexual harassment hurts firm value.

To test our prediction H2, we follow Edmans (2011) and Nagar (2013) and use profitability as a summary measure of operating performance.¹⁷ Figure 2 presents visual evidence, using the *HiSH_98* definition, of the relationship between sexual harassment and operating profitability, measured by return on assets (ROA) or return on equity (ROE). We find that before being identified as high-SH firms (year t), these firms already suffer from a decline in profitability. After year t , high-SH firms' ROA and ROE decline further, relative to their low-SH peers. By year $t + 2$, the difference in ROA or ROE between high and low-SH firms becomes statistically significant at the 5% level. We find similar results when ratios are industry-adjusted (using 2-digit SIC industries).

To test the impact of sexual harassment on operating performance in a multivariate setting, we estimate panel regressions with the change in *ROA* and *ROE* from $t - 2$ to $t + 2$ as the dependent variables. We present the results in Table 7. Our results show a large decline in ROA and ROE over the four-year period for high-SH firms using the *HiSH_99* or *HISH_98* definition. For example, using the *HiSH_98* definition, high-SH firms experience a decline of 4.2% ($t = 6.68$) in ROA over the four years around year t ; the corresponding figure is 10.9% ($t = 2.99$) for ROE. We do not find any statistically significant correlation between *HiSH_95* for both ROA and ROE, likely due to high-SH firms becoming diluted with firms that only have relatively mild sexual harassment.

¹⁷ The literature documents that accounting profitability predicts future abnormal stock returns. For example, stocks with a high ROA have abnormally high future returns (Piotroski 2000), and stocks with a high ROE also earn excess returns (Haugen and Baker 1996; Fama and French 2006).

We also investigate the impact of sexual harassment on labor costs as another potential channel for the decline in firm value. In Table 7, we estimate panel regressions of *LAB*, defined as staff expenses (*XLR*) scaled by lagged sales. Even though our sample shrinks to one sixth of its normal size due to the scarce number of firms reporting *XLR* in Compustat, we find that high-SH companies experience an increase in *LAB* from $t - 2$ to $t + 2$.

We rule out several alternative channels for the SH effect. We first consider the possibility that sexual harassment is a result of cutbacks to non-salary employee benefits. We use pension benefits as the proxy for employee benefits (*Pension*) and check its relationship to high SH rates. Results in Table IA.4 indicate no relationship between SH and pension benefits. A second channel is that growth of firms is related to harassment; for example, slow growth leads to frustrated employees who sexually harass others. We find that growth in sales (*ChgSale*) and capital expenditures (*Capex*) are unaffected by high SH rates. To test the possibility that financially constrained firms are reluctant to spend resources to curb sexual harassment, we look at the impact of SH on financial constraints as proxied by the Kaplan and Zingales (1997) index (*KZ*). We find that high-SH firms do not experience a significant change to their financial constraints.

Overall, our evidence shows a long-term deleterious association between sexual harassment and firms' net profitability and labor costs, which helps to explain why high-SH firms suffer large negative stock returns. The long-term decline in operating performance is consistent with the evidence found in the literature that sexual harassment has a prolonged demoralizing effect on employees which negatively affects productivity.

4.4 Reverse Causality, Measurement Error, and Omitted Variables

As argued in the literature (Edmans 2011; Li and Nagar 2016; Huang 2018; Green et al. 2019), the use of stock returns as a firm performance metric addresses many of the issues regarding reverse causality, measurement error, and omitted variables.

Indeed, using future returns to measure performance largely alleviates the omitted variable concerns, because in a reasonably efficient market, it is highly improbable to have omitted variables that predict large abnormal returns, especially if these variables represent well-communicated public information. However, when certain agents possess private information not fully reflected in the stock prices, such information can forecast future returns. Such information includes employee morale (Edmans 2011; Green et al. 2019) and customer satisfaction (Huang 2018). In our case, sexual harassment may represent a particularly pertinent private information that is value relevant, because firms have an incentive to hide information regarding toxic work environments. So, if our SH score picks up valid private information about such an environment, it can possess return predictability.

It is still possible that sexual harassment reflects a corporate culture that inbreeds other forms of toxic work environments. However, the point of our evidence is that sexual harassment is highly indicative of this type of hostile environment. The strong return predictability of the SH score suggests that sexual harassment is not reflected in other, publicly known governance measures. After we control for a host of corporate culture variables in the next section, we confirm that sexual harassment captures additional, value-relevant information.

Of course, the SH score is a noisy measure of harassment incidence. For example, employees may not always report harassment cases timely or truthfully,¹⁸ and our text-based measure is an

¹⁸ One may argue that sexual harassment reporting reflects subjective feeling of the employee. However, what matters for our purpose is precisely the hostile feeling that adversely affects morale and productivity; see also footnote 6.

imperfect reflection of the harassment culture. However, measurement error in the SH score should weaken its return predictability. In this sense, the SH effect we document underestimates the true firm value effect of sexual harassment.

Similarly, it is highly unlikely that reverse causality (whereby firm performance triggers sexual harassment) is responsible for our findings. If poor firm performance as measured by *ROA* or *Return-12,-2* is the cause, then these metrics should predict returns; but we do not find this to be the case (Table 5).

Nonetheless, to further address reverse causality, we combine the evidence of stock price performance (Panels E and F of Figure 2) with the ROA behavior around year t . The lack of evidence of stock underperformance of *HiSH* firms prior to year t is inconsistent with the reverse causality interpretation, and suggests that it is the intensified sexual harassment that causes the firm value loss. Moreover, the ROA and ROE graphs indicate that the decline in operating performance starts before and precipitates after heightened reports of sexual harassment incidences. Overall, Figure 2 is consistent with the following interpretation: the negative impact of sexual harassment on profitability starts in years $t - 2$ and $t - 1$ (before employees report harassment incidences in the job reviews in year t) and accelerate in years $t + 1$ and $t + 2$. In contrast, stock investors do not react to the decline in profitability until years t to $t + 1$, further mitigating the reverse causality concern.

As discussed above, omitted variables are less concerning to our conclusion because of the use of stock returns as the firm value measure. However, to further address the possibility that omitted variables cause the *HiSH* effects on accounting ratios (Table 7), we use Oster's (2019) methodology to estimate the bounds of the *HiSH* coefficients, after accounting for the unobservable variables bias. In essence, the Oster methodology assesses the impact of unobservable control

variables on the treatment effect by taking into account the contributions of the observable and unobservable controls to the R -squared value. Table IA.5 reports the bounds of the bias-adjusted *HiSH* coefficients under broad parameter values recommended by Oster (2019). For brevity, we show the results for the *ROA* and *ROE* regressions with *HiSH* defined by *HiSH_99* only; results of the labor expense (*LAB*) and those using *HiSH_98* and *HiSH_95* are similar. Since none of the reported intervals of the *HiSH* coefficients includes zero, we conclude that the reported results in Table 7 are robust to the correction for the unobservable variables bias. Indeed, the *HiSH* results remain even if the effect of the selection of unobservable variables is assumed to be three times larger than the selection of observables (i.e., $\delta = 3$), or if it is assumed that the unobservables explain most of the variations in the dependent variable.

5. Robustness

5.1 Measuring Sexual Harassment Using Alternative Keywords

In our baseline tests, we define the SH score with a word list limited to “sex” and “harass” (and their inflections), which reflects a trade-off: On the one hand, this list should have a high signal-to-noise ratio, but on the other hand, it is possible that we do not account for the full extent of workplace sexual harassment, if reviewers use different words to describe harassment.

To address this issue, we test an expanded word list that is more comprehensive in capturing sexual harassment. The expanded word list includes “sex” in combination with any of the following: “abuse,” “allegation,” “assault,” “crime,” “favor,” “harass,” “inappropriate,” “misbehavior,” “misconduct,” “quid pro quo,” “violation,” or “violence.” Here too, we manually check all flagged reviews and only reviews describing sexual harassment incidents are retained. We do not double-count reviews containing multiple keywords.

The additional keywords only modestly increase the total count of SH reviews (e.g., the firm-year level mean *SH* increases from 0.048% to 0.053%), because these words are much less frequent than and often coexist with “sex” and “harass.” Table IA.6 reports the relative frequency of these keywords at the review level.

Tables 8 and 9 report the alpha test and Fama-MacBeth monthly return regression results, respectively, using the expanded word list to measure *HiSH*. Overall, these results support the same conclusion as our baseline results. Expanding the sexual harassment word list does not necessarily lead to heightened economic or statistical significance of the *HiSH* variable. In fact, the significance levels using the *HiSH_99* definition decrease from the baseline case, indicating that some of the expanded keywords may reflect somewhat different degrees of sex-related offenses in the workplace than those captured by “sex” and “harassment.”

5.2 Alternative Sample Screens and Subsample Analysis

There is a trade-off with respect to the sample screen we use: requiring a low cutoff number of published reviews per firm preserves sample size at the cost of letting in firms with sparse reviews, and vice versa. In our main tests we require a minimum of 200 reviews per firm in the sample period, but our results are robust to using other screens. Table IA.7 shows that our results remain if we impose a minimum of 150 (250) reviews per firm, respectively. Table IA.8 demonstrates that our main results persist when we require the total number of reviews to be at least 10% of each firm’s current headcount (which increases the likelihood that the reviews are representative of the opinions of the workforce) and when we require our sample firms to have at least 30 reviews per year.

Further dividing our sample into subsamples tends to reduce the power of testing for sexual harassment effects, because owing to the relatively low counts of sexual harassment-related

employee reviews, maintaining a large sample size is crucial for reducing noise in the SH measure and for detecting sexual harassment effects. For example, in untabulated tests, we form subsamples of reviews by former versus current employees (former employees represent approximately 70% of our full sample) and find the effects of SH on stock returns continue to hold in both subsamples, with similar strength but reduced statistical significance compared with the full sample results.

Finally, in untabulated tests, we also examine subsamples sorted by the proportion of male versus female employees (using industry gender ratios from the EEOC) in the alpha regressions. We also include this gender ratio as a control and interaction variable in the FM regressions. We do not find meaningful differences in the SH effect on alphas between the subsamples nor any impact in the FM regressions, an indication that sexual harassment is damaging to firms regardless of the employee gender ratio.

5.3 Stock Market Reaction to EEOC Litigation Announcement

To provide another independent clue as to whether sexual harassment exerts a negative impact on firm value, we consider the stock market reaction to the publication of the press releases related to sexual harassment posted on the EEOC website.¹⁹ An EEOC event is defined to be one press release posted on the EEOC website that mentions that a firm was sued for sexual harassment, settled regarding a case of sexual harassment, or was involved in a court decision regarding a sexual harassment case.

As expected, we find that the market reacts negatively to reports of sexual harassment claims. We compute abnormal returns around the 107 EEOC press releases occurring at CRSP-listed firms, and we find that the average three-day cumulative abnormal return (CAR) around reports of sexual harassment is -0.8% ($p = 0.005$; results untabulated), which is similar to both the announcement

¹⁹ Source: <https://www.eeoc.gov/eeoc/newsroom/release/index.cfm>. We use all available EEOC news releases related to sexual harassment, from October 2009 to October 2018.

returns for non-sexual harassment litigation (Hersch 1991) and market reactions to executive involvements in sexual misadventure (Cline et al. 2018). The statistical significance of these results points to a negative effect of sexual harassment on firm value, but their economic magnitude, together with the low rate of legal charges, cannot explain away our results.

When we allow more time for the EEOC litigation effect to play out, we still do not find the EEOC events lead to significant negative long-run stock performance. The alpha test and Fama-MacBeth monthly regressions, reported in Tables IA.9 and IA.10, show EEOC litigation has an insignificant effect on returns in the next year. As discussed in the introduction, our sample of high-SH firms are identified based on employee reviews rather than media reports, which allows us to identify egregiously harassment-prone firms missed by the media. Consequently, the high magnitude of the economic impact of sexual harassment we uncover arises from not just the longer window of abnormal return measurement, but more importantly, from our novel way of identifying harassment firms.

5.4 Controlling for Corporate Culture and Employee Satisfaction

To ensure that the results are not driven by a lack of corporate social responsibility (CSR), we include the seven metrics the MSCI KLD database uses to measure firm CSR, and indicators for their six controversial industries as controls in the Fama-MacBeth tests.²⁰ We find that high-SH firms continue to show a negative return in the cross-section even after controlling for these factors (results untabulated). Furthermore, the MSCI KLD metrics and controversial industry indicators are not significantly correlated with *HiSH*. This shows that the results are not driven by a general lack of corporate social responsibility.

²⁰ The seven metrics comprise governance, community, diversity, employee relations, environment, human rights, and product. The six industries comprise alcohol, firearms, gambling, military, nuclear power, and tobacco.

In addition, to ensure the results are not captured by corporate governance, we control for firms' entrenchment as measured by the E-index (Bebchuk, Cohen, and Ferrell 2008). In untabulated Fama-MacBeth tests, we include the E-index as a control and find that the results remain qualitatively similar. Though the inclusion of E-index reduces the sample size by 45% and E-index itself is insignificant in the regression, the *HiSH_99* and *HiSH_98* indicator variables remain negative and significant at the 10% level.

In the baseline Fama-MacBeth regressions of Table 5, we already control for employee satisfaction (*Star*). The *HiSH* effects remain if we control for the individual constituents of *Star* separately (Table IA.11). Furthermore, our results hold if we control for firms with extremely low star ratings, defined as ratings in the lowest five percentiles of employee satisfaction (results untabulated).

6. Conclusion

Despite the large body of research that documents psychological, health, and job-related damages from workplace sexual harassment, there is virtually no evidence on firm-level economic consequences of sexual harassment. The scarcity in research on whether and how much sexual harassment hurts shareholder value is likely due to the challenge in measuring the severity of sexual harassment at work.

We estimate firms' incidence of sexual harassment through textual analysis of online job reviews, and find that extremely high rates of sexual harassment reliably foretell lower future one-year stock returns. The strong ability of the sexual harassment score to predict stock returns, and the fact that our sexual harassment score matches both external harassment measures and satisfaction ratings from predominantly female employees, suggest our approach of backing out sexual misconduct incidence is an effective one.

The magnitude of the firm value damage of sexual harassment we document is striking. It may even surprise some corporate executives, which helps to explain why they do not do more to stem toxic work environments. Thus, our evidence should offer fresh incentives for corporate governance, employee awareness, shareholder activism, and policy intervention to devote more resources and efforts to the detection, prevention, and punishment of workplace sexual harassment.

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Appendix Table A.1. Variable Definitions

Variable	Definition
<i>AT</i>	Total assets at end of fiscal year adjusted to 2017 dollars using the Consumer Price Index (CPI).
<i>BC</i>	Indicator variable that is equal to 1 if the firm is on the “100 Best Companies to Work for” list in year t , and zero otherwise.
<i>BHR_{x,y}</i>	Buy-and-hold returns, defined as the cumulative return for the stock from month x to y .
<i>BM</i>	Ratio of book equity / market capitalization
<i>Capex</i>	Capital expenditure (Compustat item CAPX) scaled by lagged total assets.
<i>ChgSale</i>	Growth in Sales from year $t - 1$ to year t .
<i>Ex_ret</i>	Excess monthly stock return over risk free rate.
<i>Firm_Age</i>	Age of firm calculated as the current year less the first year the firm appears in Compustat.
<i>ETKLD</i>	Indicator variable that equals 1 if the firm’s employee treatment score in year t is above the full-sample median. Calculated as per Bae, Kang, Wang (2011) except the retirement benefits and employee health and safety indicators were discontinued before the sample period begins.
<i>HiSH_9Y</i>	Indicator variable that equals 1 if a firm’s annual <i>SH</i> score is above the 9Y th percentile of the full sample <i>SH</i> distribution in that year. <i>LoSH</i> is an indicator variable that equals 1 if a firm’s annual <i>SH</i> score is below the 9Y th percentile of the full sample <i>SH</i> distribution in that year. Applicable to <i>HiSH_99</i> , <i>HiSH_98</i> , and <i>HiSH_95</i> .
<i>KZ</i>	Kaplan and Zingales (1997) index of financial constraints (the 4-variable definition excluding Tobin’s Q as in Baker, Stein, and Wurgler (2003)).
<i>LAB</i>	Annual staff expenses (Compustat item XLR) scaled by lagged total sales.
<i>LEV</i>	Leverage defined as total debt (long-term and current) to total assets.
<i>ME</i>	Market capitalization of the firm at the end of June adjusted to 2017 dollars using the CPI.
<i>Mkt_rf</i>	Excess market return over risk-free rate.
<i>Pension</i>	Pension expenses (Compustat XPR) scaled by sales
<i>Return_{-x,-y}</i>	Cumulative return from month $t - x$ to month $t - y$.
<i>RMW</i>	Robust Minus Weak (RMW) is the operating profit factor from the FF5.
<i>ROA</i>	Return on assets. Net Income divided by lagged total assets.
<i>ROE</i>	Return on equity. Net income divided by lagged book value of equity.
<i>SH</i>	Percentage of reviews for firm i published in year t that mention sexual harassment, relative to the total number of reviews for firm i published in year t . Measured from July ($t - 1$) to June (t) for stock return tests or over the financial year for annual accounting profitability tests.
<i>SH_Exp</i>	As <i>SH</i> above, except that this variable uses the expanded word list to measure sexual harassment. This word list includes “sex” in combination with any of the following: “abuse,” “allegation,” “assault,” “crime,” “favor,” “harass,” “inappropriate,” “misbehavior,” “misconduct,” “quid pro quo,” “violation,” or “violence.”
<i>Star</i>	Mean of 5 numerical ratings (job, work, life balance; compensation/benefits; job security; management; job culture) in each review. Each individual rating is out of 5, with 1 being the lowest and 5 being the highest.

Table 1. Sample Description

<i>Panel A. Firm-Year Employee Sexual Harassment Statistics</i>						
Variable	N	Mean	Median	Std. Dev.	Minimum	Maximum
<i>SH (%)</i>	6,315	0.05%	0.00%	0.28%	0.00%	8.33%
# Reviews in firm-year	6,315	260.7	79.0	730.1	1.0	18,264.0

<i>Panel B. HiSH_99 Firm-Year Means</i>				
	Full Sample	<i>HiSH_99</i>	<i>LoSH_99</i>	<i>t</i> -stat (Difference)
<i>ME (Billions \$)</i>	17.96	10.24	18.03	1.96
<i>BM</i>	0.49	0.47	0.49	0.59
<i>AT (Billions \$)</i>	33.79	33.62	33.79	0.01
<i>ROA</i>	5.04	4.45	5.04	0.46
<i>ROE</i>	14.39	16.83	14.37	-0.57
<i>Return_{.12, -2}</i>	14.23	15.21	14.22	-0.18
N (Firm-years)	6,315	54	6,261	

<i>Panel C. HiSH_98 Firm-Year Means</i>				
	Full Sample	<i>HiSH_98</i>	<i>LoSH_98</i>	<i>t</i> -stat (Difference)
<i>ME (Billions \$)</i>	17.96	10.60	18.08	2.27
<i>BM</i>	0.49	0.46	0.49	0.94
<i>AT (Billions \$)</i>	33.79	23.39	33.96	0.73
<i>ROA</i>	5.04	4.44	5.05	0.68
<i>ROE</i>	14.39	14.84	14.38	-0.17
<i>Return_{.12, -2}</i>	14.23	13.55	14.24	0.19
N (Firm-years)	6,315	101	6,214	

<i>Panel D. HiSH_95 Firm-Year Means</i>				
	Full Sample	<i>HiSH_95</i>	<i>LoSH_95</i>	<i>t</i> -stat (Difference)
<i>ME (Billions \$)</i>	17.96	11.12	18.23	4.08
<i>BM</i>	0.49	0.42	0.49	3.53
<i>AT (Billions \$)</i>	33.79	16.89	34.45	2.70
<i>ROA</i>	5.04	5.51	5.02	-0.89
<i>ROE</i>	14.39	19.34	14.20	-2.18
<i>Return_{.12, -2}</i>	14.23	14.29	14.22	-0.03
N (Firm-years)	6,315	237	6,078	

Table 1 (Continued). Sample Description

<i>Panel E: Monthly Return Distribution</i>									
Group	N	Mean	Min	1st	5th	Percentile			Max
						Median	95th	99th	
<i>LoSH_99</i>	68,892	1.19	-86.72	-24.79	-13.63	1.10	16.18	29.41	155.41
<i>HiSH_99</i>	547	-0.06	-41.03	-29.97	-16.98	0.42	16.04	24.45	35.96
	<i>t-stat</i>	-2.91			Wilcoxon	0.007			
<i>LoSH_98</i>	68,452	1.20	-86.72	-24.79	-13.62	1.11	16.20	29.41	155.41
<i>HiSH_98</i>	987	0.09	-41.03	-29.13	-16.22	0.46	15.41	25.92	99.27
	<i>t-stat</i>	-3.38			Wilcoxon	0.0014			
<i>LoSH_95</i>	67,106	1.21	-86.72	-24.72	-13.60	1.11	16.24	29.57	155.41
<i>HiSH_95</i>	2,333	0.46	-50.78	-29.07	-15.19	0.80	15.09	24.78	99.27
	<i>t-stat</i>	-3.63			Wilcoxon	0.001			

This table provides summary statistics for *SH* and related variables, at the firm-year or firm-month levels. Panel A reports statistics at the firm-year level. Panels B-D shows annual mean statistics for high and low harassment firm-years. *HiSH* (*LoSH*) are the firm-years with *SH* above (below) the same-year 99/98/95th percentile *SH* value. *HiSH_99/98/95* is set to 1 if a firm is in the annual 99/98/95th percentile of *SH*, and zero otherwise. The last column reports the results of *t*-tests for the differences in means between the *HiSH* and *LoSH* subsamples. *ME* and *AT* are in 2017 dollars. Panel E shows the distribution of monthly returns (in excess of the risk-free rate) for *HiSH* (*LoSH*) firm-months. *T*-stat (Wilcoxon) indicates the significance in difference in mean (median) between the *HiSH* and *LoSH* groups. The sample consists of public U.S. firms covered by Glassdoor.com and Indeed.com with a minimum of 200 job reviews during 2011-2017.

Table 2. Distribution of Sexual Harassment Incidence Score (SH)

<i>Panel A. Yearly Breakpoints of SH</i>						
Year	50 th perc.	90 th perc.	95 th perc.	98 th perc.	99 th perc.	N (firm-years)
2011	0.00%	0.00%	0.00%	0.00%	0.00%	870
2012	0.00%	0.00%	0.00%	0.00%	0.09%	917
2013	0.00%	0.00%	0.12%	0.81%	1.82%	913
2014	0.00%	0.04%	0.30%	0.99%	1.40%	931
2015	0.00%	0.08%	0.37%	0.88%	1.37%	938
2016	0.00%	0.15%	0.39%	1.04%	1.41%	898
2017	0.00%	0.19%	0.58%	1.18%	1.52%	848

<i>Panel B. Sexual Harassment by Industry</i>				
		FF12 Industry		
<i>HiSH sexual harassment (%)</i>	N (firm-years)	<i>HiSH_99</i>	<i>HiSH_98</i>	<i>HiSH_95</i>
1. Consumer Non-Durables	350	0.57%	1.14%	4.86%
2. Consumer Durables	124	2.42%	4.03%	4.84%
3. Manufacturing	482	0.62%	1.24%	2.70%
4. Oil, Gas, and Coal Extraction and Products	153	0.65%	3.27%	5.23%
5. Chemicals and Allied Products	114	0.00%	0.00%	1.75%
6. Business Equipment	1,134	0.26%	0.62%	1.68%
7. Telephone and Television Transmission	178	1.69%	1.69%	3.93%
8. Utilities	144	0.00%	0.00%	0.69%
9. Wholesale, Retail, and Some Services	1,154	1.39%	2.60%	6.67%
10. Healthcare, Medical Equipment, and Drugs	395	0.76%	1.01%	1.77%
11. Money/Finance	780	0.64%	1.03%	2.56%
12. Other	1,307	1.15%	2.22%	4.59%

<i>Panel C. Sexual Harassment and EEOC Litigation</i>				
		EEOC Litigation		
	N (firm-years)	<i>HiSH_99</i>	<i>HiSH_98</i>	<i>HiSH_95</i>
No EEOC litigation	6,268	0.85%	1.58%	3.73%
EEOC litigation	47	2.13%	4.26%	6.38%
<i>p</i> -value (diff. between EEOC and non-EEOC)		0.001	0.000	0.000

This table reports statistics about the distribution of SH. Panel A shows the yearly evolution of the SH distribution. Panel B reports the percentage of firms classified as *HiSH_99/98/95* for different subsamples sorted by EEOC litigation status or FF12 industry (Table IA.1 reports data by 2-digit SIC (SIC2) industries; we use SIC2 industries to construct industry-adjusted returns). The *p*-value for difference between two groups is calculated through a bootstrapping procedure in which we simulate the empirical distribution of *HiSH* using 5,000 repetitions of 10% of the sample.

Table 3. Risk-Adjusted Measure (Alphas)

<i>Panel A. HiSH_99 Excess Returns</i>				
	(1)	(2)	(3)	(4)
	FF4, EW	FF5, EW	FF4, VW	FF5, VW
<i>LoSH_99 Alpha</i>	0.065 (0.69)	0.065** (2.07)	0.051 (0.59)	0.065** (2.39)
<i>HiSH_99 Alpha</i>	-1.179*** (-3.08)	-1.918*** (-3.55)	-1.231*** (-3.43)	-1.968*** (-4.86)
<i>Hi-Lo SH_99 Alpha</i>	-1.245*** (-3.37)	-1.984*** (-3.61)	-1.282*** (-3.65)	-2.033*** (-4.95)
<i>Panel B. HiSH_98 Excess Returns</i>				
	(1)	(2)	(3)	(4)
	FF4, EW	FF5, EW	FF4, VW	FF5, VW
<i>LoSH_98 Alpha</i>	0.071 (0.74)	0.069** (2.21)	0.058 (0.67)	0.069** (2.53)
<i>HiSH_98 Alpha</i>	-1.059*** (-3.28)	-1.568*** (-3.94)	-1.174*** (-4.16)	-1.657*** (-4.55)
<i>Hi-Lo SH_98 Alpha</i>	-1.130*** (-3.48)	-1.637*** (-4.00)	-1.232*** (-4.23)	-1.726*** (-4.63)
<i>Panel C. HiSH_95 Excess Returns</i>				
	(1)	(2)	(3)	(4)
	FF4, EW	FF5, EW	FF4, VW	FF5, VW
<i>LoSH_95 Alpha</i>	0.079 (0.86)	0.067** (2.21)	0.069 (0.83)	0.067** (2.56)
<i>HiSH_95 Alpha</i>	-0.531* (-1.75)	-0.665 (-1.63)	-0.645** (-2.28)	-0.729* (-1.74)
<i>Hi-Lo SH_95 Alpha</i>	-0.611** (-2.37)	-0.731* (-1.75)	-0.714*** (-2.95)	-0.795* (-1.86)

This table reports the alphas from regressions of monthly returns of a portfolio of low sexual harassment (*LoSH_99/98/95*) firms, high sexual harassment (*HiSH_99/98/95*) firms, and a long-short portfolio of high and low sexual harassment (*Hi-Lo SH_99/98/95*) firms, respectively. The returns are regressed on the Carhart 4 factors and the Fama-French 5 factors. The high and low SH portfolio returns are the excess over the risk-free rate. *T*-statistics in parentheses use Newey-West autocorrelation-adjusted heteroscedasticity-robust standard errors. The sample returns are from July 2011 to December 2017.

* Significant at 10% level; ** significant at 5% level; *** significant at 1% level.

Table 4. Risk-Adjusted Measure (Alphas), Industry-Adjusted Returns

<i>Panel A. HiSH_99 Industry-Adjusted Returns</i>				
	(1)	(2)	(3)	(4)
	FF4, EW	FF5, EW	FF4, VW	FF5, VW
<i>LoSH_99 Alpha</i>	-0.017 (-0.19)	-0.050 (-0.45)	0.007 (0.08)	-0.042 (-0.48)
<i>HiSH_99 Alpha</i>	-1.374*** (-3.74)	-1.376** (-2.20)	-1.385*** (-4.29)	-1.337** (-2.18)
<i>Hi-Lo SH_99 Alpha</i>	-1.357*** (-3.83)	-1.327** (-2.09)	-1.393*** (-4.72)	-1.295** (-2.17)
<i>Panel B. HiSH_98 Industry-Adjusted Returns</i>				
	(1)	(2)	(3)	(4)
	FF4, EW	FF5, EW	FF4, VW	FF5, VW
<i>LoSH_98 Alpha</i>	-0.011 (-0.13)	-0.047 (-0.43)	0.013 (0.14)	-0.040 (-0.45)
<i>HiSH_98 Alpha</i>	-1.277*** (-3.76)	-1.326** (-2.46)	-1.302*** (-4.05)	-1.301** (-2.36)
<i>Hi-Lo SH_98 Alpha</i>	-1.266*** (-3.93)	-1.278** (-2.39)	-1.315*** (-4.46)	-1.261** (-2.39)
<i>Panel C. HiSH_95 Industry-Adjusted Returns</i>				
	(1)	(2)	(3)	(4)
	FF4, EW	FF5, EW	FF4, VW	FF5, VW
<i>LoSH_95 Alpha</i>	-0.008 (-0.09)	-0.051 (-0.46)	0.018 (0.20)	-0.044 (-0.50)
<i>HiSH_95 Alpha</i>	-0.839*** (-2.76)	-0.858 (-1.54)	-0.879*** (-3.05)	-0.867 (-1.56)
<i>Hi-Lo SH_95 Alpha</i>	-0.831*** (-2.83)	-0.806 (-1.41)	-0.897*** (-3.28)	-0.823 (-1.50)

This table reports the alphas from regressions of monthly industry-adjusted returns of a portfolio of low sexual harassment (*LoSH_99/98/95*) firms, high sexual harassment (*HiSH_99/98/95*) firms, and a long-short portfolio of high and low sexual harassment (*Hi-Lo SH_99/98/95*) firms, respectively. The returns are industry-adjusted by subtracting the mean industry (defined at the two-digit SIC code level) return from a firm's return. The industry-adjusted returns are regressed on the Carhart 4 factors and the Fama-French 5 factors. The high and low SH portfolio returns are the excess over the risk-free rate. *T*-statistics in parentheses use Newey-West autocorrelation-adjusted heteroscedasticity-robust standard errors. The sample returns are from July 2011 to December 2017.

* Significant at 10% level; ** significant at 5% level; *** significant at 1% level.

Table 5. Fama-MacBeth Monthly Return Regressions

	Raw Returns			Industry-Adjusted Returns		
	<i>HiSH_99</i>	<i>HiSH_98</i>	<i>HiSH_95</i>	<i>HiSH_99</i>	<i>HiSH_98</i>	<i>HiSH_95</i>
	(1)	(2)	(3)	(4)	(5)	(6)
<i>HiSH</i>	-1.001*** (-2.92)	-1.015*** (-3.45)	-0.531** (-2.27)	-1.002*** (-2.81)	-1.066*** (-3.44)	-0.665** (-2.51)
<i>Star</i>	0.151 (1.26)	0.144 (1.20)	0.137 (1.15)	0.212* (1.96)	0.205* (1.88)	0.202* (1.86)
<i>LEV</i>	0.002 (0.51)	0.002 (0.50)	0.002 (0.42)	0.001 (0.28)	0.001 (0.27)	0.001 (0.29)
<i>ETKLD</i>	0.080 (1.30)	0.080 (1.31)	0.088 (1.41)	0.048 (1.03)	0.047 (1.02)	0.048 (1.03)
<i>ROA</i>	-0.000 (-0.00)	-0.000 (-0.00)	0.000 (0.01)	0.004 (0.34)	0.004 (0.35)	0.004 (0.35)
<i>BC</i>	-0.140 (-0.81)	-0.145 (-0.84)	-0.139 (-0.82)	0.014 (0.10)	0.009 (0.06)	0.011 (0.08)
<i>Firm_age</i>	0.001 (0.38)	0.001 (0.38)	0.001 (0.38)	0.001 (0.51)	0.001 (0.50)	0.001 (0.52)
<i>LogME</i>	0.009 (0.12)	0.009 (0.12)	0.008 (0.10)	-0.044 (-0.80)	-0.044 (-0.78)	-0.044 (-0.79)
<i>LogBM</i>	-0.001 (-0.01)	-0.003 (-0.03)	-0.005 (-0.04)	0.001 (0.01)	0.000 (0.00)	-0.001 (-0.01)
<i>LogEMP</i>	-0.064 (-0.97)	-0.063 (-0.95)	-0.060 (-0.91)	-0.003 (-0.11)	-0.004 (-0.11)	-0.002 (-0.06)
<i>Return_{-12,-2}</i>	0.004 (1.01)	0.004 (1.01)	0.004 (1.01)	0.002 (0.56)	0.002 (0.55)	0.002 (0.55)
<i>R</i> ²	0.057	0.057	0.052	0.042	0.042	0.042
<i>N</i>	65,453	65,453	65,453	65,453	65,453	65,453
Months	78	78	78	78	78	78

This table reports Fama-MacBeth (1973) regressions of monthly stock returns on a high sexual harassment report indicator (*HiSH*) and other control variables. Columns 1-3 use raw returns and Columns 4-6 use industry-adjusted returns where the industry average return is subtracted from a firm's return. Industry is defined at the two-digit SIC code level. Columns 1 and 4 test *HiSH_99*, whereas Columns 2 and 5 test *HiSH_98*, and Columns 3 and 6 test *HiSH_95*. In Column 1, 3, and 5, *HiSH* is tested for abnormal returns. The control variables include *Star*, *LEV*, *ETKLD*, *ROA*, *BC*, *Firm_Age*, *LogME*, *LogBM*, *LogEMP*, and *Return_{-12,-2}*. All variables are defined in Table A.1. *T*-statistics in parentheses use Newey-West autocorrelation-adjusted heteroscedasticity-robust standard errors. The sample period is July 2011 to December 2017.

* Significant at 10% level; ** significant at 5% level; *** significant at 1% level.

Table 6. Fama-MacBeth Regressions of One-Year Buy-and-Hold Return

	Raw Returns			Industry-Adjusted Returns		
	<i>HiSH_99</i>	<i>HiSH_98</i>	<i>HiSH_95</i>	<i>HiSH_99</i>	<i>HiSH_98</i>	<i>HiSH_95</i>
	(1)	(2)	(3)	(4)	(5)	(6)
<i>HiSH</i>	-0.141*** (-3.81)	-0.129*** (-3.34)	-0.075* (-1.75)	-0.118*** (-3.35)	-0.102*** (-2.78)	-0.068* (-1.70)
<i>Star</i>	0.016** (2.31)	0.016** (2.32)	0.015** (2.31)	0.018*** (3.87)	0.018*** (3.91)	0.018*** (3.83)
<i>LEV</i>	0.001 (1.40)	0.001 (1.41)	0.000 (0.98)	0.000 (0.60)	0.000 (0.60)	0.000 (0.26)
<i>ETKLD</i>	0.017*** (3.97)	0.017*** (4.04)	0.018*** (4.05)	0.014*** (4.67)	0.014*** (4.66)	0.014*** (4.69)
<i>ROA</i>	-0.002** (-2.17)	-0.002** (-2.17)	-0.003* (-1.79)	-0.002 (-1.24)	-0.002 (-1.24)	-0.003 (-1.19)
<i>BC</i>	-0.024*** (-4.12)	-0.024*** (-4.25)	-0.024*** (-4.41)	-0.001 (-0.23)	-0.002 (-0.43)	-0.002 (-0.41)
<i>Firm_age</i>	0.000 (0.47)	0.000 (0.46)	0.000 (0.36)	0.000 (0.86)	0.000 (0.88)	0.000 (0.73)
<i>LogME</i>	0.000 (0.10)	0.000 (0.08)	-0.001 (-0.21)	-0.007*** (-3.17)	-0.007*** (-3.15)	-0.008*** (-3.18)
<i>LogBM</i>	-0.001 (-0.11)	-0.001 (-0.10)	-0.004 (-0.34)	-0.011 (-0.94)	-0.011 (-0.94)	-0.013 (-0.97)
<i>LogEMP</i>	-0.006 (-1.29)	-0.006 (-1.26)	-0.006 (-1.26)	0.003 (1.20)	0.003 (1.18)	0.003 (1.17)
<i>Return_{-12,-2}</i>	0.000 (1.07)	0.000 (1.08)	0.000 (0.78)	0.000 (0.26)	0.000 (0.26)	-0.000 (-0.04)
<i>R</i> ²	0.070	0.070	0.070	0.056	0.056	0.057
<i>N</i>	53,163	53,163	53,163	53,160	53,160	53,160
Months	70	70	70	70	70	70

This table reports Fama-MacBeth regressions of one-year buy-and-hold stock returns on a high sexual harassment report indicator (*HiSH*) and other control variables. Columns 1-3 use $BHR_{t,t+1}$ using raw returns and Columns 4-6 use industry-adjusted returns $BHR_{IA_{t,t+1}}$ where the industry average return is subtracted from a firm's return. Industry is defined at the two-digit SIC code level. Columns 1 and 4 test *HiSH_99*, whereas Columns 2 and 5 test *HiSH_98*, and Columns 3 and 6 test *HiSH_95*. The control variables include *Star*, *LEV*, *ETKLD*, *ROA*, *BC*, *Firm_Age*, *LogME*, *LogBM*, *LogEMP*, and *Return_{-12,-2}*. All variables are defined in Table A.1. *T*-statistics in parentheses use Newey-West autocorrelation-adjusted heteroscedasticity-robust standard errors. The sample period is July 2011 to December 2017.

* Significant at 10% level; ** significant at 5% level; *** significant at 1% level.

Table 7. Operating Performance Regressions

<i>Panel A: HiSH_99</i>			
	$ROA_{t-2, t+2}$	$ROE_{t-2, t+2}$	$LAB_{t-2, t+2}$
<i>HiSH</i>	-5.057*** (-4.96)	-16.307*** (-3.11)	4.722*** (5.53)
<i>LogME</i> _{t-2, t+2}	4.941*** (7.67)	11.970*** (9.87)	0.404 (1.21)
<i>LogBM</i> _{t-2, t+2}	-0.985*** (-2.95)	-1.998 (-1.19)	-2.483*** (-4.61)
<i>LEV</i> _{t-2, t+2}	-0.143*** (-3.98)	-0.189* (-1.93)	-0.019 (-0.88)
Year FE	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
<i>N</i>	2869	2869	473
<i>R</i> ²	0.217	0.058	0.114
<i>Panel B: HiSH_98</i>			
	$ROA_{t-2, t+2}$	$ROE_{t-2, t+2}$	$LAB_{t-2, t+2}$
<i>HiSH</i>	-4.163*** (-6.68)	-10.907*** (-2.99)	6.975*** (3.27)
<i>LogME</i> _{t-2, t+2}	4.936*** (7.75)	11.955*** (10.00)	0.515 (1.48)
<i>LogBM</i> _{t-2, t+2}	-0.972*** (-2.83)	-1.965 (-1.18)	-2.540*** (-4.15)
<i>LEV</i> _{t-2, t+2}	-0.143*** (-3.93)	-0.189* (-1.91)	-0.019 (-0.86)
Year FE	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
<i>N</i>	2869	2869	473
<i>R</i> ²	0.218	0.058	0.122

Table 7 (Continued). Operating Performance Regressions

<i>Panel C: HiSH_95</i>			
	$ROA_{t-2, t+2}$	$ROE_{t-2, t+2}$	$LAB_{t-2, t+2}$
<i>HiSH</i>	-0.832 (-0.66)	2.591 (0.41)	2.930** (2.09)
$LogME_{t-2, t+2}$	4.936*** (7.75)	11.949*** (9.93)	0.419 (1.30)
$LogBM_{t-2, t+2}$	-0.986*** (-2.94)	-2.005 (-1.19)	-2.480*** (-4.31)
$LEV_{t-2, t+2}$	-0.143*** (-3.97)	-0.188* (-1.93)	-0.017 (-0.75)
Year FE	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
<i>N</i>	2869	2869	473
R^2	0.215	0.057	0.116

This table reports regressions of changes in Return on Assets (*ROA*), Return on Equity (*ROE*), and labor expenses as a percentage of sales (*LAB*) from $t - 2$ years to $t + 2$ years on a high sexual harassment report indicator and other control variables. Panels A-C show the results for *HiSH_99/98/95*, respectively. Year t is the year a firm is identified as a high-sexual harassment firm. All variables are defined in Table A.1. *T*-statistics in parentheses use standard errors clustered by firm and year. The sample period is July 2011 to December 2017. * Significant at 10% level; ** significant at 5% level; *** significant at 1% level.

Table 8. Risk-Adjusted Measure (Alpha): Expanded Sexual Harassment Word List

<i>Panel A. HiSH_99 Excess Returns</i>				
	(1)	(2)	(3)	(4)
	FF4, EW	FF5, EW	FF4, VW	FF5, VW
<i>LoSH_Exp_99 Alpha</i>	0.063 (0.66)	0.065** (2.05)	0.049 (0.56)	0.065** (2.36)
<i>HiSH_Exp_99 Alpha</i>	-0.660 (-1.37)	-1.589*** (-2.77)	-0.790* (-1.80)	-1.763*** (-3.57)
<i>Hi-Lo SH_Exp_99 Alpha</i>	-0.723 (-1.46)	-1.654*** (-2.84)	-0.839* (-1.86)	-1.828*** (-3.64)
<i>Panel B. HiSH_98 Excess Returns</i>				
	(1)	(2)	(3)	(4)
	FF4, EW	FF5, EW	FF4, VW	FF5, VW
<i>LoSH_Exp_98 Alpha</i>	0.071 (0.74)	0.073** (2.33)	0.058 (0.66)	0.073*** (2.68)
<i>HiSH_Exp_98 Alpha</i>	-1.051*** (-3.50)	-1.794*** (-4.63)	-1.138*** (-4.34)	-1.896*** (-5.56)
<i>Hi-Lo SH_Exp_98 Alpha</i>	-1.122*** (-3.58)	-1.867*** (-4.72)	-1.196*** (-4.12)	-1.969*** (-5.66)
<i>Panel C. HiSH_95 Excess Returns</i>				
	(1)	(2)	(3)	(4)
	FF4, EW	FF5, EW	FF4, VW	FF5, VW
<i>LoSH_Exp_95 Alpha</i>	0.079 (0.85)	0.072** (2.38)	0.069 (0.83)	0.072*** (2.75)
<i>HiSH_Exp_95 Alpha</i>	-0.514* (-1.76)	-0.765** (-2.01)	-0.635** (-2.37)	-0.857** (-2.16)
<i>Hi-Lo SH_Exp_95 Alpha</i>	-0.592** (-2.34)	-0.837** (-2.14)	-0.704*** (-2.98)	-0.929** (-2.30)

This table uses the expanded word list (see Section 5.1) to define the SH score (*SH_Exp*). The table reports the alphas from regressions of monthly returns of a portfolio of low sexual harassment (*LoSH_Exp_99/98/95*) firms, high sexual harassment (*HiSH_Exp_99/98/95*) firms, and a long-short portfolio of high and low sexual harassment (*Hi-Lo SH_Exp_99/98/95*) firms, respectively. The returns are regressed on the Carhart 4 factors and the Fama-French 5 factors. The high and low *SH_Exp* portfolio returns are the excess over the risk-free rate. *T*-statistics in parentheses use Newey-West autocorrelation-adjusted heteroscedasticity-robust standard errors. The sample returns are from July 2011 to December 2017.

* Significant at 10% level; ** significant at 5% level; *** significant at 1% level.

**Table 9. Fama-MacBeth Monthly Return Regressions:
Expanded Sexual Harassment Word List**

	Raw Returns			Industry-Adjusted Returns		
	<i>HiSH_99</i>	<i>HiSH_98</i>	<i>HiSH_95</i>	<i>HiSH_99</i>	<i>HiSH_98</i>	<i>HiSH_95</i>
	(1)	(2)	(3)	(4)	(5)	(6)
<i>HiSH_Exp</i>	-0.610 (-1.43)	-0.955*** (-3.36)	-0.541** (-2.32)	-0.659 (-1.55)	-0.967*** (-3.21)	-0.666** (-2.51)
<i>Star</i>	0.155 (1.26)	0.147 (1.21)	0.135 (1.11)	0.213* (1.94)	0.206* (1.89)	0.197* (1.80)
<i>LEV</i>	0.002 (0.49)	0.002 (0.48)	0.002 (0.50)	0.001 (0.27)	0.001 (0.26)	0.001 (0.27)
<i>ETKLD</i>	0.083 (1.34)	0.085 (1.38)	0.083 (1.38)	0.050 (1.07)	0.050 (1.09)	0.051 (1.10)
<i>ROA</i>	-0.000 (-0.01)	-0.000 (-0.01)	-0.000 (-0.00)	0.004 (0.35)	0.004 (0.34)	0.004 (0.35)
<i>BC</i>	-0.148 (-0.86)	-0.151 (-0.87)	-0.143 (-0.84)	0.007 (0.05)	0.005 (0.03)	0.008 (0.05)
<i>Firm_age</i>	0.001 (0.36)	0.001 (0.35)	0.001 (0.37)	0.001 (0.49)	0.001 (0.47)	0.001 (0.51)
<i>LogME</i>	0.009 (0.12)	0.010 (0.13)	0.007 (0.09)	-0.044 (-0.79)	-0.042 (-0.76)	-0.045 (-0.80)
<i>LogBM</i>	-0.002 (-0.02)	-0.002 (-0.02)	-0.006 (-0.05)	0.000 (0.01)	0.001 (0.02)	-0.002 (-0.03)
<i>LogEMP</i>	-0.063 (-0.96)	-0.063 (-0.96)	-0.059 (-0.91)	-0.002 (-0.08)	-0.004 (-0.11)	-0.002 (-0.06)
<i>Return_{-12,-2}</i>	0.004 (1.01)	0.004 (1.00)	0.004 (1.00)	0.002 (0.55)	0.002 (0.54)	0.002 (0.54)
<i>R</i> ²	0.057	0.057	0.057	0.042	0.042	0.042
<i>N</i>	65,365	65,365	65,365	65,365	65,365	65,365
Months	78	78	78	78	78	78

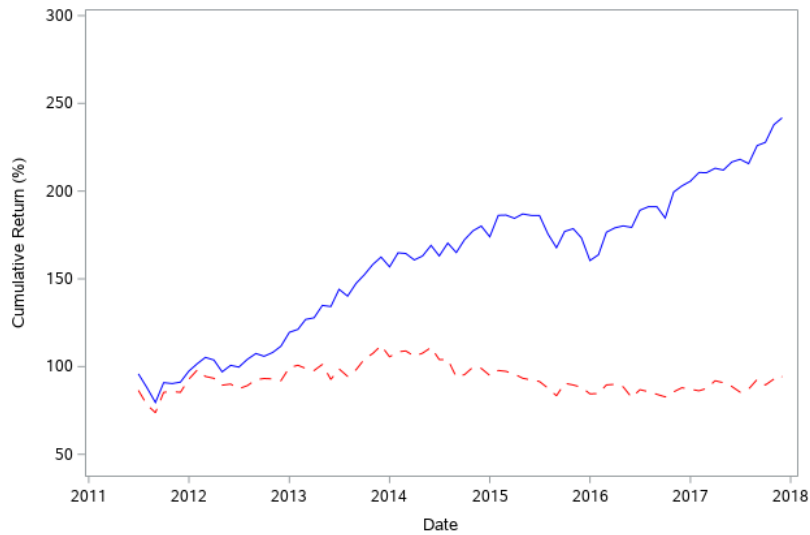
This table uses an expanded word list to define *SH_Exp*. This table reports Fama-MacBeth (1973) regressions of monthly stock returns on a high sexual harassment report indicator (*HiSH_Exp*) using the expanded word list and other control variables. Columns 1-3 use raw returns and Columns 4-6 use industry-adjusted returns where the industry average return is subtracted from a firm's return. Industry is defined at the two-digit SIC code level. Columns 1 and 4 test *HiSH_99*, whereas Columns 2 and 5 test *HiSH_98*, and Columns 3 and 6 test *HiSH_95*. The control variables include *Star*, *LEV*, *ETKLD*, *ROA*, *BC*, *Firm_Age*, *LogME*, *LogBM*, *LogEMP* and *Return_{-12,-2}*. All variables are defined in Table A.1. *T*-statistics in parentheses use Newey-West autocorrelation-adjusted heteroscedasticity-robust standard errors. The sample period is July 2011 to December 2017.

* Significant at 10% level; ** significant at 5% level; *** significant at 1% level.

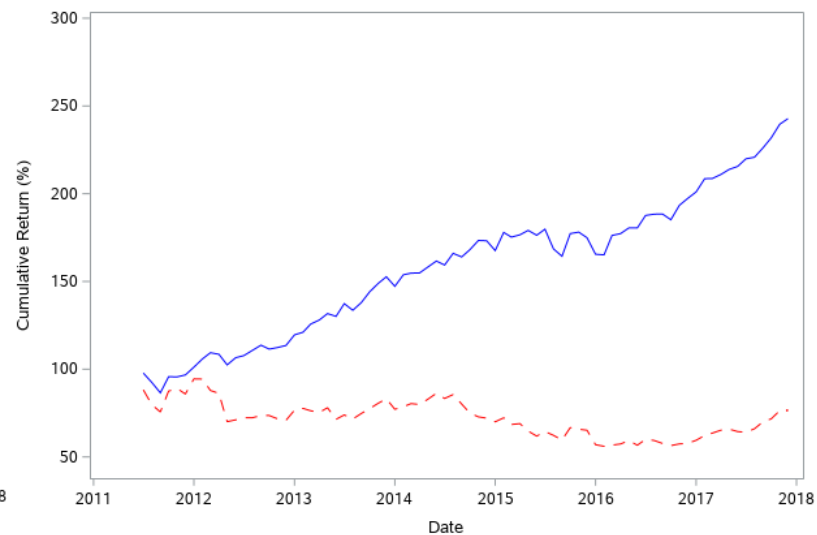
Figure 1. Cumulative Portfolio Returns

This figure shows the cumulative portfolio returns over the sample period for a portfolio of firms with high incidence of sexual harassment claims (*HiSH_98*) and a portfolio of firms with low incidence of sexual harassment reports (*LoSH_98*). Portfolios are formed at the end of June 2011, rebalanced in June of each year, and then held to December 2017. The starting value of each portfolio is normalized to be 100. Panel A shows the equal-weighted results and Panel B the value-weighted results for the full portfolio.

Panel A: Equal-Weighted Returns



Panel B: Value-Weighted Returns



— *LoSH_98* Firms - - - *HiSH_98* Firms

Figure 2. Profitability and Stock Price Performance around Reports of Sexual Harassments

This figure illustrates the evolution of operating profitability and stock price performance around reports of sexual harassment, using the *HiSH_98* definition for high-SH firms. Panels A and B plot the Return on Assets ratio (*ROA*, in percentages), Panels C and D plot Return on Equity (*ROE*, in percentages), and Panels E and F plot normalized stock prices. Panels A and C, and E show the raw ratios or returns, whereas Panels B, D, and F plot the industry-adjusted values, where the industry is defined using 2-digit SIC codes. Ratios and returns are shown for the two years before, and two years after a firm is identified as a high-SH firm. *ROA* and *ROE* are differenced from their values at $t - 2$; returns are cumulative from $t - 2$. The t -statistics for the differences in mean ratios between high and low-SH firms are shown below each graph.

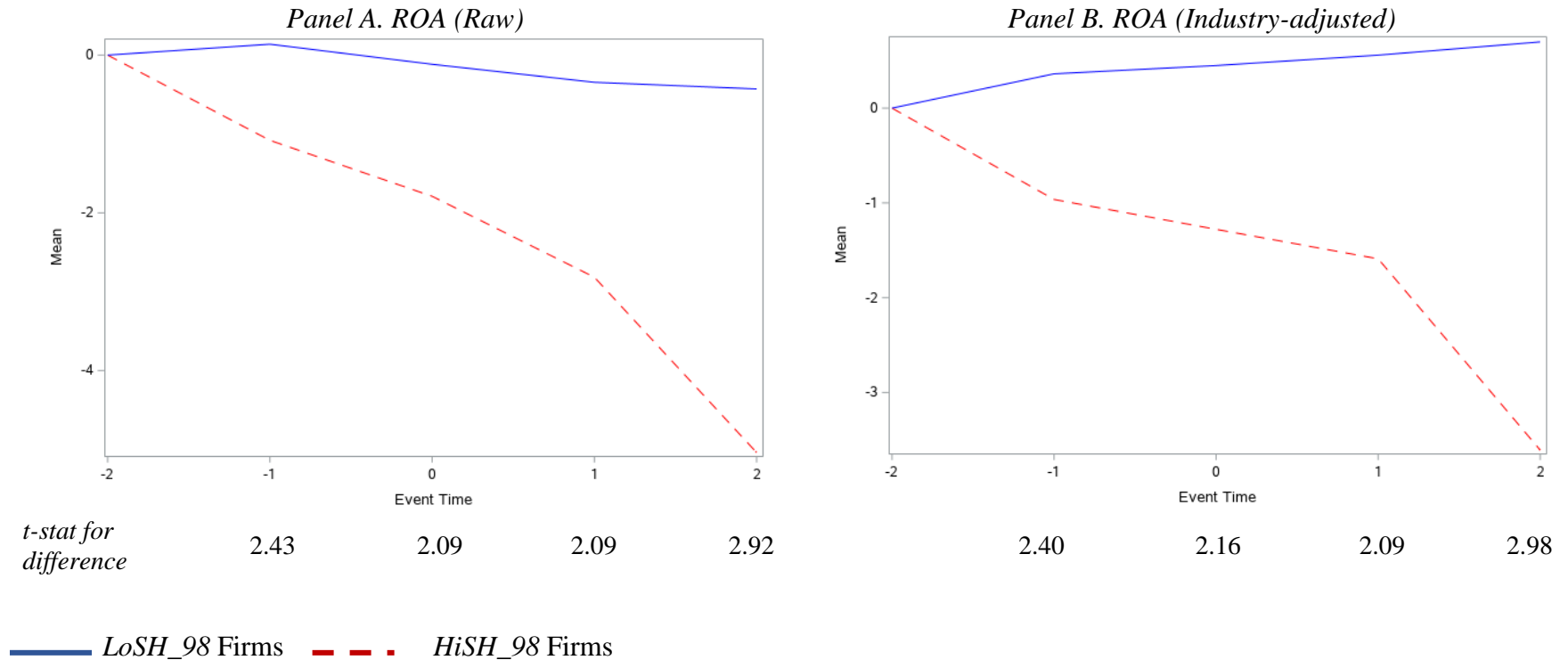


Figure 2 (Continued). Profitability and Stock Price Performance around Reports of Sexual Harassments

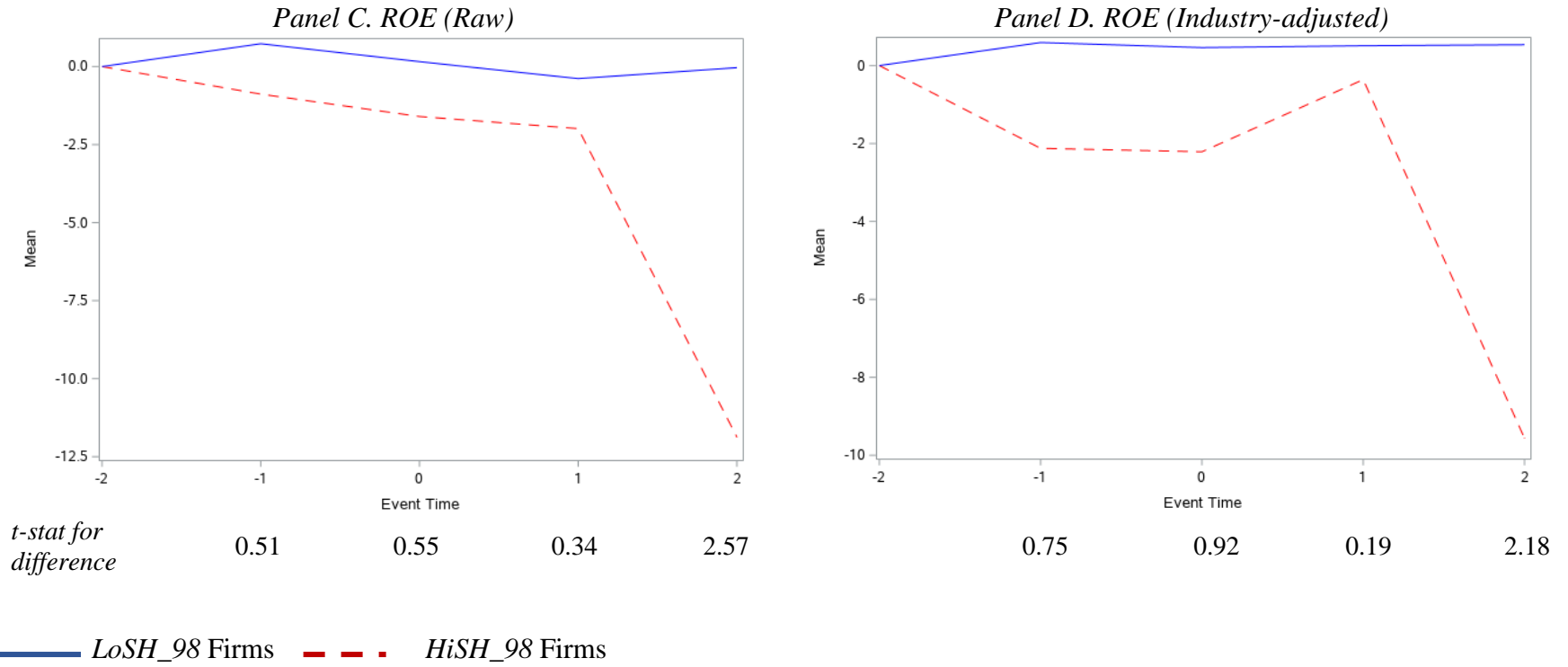
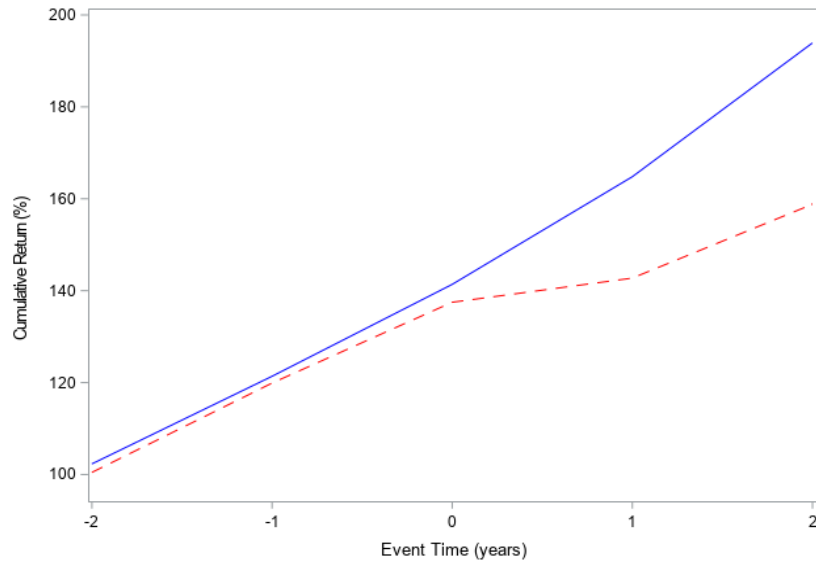


Figure 2 (Continued). Profitability and Stock Price Performance around Reports of Sexual Harassments

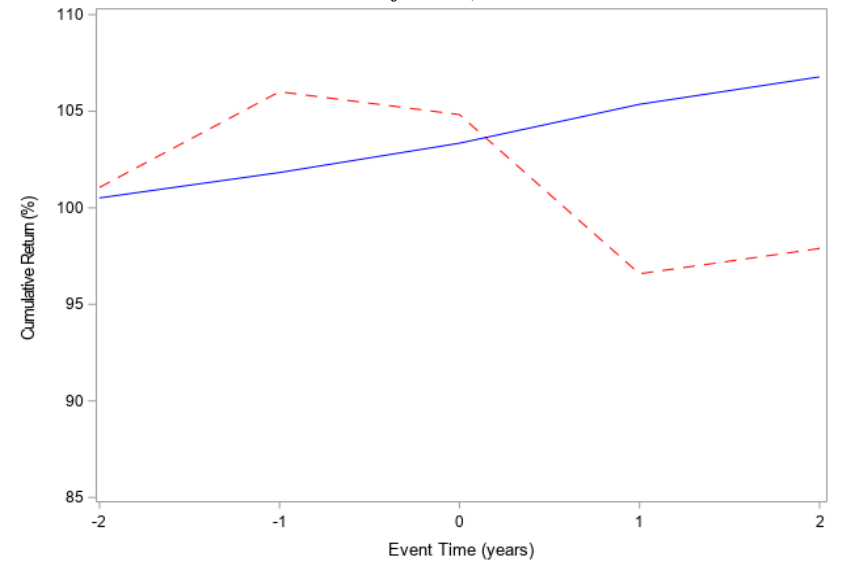
Panel E. Cumulative Equal-Weighted Returns



t-stat for difference

-0.85 1.00 2.43 3.82

Panel F. Cumulative Equal-Weighted Returns (Industry Adjusted)



-1.66 1.15 1.76 2.41

— LoSH_98 Firms - - - HiSH_98 Firms

How Much Does Workplace Sexual Harassment Hurt Firm Value?

Internet Appendix

Figure IA.1. Sample Reviews

This figure shows examples of reviews retrieved from Glassdoor.com. Reviews include a title, details about the reviewer, the reviewer's general assessment of the company and CEO, and the review date. A three-section review includes pros, cons, and advice to management. The upper left corner of each review has a drop-down menu (not shown) with the detailed ratings on the work/life balance, culture and values, career opportunities, compensation benefits, job satisfaction, and senior management categories. We highlight the portions of each review that discuss sexual harassment.

Panel A. Kohl's

8 Aug, 2017



"eh."

Former Employee - Anonymous Employee

Doesn't Recommend Neutral Outlook No opinion of CEO

I worked at Kohl's part-time

Pros

Somewhat flexible hours, so good for a part time job if you're in school or have other responsibilities. Usually easy to trade shifts or get one covered.

Cons

I worked there for over a year, and after that experience what stands out to me the most is that the store has a lax policy for sexual harassment and disrespectful management. 1/3 supervisors can be hard to approach, i.e. will literally walk away from you when you need something. There is a high turnover rate for management and associates as well as poor training - you're often thrown into it and automatically ...

Show More

Advice to Management

Please actually care about how employees are treated, thanks.

Panel B. Fastenal

Aug 26, 2015



"Outside Sales"

Former Employee - Anonymous Employee

Doesn't Recommend Neutral Outlook No opinion of CEO

I worked at Fastenal full-time

Pros

Pays well for entry-level positions, many opportunities to grow, nationwide job training, ability to transfer location should you move anywhere in the country.

Cons

Upper management will cover up issues with employees, particularly lower management. I quit due to sexual harassment and discrimination from my branch manager that was not dealt with after multiple complaints to the regional manager and corporate. I was told to "hang in there" and that it "could be worse."

Advice to Management

Under no circumstance is sexual harassment and discrimination okay.

Figure IA.1 (Continued). Sample Reviews

Panel C. Novavax

Mar 22, 2017

Helpful (9)



"Product potential... low morale, favoritism, and inept management"



Current Employee - Anonymous Employee in Gaithersburg, MD

Doesn't Recommend Negative Outlook Approves of CEO

I have been working at Novavax full-time

Pros

RSV vaccine with global reach to help the very young and old.
Exposure to more than your job description.
Pockets of extremely smart and dedicated people.

Cons

President of R&D and certain Sr. VPs constantly bicker over petty issues; they have turf wars; they try to influence, run or extend themselves into other departments that they have no experience with; there is open dating of subordinates within the same department;

A few Sr. VPs still have the audacity to openly complain that they would not receive a "2016 year end bonus". This is after the failure of the Phase 3 Elderly RSV trial, which led to the company laying off 33% of the people, a week before Thanksgiving.

HR sweeps legitimate issues under the rug as if they never happened (i.e., complaints of hostile working conditions, reports of sexual harassment). These items that would normally result in immediately firing personnel. There are instances where several complaints have been logged to HR for the same person, and nothing is done.

It often times feels like Novavax is a D-rated direct-to-video high school movie about rich, spoiled teenagers acting badly.

Panel D. Athleta

Oct 23, 2016

Helpful (2)



"Stay away"



Former Employee - Store General Manager in Chicago, IL

Doesn't Recommend Neutral Outlook Disapproves of CEO

Pros

You must enter 5 words....

Cons

Everything else. No culture. As one of the few males working at the company I was sexually harassed and it was made perfectly clear that they did not support males within the company.

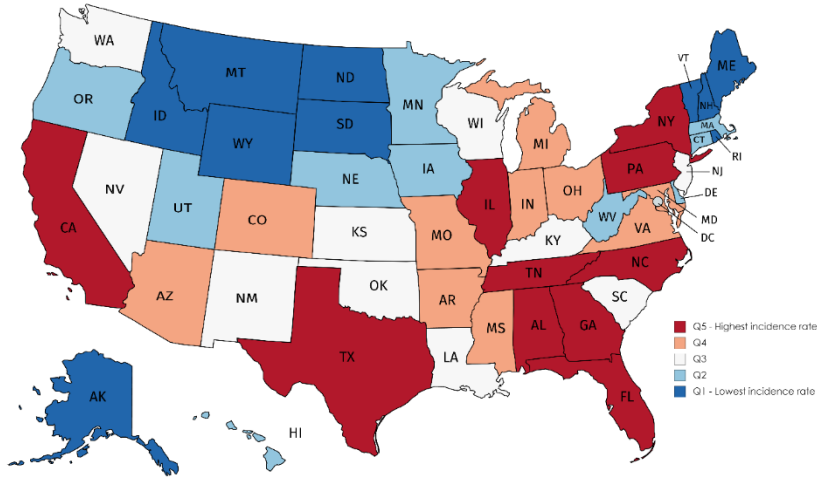
Advice to Management

Show respect to your people. Most really wanted to be there at first. You stopped that!

Figure IA.2. Comparison of EEOC and Reviews Data

This figure compares the state-level incidence rate of sexual harassment claims. We include both publicly traded and private firms in this analysis. Panel A reports the average state sexual harassment charges as a proportion of national charges, as computed over the period 2011-2017 by the Equal Employment Opportunity Commission (EEOC; <https://www.eeoc.gov/statistics/enforcement/charges-by-state>). Panel B computes the state-level proportion of sexual harassment claims, as a proportion of national claims, using the reviews data from Glassdoor and Indeed, over the same period.

Panel A. State-level Incidence of Sexual Harassment Charges, EEOC Data



Panel B. State-level Incidence of Sexual Harassment Charges, Reviews Data

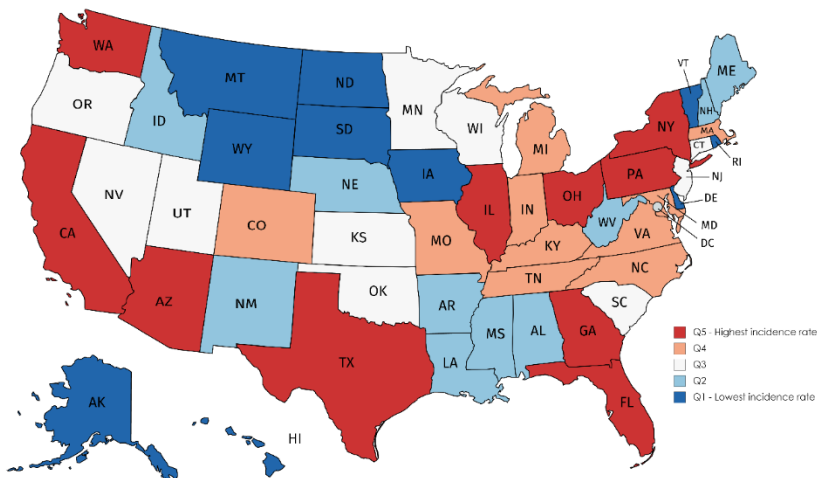


Table IA.1. Distribution of Sexual Harassment by SIC2 Industry

SIC2	Definition	N (Firm-Years)	HiSH_99	HiSH_98	HiSH_95
02	Agricultural Production	2	0.00%	0.00%	0.00%
08	Forestry	54	1.85%	5.56%	5.56%
10	Metal, Mining	12	0.00%	0.00%	0.00%
12	Coal Mining	6	0.00%	0.00%	0.00%
14	Nonmetallic Minerals, Except Fuels	17	0.00%	5.88%	5.88%
20	Food & Kindred Products	113	0.00%	0.00%	2.65%
22	Textile Mill Products	11	9.09%	9.09%	18.18%
26	Paper & Allied Products	34	0.00%	0.00%	0.00%
27	Printing & Publishing	57	0.00%	0.00%	0.00%
28	Chemical & Allied Products	229	0.87%	0.87%	1.75%
29	Petroleum & Coal Products	42	0.00%	0.00%	4.76%
30	Rubber & Miscellaneous Plastics Products	23	0.00%	0.00%	0.00%
31	Leather & Leather Products	45	0.00%	2.22%	2.22%
32	Stone, Clay, & Glass Products	12	0.00%	0.00%	0.00%
33	Primary Metal Industries	19	0.00%	0.00%	5.26%
34	Fabricated Metal Products	51	0.00%	3.92%	3.92%
35	Industrial Machinery & Equipment	140	0.00%	0.00%	0.71%
36	Electronic & Other Electric Equipment	296	0.34%	0.68%	0.68%
37	Transportation Equipment	139	0.72%	2.16%	2.88%
38	Instruments & Related Products	41	0.00%	0.00%	2.44%
39	Miscellaneous Manufacturing Industries	244	0.82%	1.23%	3.28%
40	Railroad Transportation	18	0.00%	5.56%	5.56%
42	Trucking & Warehousing	48	0.00%	0.00%	4.17%
45	Transportation by Air	57	0.00%	0.00%	0.00%
47	Transportation Services	20	0.00%	0.00%	0.00%
48	Communications	149	0.67%	0.67%	2.68%
49	Electric, Gas, & Sanitary Services	33	0.00%	0.00%	0.00%
50	Wholesale Trade – Durable Goods	69	1.45%	1.45%	2.90%
51	Wholesale Trade – Nondurable Goods	54	0.00%	1.85%	7.41%
52	Building Materials & Gardening Supplies	20	0.00%	0.00%	10.00%
54	Food Stores	51	0.00%	1.96%	11.76%
55	Automotive Dealers & Service Stations	112	0.00%	2.68%	7.14%
56	Apparel & Accessory Stores	203	0.00%	0.99%	3.45%
57	Furniture & Homefurnishings Stores	33	0.00%	0.00%	12.12%
58	Eating & Drinking Places	77	3.90%	3.90%	12.99%
59	Miscellaneous Retail	164	1.22%	1.22%	4.88%
60	Depository Institutions	161	1.24%	1.86%	2.48%
61	Nondepository Institutions	59	0.00%	0.00%	1.69%
62	Security & Commodity Brokers	86	0.00%	0.00%	1.16%
63	Insurance Carriers	157	0.64%	0.64%	2.55%
64	Insurance Agents, Brokers, & Service	39	0.00%	0.00%	0.00%
65	Real Estate	15	0.00%	0.00%	0.00%
67	Holding & Other Investment Offices	35	0.00%	0.00%	2.86%
70	Hotels & Other Lodging Places	58	1.72%	3.45%	3.45%
72	Personal Services	8	0.00%	0.00%	0.00%
73	Business Services	716	0.42%	0.98%	2.65%
75	Auto Repair, Services, & Parking	17	0.00%	0.00%	0.00%
76	Miscellaneous Repair Services	96	3.13%	4.17%	9.38%
78	Motion Pictures	17	0.00%	0.00%	0.00%
79	Amusement & Recreation Services	28	7.14%	7.14%	17.86%
80	Health Services	133	1.50%	1.50%	1.50%
82	Educational Services	37	2.70%	5.41%	5.41%
83	Social Services	14	0.00%	0.00%	0.00%
87	Engineering & Management Services	155	0.65%	1.94%	3.23%
89	Services, Not Elsewhere Classified	211	1.42%	2.37%	3.79%

This table reports statistics about the distribution of sexual harassment, by industry, defined at the 2-digit SIC code level. Average *HiSH_99/98/95* values are reported for each industry.

Table IA.2. Transition Matrices

<i>Panel A: HiSH_{99,t-1} to HiSH_{99,t}</i>		
	<i>HiSH_{99,t-1}</i>	
<i>HiSH_{99,t}</i>	0	1
0	99.06%	97.67%
1	0.94%	2.33%
N	5,340	43
<i>Panel B: HiSH_{98,t-1} to HiSH_{98,t}</i>		
	<i>HiSH_{98,t-1}</i>	
<i>HiSH_{98,t}</i>	0	1
0	98.26%	92.68%
1	1.74%	7.32%
N	5,301	82
<i>Panel C: HiSH_{95,t-1} to HiSH_{95,t}</i>		
	<i>HiSH_{95,t-1}</i>	
<i>HiSH_{95,t}</i>	0	1
0	96.03%	85.34%
1	3.97%	14.66%
N	5,192	191

This table shows the percentage of firm-years according to their *HiSH_{t-1}* classification in year $t - 1$, and their status as either *HiSH* or *LoSH* (i.e., $HiSH = 0$) in year t . Panel A, B and C report the transition rates of firms into (or out of) the *HiSH₉₉* (*98/95*, respectively) category. The number of firms classified as *HiSH* or *LoSH* in year $t - 1$ is also reported.

Table IA.3. Sample Firms Listed on Fortune's Best Workplaces for Women

Company Name	Year	BWW Rank	SH Score (%)
ACORDA THERAPEUTICS INC	2015	75	0.000
ACORDA THERAPEUTICS INC	2016	92	0.000
AFLAC INC	2016	72	0.000
ALLIANCE DATA SYSTEMS CORP	2015	94	0.000
AMERICAN EXPRESS CO	2016	77	0.000
AMERICAN EXPRESS CO	2017	78	0.001
AUTODESK INC	2016	94	0.000
BRIGHT HORIZONS FAMILY SOLTN	2016	98	0.000
BUILD-A-BEAR WORKSHOP INC	2015	10	0.000
BUILD-A-BEAR WORKSHOP INC	2016	3	0.000
BUILD-A-BEAR WORKSHOP INC	2017	16	0.000
CAPITAL ONE FINANCIAL CORP	2016	91	0.000
CAPITAL ONE FINANCIAL CORP	2017	48	0.000
CHEESECAKE FACTORY INC	2017	45	0.003
COMCAST CORP	2017	31	0.000
CONTAINER STORE GROUP	2015	27	0.000
CONTAINER STORE GROUP	2016	19	0.006
CONTAINER STORE GROUP	2017	57	0.000
CORNERSTONE ONDEMAND INC	2016	52	0.000
CREDIT ACCEPTANCE CORP	2017	84	0.000
DELTA AIR LINES INC	2017	10	0.000
ENCOMPASS HEALTH CORP	2015	30	0.000
ETSY INC	2016	82	0.000
EXPEDIA GROUP INC	2017	80	0.000
FACTSET RESEARCH SYSTEMS INC	2015	97	0.000
FIRST AMERICAN FINANCIAL CP	2016	42	0.000
FIRST AMERICAN FINANCIAL CP	2017	56	0.000
FIRST HORIZON NATIONAL CORP	2017	94	0.000
HILTON WORLDWIDE HOLDINGS	2016	56	0.000
HILTON WORLDWIDE HOLDINGS	2017	15	0.003
HUBSPOT INC	2015	100	0.000
HYATT HOTELS CORP	2015	38	0.000
HYATT HOTELS CORP	2016	25	0.000
HYATT HOTELS CORP	2017	65	0.000
INTUIT INC	2016	58	0.000
INTUIT INC	2017	9	0.000

Table IA.3. (Continued). Sample Firms Listed on Fortune’s Best Workplaces for Women

Company Name	Year	BWW Rank	SH Score (%)
MARRIOTT INTL INC	2017	4	0.000
NORDSTROM INC	2017	81	0.000
PINNACLE FINL PARTNERS INC	2017	6	0.000
SALESFORCE.COM INC	2017	23	0.003
STRYKER CORP	2017	30	0.000
ULTIMATE SOFTWARE GROUP INC	2015	23	0.000
ULTIMATE SOFTWARE GROUP INC	2016	4	0.000
ULTIMATE SOFTWARE GROUP INC	2017	2	0.000
WORKDAY INC	2015	47	0.000
WORKDAY INC	2016	23	0.000
WORKDAY INC	2017	24	0.000
WORKIVA INC	2016	55	0.000
YELP INC	2015	93	0.000
ZILLOW GROUP INC	2017	52	0.000

This table lists our sample firms that also appear on Fortune’s 2015, 2016 or 2017 Best Workplaces for Women list. Year is the year firms appear on the BWW list, BWW Rank is their rank on that year’s list.

Table IA.4. Other Operating Performance Regressions

<i>Panel A: HiSH_99</i>				
	<i>Pension</i> _{<i>t-2,t+2</i>}	<i>ChgSale</i> _{<i>t-2,t+2</i>}	<i>Capex</i> _{<i>t-2,t+2</i>}	<i>KZ</i> _{<i>t-2,t+2</i>}
<i>HiSH</i>	0.158 (0.95)	-1.514 (-0.22)	-0.157 (-0.19)	21.091 (1.19)
<i>LogME</i> _{<i>t-2,t+2</i>}	-0.100* (-1.65)	11.662*** (4.01)	0.666*** (4.37)	6.001 (0.48)
<i>LogBM</i> _{<i>t-2,t+2</i>}	-0.034 (-0.55)	-1.030 (-0.31)	-0.416** (-2.40)	33.706*** (4.76)
<i>LEV</i> _{<i>t-2,t+2</i>}	-0.003* (-1.90)	0.135*** (2.83)	-0.008 (-1.00)	3.887*** (16.28)
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
<i>N</i>	2635	2869	2869	2505
<i>R</i> ²	0.020	0.067	0.086	0.166
<i>Panel B: HiSH_98</i>				
	<i>Pension</i> _{<i>t-2,t+2</i>}	<i>ChgSale</i> _{<i>t-2,t+2</i>}	<i>Capex</i> _{<i>t-2,t+2</i>}	<i>KZ</i> _{<i>t-2,t+2</i>}
<i>HiSH</i>	0.043 (0.50)	4.230 (0.85)	-0.979 (-0.99)	13.328 (0.92)
<i>LogME</i> _{<i>t-2,t+2</i>}	-0.100 (-1.63)	11.659*** (4.00)	0.666*** (4.37)	6.046 (0.48)
<i>LogBM</i> _{<i>t-2,t+2</i>}	-0.035 (-0.55)	-1.045 (-0.32)	-0.412** (-2.42)	33.678*** (4.72)
<i>LEV</i> _{<i>t-2,t+2</i>}	-0.003* (-1.91)	0.136*** (2.86)	-0.008 (-1.02)	3.887*** (16.29)
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
<i>N</i>	2635	2869	2869	2505
<i>R</i> ²	0.020	0.068	0.087	0.166

<i>Panel C: HiSH_95</i>				
	<i>Pension</i> _{<i>t-2,t+2</i>}	<i>ChgSale</i> _{<i>t-2,t+2</i>}	<i>Capex</i> _{<i>t-2,t+2</i>}	<i>KZ</i> _{<i>t-2,t+2</i>}
<i>HiSH</i>	-0.019 (-0.47)	-2.079 (-0.77)	-0.528 (-1.01)	-0.187 (-0.02)
<i>LogME</i> _{<i>t-2,t+2</i>}	-0.100 (-1.63)	11.663*** (4.00)	0.666*** (4.37)	6.024 (0.48)
<i>LogBM</i> _{<i>t-2,t+2</i>}	-0.034 (-0.55)	-1.028 (-0.31)	-0.415** (-2.42)	33.742*** (4.77)
<i>LEV</i> _{<i>t-2,t+2</i>}	-0.003* (-1.92)	0.135*** (2.80)	-0.008 (-1.02)	3.887*** (16.21)
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
<i>N</i>	2635	2869	2869	2505
<i>R</i> ²	0.020	0.068	0.087	0.165

This table reports regressions of changes in pension benefits (*Pension*), sales growth (*ChgSale*), capital expenditures scaled by lagged assets (*CapEx*), and Kaplan Zingales score (*KZ*) from $t - 2$ years to $t + 2$ years on a high sexual harassment report indicator and other control variables. Panels A-C show the results for *HiSH_99/98/95*, respectively. Year t is the year a firm is identified as a high-sexual harassment firm. All variables are defined in Table A.1. *T*-statistics in parentheses use standard errors clustered by firm and year. The sample period is July 2011 to December 2017.

* Significant at 10% level; ** significant at 5% level; *** significant at 1% level.

Table IA.5. Stability of the HiSH Coefficient in the Profitability Regression: Potential Effects of the Unobservable Variables

<i>Panel A: HiSH Defined by HiSH_99, Dependent Variable = ROA</i>					
(1)	(2)	(3)	(4)	(5)	(6)
Baseline Effect, [R^2]	Controlled Effect, [R^2]		$R_{\max} = \min(2\tilde{R}; 1)$	$R_{\max} = \min(1.5\tilde{R}; 1)$	$R_{\max} = \min(1.25\tilde{R}; 1)$
-4.4925, [0.0323]	-5.059, [0.217]	1	[-5.7246, -5.059]	[-5.3918, -5.059]	[-5.2254, -5.059]
-4.4925, [0.0323]	-5.059, [0.217]	2	[-6.3902, -5.059]	[-5.7246, -5.059]	[-5.3918, -5.059]
-4.4925, [0.0323]	-5.059, [0.217]	3	[-7.0559, -5.059]	[-6.0574, -5.059]	[-5.5582, -5.059]
<i>Panel B: HiSH Defined by HiSH_99, Dependent Variable = ROE</i>					
(1)	(2)	(3)	(4)	(5)	(6)
Baseline Effect, [R^2]	Controlled Effect, [R^2]		$R_{\max} = \min(2\tilde{R}; 1)$	$R_{\max} = \min(1.5\tilde{R}; 1)$	$R_{\max} = \min(1.25\tilde{R}; 1)$
-15.1951, [0.0135]	-16.312, [0.058]	1	[-17.7674, -16.312]	[-17.0397, -16.312]	[-16.6759, -16.312]
-15.1951, [0.0135]	-16.312, [0.058]	2	[-19.2229, -16.312]	[-17.7674, -16.312]	[-17.0397, -16.312]
-15.1951, [0.0135]	-16.312, [0.058]	3	[-20.6783, -16.312]	[-18.4952, -16.312]	[-17.4036, -16.312]

This table reports the robustness of the *HiSH* coefficient in the ROA and ROE regressions of Table 7, estimated under different assumptions as per Oster (2019). The first two columns report the *HiSH* coefficients and R-squared for the baseline (e.g., $ROA_{it} = \beta_1 HiSH_{it} + \varepsilon_{it}$) and the controlled regressions ($ROA_{it} = \beta_1 HiSH_{it} + \beta_2 X_{it} + \varepsilon_{it}$), where X_{it} is a vector of control variables including size, book-to-market ratio, and leverage. Table A.1 defines the control variables. For ease of comparison, both the baseline and controlled regressions include industry and year fixed effects.

Columns 4 to 6 report the identified *HiSH* coefficient sets. The sets are bounded by $\tilde{\beta}$, the coefficient from the regressions with controls, and β^* , the bias-adjusted coefficient after accounting for the bias from the unobservable variables, calculated using Oster's (2019) methodology. R_{\max} is the theoretical upper bound on R-squared, which is the R-squared value from a (hypothetical) regression of the dependent variable on *HiSH* and both observed and unobserved controls. Column 4 to 6 progressively relax the value of R_{\max} . \tilde{R} is the R-squared from the regression with controls. The parameter δ quantifies the selection relationship: $\delta = 1$ implies that the unobservable and observables are equally related to the treatment, and $\delta = 2$ implies that the unobservables are twice as important as the observables. Since none of the identified coefficient sets includes zero, the *HiSH* effect is not influenced by unobservable variables.

Table IA. 6. Expanded Word List Incidence at Review Level

Word	Percentage of Reviews
abuse	0.0043%
allegation	0.0004%
assault	0.0016%
crime	0.0001%
favor	0.0015%
harass	0.0505%
inappropriate	0.0001%
misbehavior	0.0001%
misconduct	0.0005%
quid pro quo	0.0001%
violation	0.0012%
violence	0.0004%

This table shows the relative frequency of reviews containing the words “sex” and the word above (including their permutations). All of the reviews with these words have been manually checked to ensure that the reviews refer to sexual harassment cases.

Table IA.7. Fama-MacBeth Regressions, with Minimum 150 or 250 Reviews

	Minimum 150 Reviews			Minimum 250 Reviews		
	<i>HiSH_99</i>	<i>HiSH_98</i>	<i>HiSH_95</i>	<i>HiSH_99</i>	<i>HiSH_98</i>	<i>HiSH_95</i>
	(1)	(2)	(3)	(4)	(5)	(6)
<i>HiSH</i>	-0.674** (-2.04)	-0.838*** (-2.93)	-0.450* (-1.77)	-0.803* (-1.91)	-0.741** (-2.28)	-0.432* (-1.75)
<i>Star</i>	0.149 (1.46)	0.143 (1.40)	0.139 (1.36)	0.217* (1.70)	0.212 (1.65)	0.206 (1.60)
<i>LEV</i>	0.004 (0.81)	0.004 (0.83)	0.004 (0.87)	0.003 (0.63)	0.003 (0.61)	0.003 (0.64)
<i>ETKLD</i>	0.059 (0.94)	0.059 (0.94)	0.056 (0.91)	0.096 (1.53)	0.098 (1.56)	0.098 (1.56)
<i>ROA</i>	0.002 (0.15)	0.002 (0.16)	0.002 (0.18)	-0.005 (-0.41)	-0.005 (-0.42)	-0.005 (-0.41)
<i>BC</i>	-0.106 (-0.63)	-0.106 (-0.64)	-0.098 (-0.59)	-0.189 (-1.07)	-0.192 (-1.08)	-0.194 (-1.11)
<i>Firm_age</i>	0.001 (0.34)	0.001 (0.35)	0.001 (0.38)	0.000 (0.08)	0.000 (0.08)	0.000 (0.09)
<i>LogME</i>	-0.003 (-0.05)	-0.004 (-0.05)	-0.007 (-0.10)	0.029 (0.36)	0.029 (0.36)	0.027 (0.34)
<i>LogBM</i>	0.003 (0.03)	0.001 (0.01)	-0.002 (-0.01)	0.026 (0.21)	0.025 (0.21)	0.024 (0.20)
<i>LogEMP</i>	-0.056 (-0.88)	-0.057 (-0.88)	-0.056 (-0.88)	-0.074 (-1.12)	-0.072 (-1.08)	-0.071 (-1.09)
<i>Return_{-12,-2}</i>	0.003 (0.83)	0.003 (0.83)	0.003 (0.83)	0.003 (0.70)	0.003 (0.70)	0.003 (0.70)
<i>R</i> ²	0.052	0.052	0.052	0.058	0.058	0.058
<i>N</i>	74,314	74,314	74,314	57,302	57,302	57,302
Months	78	78	78	78	78	78

This table includes firms with 150 or more reviews (Columns 1-3) and firms with 250 or more reviews (Columns 4-6) rather than the standard 200 reviews. It reports Fama-MacBeth regressions of stock returns on a high sexual harassment report indicator (*HiSH*) and other control variables. Columns 1 and 2 test *HiSH_99*, whereas Columns 3 and 4 test *HiSH_98*, and Columns 5 and 6 test *HiSH_95*. The control variables include *Star*, *LEV*, *ETKLD*, *ROA*, *BC*, *Firm_Age*, *LogME*, *LogBM*, *LogEMP*, and *Return_{-12,-2}*. All variables are defined in Table A.1. *T*-statistics in parentheses use Newey-West autocorrelation-adjusted heteroscedasticity-robust standard errors. The sample period is July 2011 to December 2017.

* Significant at 10% level; ** significant at 5% level; *** significant at 1% level.

Table IA.8. Fama-MacBeth Regressions, with Number of Reviews in Proportion of Current Workforce Being at Least 10% or Minimum 30 Reviews per Year

	Minimum 10% of Workforce			Minimum 30 Reviews per Year		
	<i>HiSH_99</i>	<i>HiSH_98</i>	<i>HiSH_95</i>	<i>HiSH_99</i>	<i>HiSH_98</i>	<i>HiSH_95</i>
	(1)	(2)	(3)	(4)	(5)	(6)
<i>HiSH</i>	-3.326*** (-4.71)	-3.189*** (-4.81)	-2.272*** (-4.86)	-0.985** (-2.26)	-1.014** (-2.58)	-0.765* (-1.90)
<i>Star</i>	0.187 (0.83)	0.160 (0.70)	0.134 (0.59)	0.220 (1.43)	0.211 (1.36)	0.207 (1.34)
<i>LEV</i>	0.004 (0.81)	0.004 (0.76)	0.004 (0.87)	0.003 (0.48)	0.003 (0.47)	0.003 (0.50)
<i>ETKLD</i>	0.066 (0.59)	0.066 (0.60)	0.078 (0.70)	0.055 (0.75)	0.055 (0.76)	0.054 (0.74)
<i>ROA</i>	0.001 (0.05)	0.001 (0.11)	0.002 (0.17)	0.007 (0.52)	0.007 (0.52)	0.007 (0.53)
<i>BC</i>	-0.277 (-1.18)	-0.289 (-1.21)	-0.306 (-1.33)	-0.154 (-0.80)	-0.158 (-0.82)	-0.153 (-0.81)
<i>Firm_age</i>	0.001 (0.19)	0.001 (0.10)	-0.000 (-0.04)	0.001 (0.44)	0.001 (0.43)	0.001 (0.44)
<i>LogME</i>	0.131 (1.37)	0.128 (1.34)	0.122 (1.28)	0.040 (0.51)	0.040 (0.52)	0.039 (0.50)
<i>LogBM</i>	0.107 (0.81)	0.099 (0.75)	0.097 (0.74)	0.080 (0.67)	0.078 (0.65)	0.076 (0.64)
<i>LogEMP</i>	-0.168 (-1.37)	-0.164 (-1.33)	-0.147 (-1.20)	-0.069 (-1.03)	-0.067 (-1.00)	-0.066 (-0.99)
<i>Return_{-12,-2}</i>	0.000 (0.06)	0.000 (0.11)	0.000 (0.06)	0.004 (0.74)	0.004 (0.74)	0.004 (0.74)
<i>R</i> ²	0.082	0.083	0.082	0.065	0.066	0.066
<i>N</i>	23,227	23,227	23,227	50,210	50,210	50,210
Months	78	78	78	78	78	78

This table reports results Fama-MacBeth regressions of stock returns on a high sexual harassment report indicator (*HiSH*) and other control variables. In Columns 1-3, the sample is limited to firms where the total number of reviews amounts to at least 10% of the current workforce and in Columns 4-6, the sample is limited to firms with at least 30 reviews per year. In both cases, firms must also have at least 200 reviews in total to be included in the sample. Columns 1 and 4 test *HiSH_99*, whereas Columns 2 and 5 test *HiSH_98*, and Columns 3 and 6 test *HiSH_95*. Control variables include *Star*, *LEV*, *ETKLD*, *ROA*, *BC*, *Firm_Age*, *LogME*, *LogBM*, *LogEMP*, and *Return_{-12,-2}*. All variables are defined in Table A.1. *T*-statistics in parentheses use Newey-West autocorrelation-adjusted heteroscedasticity-robust standard errors. The sample period is July 2011 to December 2017.

* Significant at 10% level; ** significant at 5% level; *** significant at 1% level.

Table IA.9 Risk-Adjusted Measure (Alpha), EEOC Litigation

	(1) FF4, EW	(2) FF5, EW	(3) FF4, VW	(4) FF5, VW
<i>No EEOC_Lit Alpha</i>	0.131 (1.36)	0.119 (1.52)	0.009 (0.96)	0.006 (0.69)
<i>EEOC_Lit Alpha</i>	0.005 (0.01)	-0.053 (-0.16)	0.178 (0.35)	0.117 (0.37)
<i>No - EEOC_Lit Alpha</i>	-0.242 (-0.62)	-0.203 (-0.56)	0.058 (0.13)	0.091 (0.27)

The table reports the alphas from regressions of monthly returns of a portfolio of firms that did not experience EEOC litigation in the previous year, a portfolio of firms that experienced EEOC litigation (*EEOC_Lit*) in the previous year, and a long-short portfolio of firms that did not and did experience EEOC litigation, respectively. The returns are regressed on the Carhart 4 factors and the Fama-French 5 factors. The high and low *SH_Exp* portfolio returns are the excess over the risk-free rate. *T*-statistics in parentheses use Newey-West autocorrelation-adjusted heteroscedasticity-robust standard errors. The sample returns are from July 2011 to December 2017.

* Significant at 10% level; ** significant at 5% level; *** significant at 1% level.

Table IA.10. Fama-MacBeth Regressions, EEOC Litigation

	<i>Raw Returns</i>		<i>Industry-adjusted Returns</i>	
	(1)	(2)	(3)	(4)
<i>EEOC_Lit</i>	-0.415 (-1.03)	-0.525 (-1.36)	-0.030 (-0.08)	-0.140 (-0.39)
Controls	No	Yes	No	Yes
R^2	0.001	0.056	0.001	0.042
N	65,450	65,453	65,450	65,453
Months	78	78	78	78

This table reports Fama-MacBeth regressions of stock returns of firms that experienced EEOC litigation (*EEOC_Lit*) in the previous year and other control variables. Columns 1 and 2 test *EEOC_Lit* with raw returns, whereas Columns 3 and 4 test *EEOC_Lit* with industry-adjusted returns. In Columns 1 and 3 *EEOC_Lit* is tested for abnormal returns. Columns 2 and 4 repeat the test but controls for a vector of control variables that includes *Star*, *LEV*, *ETKLD*, *ROA*, *BC*, *Firm_Age*, *LogME*, *LogBM*, *LogEMP*, and *Return_{-12,-2}*. All variables are defined in Table A.1. T -statistics in parentheses use Newey-West autocorrelation-adjusted heteroscedasticity-robust standard errors. The sample period is July 2011 to December 2017.

* Significant at 10% level; ** significant at 5% level; *** significant at 1% level.

Table IA.11. Fama-MacBeth Regressions, Individual Constituents of Star

<i>Panel A: HiSH_99</i>					
	(1)	(2)	(3)	(4)	(5)
<i>HiSH</i>	-0.974*** (-2.89)	-1.259*** (-2.82)	-1.006*** (-2.92)	-0.987*** (-2.90)	-1.004*** (-2.92)
<i>CB</i>	0.324** (2.50)				
<i>JC</i>		-0.010 (-0.15)			
<i>JSA</i>			0.213* (1.74)		
<i>JWLB</i>				0.048 (0.57)	
<i>MGM</i>					0.021 (0.21)
<i>Controls</i>	Yes	Yes	Yes	Yes	Yes
<i>R</i> ²	0.057	0.079	0.057	0.057	0.057
<i>N</i>	65,453	56,585	65,453	65,453	65,453
<i>Months</i>	78	78	78	78	78
<i>Panel B: HiSH_98</i>					
	(1)	(2)	(3)	(4)	(5)
<i>HiSH</i>	-1.002*** (-3.52)	-1.280*** (-3.11)	-1.024*** (-3.47)	-1.001*** (-3.49)	-1.016*** (-3.45)
<i>CB</i>	0.320** (2.46)				
<i>JC</i>		-0.015 (-0.23)			
<i>JSA</i>			0.212* (1.74)		
<i>JWLB</i>				0.038 (0.45)	
<i>MGM</i>					0.016 (0.16)
<i>Controls</i>	Yes	Yes	Yes	Yes	Yes
<i>R</i> ²	0.057	0.079	0.057	0.057	0.057
<i>N</i>	65,453	56,585	65,453	65,453	65,453
<i>Months</i>	78	78	78	78	78

Table IA.11 (Continued). Fama-MacBeth Regressions, Individual Constituents of Star

<i>Panel C: HiSH_95</i>					
	(1)	(2)	(3)	(4)	(5)
<i>HiSH</i>	-0.526** (-2.26)	-0.810** (-2.08)	-0.533** (-2.28)	-0.542** (-2.34)	-0.543** (-2.29)
<i>CB</i>	0.317** (2.44)				
<i>JC</i>		-0.020 (-0.30)			
<i>JSA</i>			0.209* (1.72)		
<i>JWLB</i>				0.031 (0.37)	
<i>MGM</i>					0.011 (0.11)
<i>Controls</i>	Yes	Yes	Yes	Yes	Yes
<i>R</i> ²	0.057	0.079	0.057	0.057	0.057
<i>N</i>	65,453	56,585	65,453	65,453	65,453
<i>Months</i>	78	78	78	78	78

This table reports Fama-MacBeth regressions of monthly stock returns on a high sexual harassment report indicator (*HiSH*), constituents of *Star* and other control variables. The constituents of *Star* include *CB* (Compensation and benefits), *JC* (job culture), *JSA* (job security and advancement), *JWLB* (job work-life balance), and *MGM* (management). Columns 1-5 show the results for the Fama-Macbeth regressions with *CB*, *JC*, *JSA*, *JWLB*, and *MGM* as controls, respectively. Panel A, B, and C show the results for *HiSH_99*, *HiSH_98*, and *HiSH_95*, respectively. The control variables include *Star*, *LEV*, *ETKLD*, *ROA*, *BC*, *Firm_Age*, *LogME*, *LogBM*, *LogEMP*, and *Return_{-12,-2}*. All variables are defined in Table A.1. *T*-statistics in parentheses use Newey-West autocorrelation-adjusted heteroscedasticity-robust standard errors. The sample period is July 2011 to December 2017.

* Significant at 10% level; ** significant at 5% level; *** significant at 1% level.