

Does Corporate Culture Add Value? Evidence from the Harvey Weinstein Scandal and the #MeToo Movement

Karl V. Lins
University of Utah

Lukas Roth
University of Alberta

Henri Servaes
London Business School, CEPR, ECGI

Ane Tamayo
London School of Economics

November 11, 2019

Abstract

During the revelation of the Weinstein scandal and the emergence of the subsequent #MeToo movement, firms with a female-friendly corporate culture, as proxied by having more women among the firm's five highest paid executives, earned excess returns of close to 1.5% per highly-paid female executive. These findings also hold when we relate the stock returns to corporate culture measured more broadly based on employee ratings. Our findings are stronger for industries with fewer women in executive positions. However, we find no evidence that having more women on the board is related to returns around these events. Overall, our results illustrate that having women in significant senior leadership positions can increase shareholder wealth.

We thank Andrew Chamberlain (Chief Economist at Glassdoor) for providing access to their employee review survey data, Paul Coombes, Jean-Marie Meier, Charlotte Ostergaard and participants at the 2019 BI Conference on Corporate Governance for helpful comments and discussions, and Arkodiptar Sarkar for excellent research assistance.

1. Introduction

Does corporate culture create firm value? Ninety-two percent of the executives in a recent survey conducted by Graham, Grennan, Harvey, and Rajgopal (2019) believe so. Consistent with this finding, 85% of the S&P 500 companies have at least one section dedicated to “corporate culture” in their web pages (Guiso, Sapienza, and Zingales (2015)). More generally, other constituents, such as financial journalists and consulting companies (e.g., Kaplan, Dollar, and Melian (2016)), also advocate the positive valuation effects of having an effective corporate culture.¹ However, despite the widespread endorsement of the importance of corporate culture among firms, a surprisingly large number of executives (69% in the Graham et al. (2019) survey) believe that their firms underinvest in corporate culture. If a strong corporate culture is perceived to be beneficial, why does this underinvestment take place?

One possibility is that it is simply a difficult-to-execute task. Alternatively, the reluctance to invest in culture may be driven by the difficulty in ascertaining which specific aspects of culture actually deliver value. Academic evidence on this matter is inconclusive. Some studies show that metrics indicative of a strong workplace culture—such as being named among the best places to work—are associated with higher future excess stock returns (e.g., Edmans (2011)) and higher firm valuations (e.g., Guiso, Sapienza, and Zingales (2015)), but the relation is not necessarily causal (see the discussion in Guiso et al. (2015)). Green Huang, Wen, and Zhou (2019) emphasize this point by arguing that the positive relation between employee satisfaction levels and future stock market performance reflects an information transmission channel—measures of higher employee satisfaction capture employees’ observation of positive nonpublic value-relevant information. As such, it is not the firm’s culture that drives future returns. The challenge in

¹ See a recent article by the Wall Street Journal, entitled “After Uber and Wells Fargo, Boards Wake Up to Company Culture,” October 5, 2017.

attributing valuation effects to corporate culture is further exacerbated by the difficulty in identifying what corporate culture actually encompasses.

In this paper, we aim to shed some light on the value creation of corporate culture by investigating whether one particular area of culture, the extent to which the workplace is female-friendly, pays off. We argue that “female-friendly culture” has two elements necessary to investigate whether corporate culture impacts shareholder value: first, it has a *measurable dimension* to it; and, second, it recently experienced an *unexpected (and unequivocal) shock* to its importance.²

With regards to *measurability*, we posit that a female-friendly culture can be captured by the extent to which women are present in significant senior leadership positions, as proxied by having one or more women among the top-five-compensated executives. Recent survey evidence suggests that company culture plays a dominant role in preventing women from attaining top leadership positions and pay levels (see Rockefeller Foundation and GlobalStrategyGroup (2017)). According to this survey, one of the main hurdles to female leadership is the attitudes of men in the workplace, the so-called “boys club” sentiment. For example, 81% of the survey participants believe that men in leadership positions do not prioritize hiring or promoting women to top positions. This sentiment of gender discrimination is echoed in a recent study by the World Economic Forum (2017) on attitudes towards women in the workplace, including their hiring and pay gap. The telling title of the press release accompanying the study, “*The key to closing the gender gap? Putting more women in charge*”, suggests that women in leadership positions create a more female-friendly culture and reduce the gender pay gap. Academic work by Tate and Yang

² Ideally, we would like to observe an exogenous shock that suddenly changes a firm’s corporate culture. However, such a shock is difficult to observe because a firm’s corporate culture is slow to form and change. Hence, our focus is on an exogenous shock that changes the *importance of culture*, which should impact stock prices if culture is value relevant.

(2005) also shows that female leadership cultivates a more female-friendly culture. More generally, a female-friendly culture could potentially spill over into and/or be a reflection of the firm's broader overall culture.

With regards to *causality*, we exploit the shock to the importance of having a female-friendly culture that followed the public revelation of the egregious sexual harassment activities allegedly undertaken by Harvey Weinstein and the subsequent resurgence of the #MeToo movement. The latter gained prominence in the weeks after the Weinstein scandal emerged and rapidly brought to light the true extent to which sexual harassment and gender discrimination were prevalent in business organizations. For example, a website keeping track of individuals accused of sexual misconduct since April 2017 saw a substantial increase in cases after the Weinstein event occurred and the #MeToo movement emerged.³ Our premise is that as a result of this shock, shareholders re-evaluated the benefits of having a female-friendly culture, and became aware of the increase in expected costs associated with holding stocks of firms with potential, but unrevealed, gender discrimination and sexual harassment issues. Thus, we conjecture that investors placed an incremental valuation premium on firms that had highly-paid, powerful female leaders relative to firms that did not. In addition, it is possible that the events we study led stakeholders to reassess the importance of culture more broadly, leading shareholders to assign higher values to firms that have an effective corporate culture.

To study the importance of female leadership and overall corporate culture, we examine the stock price response of all US firms covered on the Execucomp database over various time periods surrounding the Weinstein allegations and subsequent rise of the #MeToo movement. We find that companies with at least one woman among its five highest paid executives earn positive

³ See <https://www.vox.com/a/sexual-harassment-assault-allegations-list/>, last accessed June 27, 2019.

excess returns around these events. Returns are modest, but significant, on the 5th and 6th of October 2017 when news of the allegations against Harvey Weinstein hit the media, and they become larger over the two weeks starting the 16th of October 2017, right after the #MeToo movement was (re)launched. In terms of economic significance, a firm with one additional top-five-compensated female executive earns about a 0.29% excess return over the two days starting on October 5, and another 1.13% over the two weeks from October 16 onwards. Excess returns are also positive throughout November 2017 when more allegations of sexual misconduct were made public, but the incremental returns are smaller, and not always statistically significant.

We also study whether female leadership matters for stock returns when measured by the presence of women on the board. We find no relation between the fraction of female directors and stock returns around the revelation of the Weinstein scandal or the advent of the #MeToo movement. This suggests that, in this context, the market values the presence of women in corporate leadership roles more than their presence on the board of directors. This finding is also consistent with the premise that corporate culture is largely driven by C-suite executives (see, for example, Deloitte (2016)).

Next, we investigate whether investors assign a higher valuation during the Weinstein and #MeToo periods to firms with a strong culture measured more broadly. The survey evidence provided in Graham et al. (2019) on overall corporate culture supports this conjecture: 85% of their respondents indicate that a poorly implemented, ineffective culture increases the chance of an employee acting unethically or even illegally. As such, we conjecture that investors are also concerned about senior leadership's overall propensity to engage in unethical or illegal behavior across other areas, over and above improper behavior regarding gender issues. More generally, these events could also lead shareholders to reassess the value of corporate culture, and, hence,

assign higher values to firms deemed to have a stronger culture. We therefore employ a broad-based measure of culture and repeat our tests using this measure.

Specifically, we re-estimate our previous models, replacing the female leadership proxies with the overall *corporate culture and value* measure compiled by Glassdoor, which is based on employee reviews. We again find strong and significant results in these tests—firms with higher culture and value ratings perform better during the Weinstein revelations and #MeToo period, with similar economic and statistical significance as the female leadership measures. This provides evidence that the Weinstein shock caused investors to reassess the value of an effective culture more broadly.

Finally, we examine whether the effect of female leadership depends on the extent to which women hold executive positions in aggregate across an industry. To do so, we use data from the U.S. Equal Employment Opportunity Commission that reports, for each NAICS-code industry, the number of female and male employees in executive and senior officer positions. We find that female leadership is particularly valuable in male-dominated industries; in addition, we find that firms in industries with more women in executive positions perform well around the Weinstein and #MeToo events, irrespective of whether they had a highly paid woman executive themselves, suggesting that there are industry spillover effects in the importance of having a female-friendly culture.

There are two non-mutually exclusive interpretations of the stock return evidence that we document. One is that female leadership, and corporate culture more broadly, has always been important for valuation, but that it became more salient around the Weinstein and #MeToo events. Second, the events we study altered the importance that customers, employees, and other

stakeholders attach to corporate culture, and, as such, increased the payoffs to having a female-friendly culture.

Our work contributes to the growing literature on the impact of female leadership in corporations. Tate and Yang (2015) find that female workers displaced after plant closings suffer a smaller wage gap compared to male workers displaced from the same plants if they are subsequently hired by a firm with female leadership, indicating that women in leadership positions create more female-friendly cultures. They do not, however, test for valuation effects. Our evidence indicates that female-friendly cultures also affect firm value. Faccio, Marchica, and Mura (2016) find that firms with female CEOs have lower leverage, less volatile earnings, and a higher survival probability than male-run firms, but they also do not assess valuation effects. Huang and Kisgen (2013) study gender effects for both CEOs and CFOs. They find that female executives are associated with lower firm growth, fewer acquisitions, and less debt issuance, but that announcement returns for both acquisitions and debt issuance are slightly positive when a firm has a female CEO or CFO. Adhikari, Agrawal, and Malm (2019) find that firms with more female executives among the top management team experience fewer operations-related lawsuits. However, their reduced form equations suggest that the net effect of female leadership on firm value is negative. Our evidence, on the other hand, indicates that female leadership has a positive impact on stock returns during periods when having a female-friendly culture became more important.

Our findings are also related to the literature on the relation between corporate culture and firm performance. Both Guiso et al. (2015) and Graham et al. (2019) rely on survey data to illustrate that measures of managerial ethics and integrity and a firm's cultural norms are related to Tobin's q and profitability. Jeffers and Lee (2019) measure culture using employee connectivity

on LinkedIn and find that employee departure rates in less-connected firms decline substantially after an increase in the enforceability of non-compete statutes, while there is little effect in more-connected firms. They suggest that culture serves as an implicit contract (Kreps (1996)), such that, for connected firms, explicit contracts are less important in the retention of human capital.

Finally, we contribute to the large literature on gender diversity in corporations that focuses on the role of women on the board (see, for example, Adams and Ferreira (2009), Adams and Funk (2012), Ahern and Dittmar (2012), Kim and Starks (2016), and Adams (2017)). We find no evidence that having more female directors impacts stock returns around the revelation of the Weinstein scandal or the advent of the #MeToo movement. This suggests that attaining a corporate culture that is woman friendly requires a strong internal female executive presence and not just greater gender diversity on the board.

The remainder of our paper unfolds as follows. In the next section, we discuss the data collection procedure. We describe our results for the female leadership measures and broader culture measure in Section 3. Section 4 concludes.

2. Data

From the Execucomp database, which covers the S&P 1500 firms, we gather information on the highest-paid executives in the firm for the last fiscal year prior to October 1, 2017. Under SEC regulations, companies are required to disclose detailed information regarding the remuneration of the CEO, the CFO and the three other most highly paid officers. We drop executives for which Execucomp's 'rank' variable is missing. We also drop firms for which Execucomp reports fewer than five top-compensated executives per firm. We compute the fraction of these executives that are women (*Fraction Top-5 Women*) and we also set a dummy variable

equal to one if at least one woman is among the highest paid executives (*Indicator Top-5 Women*). We combine these data with daily stock returns from the CRSP database for the three-month period starting in September 2017, more than one month before the first allegations against Harvey Weinstein were made, and drop firms with missing returns data. This sample yields 1,436 firms.

Table 1 contains summary statistics on the firms in our sample. Roughly three quarters of the firms have no women among the highest paid executives, and only 6% of the top-5 executives in our sample are women. In firms with at least one female executive, women comprise just 26.2% of the top-5 executives, suggesting that the vast majority of firms with female executives have just one. We also report that only 4.3% of the sample firms have a female CEO. Compared to the year-2009 figures reported by Matsa and Miller (2011), female executives have made little progress in the executive suite. Matsa and Miller document that 6% of all executives in their sample are women, as we do, while they find that 22.6% of all firms have at least one woman among the top-five-paid executives, which is only 3.6% lower than in our sample. In fact, the fraction of firms with a female CEO is 1.4% higher in their sample compared to ours.

Table 1 also contains summary statistics on a number of financial characteristics for our sample firms, measured at the end of the most recent fiscal year-end prior to October 2017. Firms with at least one female executive are broadly similar to those with no female executives in terms of size, cash holdings, Tobin's q , and investment (capital expenditures). However, firms with at least one female executive have lower levels of leverage (consistent with Huang and Kisgen (2013) and Graham, Harvey, and Puri (2013)) and higher profitability.

For our sample firms, we also gather data on board composition from BoardEx, based on the most recent proxy statements filed before October 2017. As for the highest-paid executives, we compute the fraction of board members that are women (*Fraction Board Women*). Across our

sample, 17% of all board members are women and 87% of all firms have at least one woman on the board (not reported in the table). Compared to the statistics for top female executives just discussed, these figures show that a woman is three times more likely to be on a corporate board than in the top-five executive team.

We construct a separate sample using our broader measure of corporate culture, which is obtained from Glassdoor, Inc. Glassdoor is an employer review and recruiting website founded in 2008 that contains company reviews from current and former employees for 600,000 companies worldwide. Reviews contain one-to-five star ratings for overall employer quality as well as for five distinct areas: career opportunities, compensation and benefits, work/life balance, senior management, and culture and values. We focus on the culture and values category and gather information for this rating for all US companies with stock returns data available on the CRSP database over the three month period starting in September 2017.⁴ The culture rating is averaged across all reviews for the years 2015 and 2016, and firms with less than 10 reviews are removed from the analysis, yielding a sample of 1,870 companies for this analysis. Both the mean and median of the *Glassdoor Culture* variable are equal to 3.16, with a standard deviation of 0.57.

3. Results

3.1. Female Leadership: Baseline Results

We start by studying whether firms with a female-friendly culture earned higher stock returns during the two days in which the public announcement of the Harvey Weinstein sexual assaults were first widely reported in the media, October 5 and 6, 2017. To this end, we estimate a panel regression of raw daily stock returns over the three-month period from September 2017

⁴ To maximize the sample size, we conduct these analyses using data on all public US firms available on the Glassdoor database and not just the firms that are part of the S&P1500 which we employ to study the effect of female leadership.

through November 2017 as a function of each our two female leadership proxies, *Fraction Top-5 Women* and *Indicator Top-5 Women*, interacted with a time dummy set equal to one on October 5 and 6, 2017. The model is estimated with both firm and time (daily) fixed effects. The firm fixed effects control for all time invariant firm characteristics. As such, it is important to keep the estimation period relatively short. By doing so, we alleviate the need to include controls for factor loadings, firm financials, and the female leadership proxies themselves as these will be captured by the firm fixed effects. The interactions of the female leadership proxies and the Weinstein scandal dates are our variables of interest as these measure the change in the stock market's assessment of the importance of having a female-friendly culture.

We verify from Factiva that there are no news stories in any of the major media outlets covering the terms “Harvey Weinstein” and either “harassment” or “assault” over the period September 1, 2017 through October 4, 2017. On October 5, 2017, there were 72 stories and on October 6, 2017, there were 144, indicating that these two trading days are key to identifying the stock price response to the Weinstein announcement.

Models 1 and 2 of Table 2 contain the results of this estimation. Model 1 uses the interaction of the Weinstein event with *Fraction Top-5 Women*, while model 2 uses the interaction with *Indicator Top-5 Women*. Both interactions are positive and highly significant, indicating that firms with strong female leadership earned excess returns relative to firms without women among their highest paid executives when the Weinstein scandal unfolded. The coefficient in model 1 indicates that a firm with one additional top-five-compensated female executive earns an excess return of 0.22% on October 5 and 6 (calculated as: coefficient of 0.551 \times 20% more female executives \times 2 days). The economic importance of the indicator variable in model 3 is similar:

having a female executive yields a 0.19% additional excess return over two days. While statistically significant, these effects are relatively modest.

The second shock to the importance of having a female-friendly culture occurred with the start of the #MeToo movement. While further allegations were made against Harvey Weinstein in the weeks after October 6, the notion that harassment in the workplace could be an even more pervasive and systematic problem gained strong momentum on October 15, 2017, when actress Alyssa Milano encouraged spreading the hashtag #MeToo in an attempt to draw attention to the widespread occurrence of sexual assault and harassment.⁵ In the subsequent days, Google searches for the terms “#MeToo” and “sexual harassment in the workplace” hit an all-time high, and several other prominent leaders in business and society were accused of sexual misconduct in the workplace.⁶

To assess whether firms with female leadership also earned excess returns during the onset of the #MeToo movement, we add an additional two-week event window to our earlier tests, starting on October 16 (the first trading day after the #MeToo tweet) and ending at the end of the following week (October 27), and interact this window with our female leadership proxies. The results of models 3 and 4 of Table 2, are striking. During the first two weeks of the #MeToo movement, firms with female leadership again earned excess returns that are highly significant, and economically important. The coefficient in model 3 shows that a firm with one additional top-five-compensated female executive earns excess returns of 0.95% on the ten trading days starting on October 16 (calculated as: coefficient of 0.477 \times 20% more female executives \times 10 days). In

⁵ The term “Me Too” was originally used by Tarana Burke, a social activist and community organizer in 2006, on the Myspace social network, but was only used sporadically.

⁶ See <https://www.vox.com/a/sexual-harassment-assault-allegations-list/>, last accessed June 27, 2019.

model 4, the effect of having at least one woman among the top-five-paid executives is even larger, showing an excess return of almost 1% over the 10 days.

One possible concern with these findings is that the female leadership effect on returns could be temporary in nature and may reverse in subsequent weeks. To assess whether this is the case, we also interact the female leadership proxies with a dummy for the period in between the Weinstein scandal announcement window and the beginning of the #MeToo movement (October 9 to 13, 2017), and the one-month period after our #MeToo event window (October 30 to November 30, 2017). Models 5 and 6 of Table 2 display these results. These models indicate that there is no reversal in returns for firms with female leadership in the week after the Weinstein announcement. For the month after the #MeToo movement window, there is no evidence of a reversal either, and for the *Indicator Top-5 Woman*, there is, in fact, some evidence of modest additional excess returns during the month of November.

In Table 3 we investigate whether the benefits of having a woman in a top-5 leadership position are further enhanced when the CEO is a woman. Since the CEO has more power in the firm than other executives, it could be that the impact of having a female-friendly culture stems mainly or only from this position. We re-estimate the previous regression models and include interactions between the relevant time period dummies and a dummy set equal to one if the CEO of the firm is a woman. The female CEO interactions do not yield any significant results, while the female executive interactions remain statistically and economically significant, suggesting that the benefits of having a woman in the top management team are not further enhanced when the chief executive is a woman.

Overall, the evidence reported in Tables 2 and 3 provides strong support for our conjecture that a female-friendly corporate culture is valuable: firms with women in top leadership positions

earned positive excess returns relative to other firms during the shock to the importance of culture associated with the Weinstein scandal and the #MeToo movement.

3.2. *Women on the Board*

Much of the literature on gender diversity in corporate leadership has focused on the board of directors, and outside directors in particular, and not on the executive team (see, for example, Adams and Ferreira (2009), Adams and Funk (2012), and Ahern and Dittmar (2012)). We therefore assess whether our prior result holds additionally for female leadership as measured by the fraction of women on the board. Several papers document that female board members bring with them different skill sets that may help in the efficient running of the firm (see, for example, Kim and Starks (2016)). Moreover, Matsa and Miller (2001) find that firms with female directors are more likely to recruit female executives, suggesting that benefits from having a female-friendly culture may originate at the board level. Thus, we investigate whether female directors also bring with them an ability to import a female-friendly culture into the firm. To address this question, we re-estimate our baseline models from Table 2 and additionally include interactions between the relevant event time periods and the fraction of female board members.⁷ The findings are reported in Table 4. We continue to find that our measures of female executives (*Fraction Top-5 Women* and *Indicator Top-5 Women*) have a positive and significant effect on stock returns during the Weinstein and #MeToo event periods. However, the fraction of female board members has no incremental effect on returns over these periods. These results suggest that the market perceives that having women in top executive positions is a more effective way of creating a women-friendly culture than having female board members.

⁷ Since 87% of our sample firms have at least one female on the board, our tests concentrate solely on the fraction of female board members and not the presence of a woman on the board.

In unreported models we verify that the lack of any significant results for female representation on the board also obtains when we focus on non-executive board members, such that there is no overlap between the female director and female executive measures.

3.3. *Broader Measure of Culture*

The Weinstein scandal and #MeToo movement represented a shock to the importance of having a female-friendly culture. In this section, we seek to understand whether these events caused outside investors to reassess the value of a firm's culture in general. While the Weinstein scandal was clearly about egregious behavior as it relates to gender, this behavior was at the same time both unethical and illegal. The Graham et al. (2019) survey indicates that executives are particularly concerned that a "poorly implemented, ineffective culture increases the chance that an employee might act unethically or even illegally." Therefore, if investors perceive the Weinstein shock as a wakeup call to latent unethical and illegal behavior in the firm in general, then they may assign a higher value to firms with a more effective culture overall. Moreover, it is possible that the events we study led stakeholders to reassess the value of corporate culture more broadly, thereby rewarding firms deemed to have a good corporate culture, and punishing firms with a poor culture. To study whether overall corporate culture became more valuable during and following the Weinstein and #MeToo events, we rely on the Glassdoor ratings for the Culture and Values category obtained from employee reviews, and repeat our prior tests after replacing the female leadership measures with the *Glassdoor Culture* rating.

These findings are reported in Table 5 of the paper. Model 1 focuses on the two days surrounding the announcement of the Weinstein scandal. Consistent with broader culture being valued more highly during this period, we find a positive and significant coefficient on the

Glassdoor culture and value measure for these two days. Model 2 adds the #MeToo movement event window to the Weinstein scandal window. For this period the effect of culture is positive but not statistically significant.

Finally, in Model 3 we assess whether there is any reversal in returns by including the week after the Weinstein revelations and the month after the #MeToo period as additional periods interacted with the *Glassdoor Culture* rating. We find no evidence for return reversals. Moreover, in this more comprehensive regression model, two other periods also yield a significant relation between excess returns and culture. First, the #MeToo period, which was insignificant in model 2, turns significant in this broader specification. The coefficient of 0.12 suggests that a one standard deviation increase in the *Glassdoor Culture* rating leads to excess returns of 0.68% over the 10 days starting after the launch of the #MeToo movement. Second, during the week after the Weinstein revelations, the excess returns to overall culture are positive as well.

3.4. *Do Female Executives Matter the Most in Male-Dominated Industries?*

The tests thus far show that having a female-friendly culture was valued more by investors when the Weinstein scandal and the #MeToo movement brought the importance of culture to the forefront. In this section, we examine whether this effect depends on the extent to which women have attained top leadership positions in an industry. When women comprise a larger fraction of the executive ranks of an industry, it is possible that the culture of the industry as a whole is more female-friendly. As such, for any given firm in a female-friendly industry, having a woman among its highest paid executives may become less important. In contrast, if the gender composition of executives in an industry is overwhelmingly male, a female-friendly culture will be relatively unique and could be particularly valuable when investors reassess the importance of culture.

To analyze this issue, we obtain data on the job patterns for minorities and women in private industries from the U.S. Equal Employment Opportunity Commission (EEOC).⁸ The EEOC collects these data annually from private employers with more than 100 employees. We use the nationally-aggregated data at the 6-digit NAICS code for 2015.⁹ For each NAICS code, the EEOC reports the number of female and male employees in executive and senior officer positions, and we use these data to measure the share of women in executive positions (WEP). Because our sample firms are identified by SIC codes, we match the NAICS codes to SIC codes and compute the average share of women in executive positions for each SIC code. We also construct a dummy variable that equals one for industries with an above-median share of women in executive positions (33.5%), and zero otherwise.

We then re-estimate our base case regression models, but now include both measures of women in executive positions in an industry (*Above-Median WEP* and *Fraction WEP*), and the interaction between these industry measures and each of the two female leadership variables (*Fraction Top-5 Women* and *Indicator Top-5 Women*). For ease of interpretation, we combine the first three event windows into a single period, which runs from the 5th to the 27th of October 2017, and captures the effect of the Weinstein scandal revelation and its aftermath and the first two weeks of the #MeToo movement. The October 28 to November 30, 2017 window remains unchanged. The results are presented in Table 6 of the paper.

In models 1 and 2, we study the effect of female leadership (either *Fraction Top-5 Women* or *Indicator Top-5 Women*) for industries with above- and below-median WEP. The first row coefficient captures the effect in male-dominated industries because *Above-median WEP* is zero

⁸ <https://www.eeoc.gov/eeoc/statistics/employment/jobpat-eeo1/>

⁹ We use 2015 data because starting with 2016, the EEOC only offers data aggregated at the 3-digit NAICS code or higher.

for rows two and three. The results indicate that female leadership matters a great deal in male-dominated industries. The coefficient in model 1 shows that in a male-dominated industry a firm with one additional top-five-compensated female executive earns excess returns of 2.79% over the 17 trading days from October 5 through 27 (calculated as: coefficient of 0.822 \times 20% more female executives \times 17 days). In model 2, the effect of having at least one woman among the top-five-paid executives is even larger, showing an excess return of almost 3.28% over the 17 days (calculated as: 0.193 \times 17). These results support the notion that when investors reassess the importance of culture, female executives are particularly valuable in male-dominated industries.

The coefficients in the second row of models 1 and 2 assess whether being in a female-friendly industry overall is valuable as the Weinstein scandal and #MeToo movement unfolded. Firms from industries that had an above-median share of female executives had higher stock returns during the October 5 through 27 period, regardless of whether the firm itself had a female executive. The coefficients of 0.197 and 0.193 in models 1 and 2, respectively, indicate that firms from above-median WEP industries had returns roughly 3.3% higher (computed as the coefficient multiplied by 17 trading days) than firms from male-dominated industries.

Finally, the third row of models 1 and 2 captures the interaction effect of having a female top-5 executive in an industry with a larger proportion of female executives. The interaction term is significantly negative and essentially offsets the positive effect of female leadership. Thus, for firms in female-friendly industries, having one or more top-5 female executives is not valued more highly by stockholders during the Weinstein scandal and #MeToo movement. One possible reason is that a female-friendly culture has already been established within the industry such that an individual firm does not necessarily need a senior female leader to achieve such a culture.

In models 3 and 4 of Table 6, we replace the *Above-median WEP* dummy by the continuous measure of women in executive positions (*Fraction WEP*). The inferences are similar: during our event window, female leadership at the firm level is valued more highly in male-dominated industries, while all firms in industries with a higher fraction of female leaders in general also benefitted.

Rows four through six of Table 6 assess whether there is any continuation or reversal in these effects in the October 28 to November 30 period, but this is not the case. This is consistent with our premise that the Weinstein and #MeToo events led to a permanent reassessment of the value of having a female-friendly culture.

3.5. *Different Return Measures*

The current regression specifications employ the firms' raw returns as the dependent variable. Through the inclusion of firm and time fixed effects we compare the firms' returns during the various event windows to the firms' returns outside of the event windows, after adjusting for market movements. This method assumes that the firms' returns outside of the event window are 'normal' and it captures the firms' characteristics that affect its returns.

To ensure that our findings are robust to alternative methods of computing abnormal returns, we employ two variations to the above methodology. First, we replace the raw returns by market model abnormal returns, where the market model is estimated using daily returns over the period September 1, 2016 through August 31, 2017, with the CRSP value-weighted index as the market proxy. This approach ensures that our findings are not due to the fact that firms with a good (bad) culture happened to have experienced low (high) returns outside the event windows. Second, in our base-case model, we include an interaction term between the firm fixed effect and

the market return. This approach accounts for differences across firms in their sensitivity to market movements during the estimation period. Both alternative approaches yield results that are very similar to our base-case specifications in both economic and statistical significance.¹⁰

We also verify that our findings are not due to extreme observations: winsorizing returns at the 1st and 99th percentiles has does not impact on the magnitude or significance of our findings.

4. Conclusion

The culture of a corporation starts with a firm's leadership (Graham, et al. (2019)), but it is difficult to identify whether culture matters for shareholder value. Our analyses take advantage of an unexpected shock during which the media and the public at large reassess the value of female leadership and the importance of culture more broadly. During the revelation of the Harvey Weinstein scandal and the ensuing #MeToo movement, we show that firms with a larger female presence in the top leadership team and firms with a better overall culture in general earn substantial excess returns. This increase in value does not reverse in subsequent weeks, suggesting that outside investors place a permanent valuation premium on firms with a strong culture. We also find that the increase in value of firms with highly paid women executives is particularly pronounced in industries with few women in executive positions. Finally, firms in industries with a relatively high share of women in executive positions also exhibit positive returns, regardless of how many women they have in leadership positions, suggesting that there are industry spillovers in the value of having a female-friendly culture.

Much of the extant research tends to focus on gender diversity within the board of directors. However, we do not find that an increased female presence on the board affects value during the

¹⁰ These results are not tabulated for brevity but available upon request.

shock to the importance of a firm's culture. Instead, all the effects we uncover come from female leadership inside the firm. This suggests that, for investors, regulators, and others who seek to improve the culture of corporations, additional focus should be placed on factors that facilitate women obtaining top executive positions and not just positions at the board level.

References

- Adams, R.B., 2017, Boards, and the directors who sit on them, in B.E. Hermalin and M.S. Weisbach, eds, *The Handbook of the Economics of Corporate Governance*, Volume 1, North Holland.
- Adams, R.B., and D. Ferreira, 2009, Women in the boardroom and their impact on governance and performance, *Journal of Financial Economics* 94, 291-309.
- Adams, R.B., and P. Funk, 2012, Beyond the glass ceiling: Does gender matter, *Management Science* 58, 219-235.
- Adhikari, B.K., A. Agrawal, and J. Malm, 2019, Do women managers keep firms out of trouble? Evidence from corporate litigation and policies, *Journal of Accounting and Economics* 67, 202-225.
- Ahern, Kenneth R., and Amy K. Dittmar, 2012, The changing of the boards: The impact on firm valuation of mandated female board representation, *Quarterly Journal of Economics* 127, 137-197.
- Faccio, M., M. Marchica, and R. Mura, 2016, CEO gender, corporate risk-taking, and the efficiency of capital allocation, *Journal of Corporate Finance* 39, 193-209.
- Graham, J.R., J. Grennan, C.R. Harvey, and S. Rajgopal, 2019, Corporate culture: Evidence from the field, Working paper, Duke University and Columbia University.
- Graham, J.R., C.R. Harvey, and M. Puri, 2013, Managerial attitudes and corporate actions, *Journal of Financial Economics* 109, 103-121.
- Green, T.C., R. Huang, Q. Wen and D. Zhou, 2019, Crowdsourced employee reviews and stock returns, *Journal of Financial Economics*, forthcoming.
- Guiso, L., P. Sapienza, and L. Zingales, 2015, The value of corporate culture, *Journal of Financial Economics* 117, 60-76.
- Huang, J., and D.J. Kisgen, 2013, Gender and corporate finance: Are male executives overconfident relative to female executives, *Journal of Financial Economics* 108, 822-839.
- Jeffers, J., and M.J. Lee, 2019, Corporate culture as an implicit contract, Working paper, University of Chicago and Federal Reserve Bank of New York.
- Kaplan, M., B. Dollar, and V. Melian, 2016, Shape culture, Drive strategy, in. Deloitte, *Global Human Capital Trends 2016: The new organization: Different by design*, Deloitte University Press.
- Kim, D., and L. Starks, 2016, Gender diversity on corporate boards: do women contribute unique skills? *American Economic Review, Papers and Proceedings* 106, 267-271.
- Kreps, D.M., 1996, Corporate culture and economic theory, in J.E. Alt and K.A. Shepsle, eds, *Perspectives on positive political economy*, Cambridge University Press, (Cambridge, UK).

Matsa, D.A., and A.R. Miller, 2011, Chipping away at the glass ceiling: Gender spillovers in corporate leadership, *American Economic Review, Papers and Proceedings* 101, 635-639.

Rockefeller Foundation, and GlobalStrategyGroup, 2017, *Women in leadership: Tackling corporate culture from the top*.

Tate, G., and L. Yang, 2015, Female leadership and gender equity: Evidence from plant closure, *Journal of Financial Economics* 117, 77-97.

World Economic Forum, 2017, *The global gender gap report*.

Table 1
Summary Statistics

The table shows summary statistics. *Fraction Top-5 Women* is the fraction of female executives among the top five executives of the company. *Indicator Top-5 Women* is a dummy variable that equals one if a firm has at least one female executive among the top five executives, and zero otherwise. *Female CEO* is a dummy variable that equals one if the CEO is a woman, and zero otherwise. The data are from Execucomp. We drop executives for which Execucomp's 'rank' variable is missing. We also drop firms for which Execucomp reports fewer than five top executives per firm. The variables are measured at the end of the most recent fiscal year prior to October 1, 2017. *Log (Total Assets)* is the logarithm of total assets. *Cash* is cash and cash equivalent divided by total assets. *Leverage* is the sum of short and long-term debt divided by total assets. *Tobin's q* is calculated as (total assets – book value of equity + market value of equity) / total assets. *Investment* is capital expenditures divided by total assets. *Profitability* is profit from operations divided by total assets. The last two columns show *p*-values of mean comparison tests (using a *t*-test) and median comparison tests (using a Wilcoxon rank-sum test) between the two subsamples. The data are from Compustat and the variables are measured at the end of the most recent fiscal year prior to October 1, 2017.

	Full Sample (N=1,436)			At Least One Female Executive (N=376)			No Female Executives (N=1,060)			Test of Differences (<i>p</i> -values)	
	Mean (1)	Median (2)	SD (3)	Mean (4)	Median (5)	SD (6)	Mean (7)	Median (8)	SD (9)	Mean (10)	Median (11)
Fraction Top-5 Women	0.061	0.000	0.112	0.234	0.200	0.086	0.000	0.000	0.000		
Indicator Top-5 Women	0.262	0.000	0.440	1.000	1.000	0.000	0.000	0.000	0.000		
Female CEO	0.043	0.000	0.203	0.165	0.000	0.372	0.000	0.000	0.000		
Log (Total Assets)	8.402	8.310	1.705	8.438	8.311	1.744	8.389	8.309	1.691	(0.63)	(0.88)
Cash	0.127	0.076	0.144	0.133	0.079	0.144	0.125	0.075	0.144	(0.33)	(0.33)
Leverage	0.291	0.271	0.236	0.263	0.252	0.195	0.302	0.278	0.249	(0.01)	(0.02)
Tobin's <i>q</i>	1.972	1.599	1.271	1.958	1.602	1.232	1.977	1.598	1.286	(0.80)	(0.98)
Investment	0.036	0.025	0.044	0.037	0.028	0.033	0.036	0.023	0.047	(0.69)	(0.01)
Profitability	0.116	0.110	0.113	0.128	0.113	0.087	0.111	0.109	0.121	(0.01)	(0.04)

Table 2
Shareholder Value and Female Leadership

This table shows regression estimates of daily stock returns on interaction terms of female executive \times post and firm and time fixed effects. The female executive variables are: *Fraction Top-5 Women* is the fraction of female executives among the top five executives of the company; and *Indicator Top-5 Women* is a dummy variable that equals one if a firm has at least one female executive among the top five executives, and zero otherwise. The post variables (e.g., Oct 5-6) are dummy variables that equal one for all days during a specific time window, and zero otherwise. The female variables are measured at the end of the most recent fiscal year end prior to October 1, 2017. The sample period is September 1, 2017 to November 30, 2017. The data are from CRSP and Execucomp. Firms with missing returns during the sample period are dropped. Standard errors are double clustered by firm and time (trading day) and *p*-values are reported in parentheses.

Female Variable =	Daily Stock Returns					
	Fraction	Indicator	Fraction	Indicator	Fraction	Indicator
	Top-5 Women	Top-5 Women	Top-5 Women	Top-5 Women	Top-5 Women	Top-5 Women
	(1)	(2)	(3)	(4)	(5)	(6)
Female Variable \times						
Oct 5-6	0.551 (0.00)	0.094 (0.00)	0.629 (0.00)	0.110 (0.00)	0.717 (0.00)	0.146 (0.00)
Oct 7-14					-0.297 (0.36)	-0.011 (0.87)
Oct 15-27			0.477 (0.00)	0.099 (0.01)	0.565 (0.00)	0.135 (0.00)
Oct 28-Nov 30					0.260 (0.19)	0.082 (0.08)
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Obs	90,468	90,468	90,468	90,468	90,468	90,468
Adjusted R^2	0.052	0.052	0.052	0.052	0.052	0.052

Table 3
Shareholder Value and Female CEOs

This table shows regression estimates of daily stock returns on interaction terms of *Female CEO* × post, female executive × post and firm and time fixed effects. *Female CEO* is a dummy variable that equals one if the CEO is a woman, and zero otherwise. The female executive variables are: *Fraction Top-5 Women* is the fraction of female executives among the top five executives of the company; and *Indicator Top-5 Women* is a dummy variable that equals one if a firm has at least one female executive among the top five executives, and zero otherwise. The post variables (e.g., Oct 5-6) are dummy variables that equal one for all days during a specific time window, and zero otherwise. The female variables are measured at the end of the most recent fiscal year end prior to October 1, 2017. The sample period is September 1, 2017 to November 30, 2017. The data are from CRSP, Execucomp, and BoardEx. Firms with missing returns during the sample period are dropped. Standard errors are double clustered by firm and time (trading day) and *p*-values are reported in parentheses.

Female Variable =	Daily Stock Returns					
	Fraction	Indicator	Fraction	Indicator	Fraction	Indicator
	Top-5 Women	Top-5 Women	Top-5 Women	Top-5 Women	Top-5 Women	Top-5 Women
	(1)	(2)	(3)	(4)	(5)	(6)
Female CEO ×						
Oct 5-6	0.099 (0.34)	0.151 (0.17)	0.081 (0.43)	0.138 (0.21)	0.096 (0.35)	0.143 (0.19)
Oct 7-14					-0.050 (0.65)	-0.113 (0.37)
Oct 15-27			-0.111 (0.07)	-0.075 (0.28)	-0.096 (0.17)	-0.070 (0.35)
Oct 28-Nov 30					0.043 (0.55)	0.034 (0.68)
Female Variable ×						
Oct 5-6	0.479 (0.00)	0.069 (0.03)	0.571 (0.00)	0.088 (0.01)	0.648 (0.00)	0.123 (0.01)
Oct 7-14					-0.261 (0.40)	0.008 (0.90)
Oct 15-27			0.557 (0.00)	0.111 (0.01)	0.635 (0.00)	0.146 (0.00)
Oct 28-Nov 30					0.228 (0.24)	0.077 (0.11)
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Obs	90,468	90,468	90,468	90,468	90,468	90,468
Adjusted <i>R</i> ²	0.052	0.052	0.052	0.052	0.052	0.052

Table 4
Shareholder Value and Female Directors

This table shows regression estimates of daily stock returns on interaction terms of *Fraction Board Female* \times post, female executive \times post and firm and time fixed effects. *Fraction Board Female* is calculated as the fraction of female directors on the firms' board of directors. The female executive variables are: *Fraction Top-5 Women* is the fraction of female executives among the top five executives of the company; and *Indicator Top-5 Women* is a dummy variable that equals one if a firm has at least one female executive among the top five executives, and zero otherwise. The post variables (e.g., Oct 5-6) are dummy variables that equal one for all days during a specific time window, and zero otherwise. The female variables are measured at the end of the most recent fiscal year end prior to October 1, 2017. The sample period is September 1, 2017 to November 30, 2017. The data are from CRSP, Execucomp, and BoardEx. Firms with missing returns during the sample period are dropped. Standard errors are double clustered by firm and time (trading day) and *p*-values are reported in parentheses.

Female Variable =	Daily Stock Returns					
	Fraction	Indicator	Fraction	Indicator	Fraction	Indicator
	Top-5 Women	Top-5 Women	Top-5 Women	Top-5 Women	Top-5 Women	Top-5 Women
	(1)	(2)	(3)	(4)	(5)	(6)
Fraction Board Female \times						
Oct 5-6	-0.080 (0.46)	-0.022 (0.84)	-0.077 (0.54)	-0.016 (0.90)	0.129 (0.40)	0.174 (0.27)
Oct 7-14					0.207 (0.53)	0.124 (0.72)
Oct 15-27			0.013 (0.97)	0.042 (0.91)	0.220 (0.55)	0.231 (0.54)
Oct 28-Nov 30					0.414 (0.14)	0.393 (0.17)
Female Variable \times						
Oct 5-6	0.588 (0.00)	0.098 (0.00)	0.672 (0.00)	0.115 (0.00)	0.725 (0.00)	0.146 (0.00)
Oct 7-14					-0.311 (0.27)	-0.001 (0.99)
Oct 15-27			0.508 (0.00)	0.105 (0.04)	0.562 (0.00)	0.135 (0.01)
Oct 28-Nov 30					0.186 (0.24)	0.068 (0.09)
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Obs	85,743	85,743	85,743	85,743	85,743	85,743
Adjusted R^2	0.053	0.053	0.053	0.053	0.054	0.053

Table 5
Shareholder Value and Corporate Culture

This table shows regression estimates of daily stock returns on interaction terms of *Glassdoor Culture* × post and firm and time fixed effects. *Glassdoor Culture* measures a firm’s corporate culture and values and is calculated as the average of all culture and values ratings submitted for a given firm on the Glassdoor.com website for the years 2015 and 2016. The post variables (e.g., Oct 5-6) are dummy variables that equal one for all days during a specific time window, and zero otherwise. The sample period is September 1, 2017 to November 30, 2017. The data are from CRSP and Glassdoor. Firms with missing returns during the sample period are dropped. Standard errors are double clustered by firm and time (trading day) and *p*-values are reported in parentheses.

	Daily Stock Returns		
	(1)	(2)	(3)
Glassdoor Culture ×			
Oct 5-6	0.093 (0.08)	0.106 (0.05)	0.150 (0.01)
Oct 7-14			0.131 (0.02)
Oct 15-27		0.078 (0.14)	0.122 (0.03)
Oct 28-Nov 30			0.069 (0.13)
Firm Fixed Effects	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes
Obs	117,810	117,810	117,810
Adjusted <i>R</i> ²	0.04	0.04	0.04

Table 6
Shareholder Value and Female Leadership: Female Industry Splits

This table shows regression estimates of daily stock returns on various interaction terms (and firm and time fixed effects) estimating the effect of female executives for firms in industries with different shares of women in executive positions. The female executive variables are: *Fraction Top-5 Women* is the fraction of female executives among the top five executives of the company; and *Indicator Top-5 Women* is a dummy variable that equals one if a firm has at least one female executive among the top five executives, and zero otherwise. The industry-level measures of women in executive positions (WEP) are calculated with data from the U.S. Equal Employment Opportunity Commission for all private employers with more than 100 employees at the 4-digit SIC industry level. Fraction of women in executive positions (*Fraction WEP*) is the fraction of women that hold executive positions for a given SIC industry. Above-median share of women in executive positions (*Above-median WEP*) is a dummy variable that equals one for industries with an above-median fraction of women that hold executive positions in a given SIC industry. The post variables (e.g., Oct 5-27) are dummy variables that equal one for all days during a specific time window, and zero otherwise. The female executive variables are measured at the end of the most recent fiscal year end prior to October 1, 2017. The sample period is September 1, 2017 to November 30, 2017. The data are from CRSP, Execucomp, and the Bureau of Labor Statistics. Firms with missing returns during the sample period are dropped. Standard errors are double clustered by firm and time (trading day) and *p*-values are reported in parentheses.

Female variable =	Daily stock returns			
	Fraction	Indicator	Fraction	Indicator
	Top-5 Women	Top-5 Women	Top-5 Women	Top-5 Women
Industry-level measures of women = in executive positions (WEP)	Above-median WEP	Above-median WEP	Fraction WEP	Fraction WEP
	(1)	(2)	(3)	(4)
Female variable × Oct 5-27	0.822 (0.00)	0.193 (0.01)	1.477 (0.00)	0.314 (0.01)
WEP × Oct 5-27	0.197 (0.03)	0.193 (0.04)	0.754 (0.05)	0.727 (0.05)
Female variable × WEP × Oct 5-27	-0.855 (0.05)	-0.180 (0.08)	-2.911 (0.02)	-0.589 (0.05)
Female variable × Oct 28-Nov 30	0.400 (0.12)	0.109 (0.09)	0.409 (0.36)	0.086 (0.44)
WEP × Oct 28-Nov 30	0.171 (0.14)	0.171 (0.14)	0.543 (0.23)	0.522 (0.25)
Female variable × WEP × Oct 28-Nov 30	-0.272 (0.41)	-0.060 (0.47)	-0.494 (0.66)	-0.044 (0.88)
Firm fixed effects	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes
Obs	74,151	74,151	74,151	74,151
Adjusted R^2	0.047	0.047	0.047	0.047