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The impact of shifting societal attitudes toward women on capital markets and corporations: Evidence from the Harvey Weinstein scandal and the #MeToo movement

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The underrepresentation of women in leadership positions in corporations, and in other organizations and institutions, is ubiquitous. While business leaders, investors and society in general advocate for greater gender equality at all firm levels, the reality differs: the fraction of female executives remains very low, despite the considerable growth in female representation on company boards over the last few decades. Figure 1 illustrates the low levels of female representation in companies that make up the S&P 1500 index, which consists roughly of the 1500 largest firms in the United States by stock market capitalization. Figure 1A shows that the proportion of firms with at least one female executive among the five highest-paid executives has risen from under 10% in 1992 to 65% by the end of 2023—a significant increase, yet still far below what would be expected if gender were represented proportionately among top executives.[1] Likewise, the fraction of top five executives who are female has also increased substantially over time, but remains at only 17% at the end of 2023 (Figure 1B). Finally, as illustrated in Figure 1C, only 7% of S&P 1500 companies have a female CEO.

Why are there so few women in top leadership positions? One possible explanation is that the supply of qualified women is limited. Another is that conscious or unconscious biases lead to female candidates being overlooked for top roles. Of course, these two explanations could both be true, and work to reinforce one another: if female candidates are systematically passed over for top leadership positions, fewer women will pursue such opportunities, thereby further restricting future supply.

We contend that the absence or underrepresentation of women in leadership positions within some firms stems partly from a corporate culture that tolerates (and may even foster) sexism, preventing women from rising to the top—a phenomenon widely known as the "glass ceiling." The renowned economist Marianne Bertrand (2018) has identified many factors that help explain the glass ceiling, but she highlights that there is an unexplained residual and that "sexism should be high on the list to name that residual" (p. 228).[2] This notion is further supported by survey evidence. For example, analysis by the Rockefeller Foundation and Global Strategy Group (2017) indicates that the culture of the corporation itself, and particularly the so-called "boys club" attitude in the workplace, is one of the main hurdles preventing women from achieving top leadership positions.[3] Research has also shown that having a woman in the firm's C-suite improves equality in the organization by narrowing the gender pay gap (Tate and Yang (2015), Kunze and Miller (2017), and Dong (2022)).[4] Similarly, a World Economic Forum (2017) study on attitudes towards women in the workplace emphasizes the pivotal role of

[1] In a scenario of equal gender distribution (and labor supply), only 3.1% of all firms would have no women in leadership positions (assuming a 50% probability of selecting a male executive, the likelihood of choosing five male executives would be $0.5^5 = 3.1\%$).

[2] See Bertrand, M. 2018. "Coase Lecture – The Glass Ceiling", *Economica* 85, 205–231.

[3] Rockefeller Foundation and Global Strategy Group. 2017. "Women in Leadership: Tackling Corporate Culture from the Top".

[4] Tate, G., and L. Yang. 2015. "Female Leadership and Gender Equity: Evidence from Plant Closure", *Journal of Financial Economics* 117, 77–97; Kunze, A., and A. Miller. 2017. "Women Helping Women? Evidence from Private Sector Data on Workplace Hierarchies", *Review of Economics and Statistics* 99, 769–775; Dong, T. 2022. "Gender Salary Gap in the Auditing Profession: Trend and Explanations", *European Accounting Review*. https://doi.org/10.1080/09638180.2022.2113550.

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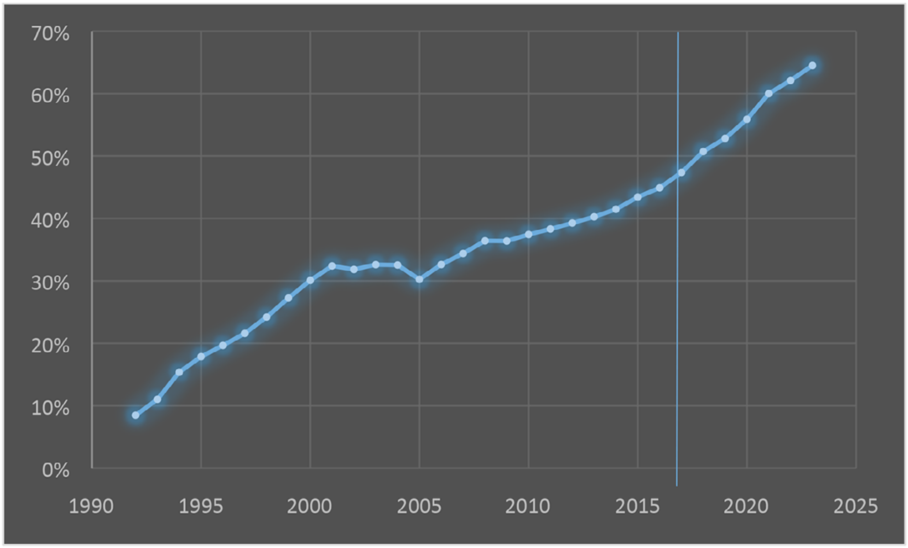

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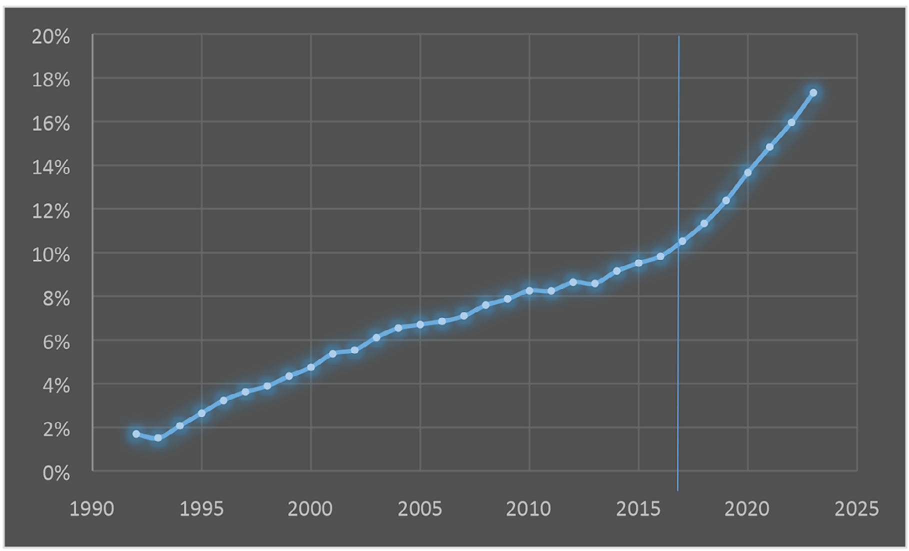

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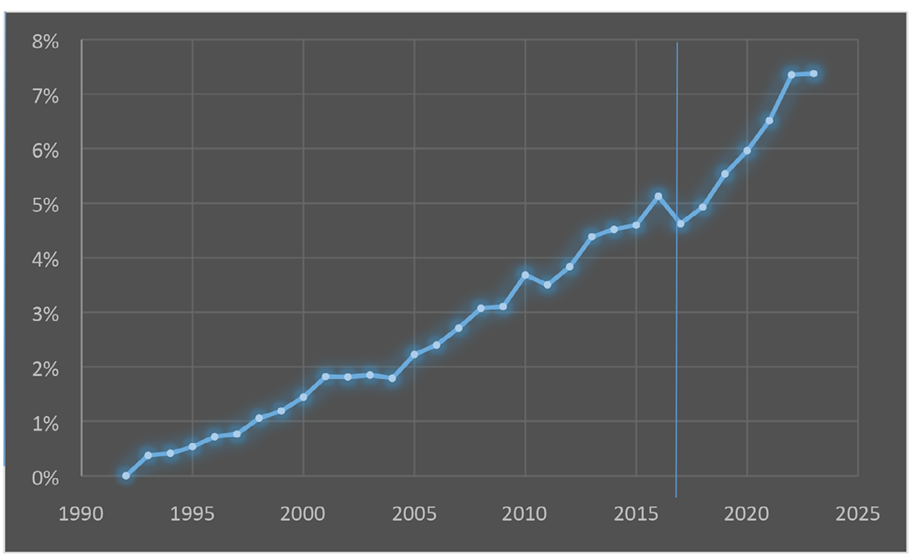


FIGURE 1 Female participation in top leadership positions over time. (A) Percentage of firms with at least one female executive among the top 5. (B) Percentage of female executives among the top 5. (C) Percentage of firms with a female CEO.

female leadership in building a culture of gender equality.[5] In fact, it concludes that the key to closing the gender pay gap is to put more women in charge.

In our work, we provide compelling evidence on how shifts in societal attitudes toward women can influence capital markets and corporations, ultimately contributing to shattering the glass ceiling. In particular, we show that in the aftermath of the Harvey Weinstein scandal and the subsequent re-emergence of the #MeToo movement, corporations increased their gender diversity in the top echelons of management, even in traditionally male-dominated industries and in more sexist states. This change was partly driven by changes in investors' non-monetary preferences leading to heightened investor demand for shares of less sexist firms. Importantly, the rise in executive gender diversity did not come at the expense of future profitability, which is consistent with sexism being a significant barrier preventing women from reaching the top echelons of corporations.

Undoubtedly, the public revelation of the numerous sexual harassment allegations against Harvey Weinstein and the resurgence of the #MeToo movement constituted a watershed moment in societal attitudes towards women. These events quickly brought to the forefront the extent to which sexual harassment and gender discrimination were prevalent in the workplace, while making it clear that such egregious behavior would no longer be condoned. Notably, they highlighted the importance of having a corporate culture free of sexism and misogyny, where employees can advance to leadership roles irrespective of their gender or other demographic characteristics.

In our work, we exploit these unexpected and salient events to explore the extent to which changes in societal attitudes towards women affect capital markets, investors' preferences, and the culture of corporations. We argue that investor response could stem from two non-mutually exclusive channels.

One explanation is that investors believe that firms with female leaders will perform better after these events due to societal pressure; for example, customers may prefer to buy products from companies with female leaders or employees may prefer to work for such companies. We refer to this as the *cash flow* channel, whereby today's returns reflect the expectation of improved future cash flows.

The other explanation is through non-monetary preferences, in which investors simply prefer to hold certain stocks and avoid others. Studying the capital market implications of such preferences, whereby investors "feel good" about holding specific stocks while experiencing misgivings about holding others, has received renewed theoretical interest recently by Pastor et al. (2021) and Pedersen et al. (2021), among others.[6] Pastor et al. (2021), in particular, argue that if investors enjoy holding sustainable assets, these assets will, in equilibrium, exhibit lower expected returns (and therefore a lower cost of equity). Nevertheless, sustainable assets could earn positive excess returns in periods when the ESG factor, which captures investors' tastes for sustainable assets, experiences a positive shock. We argue that the Weinstein/#MeToo events represent precisely this type of shock. As such, we expect the associated changes in social norms to alter investor preferences towards companies with a non-sexist culture, resulting in meaningful price effects.

In our analysis, we first investigate the stock price reaction of companies with and without female leaders around the Weinstein/#MeToo events. We then study whether these responses are attributable to changes in monetary and/or non-monetary preferences of the major investors in these companies. Finally, we explore how firms themselves responded to these events.

Our first major finding is that the Weinstein/#MeToo events led to significant pricing effects. Companies with at least one woman among their five highest-paid executives earned excess returns of 1.3% relative to firms without female top executives around these events. This differential is robust to a variety of different specifications, including the removal of firms with potentially confounding announcements. While 1.3% may seem modest, it is important to keep in mind that these returns apply to all firms in the S&P 1500.

Next, we provide evidence on the drivers of the return differential. To do so, we zoom in on institutional investors and study whether they adjust their holdings of the shares based on the presence of women in leadership positions. Institutional investors are of particular interest as they are sophisticated investors that own and vote the bulk of the world's capital. Furthermore, recent work has documented their importance in driving companies' ESG performance (e.g., Dyck et al., 2019; Krueger et al., 2020; Stroebel and Wurgler, 2021).[7] We find larger increases in the institutional ownership of companies with female leaders after the Weinstein/#MeToo events, a result that holds at the aggregate institutional level as well as at the individual institutional investor level. Notably, the increase in ownership is more pronounced among investors who exhibited less of a preference for sustainable assets prior to the events. These are exactly the types of investors whose preferences we would expect to be affected the most by the shifts in societal attitudes in the wake of Weinstein/#MeToo. We also observe a rise in the ESG scores of the institutional portfolios, which is driven not only by improvements in the ESG scores of the firms they already held, but also by active rebalancing of their holdings towards higher ESG stocks. These combined results are consistent with the view that the stock price response is driven by changes in investors' non-monetary preferences.

It is, of course, possible that institutional investors adjusted their portfolio holdings in anticipation of lower future cash flows for firms without female leaders compared to firms with female leaders (i.e. monetary preferences). Our third set of findings considers such potential cash flows effects and ultimately rules them out: (a) Firms without female leaders could be subject to greater litigation risk, yet we find no evidence of increases in lawsuits or in bonds spreads of these companies, suggesting that markets do not anticipate heightened legal risks. Moreover, the magnitude of the observed effect is far too large to be explained by litigation concerns alone; (b) Firms without female leaders could lose business

[5] World Economic Forum, 2017. The global gender gap report.

[6] See Pastor, L., R.F. Stambaugh, and L.A. Taylor. 2022. "Dissecting Green Returns", *Journal of Financial Economics* 146, 403–424; Pedersen, L.H., S. Fitzgibbons, and L. Pomorski. 2021. "Responsible Investing: The ESG-Efficient Frontier", *Journal of Financial Economics* 142, 572–597.

[7] Dyck, A., K.V. Lins, L. Roth, and H.F. Wagner. 2019. "Do Institutional Investors Drive Corporate Social Responsibility? International Evidence", *Journal of Financial Economics* 131, 693–714; Krueger, P., Z. Sautner, and L.T. Starks. 2020. "The Importance of Climate Risk for Institutional Investors", *Review of Financial Studies* 33, 1067–1111; Stroebel J., and J. Wurgler. 2021. "What do You Think About Climate Finance?", *Journal of Financial Economics* 142, 487–498.

as customers favor firms with greater gender diversity. Contrary to this view, we find no changes in operating performance for firms with female leadership relative to other firms in the two years after the events; (c) Firms with female top executives could have been undervalued prior to the Weinstein and #MeToo events due to investors' (biased) beliefs about female leaders' abilities; as such, the positive stock price reaction could be attributed to a reassessment of those beliefs. To investigate this possibility, we study investors' underreaction to earnings announcements, a common cause of undervaluation, and find no difference in the market's reaction to earnings news of firms with and without female leaders pre- and post-Weinstein/#MeToo.

Our fourth and final set of findings documents companies' responses to these changes. If investors reduce their demand for firms without female leaders, thereby driving up their cost of capital, then we would expect firms to respond to investor preferences by increasing gender diversity. As can be readily seen in Figure 1, after the Weinstein scandal and the reemergence of the #MeToo movement (marked by the vertical line in the three figures), the rate of growth of female representation in the top echelons of management accelerated. Based on a variety of metrics, and using formal statistical tests, we indeed confirm larger increases in gender diversity in companies without female leaders. Notably, we observe improvements in gender diversity even in firms operating in industries with fewer women in executive positions and in more sexist states. This suggests that the return differentials we document are driven neither by shortages in the labor market for female executives, nor the unwillingness of women to work, in either particular industries or states.

Taken as a whole, our findings are most supportive of changes in investors' non-monetary preferences as the main driver of the observed effects. This indicates that shifts in societal attitudes towards women are affecting the behavior of both capital markets and corporations. Nonetheless, we acknowledge that it is difficult to rule out the possibility that investors altered their holdings because they believed that greater diversity would have a direct financial impact on the future operating performance of these companies. In light of our findings, this assumption could either be mistaken or the financial impact could materialize only in the long run; as such, we are unable to detect it.

We conclude this article by discussing the implications of our findings in the context of the recent backlash against ESG and DEI, particularly in the United States.

SAMPLE

Under SEC regulations, U.S. companies are required to provide detailed information on the compensation of the CEO, the CFO, and the three other most highly paid officers. We gather these data for the most recent fiscal year prior to October 1, 2017 from the Execucomp database, which covers the S&P 1500 firms (the Weinstein scandal broke on October 5). To measure gender equality, we create an indicator variable that is equal to one if at least one woman is among the five highest paid executives and zero otherwise.[8]

[8] We also employ an alternative metric: the fraction of women among the five highest paid executives. Our findings are very similar for this alternative measure.

We merge these data with daily stock returns from the Center for Research in Securities Prices database for the three months starting in September 2017, which was more than one month before the first allegations against Harvey Weinstein were made. Our final sample consists of 1436 firms after dropping those with missing returns and/or insufficient executive disclosures.

As illustrated earlier in Figure 1, before the onset of the Weinstein scandal, close to 60% of S&P 1500 companies had no women among the highest paid executives, and women made up less than 10% of the top-5 executives in our sample. Based on the last annual report filed before October 2017, companies with at least one female executive were generally similar to those with no female executives in terms of size, cash holdings, valuation (measured by Tobin's q), and average investments. Such companies were, however, more profitable than their all-male counterparts.

We also gather board composition information from the BoardEx database, using the most recent proxy statements filed prior to October 2017. For our sample, 17% of all board members are women and 87% of all companies have at least one woman on the board. We do find that firms with female executives have more women on their boards (21%) than firms with no female executives (15%).

FIRM VALUE CHANGES AROUND THE WEINSTEIN SCANDAL AND THE REEMERGENCE OF #METOO

The Harvey Weinstein sexual assault allegations were first widely reported in the media on October 5 and 6, 2017. While further allegations against Weinstein were made in the weeks after October 6, the notion that harassment in the workplace was pervasive and systematic garnered momentum when actress Alyssa Milano encouraged spreading the hashtag #MeToo on October 15, 2017 via Twitter to draw attention to the widespread prevalence of sexual harassment in the workplace. As a result, Google searches for "#MeToo" and "sexual harassment in the workplace" hit an all-time high, and further accusations were raised against other prominent leaders in business and society.

To assess the return differential between firms with and without female leadership around these events, we study the period of September 2017 to November 2017 and compare the returns during various event windows to returns outside these windows for both sets of firms. We consider four windows: (a) October 5 and 6, 2017, when the Harvey Weinstein allegations were first announced; (b) October 9 through 13, 2017, the subsequent week, which we employ to investigate short-term reversal in returns; (c) the two-week window starting on October 16 (the first trading day after the #MeToo tweet) and ending on October 27. While the #MeToo movement did not end then, there was a significant drop in the number of news stories on Factiva mentioning variations of the term "#MeToo" after that date; we contend that investors would have incorporated the stock price consequences, if any, of these revelations within this period; and (d) the period of October 30 to November 30, the following month, which we again employ to study return reversals.

Our findings show that companies with at least one woman among the top-5 executives earned excess returns of 0.37% on

October 5 and 6 and an additional 0.91% during the ten trading days starting on October 16. This evidence suggests that investors reassessed the value of having women among the top executives of the firm. Notably, there is no evidence of return reversals in the intermediate week and subsequent month. Overall, these findings support our prediction that a non-sexist corporate culture is valuable: firms with women in top leadership positions earned positive excess returns when the importance of having a non-sexist culture increased around the Weinstein scandal and the reemergence of the #MeToo movement.

We also study whether the benefits of a gender-balanced corporate culture are further enhanced when the CEO is a woman and find no incremental effects. However, since only 5% of firms had a female CEO at the time, such a female CEO effect may be hard to detect empirically.

Alternative proxies for firm-level sexism and corporate culture

Some might argue that women are hired in the C-suite as tokens rather than for their skill sets, which would imply that our metric is not informative about the actual culture of the firm. While tokenism may be present when women are hired in board positions, we contend that it is highly unlikely that firms would hire women as highly paid top executives, with related decision-making authority, if they did not believe that they were competent. Nevertheless, to alleviate this concern and the general concern that the lack of women among the top-5 executives may not fully capture a sexist culture, we also employ two alternative measures.

First, we measure female leadership just below the C-suite using data from the BoardEx database, which provides detailed information on the senior management of the organization at the Vice President (VP) level. Despite ranking below a firm's C-suite, VPs are likely to have senior leadership responsibilities. Again, we use figures for the most recent fiscal year prior to October 1, 2017, and compare firms that have at least one female VP to firms that do not. Our results not only persist, but are in fact larger economically.

Second, we construct a measure of sexism based on employee comments made on the Glassdoor website. Glassdoor, an employer review and recruiting website, provides company reviews from employees for 600,000 companies worldwide. For all listed US companies, we read (using language processing) the individual reviewers' comments listed in the Glassdoor "negative feedback" field during 2015 and 2016. After removing firms with fewer than 10 reviews, we obtain a sample of 1,920 companies. We then count the number of negative feedback comments that contain keywords related to a sexist corporate culture, such as sexist, sexism, sexual harassment, misogyny, boys' club, etc. We deem a company to be sexist if at least 10% of all reviews use these keywords, and zero otherwise. We then compare the returns over the Weinstein/#MeToo events for sexist and non-sexist companies. Our findings are consistent with our prior results: companies deemed to have a less sexist corporate culture outperformed others by 2.1%.

Finally, we gauge whether these events led investors to revalue the value of corporate culture more broadly, using the culture and values rating given to companies by their employees as provided by Glassdoor. We find that companies with higher culture and values ratings significantly outperformed other firms during Weinstein/#MeToo.

Women on the board

Most of the policy debate on female leadership and much of the academic research has not focused on the executive team, but on women on the board (see e.g., Adams and Ferreira (2009), Adams and Funk (2012), and Ahern and Dittmar (2012)).[9] Moreover, the findings of Matsa and Miller (2011) indicate that female directors are more likely to recruit female executives.[10] Thus, it is possible that, as emphasized by Billings et al. (2022),[11] the benefits of having a non-sexist culture originate at the board level, and that our findings actually emanate from board decisions. In other words, female representation on the board could be what ultimately drives a non-sexist corporate culture, which in turns leads to the hiring of female executives. To the extent this is the case, our results could be attributed mainly to female board representation.

To explore this contention, we augment our baseline models with metrics of the fraction of female board members.[12] Our results do not support the view that the board is the primary driver. Indeed, the fraction of female board members has no incremental effect on returns during the Weinstein/#MeToo events, while our main findings persist.

This investigation suggests that when the importance of having a non-sexist corporate culture increases, value creation originates from having women in executive positions rather than from having additional female board members. We attribute this finding to the fact that female representation on boards is much more prevalent; as such, female executive presence is likely to be a more reliable indicator of a non-sexist culture than female board membership.

Further robustness tests

We conduct three additional tests to ascertain the robustness of our results. First, we confirm that our results persist after controlling for days with dividends, earnings, mergers or restructuring announcements. Second, our results are unaffected when we remove firms from each of the Fama-French 49 industries one at a time. Third, controlling for three industries simultaneously

[9] 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; Ahern, K.R., and A.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.

[10] Matsa, D.A., and A.R. Miller. 2011, "Chipping Away at the Glass Ceiling: Gender Spillovers in Corporate Leadership", *American Economic Review, Papers & Proceedings* 101, 635–639.

[11] Billings, M.B., A. Klein, and Y. Shi. 2022. "Investors' Response to the #MeToo Movement: Does Corporate Culture Matter?", *Review of Accounting Studies* 27, 897–937.

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

—healthcare, medical equipment, and pharmaceuticals—which may have been affected by the removal of certain Obamacare subsidies and/or by the opioid crisis being declared a public health emergency during our sample period, does not affect the results.

INVESTOR PREFERENCES

Next, we explore whether the return results can be explained by changes in investor preferences, partly motivated by the recent asset pricing models of Pastor et al. (2021) and Pedersen et al. (2021). According to these models, changes in investor preferences for ESG performance can lead to positive (negative) abnormal returns for high (low) ESG stocks. In our context, the Weinstein scandal and #MeToo movement increased the salience of gender equality, an important component of ESG. Our hypothesis is that this increased salience shifted investors' preferences towards firms with greater gender equality. As such, we attribute the stock price reaction to both actual and anticipated changes in investor demand.

Although investor preferences are not directly observable, we can test whether institutional investors, who own approximately 82% of the shares of the firms in our sample and are the most sophisticated cohort of investors, change their ownership patterns in line with their preferences for gender equality.

With this aim in mind, we gather data on institutional investor holdings from the FactSet Ownership database over the period 2016 to 2019. FactSet collects these data from quarterly Form 13F filings with the SEC, which are mandatory for all institutional investors with at least $100 million in assets under management. We study aggregate institutional ownership in our sample companies, as well as the percentage ownership of each individual institution. In addition, to assess whether institutions with larger stakes play a more prominent role, we study the holdings of investors that hold at least 0.25%, 1%, and 5% of a company's shares.

In our analyses, we examine the change in institutional ownership from the pre- to the post-Weinstein/#MeToo event windows while controlling for the overall increase in institutional ownership over time as well as for the size of the firm. Moreover, when we study individual institutional ownership, we also control for the general ownership preferences of each institution at different points in time. This enables us to assess, at each point in time, whether an individual institution increases or decreases its holdings of firms with women in top executive positions compared to those without.

Figure 2 displays the results. Figure 2A shows the aggregate change in institutional ownership surrounding the Weinstein/#MeToo events, while Figure 2B focuses on individual institutional ownership. Both figures reveal significant increases in institutional investors' holdings of firms with a non-sexist culture relative to other firms after the Weinstein/#MeToo events. At the aggregate level (Figure 2A), institutions increase their ownership by 1.10%, with the effect rising to above 1.20% when considering institutions with holdings exceeding 0.25% and 1%. The effect declines to around 0.8% when we concentrate on the largest institutions, possibly because these are also index investors with limited flexibility to adjust their holdings at will. Figure 2B shows that, following the Weinstein/#MeToo events, each institution increased its position in firms with female leaders relative to those without by 0.005% of firm shares. This effect is more pronounced for larger institutions; those with prior ownership above 5% increase their stakes by 0.135%.

We also confirm that our results are not the continuation of a trend. In particular, if institutions were already increasing their ownership in firms with female leaders before the Weinstein scandal, our findings might simply pick up the continuation of this trend. This would violate the parallel trend assumption and render our results spurious. To address this concern, we verify that there is no pre-event trend: institutional ownership in firms with and without female leaders grew at a similar rate pre-Weinstein. We conclude that the event itself triggered the divergence in ownership patterns of the two sets of firms.

Which investors change the most?

Assuming that gender diversity is an important component of ESG, our prediction is that the impact of the Weinstein/#MeToo events on institutional holdings should be *smaller* for those institutions that had already revealed a stronger preference for high-ESG stocks in their portfolios before the events. Our argument is that these events prompted *shifts* in investor preferences. Since high-ESG investors had already favored firms with more gender diversity, they are unlikely to make dramatic changes. Low-ESG investors, on the other hand, are expected to alter their portfolios since these are the investors whose preferences are more likely to have evolved in response to the events.

We measure institutional investor preferences using the approach of Gantchev, et al. (2022).[13] We compute the weighted average ESG score of the portfolio holdings prior to the events for each institutional investor, based on the firm-level scores from the Refinitiv ESG database. We average this metric over the four quarters from December 2016 to September 2017 to obtain a holdings-based ESG score for each investor. Next, investors are split into three equal-size groups based on their portfolio ESG scores; we discard the middle group and study whether changes in holdings after the Weinstein/#MeToo events are more noticeable for investors with low ESG portfolios. We find this to be the case. In fact, the entire change in holdings documented previously is driven by low-ESG investors. These results further support the investor preference hypothesis as the primary explanation for the return results. We also redo this analysis but instead of focusing on the overall ESG score to allocate institutions to low- and high-scoring groups, we narrow our focus on the S score, which is more closely related to gender diversity. The results persist. Finally, we zoom in even more and divide institutions into three groups according to the Refinitiv Workforce Score (a subcomponent of the S score) of the firms they invest in. Again, we reach the same conclusions.

Furthermore, we confirm that these portfolio adjustments lead to meaningful changes in the ESG scores of the investors' portfolios. To do so, we analyze whether the ESG scores of the portfolios

[13] Gantchev, N., M. Giannetti, and R. Li, 2022. "Does Money Talk? Divestitures and Corporate Environmental and Social Policies", *Review of Finance* 26, 1469–1508.

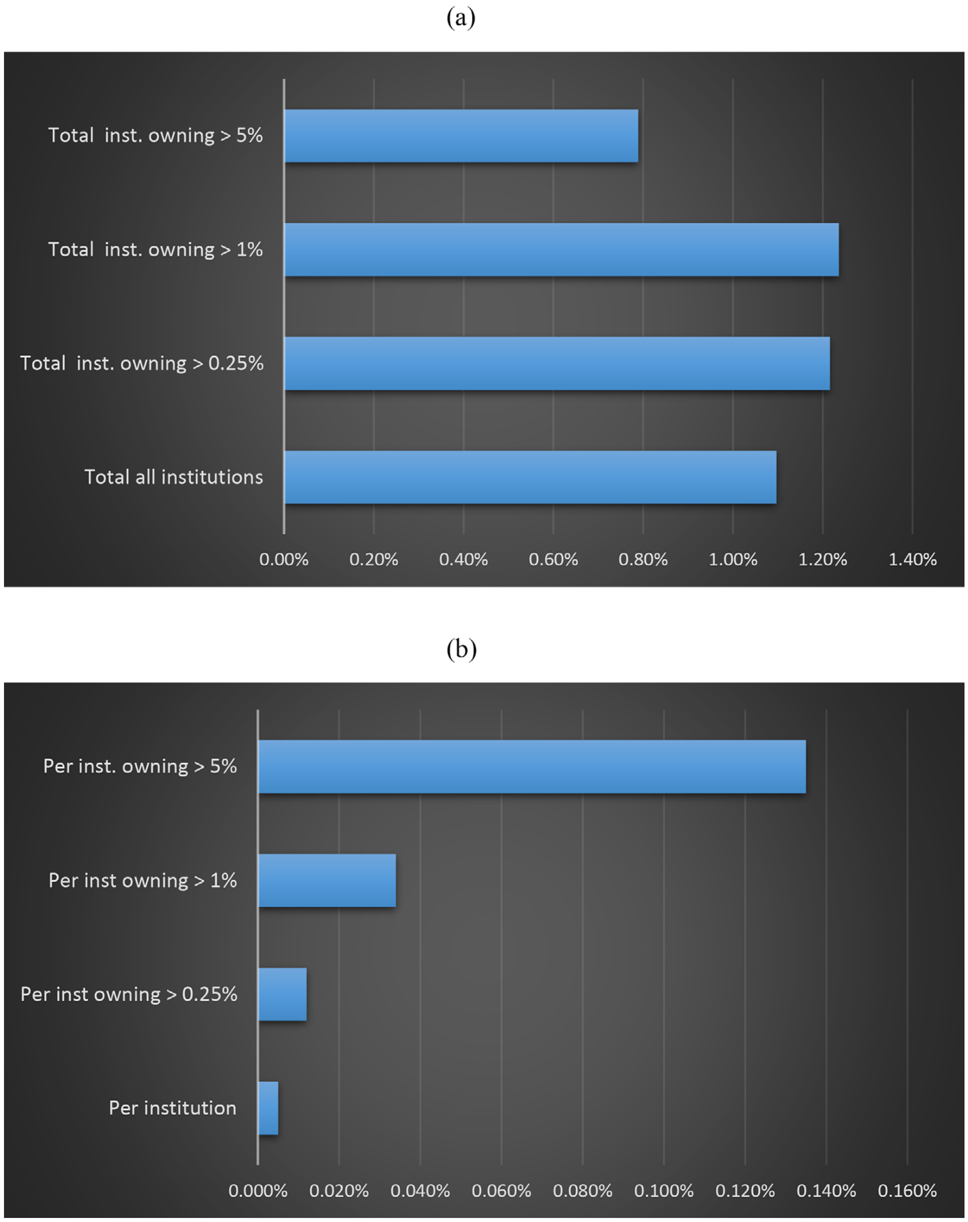


FIGURE 2 Change in institutional ownership for firms with versus firms without female leadership. (A) Change in total institutional ownership. (B) Change in ownership per institution.

of institutions with low ESG scores pre-Weinstein change more than those of institutions with high ESG scores. Our results indicate that this is indeed the case: in the post-Weinstein/#MeToo period, low-ESG institutions increase their portfolio ESG scores by 10% relative to high-ESG institutions.

Note, however, the ESG score of an institution's portfolio could change for two reasons: (a) active rebalancing or (b) changes in the ESG scores of the companies already held in its portfolio. Our hypothesis is that at least part of the observed change is driven by the first mechanism. To verify that this is the case, we re-compute the ESG score of each institution, but based on the ESG score of its constituent stocks measured *pre*-event; under this alternative estimation, any changes in the ESG scores can be attributed to changes in portfolio composition. As illustrated in Figure 3, more than half of the improvements in the ESG scores of low-versus high-ESG investors are indeed due to changes in portfolio composition. This effect is even stronger—in fact, close to 90%—for the "S" pillar of the ESG score and for the Workforce score.[14]

When viewed together, the results reported in this section indicate that institutional investors rebalance their portfolios toward stocks with greater female leadership, especially those investors without an ESG focus prior to the Weinstein/#MeToo events, and that these changes in turn lead to improvements in the ESG scores of their portfolios. These results are consistent with changes in investor preferences driving the stock return results that we document.

[14] We also confirm that our results on changes in institutional ownership continue to hold after controlling for quarterly market-adjusted stock returns to address the potential concern that institutional investors are just trend-chasers who buy stocks that have gone up in value.

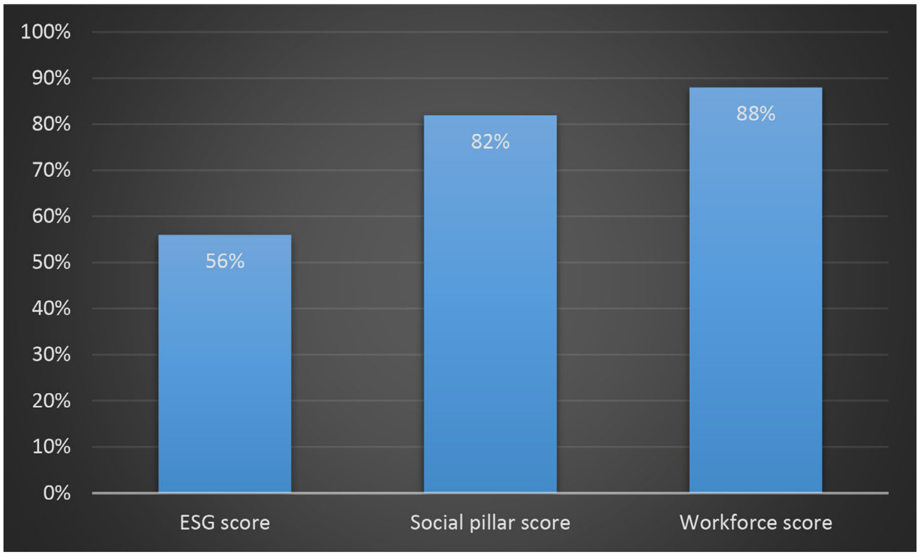


FIGURE 3 Fraction of change in portfolio scores due to active rebalancing.

Alternative explanations

Our maintained hypothesis is that the stock price response associated with the Weinstein and #MeToo events is attributable to shifts in investors preferences, as evidenced by the changes in institutional ownership. We now consider and, after thorough testing, dismiss a number of alternative explanations.

Litigation risk

One alternative explanation is that after Weinstein and #MeToo, litigation risk increased for firms with a potentially more sexist corporate culture. The stock returns that we uncover, however, would imply an average effect of $215 million (1.3% return differential multiplied by the average firm market capitalization for our sample firms of $16.5 billion), which seems too high to represent an estimate of expected increases in legal costs, fines, and possible private settlements.[15]

Furthermore, when exploring the frequency of actual lawsuits, we find only 11 potentially material lawsuits reported from January 2018 to December 2020 (three in firms with at least one top-5 female executive, eight in firms without any). This suggests that increased litigation risk is an unlikely explanation for the returns.

Nevertheless, it is possible that market participants expected more litigation risk and/or reputational costs compared to what actually materialized. We investigate this by possibility by studying bond yield spreads: higher litigation risk should translate into increased yield spreads for affected companies. We obtain bond yield data for our sample firms from the Enhanced Historic TRACE database for the two-year period around the events (October 2016 to September 2018) and compute the spread relative to maturity-matched Treasury bonds. We then analyze whether yield spreads increase for firms without female leadership relative to those with female leadership after the events, after controlling for many factors that affect yield spreads.

We find no evidence of changes in spreads, suggesting that litigation risk does not explain the stock return pattern we document. These results are also inconsistent with the possibility that the market expected increased litigation costs, but that the firms took corrective actions, leading to no change in the actual number of lawsuits.

Notwithstanding the lack of evidence of increased risk and litigation, it could be that the events we study increased the likelihood of future revelations of sexual harassment, which in turn could have negative stock price consequences, even if unaccompanied by litigation. Borelli-Kjaer et al. (2021) document that the average share price response associated with the revelation of *actual* cases of sexual harassment is -1.5% for 199 cases revealed over the period 2005 to 2018.[16] Since our return differential is about 1.3%, this explanation would imply that the market expects every single firm in our sample without women in top leadership (and none of the firms with women in top leadership) to reveal allegations of sexual harassment post-Weinstein/#MeToo—an expectation we dismiss as implausible.[17]

Improved operating performance

A second alternative explanation is that investors anticipated higher cash flows in firms with female leadership post-Weinstein/

[15] Note that the actual litigation costs for any given firm that is sued or settles privately could certainly exceed $215 million, but this amount represents the average expected cost assuming every single sample firm were forced to defend a lawsuit or to settle privately. Suppose only 5% of the sample firms incur litigation costs, this would imply average costs of $4.3 billion for these firms, which we believe is unreasonably high.

[16] Borelli-Kjaer, M., L.M. Schack, and U. Nielsson. 2021. "#MeToo: Sexual Harassment and Company Value", *Journal of Corporate Finance* 67, 101875.

[17] Based on the data of Borelli-Kjaer et al. (2021), 1.1% of the firms in our sample with female leadership experience at least one episode of sexual harassment post-Weinstein/#MeToo compared to 2.9% of our sample firms without female leadership. The difference between the two groups is statistically significant, but the occurrence of these events is too low to explain the stock return pattern we document.

#MeToo. For example, they expected customers to increase their purchases to reward firms with greater gender diversity or employees to be willing to work for less pay (or work harder) in companies with female leaders. If this were the case, we would expect significant improvements in operating performance for companies with women executives.

To investigate this possibility, we employ four performance measures: operating income to sales, gross margin (defined as sales less cost of goods sold divided by sales), growth in sales relative to the same quarter in the previous year, and sales per employee (calculated as quarterly sales divided by the number of employees measured at the end of the fiscal year). We use quarterly data to calculate these metrics for the firms in our sample over the period from January 2016 to December 2020 and compute the changes after the Weinstein/#MeToo events (removing the final quarter of 2017, which spans both the pre and post periods). All performance metrics are industry adjusted, and we also control for size.

The analyses reveal no differences in operating performance between both sets of firms, indicating that our stock return evidence is not due to anticipated changes in cash flows. This is an important insight since it suggests that the stock performance is attributable mainly to investors' adjustments of required returns. (Nevertheless, we recognize the possibility that equity investors may have expected future increases in cash flows that did not occur.)

Undervaluation of firms with female leaders

Next, we consider undervaluation as a potential explanation for our results. According to this hypothesis, firms with female top executives were previously undervalued by financial markets because of established investor preferences for male leaders. This would also explain why many firms did not hire female executives pre-Weinstein, as this would have led to undervaluation. The Weinstein/#MeToo shock reduced this undervaluation, leading to the stock price changes we document.

Establishing undervaluation is notoriously difficult because it requires a model of what a 'fair' valuation is. We therefore test an implication of undervaluation, which is that investors underreact to positive earnings news. The argument is that when a firm with a female leader outperforms expectations, the market does not react as strongly as when a firm without a female leader does, because the outperformance is deemed to be more transitory. Thus, we study whether such underreaction existed prior to Weinstein/#MeToo and whether it was mitigated afterwards.

We compute earnings surprises using analyst forecast data from IBES (Institutional Brokers' Estimate System) from January 2016 to December 2020 (dropping announcements made during October 2017) as: (actual earnings—forecasted earnings) / stock price at the time of most recent IBES reporting period before the earnings announcement. We compute abnormal returns on the three trading days around the earnings announcement using the market model.[18] We then estimate models of the abnormal stock return as a function of the earnings surprise and assess whether the price reaction changes after the Weinstein/#MeToo events (after controlling for the average stock price reaction in the industry in any given quarter). Not surprisingly, we find that announcement returns are higher for larger earnings surprises. However, the return-earnings relation is similar for firms with and without women in top management and it does not change after Weinstein/#MeToo either. These findings, therefore, provide no basis to support the undervaluation hypothesis.

Constraints in female labor supply

We interpret the lack of women in top management as evidence of a more sexist culture. An alternative view is that the lack of female representation in top management has little to do with the culture of the organization, but simply reflects supply constraints, either in general or in certain industries. In other words, firms with fewer women executives do not exhibit a more sexist culture, they simply struggle to attract enough qualified women to take on these roles.

This interpretation would also be consistent with the documented stock price response if the Weinstein and #MeToo events increased pressure from investors or society at large on firms to hire women. Faced with limited female labor supply, particularly in some industries, companies without female leaders would experience lower valuations, i.e. negative stock returns, because they would be 'forced' to hire top executives that are less qualified. While appealing, this explanation is both internally inconsistent and contradicted by our data.

First, it would be counterproductive and self-defeating for shareholders to force companies to hire more women after Weinstein/#MeToo if the lack of women at the top is not an indication of a sexist culture. Investors would have to be irrational to punish firms without female leaders if the lack of women at the top has nothing to do with the culture of the firm.

Of course, it could be that investors themselves are rational but believe that other stakeholders are not and will penalize firms without female leaders. For example, customers could direct their purchases away from such firms post Weinstein/#MeToo. This could also explain the stock price movements we document. However, if this were the case, we should also find a decrease in operating performance; firms without female executives would be less profitable either because their sales decline or because, in response to customer pressure, they end up having to hire female executives that are less qualified. But, as reported above, we find no evidence of changes in profitability after the events.

Second, as we show in the next section, firms increased their hiring of female executives after the events, suggesting that there was a labor pool that was sufficiently deep. Importantly, we find that this was the case even in industries with fewer top executives or in states that are deemed more sexist. These are the settings in which finding qualified female executives should be particularly challenging.

Third, another implication of the labor supply constraints argument is that the pay of female executives should increase post-Weinstein/#MeToo due to increased demand for their services. Using Execucomp data on salary and bonus, and controlling for firm size and job title, we find no evidence that existing or

[18] The market model is estimated over 120 trading days ending 20 trading days before the earnings announcement date, using the CRSP value-weighted index as the market proxy. The results are the same when we calculate CARs over the [0; +1] and [–2; +2] windows.

new female top executives enjoy higher pay increases than male executives after the events.

Finally, we also check whether the stock return evidence holds when we compare firms with more female executives than the industry average to firms with fewer female executives than the industry average, thereby controlling for female labor supply in the industry. Our findings persist for this alternative measure as well.

In sum, while several alternative arguments are consistent with *some* of the evidence we provide, the explanation most consistent with our combined findings is the investor preferences argument, whereby investors reduce their holdings in firms without female top managers and vice versa.

CHANGES IN GENDER DIVERSITY

Our final analyses focus on the response of companies to the demand from investors for more female representation in top management. We would expect firms with fewer female leaders to respond to this demand by increasing gender diversity. As we already illustrated in Figure 1A, there has been a marked increase in the growth rate of female representation in top management. What this figure does not convey, however, is the nature of this growth: Is it coming from firms without female executives, or from firms with female leaders that keep adding to the numbers?

To address this question, we employ three metrics of gender diversity obtained from the Refinitiv ESG database for the 2013 to 2020 period: (i) the *Diversity Score*, which captures a firm's commitment and effectiveness towards maintaining a gender diverse workforce and board member cultural diversity; it ranges from 0 to 100 with higher values indicating greater gender diversity; (ii) *Executive Member Gender Diversity*, which measures the fraction of women among a firm's executives; and (iii) *Policy Diversity and Opportunity*, which is an indicator variable equal to one if the firm has a policy to drive diversity and equal opportunity, and zero otherwise. Note that these metrics are different from our primary measures, which focus on the fraction of women among the five highest paid executives. While our findings hold for our metrics as well, we want to focus on measures that are widely available and constructed independently from our measures.

Figure 4 shows the evolution over time of these three measures for firms with women among the five-highest paid executives and for those without as of October 2017. Several findings stand out. First, we note improvements in each of the diversity measures for both sets of firms after the Weinstein/#MeToo events occurred in 2017. Second, these improvements are much more pronounced for firms without women in top management positions as of October 2017. For example, *Executive Gender Diversity* increased from 23.2% in 2016 to 24.4% in 2020 for firms with female top-5 executives, a change of 1.2 percentage points; but for firms without female top-5 executives, this percentage increased from 11.1% to 15.1% over the same period, a change of 4 percentage points. Third, even though firms without top-5 executives are catching up, a substantial gap still remains as of 2020. Fourth, the gap narrows the most for the policy measure. This is not surprising because introducing a policy takes much less effort than making actual changes in the top management of the firm.

We confirm the statistical significance of these findings using regression models, which show that the observed changes are significantly more pronounced for firms without women in top management.

We also investigate these changes separately for firms operating in more sexist states and for firms operating in industries with fewer women in executive positions. These tests also speak to the limited labor supply hypothesis discussed above. If supply constraints are indeed most binding in industries or in states with low female executive representation, companies operating in these industries/states would find it particularly difficult to increase gender diversity at the executive rank in the post-Weinstein/#MeToo period.

We compute the fraction of women in executive positions in each industry using data from the US Equal Employment Opportunity Commission (EEOC) from private employers with 100 or more employees or federal contractors with 50 or more employees. Our attitude towards women proxy at the state level is based on two metrics. The first one is state-level sexism obtained from Charles, Guryan, and Pan (2018).[19] They employ questions from the General Social Survey to determine whether an individual is sexist and average the survey responses across individuals in a specific state and across surveys to obtain a state-level measure. The second variable is the state-level gender wage gap, which we calculate using data from the Current Population Survey for the years 2015 and 2016. This survey contains state-level data on wages and many demographic characteristics. For each state, we estimate a regression of weekly pay on a female indicator variable, while controlling for other variables that explain wages. The coefficient on the female indicator captures the difference in pay after controlling for observables; that is, it serves as an estimate of the gender pay gap. States and industries are divided into two groups based on the medians of these respective measures.

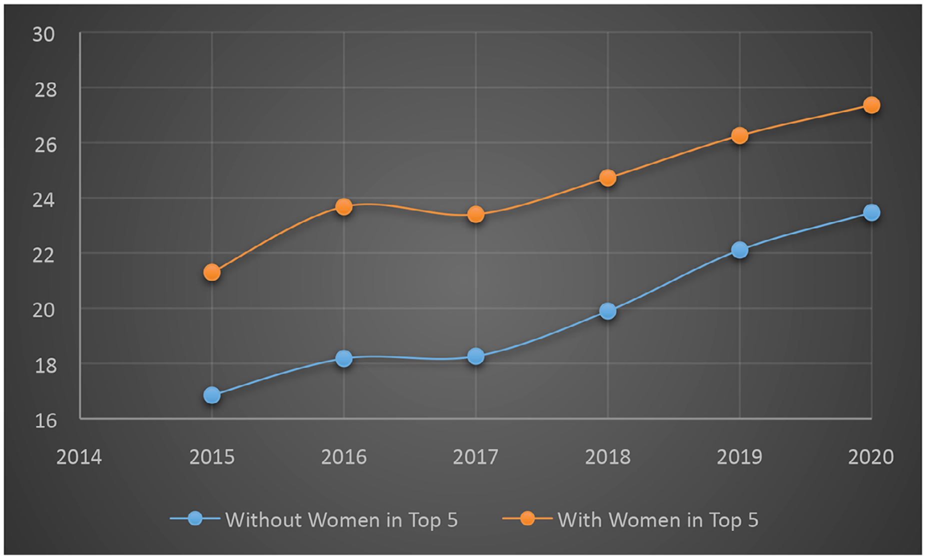
We find that firms improve their diversity metrics, even in sexist states and in industries with few women in executive positions. This result, together with the lack of a discernable increase in relative salaries for female executives, contradicts the argument that the supply of qualified women is limited in these settings or that qualified women are unwilling to work for firms in sexist states or in industries with a sexist culture.

CONCLUSION AND DISCUSSION IN CONTEXT OF THE CURRENT DEBATE ON ESG AND DEI

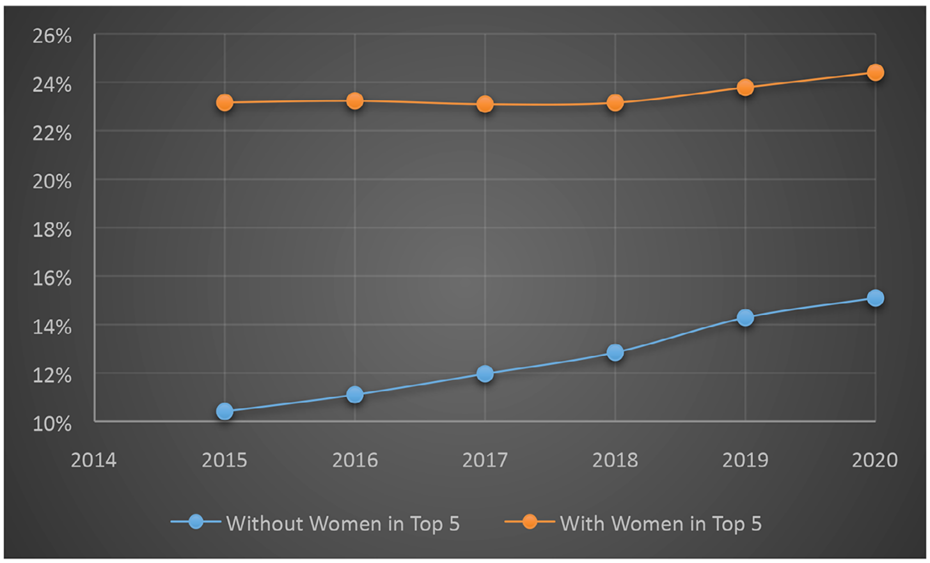
In this article, we show that S&P 1500 companies with women in their top leadership team—companies in which a corporate culture that tolerates sexism is less likely to be present—earned substantial excess returns relative to other firms during the days immediately following the revelation of the Harvey Weinstein scandal and the resurgence of the #MeToo movement. Our findings, supported by a battery of tests, indicate that these events altered the preferences of investors toward companies deemed to have a non-sexist corporate culture. Institutional investors

[19] See Charles, K.K., J. Guryan, and J. Pan. 2018. "The Effects of Sexism on American Women: The Role of Norms vs. Discrimination", Working Paper, Yale University.

(a)



(b)



(c)

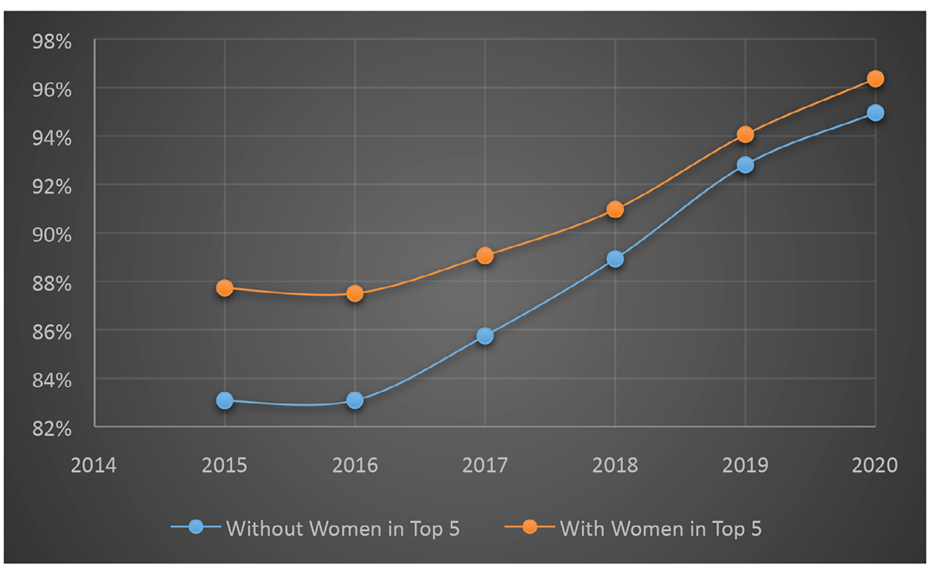


FIGURE 4 Evolution of diversity metrics for firms with and without top female executives. (A) Diversity score. (B) Executive gender diversity. (C) Policy on diversity and opportunity.

increased their holdings of these firms, especially when their focus prior to the events was less ESG-related, which led to substantial increases in the ESG scores of their portfolios. After the events, we also observe relative improvements in gender diversity among firms with fewer female executives prior to the events, as these firms start catering to investors' taste for more gender equality.

Overall, we demonstrate that the revelation of prevalent sexism in corporations elicited changes in investors' attitudes towards sexism that in turn prompted corporations to improve gender diversity. Thus, large, influential, and sophisticated investors acted as a catalyst in advancing gender equality in corporations. We conclude that shifts in societal attitudes towards women are filtering into capital markets and corporations in a material way, with changes in investors' non-monetary preferences serving as an important mechanism for this transformation.

Nevertheless, the last few years have seen a backlash against ESG and DEI, which speaks to the "S" subcomponent of ESG. How do we interpret our findings in light of this debate? And how do they contribute to the debate itself?

Arguably, the backlash against ESG investing started in 2021 when the state of Texas passed laws restricting state entities from investing in, or contracting with companies that 'boycott' fossil fuels or firearms. It intensified in 2022 when Florida and Texas banned ESG considerations from state pension funds' decisions and gained further momentum after the election of Donald Trump as president. As of March 2025, more than 20 states have enacted some type of legislation limiting the consideration of ESG factors in public investment decisions and/or procurement contracts. The anti-DEI movement, although closely related, emerged more recently and took off when the Supreme Court ruled against affirmative action in college admissions. This was followed by several republican-led states passing laws banning DEI programs in universities and government agencies and intensified after the presidential election in 2024.

Institutional investors, a key focus of our investigations, have followed suit and adjusted their policies to avoid the backlash. For example, Blackrock, Vanguard, and State Street, three of the largest institutional investors in the U.S., have all softened their stances advocating board diversity and minimum female representation on company boards. Could this new reality stop or even reverse the increased trend of women in top management that we document in our work?

We do not think so. While the pace of growth in female representation at the top level may slow down as we come closer to gender parity, we see no reason for a reversal. A central premise of the anti-DEI movement is that inclusive hiring compromises performance. In our context, this view would imply that adding more women to the executive team would lead to a decline in performance insofar as companies, having already identified the most qualified candidate (often male), deliberately decide to hire a less suitable female candidate instead.

Our evidence contradicts this premise: when compelled by investors (and possibly society) to broaden their search after the Weinstein/#MeToo events, U.S. companies were able to hire more women, even in traditionally male-dominated industries and in more sexist states. Importantly, we find no evidence of a decline in subsequent operating performance. This suggests that the new female executives were at least as capable as the men that they often replaced. In other words, by widening the search and looking beyond the—perhaps more obvious—male candidate, firms have been able to attract women of equal caliber. This argument is often missing in the debate, and it undermines the implicit assumption (of some) that DEI candidates are less capable. At least in our setting, our findings refute this assumption. Accordingly, we see no reason why firms should not continue hiring equally suited women in the future, particularly given the high rate of participation of women in further education, training and labor markets.

Our findings also contribute to the debate on voice versus exit as the means through which investors can express their preferences and influence corporate behavior. Voice involves direct engagement, in which investors communicate their wishes to companies, while exit refers to divestment from companies whose actions they disapprove of. Recent work by Broccardo, et al. (2022) suggests that engagement may be a more effective mechanism than exit.[20] Supporting this view, Gormley, et al. (2023) show that the campaigns aimed at improving board gender diversity launched in 2017 by the three largest U.S. institutional investors (State Street, Blackrock, and Vanguard) were followed by hiring decisions by U.S. companies that added at least 2.5 times as many female directors in 2019 as in 2016.[21] As pointed out above, however, these investors have since retreated from their advocacy in response to the anti-DEI movement. This shift leaves exit as the primary tool through which investors can express their dissatisfaction with certain corporate policies.

Our evidence indicates that, at least in the setting we examined, exit can also be effective in driving change. Even modest divestment can have the effect of raising a firm's cost of capital, leading to share price declines that can in turn prompt corporate managements and boards to address the concerns that led to the divestment in the first place. While perhaps less effective than engagement, our evidence suggests that exit can also be an effective mechanism for influencing corporate behavior.

KEYWORDS

Corporate culture, Sexism, Gender equality, Women in leadership, #MeToo, Valuation, Investor preferences, Institutional ownership, ESG

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