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Public Attention to Gender Equality and Board Gender Diversity

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January 2021

Mariassunta Giannetti
Stockholm School of Economics, CEPR, Swedish House of Finance and ECGI

Tracy Yue Wang
University of Minnesota

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We thank Jonathan Karpoff, Michelle Lowry, Geoffrey Tate, Yuhai Xuan, Daniel Urban, and seminar participants at the American Finance Association, the European Finance Association, the Drexel LeBow Spring Seminar Series on Corporate Governance, Indiana University, Nova School of Business and Economics, the University of Minnesota, the University of Mannheim, the University of Kentucky, the University of Alabama, and the University of Surrey for comments. Giannetti gratefully acknowledges financial support from the Nasdaq Nordic Foundation, the Jan Wallander and Tom Hedelius Foundation, and the Riksbankens Jubileumsfond.

Abstract

We document that heightened public attention to gender equality is associated with an increase in female board representation. However, changes in public attention to gender equality affect almost exclusively firms whose ex ante culture is already sympathetic to gender equality, most likely because of increased awareness by the top management rather than institutional investors' external pressure. Female director appointments generate higher abnormal announcement returns in periods of high public attention, especially in firms with an ex ante culture less favorable to gender equality. Together with further evidence on directors' characteristics, our findings suggest that during periods of high public attention, female board representation increases, without diluting directors' skills, by broadening the pool of female directors and by reducing the appointments of connected men.

Keywords: Boards, Gender, Public Attention, Networks, Connections, Homophily, Corporate Culture

JEL Classifications: G3, M5, D22

Mariassunta Giannetti
Professor of Finance
Stockholm School of Economics, Department of Finance
Sveavagen 65
113 83 Stockholm, Sweden
phone: +46 873 696 07
e-mail: mariassunta.giannetti@hhs.se

Tracy Yue Wang*
Professor of Finance
University of Minnesota, Carlson School of Management
321-19th Avenue South
Minneapolis MN 55455, United States
phone: +1 612 624 5869
e-mail: wangx684@umn.edu

*Corresponding Author

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Mariassunta Giannetti
Stockholm School of Economics, CEPR, and ECGI
mariassunta.giannetti@hhs.se

Tracy Yue Wang
University of Minnesota
wangx684@umn.edu

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Public attention to gender equality varies over time, spurred by political and other public events, such as the debate surrounding the Fair Pay Act, Hillary Clinton's presidential campaign, or Women's March. Do these spikes in public attention, which reflect societal concerns and awareness of discrimination but are most often unrelated to corporate governance, affect firms' policies regarding gender equality?

This paper investigates whether firms are permeable to societal demands by exploring whether changes in public attention to gender equality are associated with changes in board composition. In particular, we ask whether societal pressure leads to convergence between firms with more or less female-friendly culture towards common societal values. We also ask whether heightened public attention to gender equality leads to changes in director recruiting practices and whether companies, driven by their desire to cater to societal preferences, make better or worse board appointments.

We start by showing that spikes in public attention are associated with changes in corporate behavior. Corporations are more likely to appoint women to their boards in periods of high public attention to gender equality. However, these effects are concentrated in firms with an ex ante corporate culture more favorable to women. We find no or even negative effects of public attention to gender equality on female board representation for firms that do not value diversity. Overall, heightened public attention to gender equality appears to lead to divergence in board gender diversity between firms with different ex-ante culture towards women.

We also explore a few mechanisms through which public attention to gender equality may affect corporate behavior. One possibility is that pro-diversity institutional investors exert more

pressure for change in periods of high public attention. However, the effects we uncover do not appear to be driven by investor pressure, which differently from public attention to gender equality largely affects firms with an ex ante less female-friendly culture. The differential effects of public attention on firms with different corporate culture seem instead associated with corporate leadership. Firms with a leadership that is ex ante better inclined towards gender equality respond more positively to increases in public attention.

The heterogeneous responses to public attention to gender equality across firms suggest that the time-varying public attention is more likely to be a shock to firms' demand for female directors rather than to women' eligibility and willingness to serve on the board of listed companies. Several pieces of evidence are consistent with this view. First, building on prior evidence that directors are more likely to be local and to have industry-specific experience (Masulis, Wang and Xie, 2012), we include state-industry-year fixed effects because the supply of eligible women for board positions should be the same for firms in the same state, industry, and year. Our results continue to hold in these specifications, suggesting that the supply of female directors in different industries and states cannot explain our cross-sectional findings.

Second, the appointment announcements of female directors generate higher abnormal returns than those of male directors in periods of high public attention to gender equality, suggesting that during these periods of high demand for female directors' skills, investors view female directors' appointments as particularly value-enhancing and not as dilutive of the skills of the board. Interestingly, female directors' appointments trigger higher abnormal returns in firms with a culture less favorable to women (that is, in firms that are less likely to appoint female

directors) in periods of high public attention to gender equality, suggesting that even female-unfriendly firms can attract valuable female directors. This finding does not support the existence of tighter constraints to the supply of eligible women for companies with a less female-friendly culture.

We also examine whether and how public attention to gender equality changes director recruiting practices. Several interesting findings emerge. First, we find that heightened public attention leads listed companies' boards to reach out to a broader pool of potential female directors, including women from other industries and women outside the existing board members' connection circle.

There are, however, no obvious compromises on the quality of newly appointed female directors. First, on average, female directors are more likely to have industry experience than newly appointed male directors. High public attention to gender equality reduces the gap in industry experience requested on female directors in comparison to male directors that are appointed by the same firm at the same time. Second, even in periods of high public attention, newly appointed female directors are more likely to have advanced education degrees and professional awards than male directors. Third, consistent with the idea that the qualities and expertise of female directors are well-suited to the boards on which they serve, female directors are as likely as other directors to sit on key committees, such as the audit committee and the compensation committee. This tendency does not change with public attention to gender equality.

We also find that female directors are less likely to have previously overlapped with other members of the board and become even more so in periods of high public attention to gender

equality. On the one hand, this may reflect shortage in the supply of women within the network. Firms may thus incur large search costs to identify and appoint female directors from outside the network. On the other hand, biases due to homophily, that is, individuals' desire to associate with similar people, may prevail in network-based appointments and lead directors to prefer male candidates within their networks.

To shed light on why female directors are less connected to other board members, we explore how firms choose whom to appoint between all individuals who are connected with the firms' existing board members. We consider different types of connections through prior jobs, educational programs, or social activities. We find that connected men are more likely to be appointed to the board of a listed company than connected women, even after controlling for directors' qualifications and experiences. An increase in public attention to gender equality not only reduces the differential effect of connections for men and women, but it is also associated with lower reliance on connections in director appointments. These effects contribute to higher female board representation and suggest that, when public attention to gender equality is weak, homophily and other biases are likely to constrain female board representation.

This paper contributes to the literature on the labor market for corporate directors. This literature investigates how the characteristics of directors vary under different corporate circumstances (see, e.g., Boone, Field, Karpoff and Raheja, 2007; Denis, Denis, and Walker, 2015; Adams, Akyol, and Verwijmeren, 2018; Erel, Stern, Tan, and Weisbach, 2018; Field, Souther and Yore, 2020). We explore how changes in societal demands, reflected in time-varying public

attention to gender equality, affect gender diversity and other characteristics of the appointed directors.

Another strand of the literature evaluates different interventions to increase minority representation in leadership positions. For instance, a growing literature in economics and finance evaluates gender quotas in politics and corporate boards as an instrument to achieve gender equality, and their effects on the skills of leaders and economic outcomes (Beaman et al., 2009; Matsa and Miller, 2011; Ahern and Dittmar, 2012; Besley, Folke, Persson and Rickne, 2017; Ferreira, Ginglinger, Laguna, and Skalli, 2017; Bertrand, Black, Lleras-Muney and Jensen, 2019). We show that greater public attention to gender equality also spurs changes in board composition and recruiting practices. To the extent that public attention to gender or racial equality can be induced by policymakers, it may be a less contentious instrument than affirmative-action policies. However, we also show that just increasing public attention has limits due to firms' ex ante corporate culture. In this respect, our findings support the conclusions of Gorton and Zentefis' (2019) theoretical model that changes in societal views in favor of minority groups may or may not affect corporate policies in the absence of government interventions if cultural traits are heterogeneous.

1. Data

1.1 Measuring Public Attention to Gender Equality

We use Google Search Trends to construct an index of public attention to gender equality. Google Search Trends constructs the Google Search Volume Index (SVI) starting from January

2004 as the ratio of the monthly total queries for a specific search term or topic in a given geographical region relative to the total number of queries in the same month and region. Google rescales the monthly ratios across all the months in a given time period so that the month with the peak (lowest) search intensity for the given search term or topic gets a value of 100 (0).

The SVI measures the intensity of searches on a term or a topic during a given period in a given area and is considered a good proxy for the attention to a particular issue for several reasons. First, the aggregate search frequency reported by Google is likely to be representative of the search behavior of the general population. For example, Ginsberg et al. (2009) show that the queries in Google for search terms related to the flu accurately estimate influenza epidemics across different regions. Second, Google search data have proved useful in a variety of settings. For instance, Choi and Varian (2012) show that search frequency is related to contemporaneous home sales, automotive sales, and tourism. Relatedly, Drake, Rouldstone and Thornock (2015) show that Google searches on particular firms are good proxies for investors' demand for information. Finally, we consider important to use a measure of *revealed* attention harnessing the collective interest of millions of users, as news coverage does not guarantee that news are being paid attention to. Consistently, Da, Engelberg, and Gao (2011) show that Google Search Trends capture attention better than news and headlines.

We use Google Search Trends to gauge public interest in gender equality between January 2004 and December 2017 in the U.S. The results we present hereafter are based on the search for the term "Gender Equality." However, the results are robust if we set the search for the terms "Gender Inequality" or "Feminism". The results are equally robust if we consider searches on the

topics (instead of the terms) “Gender Equality” or “Gender Inequality”. A search topic is broader than a search term but is less precisely defined. These alternative searches lead to SVI indices that have a correlation in excess of 0.9 with our main proxy based on the search term “Gender Equality”.

Panel A of Table 1 provides summary statistics for the “*Gender Equality SVI*”, the average SVI on the search term “Gender Equality” over the previous 12 months in the U.S. We scale the original SVI data by 100 so that the values fall between 0 (the month with the lowest attention) and 1 (the month with the peak attention). Figure 1 shows the time-series pattern of the *Gender Equality SVI* between January 2005 and January 2018. While public attention to gender equality increases dramatically in the later part of our sample, the pattern is non-monotonic. Public attention to gender equality decreases between 2005 and 2008, temporarily increases around 2010, is pretty low up to 2013, after which it increases dramatically. This non-monotonic pattern, together with the fact that the results we present hereafter are generally robust if we limit the sample up to 2013, mitigates concerns that our analysis captures only the trends in the recent years.

We view public attention to gender equality as capturing changing societal preferences towards gender equality. Consistently, as shown in Figure 1, the intensity of Google searches for gender equality is strongly and positively correlated with the intensity of searches for “feminism”, for famous career women, such as Hillary Clinton, for national public events related to women’s rights, such as the debate on fair pay in the period leading to the 2007 Supreme Court's decision on Ledbetter v. Goodyear, the Women’s March, and the Me-Too movement. These events are

clearly exogenous to the corporate world and allow us to ask how changing societal preferences and attention to gender issues affect female board representation and recruiting.

A possible concern is that public attention to gender equality is driven by changes in the corporate world. For example, public attention to gender equality might be driven by greater board diversity. To have a sense of how relevant this form of reverse causality is, we collect the Google search SVI for the term "board diversity" in the U.S. during our sample period. Figure 2 contrasts the 12-month moving average of attention to gender equality and attention to board diversity. The correlation between the two is only 0.02. To put this in perspective, google searches on gender equality have a correlation of 0.41 with google searches on racial equality, another proxy for societal concerns for fairness and broader representation.[1] While this evidence broadly support our view that public attention to gender equality reflects time-varying societal preferences, in the empirical analysis, we show that our results are robust if we use public attention to gender equality exclusively due to political and social events that are exogenous to corporate board appointments.

1.2 Corporate Boards and Firm Level Data

We obtain corporate board data from BoardEx, which provides full biographies of directors and senior managers of U.S. public and private companies. For each director, we obtain information on gender, education, professional experience, certifications, social networks, and

[1] However, in untabulated tests, we find that public attention to racial equality does not predict changes in the board gender ratio, suggesting that our baseline results are driven by the component in our measure that captures public attitudes specific to gender issues.

committee appointments. Our main sample includes 5,936 U.S. listed companies from 2005 to 2017, for a total of 34,283 directors.

We construct proxies for board experience and industry experience considering also directors' prior appointments in unlisted companies. We obtain the industries of prior employers from COMPUSTAT for listed companies and Bureau Van Dick's Orbis for unlisted companies.

In some tests, we also consider the directors of U.S. unlisted companies and non-profit organizations. The sample of connected directors that are not appointed to a listed company's board during our sample period includes 489,847 individuals. Slightly over 13% of these directors of unlisted firms are women, a similar percentage to that of listed companies' boards.

We merge Boardex data with various other data sources. First, we obtain firms' financial information from COMPUSTAT. Second, we use the MSCI database, which provides ratings on strengths and concerns regarding firms' diversity policies. Specifically, MSCI provides strength ratings on seven dimensions (CEO, promotion, gender, benefits, women and minority contracting, gay and lesbian policies, and other) and concern ratings on five dimensions (controversies, non-representation, board gender diversity, board minority diversity, and other). Since the number of strengths and concerns considered varies over time, we compute the average strength rating ("*Diversity Strength*") and the average concern rating ("*Diversity Concern*") for each firm in each year. The correlation between *Diversity Strength* and *Diversity Concern* is negative and relatively low at -23% because companies with more strengths tend to have fewer concerns, and vice versa. We consider high strength ratings (low concern ratings) as indicative of a corporate culture attuned to provide an equitable and hospitable place to women.

Panel B of Table 1 provides summary statistics for the firm level sample, for the directors of listed companies, and for the more comprehensive sample of directors of listed and unlisted companies.

2. Public Attention to Gender Equality and Board Composition

2.1 Baseline Results

This secvvtion explores whether board gender diversity is influenced by societal preferences about gender equality. All companies are subject to pressure from shareholders, customers and other stakeholders. Hence, when public attention increases, we could observe convergence in corporate diversity policies.

However, public attention to gender equality could also exacerbate differences between firms. Public attention to gender equality may increase the demand for female directors to a larger extent in firms that are ex ante more female-friendly for two reasons. First, decision makers in these firms are likely to always have been more favorable to women and their awareness of gender issues may be further strengthened by public attention. Second, shareholders and other stakeholders in these firms, being ex ante more likely to be favorably disposed towards women, may put more pressure on management to reduce gender gaps. Public attention to gender equality could also affect the supply differentially if women are more willing to join the boards of firms with more female-friendly culture when demand for their services increases. For all these reasons, firms that value diversity may become even more diverse, while firms that do not value diversity may incur little changes.

Table 2 relates the gender ratio, defined as the proportion of female directors on a board during a year, to the *Gender Equality SVI* over the previous year, controlling for board size. We also explore how the effect of the *Gender Equality SVI* varies between firms with different ex ante culture towards women. In all specifications, we include firm fixed effects to control for firms' time-invariant characteristics.

The estimates in column (1) of Table 2 suggest that stronger attention to gender equality over the previous year is associated with significantly higher female board representation. The economic magnitude of the effect is nontrivial. A one-standard-deviation increase in the *Gender Equality SVI* corresponds to a 1.7 percentage point (pp) average increase in the gender ratio of listed companies' boards (a 17% increase relative to the sample mean).

Next, we add time fixed effects and explore cross-sectional heterogeneity in firms' responses to public attention to gender equality. We differentiate firms on the basis of ex ante characteristics associated with a corporate culture more or less inclusive towards women. Our main proxy for a female-friendly (unfriendly) corporate culture is *Diversity Strength* (*Diversity Concern*), based on the MSCI ratings of a firm's diversity policies. If firms with stronger preferences for diversity indeed pay more attention to gender equality when public attention is higher, we expect larger increases in female board representation in firms with ex ante higher diversity strengths and lower increases in firms with ex ante stronger diversity concerns. Column (2) of Table 2 suggests that the sensitivity of the board's gender ratio to public attention to gender equality indeed increases in firms' diversity strengths and decreases in firms' diversity concerns.

We also ask to what extent our results are driven by the large increase in public attention to gender equality in the most recent years of the sample. We note that in the first years of the sample public attention to gender equality was relatively high and that it then decreased. Column (3) reproduces the results of columns (2) over a sample period up to year 2013. Our results are invariant, suggesting that our findings are not exclusively driven by the recent surge in public attention to gender equality.

2.2 Reverse Causality?

A potential concern with the interpretation of our results is that our proxy for public attention to gender equality is endogenous to board appointments. In Section 1.1, we have shown that Google search intensity for gender equality is not highly correlated with attention to board diversity per se. To further address this concern, we use public events that are exogenous to board director appointments to predict public attention to gender equality. Specifically, we use Google search trends to construct public attention to "Sheryl Sandberg", "Hilary Clinton", "Women's March" and the "MeToo" movement, respectively.[2] We then use the time-series search intensity of these high-profile women and events to predict public attention to "Gender Equality".

In Table 3, we replace the Gender Equality SVI with its value predicted using attention to the above searches that can be considered exogenous to the corporate world. We repeat the baseline specifications in Table 2. Again, heightened public attention driven by these exogenous events is

[2] Searches for "Sheryl Sandberg" spike after her husband death and are therefore unrelated to changes in the corporate world.

associated with an increase in female board representation, particularly in firms with an ex ante culture more favorable to career women.

Overall, the results in Tables 2 and 3 suggest that heightened public attention to gender equality is associated with an increase in board gender diversity, but the results cast doubts on the ability of public attention to lead to convergence in corporate diversity policies between firms with different ex ante culture.

2.3 The Role of Institutional Investors

A potential mechanism underlying the effect of public attention to gender equality is that firms cater to changing investor preferences on gender equality and board diversity, which in turn may be related to broader societal preferences. We thus examine the role of institutional investors in explaining the effect of public attention to gender equality on board gender diversity. We expect institutional investors with stronger preferences towards corporate diversity to exert more pressure on the top management of their portfolio firms to improve board diversity.

To capture an institutional investor's revealed preference for (gender) diversity, we compute the ownership-weighted average diversity ratings of the firms in its equity portfolio. The diversity rating of a portfolio firm in a given year is calculated as the diversity strengths, scaled by the total number of strengths rated in the MSCI database, minus the diversity concerns, scaled by the total number of concerns rated. Institutional investors' portfolio holdings are from their 13F filings. We then measure the institutional investor pressure to which each of our sample firms is subject using an average of the institutional investors' revealed preferences for diversity, computed

using the investors' ownership weights in the firm.[3] A higher value of this variable, which we label "*Inst. Investor Pressure",* indicates that the company is likely to be subject to stronger institutional investor pressure towards board diversity. Column (1) of Table 4 shows that investor pressure does not predict the board gender ratio, nor does it explain away the effect of public attention to gender equality.

Next, we consider that the Big Three institutional investors, Blackrock, State Street and Vanguard, started campaigns to increase female directorships in 2016. We thus compute the percentage ownership of the Big Three in each sample firm. We interact the latter with a dummy variable that takes value equal to 1 after 2016 and use the interaction as an alternative proxy for institutional investor pressure on corporate diversity. Consistent with the results of Gormley et al. (2020), in column (2) of Table 4, we find that the Big Three campaigns do increase female board representation after 2016. However, the Big Three effect does not change the effect of public attention to gender equality.

Finally, in column (3), we examine the effects of institutional investor pressure on firms with different culture towards women. We include interaction terms between *Inst. Investor Pressure* and our corporate culture proxies, *Diversity Strength* and *Diversity Concern*. Interestingly, greater investor pressure tends to increase board diversity in companies with an ex ante corporate culture that is *less* well disposed toward gender equality. This contrasts with the

[3] The construction of investor pressure is similar to that of other proxies for the preferences of the investors holding the stocks of a companies. See, for instance, Cella, Ellul and Giannetti (2013) for the construction of a proxy for shareholder horizon.

effect of public attention to gender equality, which tends to increase female board representation in companies with a corporate culture more favorable to diversity.

Overall, Table 4 suggests that pro-diversity institutional investors played a role in improving board gender diversity in recent years and particularly in firms with a poor diversity culture. However, institutional investor pressure does not explain away the effect of public attention to gender equality on board diversity. This suggests that the documented changes in board diversity in different types of firms during periods of heightened public attention are more likely to be driven by forces within the firm. We thus examine the role of top management.

2.4 The Role of Top Management

Top management plays a vital role in establishing and maintaining a firm's culture and attitudes towards gender equality (Tate and Yang, 2015; Duchin, Simutin and Sosyura 2020). The effects of differences in corporate culture, which we proxy for using *Diversity Strength* and *Diversity Concerns*, on the reaction of board gender diversity to public attention could thus be driven by top management's initiatives rather than by external pressure from investors or other stakeholders. In this case, we expect firms whose leadership is more aware of gender equality to respond more positively to increases in public attention.

To capture managerial awareness of gender equality issues, we consider several measures. First, the presence of female directors may reflect awareness of gender biases and other challenges to gender diversity not only because female directors may tune into changing public attention to gender equality more than male directors, but also because women in managerial positions create

a female-friendly culture (Tate and Yang, 2015). We thus expect boards with female directors to respond more positively to heightened public attention than those with no female directors. Indeed, in column (1) of Table 5, following years of stronger public attention to gender equality, the proportion of female directors increases in firms that already have female directors more than in firms with no female directors.

Next, the psychology and economics literatures suggest that individuals more exposed to female role models in professional settings tend to have less implicit and explicit bias against career women (see, e.g., Marx and Roman, 2002; Stout, Dasgupta, Hunsinger, and McManus, 2011). We thus conjecture that directors that have been more exposed to female directors on other boards might be more receptive of public attention to gender equality. We define "*Director Gender Exposure*" as the average board gender ratio in listed companies in which a firm's current board of directors previously served. Column (2) of Table 5 shows that the board gender ratio of firms whose directors have been more exposed to female directors indeed responds more positively to public attention to gender equality.

We also consider top management's political orientation. Since the Democratic platform emphasizes gender equality and affirmative action more than the Republican platform, we expect Democratic-leaning managers to be more receptive and respond more positively to increases in public attention to gender equality than Republican-leaning managers. We try to capture the political orientation of a firm's top management in two ways. First, we conjecture that the state-level political orientation should be related to the political stance of a firm's management because a firm's leadership is largely local and responds to the pressure of local stakeholders. We thus

collect information on state-level presidential elections outcomes. We define a dummy "*Democratic (Republican) Firm*" that takes value equal to one if the firm is headquartered in a state in which more than 60% of the votes went for a Democratic (Republican) presidential candidate in the most recent presidential election.

Second, we collect information on political campaign contributions made by a firm's employees from the Federal Election Commission website. Most of the donating employees are senior managers in a firm. For this reason, political contributions are frequently used as proxies for a firm's political stance (see, e.g., Cooper, Gulen, and Ovtchinnikov, 2010; Babenko, Fedaseyeu, and Zhang, 2019). We define a dummy variable, "*Democratic (Republican) Firm 2*", which equals one if more than 55% of the firm's political campaign contributions during an election cycle of two years go to Democratic (Republican) candidates. Any firm that makes no campaign contribution or contributes in very similar amounts to both parties is considered not politically aligned.

Consistent with our prior, columns (3) and (4) of Table 5 show that firms with more Democratic-leaning top management increase female board representation following periods of high public attention to gender equality, while we do not find a significant effect for firms with Republican-leaning top management.

Overall, these cross-sectional patterns support our baseline results and suggest that firm-level diversity culture at least partially reflects top management's awareness and interest in gender equality issues.

2.5 Differences in Demand or Supply of Female Directors?

We have so far stressed differences in firms' demand for female directors. However, a firm's ex ante culture could reflect differences in the supply of female directors across industries or geographical areas. For instance, firms with a culture more favorable to women may actually be in industries or states with more women in female leadership. Since the supply of directors is largely local and industry-specific (Knyazeva, Knyazeva, and Masulis, 2013; Alam, Chen, Ciccotello, and Ryan, 2014), this could explain why some firms are able to react to public attention by increasing the proportion of female directors. Other firms may also desire to do so but might be unable to find suitable candidates.

To evaluate the merit of this alternative explanation, in column (1) of Table 6, we control for interactions of state, industry, and year fixed effects. If the labor market for female directors is largely local and industry-specific, then the supply of female directors should be the same for all firms in the same state and industry at a given point in time. In this specification, the interactions between *Diversity Strength (Concern)* and the *Gender Equality SVI* should capture within-market reactions to changes in public attention to gender equality and are therefore most likely to reflect heterogeneity in demand rather than supply of female directors across firms. Column (1) shows that the coefficient on the interaction term between *Diversity Strength (Concern)* and the *Gender Equality SVI* remains unchanged after including state-industry-year fixed effects, suggesting that supply constraints are unlikely to explain our results.

Cross-sectional differences in firms' ability to attract female directors also suggest that lack of demand from firms with a culture less favorable to women contributes to drive our findings.

Large firms, being more prestigious, are typically considered better able to attract qualified female directors (Hwang, Shivdasani, and Simintzi, 2018). Thus, these firms should be better able to attract female directors regardless of their culture. In column (2), we test whether the board gender ratio is less sensitive to public attention to gender equality in firms whose market capitalization is in the bottom tercile of the sample distribution ("*Small Firm*") in comparison to larger firms. The estimates show no difference in the sensitivity of the board gender ratio to public attention to gender equality between smaller and larger firms, thus corroborating our interpretation that supply constraints do not drive firms' differential response.

In column (3), we evaluate the possibility that the effects of *Diversity Strength (Concern)* may conceal differences in board size. If all boards have at least a woman, smaller boards may have a higher proportion of female directors and appear more diverse. While it is true that firms with ex ante smaller boards experience larger increases in the gender ratio when public attention to gender equality increases, we find no evidence that this effect is related to that of *Diversity Strength (Concern).* If anything, the effect of *Diversity Strength (Concern)* in response to changes in public attention to gender equality is even larger once we take into account board size.

In summary, we find no evidence that different reactions to changes in public attention to gender equality due to firms' ex ante diversity culture may capture differences in the availability of eligible female directors.

3. Director Appointments

This section explores how public attention to gender equality affects the way female directors are recruited. This analysis sheds light on how greater female representation is achieved. Specifically, we examine how the equity market views female director appointments in periods of high public attention relative to other periods. We also explore whether public attention to gender equality increases gender differences in the qualifications and experiences of the newly appointed directors. Lastly, we investigate the role of connections in director appointments.

3.1 The Value Effect of Female Director Appointments

We explore how the market assessment of a female director appointment varies with public attention to gender equality. For each director appointment, we compute the company's three-day cumulative abnormal return (CAR) during the event window [-1, +1] around the announcement day 0. The abnormal return is calculated as the difference between a firm's daily stock return and the value-weighted market return. For ease of interpretation, we create an indicator variable "*High Public Attention*", which equals one if the average public attention to gender equality in the 12 months prior to a director appointment announcement is in the top quartile of the sample distribution.

In Table 7, we relate CAR[-1, +1] to a female director indicator *Female*, *High Public Attention*, and the interaction between the two. In columns (1) and (2), the announcements of female directors' appointments generate higher abnormal returns than those of male directors in periods of high public attention to gender equality, suggesting that during these periods, investors view female directors' appointment as particularly value-enhancing. There is no evidence that high

demand for female candidates leads to appointments that the market views as inferior. Column (3) shows that the results are robust to controlling for announcement date fixed effects.

In column (4), we focus on firm-date observations with only one director announcement, which account for a majority of the announcements, to mitigate the issue of confounding director announcements from the same firm. Again, the results are similar to those in column (1).

Next, we examine whether the market assessment of female director appointments depends on whether the new appointments lead to an actual improvement in board gender diversity. We distinguish firms with net decreases in the number of female directors in the current or the prior year (column (5)) and those with no net decreases (column (6)). A new female director appointment is likely to just replace exiting female directors in the former case, while in the latter case it is associated with an actual increase in board gender diversity. Most appointments during our sample period appear to increase gender diversity. During periods of high public attention to gender equality, the market values positively the appointments of female directors that improve female board representation (column (6)), while the coefficient on the interaction between *Female* and *High Public Attention* is negative and not statistically significant in column (5).

Finally, in column (7) of Table 7, we compare firms with different diversity culture. In periods of high public attention to gender equality, female directors' appointments trigger more favorable market reactions in firms with a culture less favorable to women (that is, in firms less likely to appoint female directors). Thus, at the margin, the market values female director appointments in firms with an ex ante culture less inclined towards gender equality more than in other firms. These results suggest that firms with ex ante less-female-friendly culture do not face

particularly tight constraints in the supply of qualified women, as for instance those arising from women's reluctance to serve on their boards.

3.2 Broadening the Female Director Pool

We next explore how the increased demand for female directors due to greater public attention to gender equality is satisfied. For this set of analyses, we include interactions of firm and year fixed effects to control for shocks to the way firms recruit directors. This also allows us to compare female directors and male directors appointed by the same firm during the same year. We examine how gender differences in director characteristics within the same firm, if any, vary with public attention to gender equality by interacting the female director dummy with the *Gender Equality SVI* in the 12 months before the director appointment. Since director appointments occur in different months of the year, the direct effect of the *Gender Equality SVI* over the previous 12 months can be estimated even if we include year fixed effects.

In Panel A of Table 8, we start by asking whether public attention to gender equality increases the supply of women that are available to serve on boards. This could lead to an increase in female board representation, even if firms' demand remained invariant. To evaluate whether this is the case, we consider that Boardex also includes directors of unlisted companies and nonprofit organizations. We assume that all the existing directors in Boardex are available to serve on the more remunerative and prestigious boards of listed companies. For public attention to gender equality to increase the total supply of women for board positions, we should observe that the female directors newly appointed by listed companies during periods of heightened public

attention to gender equality are more likely to be new entries in Boardex. Column (1) of Table 8 Panel A suggests that this is not the case. Although female directors are more likely to be new entries in Boardex relative to their male counterparts, heightened public attention to gender equality does not draw more women into Boardex.

Column (2) of Table 8, Panel A suggests that public attention to gender equality does increase the probability that women not serving in the boards of listed companies are appointed to one, as captured by the indicator variable "*Brand New to Listed Company*", which equals one if the newly appointed director did not serve on the board of a listed company before the current appointment. Women are more likely than men not to have served on the board of a listed company before the current appointment and become even more so following an increase in public attention to gender equality. This result suggests that heightened public attention is associated with a greater pool of women (already in Boardex) serving on listed companies' boards.

In column (3), the dependent variable "# of Other Board Seats" is the number of other public company directorships that a person has at the time of the current appointment. Typically, female directors are more likely than their male counterparts to have other public company directorships at the time of the appointment. But heightened public attention is associated with a decrease in the number of other public company directorships. This result confirms the finding in column (2) that the increased demand due to public attention does not simply translate into more directorships for women who are already on listed companies' boards.

Firms tend to appoint directors with experience in their own industry (Denis, Denis, and Walker, 2018). While directors' industry experience is often found to add value (Dass et al, 2013;

Adams, Akyol, and Verwijmeren, 2018; Kang, Kim, and Lu, 2018), competences from other industries may bring firms a broader perspective and complementary skills, as Custodio, Ferreira, and Matos (2013) find to be the case for CEOs.

To evaluate whether there are any differences in industry experience between directors appointed to the board of the same firm, we define a dummy variable, "*No Industry Experience*", which equals one if a director has no prior experience in the firm's 2-digit SIC industry before the current appointment. Column (4) of Panel A shows that women are less likely than men to have no industry experience, suggesting that women may need more "certification" to be viewed as qualified. However, heightened public attention to gender equality is associated with an increase in the probability that a woman with no prior industry experience is appointed. Interestingly, women continue to be more likely to have industry experience than newly appointed men, when public attention to gender equality is equal to the sample median. This result suggests that when public attention to gender equality increases, listed companies appear to be willing to search more broadly for their female directors.

Social ties are known to be an important determinant of employees' selection (e.g., Hensvik and Nordström Skans, 2016) and to matter also for the selection of directors on corporate boards (e.g., Shivdasani and Yermack, 1999; Fracassi and Tate, 2012; Cai, Nguyen, and Walkling, 2019). We study whether there are any differences in prior connections to the board between newly appointed female and male directors. We define two individuals as connected if they have overlapped in prior employment, university, social clubs, or non-profit organizations. We define a dummy variable, "*Connected*", which equals one if a newly appointed director has previous

connections with current members of a board. Column (5) of Panel A suggests that in general female directors are less likely to have connections with current board members relative to their male counterparts and become even more so when public attention to gender equality increases, suggesting that public attention makes firms more open to female candidates outside their board network.

3.3 Qualifications and Experiences

Panel B of Table 8 examines how gender differences in directors' general qualifications and leadership experience vary with public attention to gender equality. All the experience variables reflect a director's cumulative experience up to the current board appointment. The first three columns in Panel B of Table 8 suggest that compared to male directors appointed by the same firm in the same year, female directors are on average younger, but are more likely to have obtained advanced educational degrees (above college) and professional awards, consistent with the findings of Ahern and Dittmar (2012). Public attention to gender equality does not affect gender differences in these characteristics for newly appointed directors.

Columns (4)-(7) in Panel B show that compared to male directors, female directors are expectedly less likely to have top leadership experience as CEO, top executive, or board chairman. They also have sat on the boards of fewer companies before the appointment.[4] Following

[4] Note that "*# of Boards Previously Served*" in Panel B of Table 8 is different from "*# of Other Boards*" in Panel A of Table 8, as the former reflects the cumulative board experience of an individual up to the current board appointment and it includes experiences in boards of public, private or non-profit companies, while the latter only reflects current board appointments and it includes only listed companies.

heightened public attention to gender equality, newly appointed female directors are even less likely to have CEO experience, but they are more likely to have prior board experience. Overall, there is no systematic widening of the gender leadership gap following an increase in public attention to gender equality.

Columns (8)-(14) of Table 8, Panel B explore several other dimensions of the director's background. The results again indicate that there are gender differences in director experience. Compared to male directors appointed by the same firm at the same time, female directors tend to have worked in fewer industries, are less likely to have finance or military experience, but more likely to have prior experience in government, academia, and non-profit organizations, such as charities and clubs. Public attention to gender equality does not change the extent of these differences.

Overall, the results in Table 8 suggest that following an increase in public attention to gender equality, listed companies' boards tend to reach out to a broader pool of female candidates, including women from other industries and women outside the existing board members' connection circle. There is however no obvious change in the qualifications of newly appointed female directors relative to their male counterparts, suggesting that there are no obvious limits to the supply of eligible female directors.

However, women appear to bring different skills to the board as is consistent with the findings of Kim and Starks (2016). Thus, women could be hired for different tasks and their skills could become redundant as firms add more women to their boards. To evaluate this, Table 9 explores how female directors are assigned to committees and whether their responsibilities vary

with public attention to gender equality. We consider all directors during their tenure on listed company boards, not just newly appointed directors. The first four columns consider the probability that a director serves on a key board committee. Female directors are as likely as male directors to be on the compensation committee and the audit committee. This propensity does not vary with public attention to gender equality and is obtained controlling for director tenure. Female directors are more likely to be assigned to the nomination committee, and again public attention to gender equality does not change the gender difference. Female directors are less likely to be on the executive committee, indicating that there are few female executives on the board. However, this tendency is mitigated by an increase in public attention to gender equality. Overall, firms appear to use the skills of their female directors to the same extent as those of their male colleagues.

In columns (5)-(6), female directors appear to be less likely to have leadership roles (e.g., to chair a committee or be the Chairman of the Board), which resonates with the findings of Field, Souther and Yore (2020). However, heightened public attention to gender equality tends to increase the probability of women obtaining leadership roles on the board. A one-standard-deviation increase in public attention corresponds to a 19% reduction of the gender gap in board committee chair positions and a 12% reduction of the gender gap in the board chairman position.

Overall, these results are consistent with the positive announcement returns upon female director appointments during period of high public attention to gender equality: Broadening the female directors' pool does not appear to dilute the board's skills, but rather leads to the appointment of directors that can effectively contribute to the boards on which they serve.

3.4 Connections and Recruiting Policies

As shown in Table 1 Panel B, 20% of the directors of the listed companies in our sample belong to the social circle of existing board members because they overlapped in previous jobs, educational programs, or social activities. Thus, individuals with prior connections to current directors are a relevant pool from which firms select new directors.

Existing literature suggests that hiring through connections can be efficient because it reduces information asymmetry and search costs (Hensvik and Nordström Skans, 2016). Newly appointed female directors may be less likely to be connected to current board members than their male counterparts because the networks of current directors mostly include men. Firms with high demand for female directors may be willing to go a long way to identify suitable candidates and appoint unconnected women, even if this implies overcoming search costs and information asymmetries.

However, network-based appointments can also accentuate homophilistic biases if current directors prefer to interact with their male acquaintances and consider them more qualified or simply more likable than women.[5] Thus, it is unclear if the different propensity of newly appointed male and female directors to be connected to current board members is driven by demand or supply factors.

To explore this issue, we focus on all individuals in Boardex that are connected to existing board members of listed companies because of past overlaps in previous jobs, during their

[5] Homophilistic biases refer to the tendency of individuals to associate, interact, and bond with others who possess similar characteristics and backgrounds, including gender (e.g., McPherson, Smith-Lovin, and Cook, 2001; Gompers, Mukharlyamov, and Xuan, 2016; Ewens and Townsend, 2019).

university education, or in some other activities. This sample includes not only individuals who serve or have served on the boards of listed companies, but also individuals on the boards of private firms and non-profit organizations.

Controlling for individuals' qualifications and experience, we ask whether there are any gender differences in the probability that these connected individuals are appointed to the board of a listed company. If boards were to strive to identify female candidates, ceteris paribus, connected female directors should be more likely to be appointed to the boards of listed companies than connected male candidates. If instead biases prevailed when new appointees come from the current directors' social circle, women with connections should be less likely to be appointed to the board of listed companies than similarly qualified men. We also explore how public attention to gender equality affects gender differences, if any, in connected directors' appointments.

The results are reported in Table 10. All specifications include interactions of firm and time fixed effects, which fully absorb firm-specific shocks. Column (1) of Panel A shows that compared to connected male directors, connected female directors are less likely to be appointed to the board of a listed company. Such gender differences are somewhat reduced, but still statistically significant in column (2), when we control for the nature of the directors' previous experiences, for whether the potential candidate ever held a board appointment in a listed company, for the number of positions held in the past, proxied using job titles, and for the director age. Given the small probability that any connected director is appointed, the coefficient estimate in column (2) implies that connected women are 10% less likely to be appointed to the board of a listed company than connected men. This suggests that search costs are unlikely to play a role in explaining female

board under-representation as connected women, which are as easy to identify as their male counterparts, are less likely to be appointed.

Column (3) explores how the propensity to appoint connected directors of different genders varies with public attention to gender equality. Since public attention does not change the quality of past connections, an increase in the probability that connected women are appointed relative to connected men would indicate a change in selection practices and ultimately an increase in demand.

We find that when public attention to gender equality is higher, connected female directors become relatively more likely to be appointed. As shown in Table 7, during these periods, female directors' appointments generate higher abnormal returns than male directors' appointments, suggesting that women are not inferior to connected men along some unobserved characteristics. Heightened public attention to gender equality thus appears to mitigate homophilistic biases. However, connections favor the appointment of female over male directors only when public attention to gender equality is in the top quartile of its distribution (>0.5). The results in column (3) are qualitatively unchanged if we restrict the sample to current directors' previous connections in the boardroom of listed and unlisted companies (column 4) or, alternatively, connections through any work experiences in listed companies (column 5).

Since all potential directors have previously overlapped with current members of the board, we also examine the role played by the intensity of the connections. Women may have loose connections with members of their networks explaining why female directors are less likely to be appointed.

Existing literature highlights that directors with prior connections to the CEO tend to favor the CEO (see, e.g., Shivdasani and Yermack, 1999; Fracassi and Tate, 2012). Hence, connections with a firm's CEO may be important for director appointment. In columns (1) to (3) of Panel B, Table 10, we define "*Connections*" as a dummy variable capturing whether a director previously overlapped with a firm's current CEO. We interact this dummy with the female dummy to test for the existence of gender effects. The results suggest that individuals with prior connections to a firm's CEO are significantly more likely to be appointed to the board. However, the probability that a woman connected to the CEO is appointed is significantly lower relative to a similarly connected man. This result is unlikely to be due to gender differences in qualifications and experiences, as the effect of connections is invariant in column (2) where we control for individuals' experiences, including leadership and board experiences.

In column (3) of Panel B, we examine how public attention to gender equality affects the appointment of directors connected to the CEO. We obtain a negative and significant coefficient on the interaction between *Connections* and the *Gender Equality SVI* and a positive and significant coefficient on the triple interaction among *Female*, *Connections*, and the *Gender Equality SVI*. The sum of the two coefficients is not statistically different from zero. This result suggests that public attention to gender equality decreases the probability that connected men are appointed, while leaving the probability for connected women unchanged. Given that during periods of high public attention female directors appointments generate higher abnormal returns than male directors' appointments, public attention to gender equality appears to reduce homophilistic biases in network-based directors' appointments.

In columns (4) to (6) of Panel B, we measure the intensity of connections by counting a potential director's number of connections with current members of the board. We obtain results similar to those in columns (1)-(3). The intensity of connections to current board members helps to explain which directors are appointed to the board of a listed company. However, similarly connected women are less likely to be appointed than men. Column (6) shows that public attention to gender equality decreases the probability that connected men are appointed, while increasing the probability of appointment for connected women.

Overall, the results in Table 10 suggest that homophilistic biases can better explain the under-representation of connected women relative to connected men than search costs. Together with our earlier results that female directors appointed in periods of high public attention to gender equality are less likely to have prior connections to existing board members, the results in Table 10 suggest that public attention to gender equality increases efforts to appoint new female directors, both with and without connections.

4. Conclusion

We show that public attention to gender equality is associated with an increase in board gender diversity, but mainly in firms with a corporate culture more favorable to women. We provide evidence that the effect of public attention on these firms is likely to be driven by internal initiatives of the top management rather than by the external pressure from pro-diversity institutional investors.

During periods of heightened public attention, boards reach out to a larger pool of women (e.g., women outside the directors' network or without industry experience) but the market does not appear to view the new female directors' appointments as dilutive of the board's skills. Even firms with a less female-friendly culture are able to make value-enhancing female director appointments in periods of high public attention to gender equality. This suggests that firms do not face tight constraints in the supply of eligible female directors. Instead, public attention to gender equality appears to increase to a larger extent the demand for female directors for firms with ex ante more female-friendly culture, exacerbating differences between firms.

We also provide evidence that homophilistic biases are attenuated when public attention to gender equality increases. Together with a decrease in the reliance on social networks in directors' appointments, a decrease in homophilistic biases leads to an increase in female board representation.

Our results also shed light on the interventions that may lead to greater gender or racial equality in leadership positions. To the extent that public attention can be induced by policymakers, increasing public awareness could be an alternative intervention to quotas and other affirmative action policies, to overcome inequality and discrimination. The strength of this alternative intervention is that it avoids the cost of imposing one-size-fit-all policies. Raising public awareness is also likely to improve gender or racial equality more broadly by changing biases and stereotypes in the general population. However, increased public attention is likely to lead to divergence rather than convergence between firms regarding these social issues, suggesting that fully achieving social progress may ultimately require more formal government interventions.

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Appendix: Variable Definitions

Google Search Trend Data	
Gender Equality SVI	The average monthly Google search volume index on the term "Gender Equality" in the previous 12 months.
Board Level Data	
Board Gender Ratio	The fraction of directors that are female.
Board Size	The number of directors on the board.
Diversity Strength (Concern)	The number of diversity strengths (concerns) that a firm has divided by the total number of diversity dimensions on which the firm is evaluated. (Source: the KLD database.)
Have Female	A dummy variable that equals one if a board has female director(s) in a year, and zero otherwise.
Director Gender Exposure	The average board gender ratio in companies connected to a firm's board of directors.
Democratic (Republican) Firm	A dummy variable that equals one if a firm's headquarters are located in a state with over 60% of the votes for the Democratic (Republican) Presidential candidate in the most recent Presidential election, and zero otherwise.
Democratic (Republican) Firm 2	A dummy variable that equals one if more than 55% of a firm's political campaign contributions during an election cycle of two years goes to Democratic (Republican) candidates, and zero otherwise.
Inst. Investor Pressure	The ownership-weighted average of a firm's institutional investors' preferences towards diversity.
Share Big Three	Proportion of shares outstanding held by Blackrock, Vanguard and State Street
Small Firm	A dummy variable that equals one if a firm is in the bottom tercile of the sample distribution in terms of market value of equity, and zero otherwise.
Director Level Data	
Academia	Equals one if a director has work experience in universities, and zero otherwise.
Advanced Degree	Equals one if a director has an academic degree beyond college, and zero otherwise.
Board Chairman	Equals one if a director has been a board chairman before the appointment, and zero otherwise.
Brand New to Boardex	Equals one if a director is a new entry in the Boardex database, and zero otherwise.
Brand New to Listed Company	Equals one if a director serves as a director of a publicly traded company for the first time, and zero otherwise.
CAR[-1, +1]	The cumulative abnormal return from event day -1 to event day +1, with event day 0 being the day in which a given director's appointment is announced. The announcement dates are from Boardex. The daily abnormal return is the difference between a firm's daily stock return (including dividends) and the value-

	weighted return (including dividends) for all firms in the CRSP database.
CEO	Equals one if a director has been a CEO before the appointment, and zero otherwise.
Committee Chair	A dummy variable that equals one if a director serves as the chair of a committee during a year, and zero otherwise. Multiplied by 100 in the regressions.
Compensation (Audit, Nomination, Executive) Committee	A dummy variable that equals one if a director serves on the Compensation (Audit, Nomination, Executive) Committee during a year, and zero otherwise.
Connected	Equals one if an individual has previously overlapped with current members of the board on previous jobs, during university or in other activities, and zero otherwise.
Number of Connections to Board Members	The number of previous connections of an individual with current members of the board of a listed company.
Connection to CEO	Equals one if an individual has previously overlapped with the current CEO of a given listed company, and zero otherwise.
Director Age	The age of the director based on his or her birth year.
Director Tenure	Tenure of a director on the board.
Executive	Equals one if a director has been a top executive (CEO, CFO, COO, President, founder, or Chairman) before the appointment, and zero otherwise.
Female	Equals one if an individual is a woman, and zero otherwise.
Finance	Equals one if an individual has work experience or board experience in the finance industry, and zero otherwise.
Government	Equals one if an individual has work experience in government, and zero otherwise.
Listed Company	Equals one if a director has experience in listed companies before the appointment, and zero otherwise.
Military	Equals one if an individual has work experience in the military, and zero otherwise.
No Industry Experience	Equals one if a director has no experience in the current board's 2-digit SIC industry before the appointment, and zero otherwise.
Professional Awards	Equals one if a director has professional awards, and zero otherwise.
Social	Equals one if an individual has work experience in non-profit organizations, such as charities and clubs, and zero otherwise.
# of Boards Previously Served	Number of distinctive boards (including those of public and private companies) a director has served before the appointment.
# of Other Board Seats	The number of other listed companies' boards on which a director currently serves.
# of Positions	Number of previous positions (job titles) held by an individual.

Table 1: Summary Statistics

This table presents summary statistics for the different samples used in the empirical analysis.

Panel A: Google Search Trend Data

	# of Obs.	Mean	Median	Std. Dev.
Gender Equality SVI	156	0.366	0.288	0.166

Panel B: BoardEx Data

Firm Level	# of Obs.	Mean	Median	Std. Dev.
Board Gender Ratio	51,399	0.104	0.100	0.111
Diversity Strength	24,844	0.074	0.000	0.179
Diversity Concern	27,467	0.177	0.000	0.227
Have Female	49,831	0.559	1.000	0.497
Director Gender Exposure	49,831	0.080	0.000	0.125
Democratic Firm	51,399	0.277	0.000	0.448
Republican Firm	51,399	0.069	0.000	0.254
Democratic Firm 2	51,399	0.021	0.000	0.144
Republican Firm 2	51,399	0.080	0.000	0.271
Log(Board Size)	51,399	2.038	2.079	0.349
Inst. Investor Pressure	38,316	0.061	0.031	0.076
Share Big Three	38,316	0.076	0.055	0.073
Director Level (Newly Appointed, Listed companies)				
Female	47,804	0.128	0.000	0.334
Brand New to Boardex	47,804	0.305	0.000	0.461
Brand New to Listed Company	47,804	0.597	1.000	0.491
# of Other Board Seats	47,804	1.029	0.000	4.128
No Industry Experience	47,804	0.200	0.000	0.400
Connected	47,804	0.205	0.000	0.403
Director Age	47,557	55.92	56.00	9.227
Advanced Degree	47,804	0.158	0.000	0.365
Professional Awards	47,804	0.333	0.000	0.471
CEO	47,804	0.278	0.000	0.448
Executive	47,804	0.614	1.000	0.487
Board Chairman	47,804	0.272	0.000	0.445
# of Boards Previously Served	47,804	3.682	2.000	4.942
Listed Company	47,804	0.502	1.000	0.500
# of Industries	47,804	3.609	3.000	2.759
Military	47,804	0.031	0.000	0.173
Government	47,804	0.125	0.000	0.331
Academia	47,804	0.126	0.000	0.333
Social	47,804	0.043	0.000	0.202
Finance	47,804	0.503	1.000	0.500
CAR[-1,+1]	13,476	0.003	0.000	0.068
Director Level (All, Listed companies)				

Female	321,406	0.121	0.000	0.326
Compensation Committee	321,406	0.510	1.000	0.500
Audit Committee	321,406	0.560	1.000	0.496
Nomination Committee	321,406	0.469	0.000	0.499
Executive Committee	321,406	0.142	0.000	0.349
Committee Chair	321,406	0.456	0.000	0.498
Board Chairman	321,406	0.065	0.000	0.247
Director Age	321,406	68.54	69.00	9.289
Director Tenure	321,406	7.795	6.000	6.259
Advanced Degree	321,406	0.151	0.000	0.358
Professional Awards	321,406	0.377	0.000	0.485
# of Other Board Seats	321,406	1.199	0.000	4.755
CEO Experience	321,406	0.315	0.000	0.465
Director Level (All connected directors)				
Appointed(%)	272,996,290	0.003	0.000	0.580
Female	272,996,290	0.140	0.000	0.347
Connection to the CEO	272,996,290	0.074	0.000	0.262
Connections	272,996,290	1.344	1.000	1.113
Executive Experience	272,996,290	0.356	0.000	0.479
Military	272,996,290	0.006	0.000	0.078
Government	272,996,290	0.050	0.000	0.217
Academia	272,996,290	0.067	0.000	0.249
Social	272,996,290	0.021	0.000	0.142
Listed Company	272,996,290	0.094	0.000	0.291
Director Age	272,996,290	62.50	62.00	10.10
# of Positions	272,996,290	0.736	0.000	2.053

Table 2: Public Attention to Gender Equality, Corporate Culture, and Board Gender Ratio

In this table, the dependent variable is "Board Gender Ratio". "Gender Equality SVI" is the average Google search intensity of the term "Gender Equality" in the prior year (scaled by 100). "Diversity Strength (Concern)" is the number of diversity strengths (concerns) that a firm has divided by the total number of diversity dimensions on which the firm is evaluated. All remaining variables are defined in the Appendix. Standard errors are clustered by firm and by year. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

Dependent Variable	Gender Ratio		
Sample period	Full Sample		Up to 2013
	(1)	(2)	(3)
Gender Equality SVI	0.110***		
	(0.011)		
Diversity Strength		0.000	-0.037
		(0.014)	(0.029)
Diversity Strength * Gender Equality SVI		0.086***	0.212*
		(0.026)	(0.112)
Diversity Concern		-0.002	0.045*
		(0.019)	(0.022)
Diversity Concern * Gender Equality SVI		-0.136***	-0.274***
		(0.037)	(0.081)
Log(Board Size)	0.011**	-0.002	0.002
	(0.004)	(0.005)	(0.004)
Firm FE	Yes	Yes	Yes
Year FE		Yes	Yes
Observations	51,346	24,277	20,253
Adjusted R-squared	0.743	0.775	0.803

Table 3: Reverse Causality

In this table, the dependent variable is "Board Gender Ratio". "Predicted Gender Equality SVI" is the predicted average Google search intensity of the term "Gender Equality" in the prior year (scaled by 100) using public attention to "Sheryl Sandberg", "Hilary Clinton", "Women's March" and the "MeToo" movement, respectively. All remaining variables are defined in the Appendix. Standard errors are clustered by firm and by year. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

	Board Gender Ratio	
	(1)	(2)
Predicted Gender Equality SVI	0.227***	
	(0.040)	
Diversity Strength * Predicted Gender Equality SVI		0.218*
		(0.108)
Diversity Concern * Predicted Gender Equality SVI		-0.293***
		(0.077)
Diversity Strength		-0.050
		(0.039)
Diversity Concern		0.059*
		(0.028)
Log(Board Size)	0.013***	-0.001
	(0.004)	(0.005)
Firm FE	Yes	Yes
Year FE		Yes
Observations	51,346	24,277
Adjusted R-squared	0.744	0.775

Table 4: The Role of Institutional Investors

In this table, the dependent variable is "Board Gender Ratio". "Inst. Investor Pressure" is the ownership weighted average of a firm's institutional investors' portfolio diversity scores. For each institutional investor, we calculate the portfolio diversity score as the ownership weighted average of its portfolio firms' diversity scores (defined as the average of diversity strengths minus the average of diversity concerns). "Share Big Three" is the total percentage ownership held by the largest three institutional investors of a firm. All remaining variables are defined in the Appendix. Standard errors are clustered by firm and by year. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

	Board Gender Ratio		
	(1)	(2)	(3)
Gender Equality SVI	0.114***		
	(0.012)		
Inst. Investor Pressure	0.001		0.007
	(0.050)		(0.027)
Share Big Three		0.034	
		(0.027)	
Share Big Three*After 2016		0.053**	
		(0.018)	
Diversity Strength * Gender Equality SVI		0.100***	0.090***
		(0.026)	(0.028)
Diversity Concern * Gender Equality SVI		-0.131**	-0.106**
		(0.043)	(0.041)
Diversity Strength * Inst. Investor Pressure			-0.020
			(0.028)
Diversity Concern * Inst. Investor Pressure			0.104**
			(0.034)
Diversity Strength		-0.007	-0.001
		(0.012)	(0.016)
Diversity Concern		-0.002	-0.020
		(0.020)	(0.019)
Log(Board Size)	0.009*	0.000	0.000
	(0.004)	(0.004)	(0.004)
Firm FE	Yes	Yes	Yes
Year FE		Yes	Yes
Observations	38,059	20,931	20,931
Adjusted R-squared	0.746	0.777	0.777

Table 5: The Role of Top Management

In this table, the dependent variable is "Board Gender Ratio". "Have Female" is a dummy variable that equals one if a board has female director(s) in the prior year, and zero otherwise. "Director Gender Exposure" is the average board gender ratio in companies connected to a firm's board of directors. "Democratic (Republican) Firm" is a dummy variable that equals one if a firm's headquarters are located in a state that voted in favor of (>60%) of a Democratic (Republican) Presidential candidate in the most recent Presidential election, and zero otherwise. "Democratic (Republican) Firm 2" is a dummy variable that equals one if more than 55% of a firm's political campaign contributions go to Democratic (Republican) candidates. Standard errors are clustered by firm and by year. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

	Board Gender Ratio			
	(1)	(2)	(3)	(4)
Have Female	0.075***			
	(0.006)			
Have Female * Gender Equality SVI	0.071***			
	(0.020)			
Director Gender Exposure		-0.015		
		(0.010)		
Director Gender Exposure * Gender Equality SVI		0.105***		
		(0.033)		
Democratic Firm			-0.004	
			(0.003)	
Democratic Firm * Gender Equality SVI			0.013**	
			(0.006)	
Republican Firm			-0.003	
			(0.003)	
Republican Firm * Gender Equality SVI			0.013	
			(0.009)	
Democratic Firm 2				-0.016**
				(0.006)
Democratic Firm 2* Gender Equality SVI				0.044**
				(0.019)
Republican Firm 2				-0.000
				(0.004)
Republican Firm 2* Gender Equality SVI				0.013
				(0.010)
Log(Board Size)	-0.009**	0.007**	0.009***	0.010***
	(0.003)	(0.003)	(0.002)	(0.003)
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	49,746	49,746	51,346	51,346
Adjusted R-squared	0.811	0.759	0.757	0.757

Table 6: Evaluating Supply Constraints and Other Robustness

In this table, the dependent variable is "Board Gender Ratio". "Gender Equality SVI" is the average Google search intensity of the term "Gender Equality" in the prior year (scaled by 100). "Diversity Strength (Concern)" is the number of diversity strengths (concerns) of a firm divided by the total number of diversity dimensions on which the firm is evaluated. "Small Firm" is a dummy variable that equals one if a firm is in the bottom tercile of the sample distribution in terms of market value of equity, and zero otherwise. All remaining variables are defined in the Appendix. Standard errors are clustered by firm and by year. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

	Board Gender Ratio		
	(1)	(2)	(3)
Diversity Strength	-0.006	0.000	-0.004
	(0.010)	(0.014)	(0.014)
Diversity Strength*Gender Equality SVI	0.082***	0.086***	0.096***
	(0.021)	(0.026)	(0.027)
Diversity Concern	-0.005	-0.002	0.009
	(0.023)	(0.019)	(0.020)
Diversity Concern*Gender Equality SVI	-0.139**	-0.136***	-0.173***
	(0.048)	(0.038)	(0.043)
Log(Board Size)	0.002	-0.002	0.023**
	(0.005)	(0.005)	(0.008)
Small Firm		0.005	
		(0.009)	
Small Firm*Gender Equality SVI		-0.030	
		(0.037)	
Log(Board Size)*Gender Equality SVI			-0.080***
			(0.018)
Firm FE	Yes	Yes	Yes
Year FE		Yes	Yes
State-Industry-Year FE	Yes		
Observations	19,286	24,277	24,277
Adjusted R-squared	0.769	0.775	0.776

Table 7: Value Effects of Female Directors' Appointments

The dependent variable, CAR[-1,+1], is the cumulative abnormal return from event day -1 to event day +1, with event day 0 being the day in which a given director's appointment is announced. The abnormal return is calculated as the difference between a firm's daily return and the value-weighted market return. "High Public Attention" equals one if the average public attention to gender equality in the 12 months prior to a director appointment announcement is in the top quartile of the sample distribution. All remaining variables are defined in the Appendix. Column (3) includes announcement date fixed effects. Column (4) includes only the firm-date observations with single director announcement. Column (5) focuses on the subsample of firm-years with the need to replace a female director, which is defined as having a net decrease in the number of female directors in the year or in the prior year. Column (6) focuses on the subsample of firm-years with no need to replace a female director. Standard errors are clustered by year. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

	CAR[-1,+1]						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Subsamples				Single Appointment Announcement	Female Director Replacement	Female Director Addition	
Female	-0.003*	-0.002	-0.003**	-0.002*	0.003	-0.003**	-0.004*
	(0.001)	(0.002)	(0.001)	(0.001)	(0.003)	(0.001)	(0.002)
Female*High Public Attention	0.004**	0.004*	0.004**	0.003**	-0.005	0.004**	0.005*
	(0.002)	(0.002)	(0.001)	(0.001)	(0.006)	(0.002)	(0.002)
High Public Attention	-0.001	-0.001		-0.001	0.001	-0.002	0.001
	(0.002)	(0.002)		(0.002)	(0.003)	(0.002)	(0.002)
Female*High Public Attention*Diversity Strength							-0.013
							(0.015)
High Public Attention*Diversity Strength							-0.005
							(0.011)
Female*Diversity Strength							0.013
							(0.013)
Diversity Strength							0.003
							(0.011)
Female*High Public Attention*Diversity Concern							0.015*
							(0.008)
High Public Attention*Diversity Concern							-0.018***

				CAR[-1,+1]			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Subsamples				Single Appointment Announcement	Female Director Replacement	Female Director Addition	
							(0.004)
Female*Diversity Concern							-0.001
							(0.006)
Diversity Concern							0.006
							(0.003)
Log(Director Age)		0.001					
		(0.003)					
Advanced Degree		-0.002*					
		(0.001)					
Professional Achievement		-0.001					
		(0.001)					
# of Other Board Seats		-0.000					
		(0.001)					
CEO		-0.000					
		(0.001)					
Date FE			Yes				
Observations	16,575	14,142	16,140	11,768	1,993	12,543	10,048
Adj. R-Squared	0.001	0.001	0.080	0.001	0.001	0.001	0.001

Table 8: Public Attention to Gender Equality and Characteristics of Newly Appointed Directors

This table reports the effect of public attention to gender equality on the characteristics of newly appointed directors. The dependent variables capture various characteristics and qualifications of a newly appointed director at the time of his or her appointment. In Panel A, "Brand New to Boardex" indicates that a director has not held any corporate directorships even in unlisted companies in Boardex at the time of appointment. "Brand New to Listed Company" indicates that a director serves as a publicly traded company director for the first time. "# of Other Board Seats" is the number of listed companies' boards on which a director currently serves other than the given appointment. "No Industry Experience" indicates that the director has no experience in the current board's (2-digit SIC) industry before the appointment. "Connected" indicates that the director has overlapped with the existing director(s) before the appointment. In Panel B, "Advanced Degree" is a dummy variable that takes value equal to one if a director has an academic degree more advanced than college. "Professional Awards" is a dummy variable that takes value equal to one if a director has won professional awards. "CEO/Top Executive/Board Chairman" indicates that a director has been a CEO/top executive/board chairman before the appointment. "# of Boards Previously Served" is the number of distinctive boards (of public or private companies) in which a director has served before the appointment. "Quoted Company" indicates that the director has experience in publicly traded companies before the appointment. "# of Industries" is the number of distinctive (2-digit SIC) industries in which a director gained experience before the appointment. "Military/Government/Academia/Social/Finance" indicates that a director has military/government/academia/social (e.g., charities, clubs, sporting companies)/finance sector (banking, insurance, private equity, investment companies, other specialty finance) experience. "Gender Equality SVI" is the average Google search intensity of the term "Gender Equality" during the 12 months before a director's appointment starts (scaled by 100). "Female Director" indicates that the director is a female. Director age is the age of the director based on his or her birth year. All remaining variables are defined in the Appendix. The standard errors are clustered by firm and by year. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

Panel A: Does Public Attention to Gender Equality Broaden the Female Director Pool?

	(1) Brand New to Boardex	(2) Brand New to Listed Company	(3) # of Other Board Seats	(4) No Industry Experience	(5) Connected
Female	0.057***	0.028**	0.167***	-0.021***	-0.039***
	(0.013)	(0.014)	(0.060)	(0.007)	(0.010)
Female *Gender Equality SVI	0.072	0.185*	-0.675**	0.058**	-0.168*
	(0.098)	(0.097)	(0.317)	(0.026)	(0.087)
Gender Equality SVI	0.759**	-0.111	0.226	0.094	-0.293
	(0.310)	(0.311)	(0.698)	(0.107)	(0.289)
Log(Director Age)	-0.199***	-0.640***	1.118***	-0.041***	0.038**
	(0.024)	(0.026)	(0.064)	(0.014)	(0.017)
Firm-Year FE	Yes	Yes	Yes	Yes	Yes
Observations	42,683	42,683	42,683	42,683	42,683
Adjusted R-squared	0.252	0.257	0.920	0.595	0.452

Panel B: General Experiences and Qualifications

	(1) Log(Age)	(2) Advanced Degree	(3) Professional Achievement	(4) CEO	(5) Executive	(6) Board Chairman	(7) # of Boards Previously Served
Female	-0.041***	0.088***	0.164***	-0.112***	-0.105***	-0.150***	-0.962***
	(0.005)	(0.013)	(0.015)	(0.013)	(0.015)	(0.012)	(0.133)
Female *Gender Equality SVI	0.012	-0.121	0.124	-0.175*	0.020	-0.134	1.955*
	(0.033)	(0.093)	(0.108)	(0.100)	(0.105)	(0.088)	(1.055)
Gender Equality SVI	-0.165	-0.113	-0.443	0.035	-0.168	-0.490	-4.933
	(0.116)	(0.252)	(0.308)	(0.336)	(0.304)	(0.302)	(3.009)
Log(Director Age)		-0.046**	0.362***	0.034	0.195***	0.446***	2.375***
		(0.021)	(0.025)	(0.025)	(0.028)	(0.025)	(0.308)
Firm-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	42,683	42,683	42,683	42,683	42,683	42,683	42,683
Adjusted R-squared	0.082	0.043	0.142	0.055	0.116	0.066	0.011

	(8) Listed Company	(9) # of Industries	(10) Military	(11) Government	(12) Academia	(13) Social	(14) Finance
Female	0.003	-0.210***	-0.020***	0.059***	0.056***	0.029***	-0.034**
	(0.014)	(0.080)	(0.004)	(0.011)	(0.011)	(0.007)	(0.015)
Female *Gender Equality SVI	-0.133	-0.462	0.023	-0.023	-0.118	-0.030	0.114
	(0.088)	(0.589)	(0.027)	(0.080)	(0.076)	(0.048)	(0.103)
Gender Equality SVI	0.046	-3.155*	-0.034	-0.128	-0.176	-0.065	-0.212
	(0.285)	(1.793)	(0.089)	(0.215)	(0.224)	(0.143)	(0.323)
Log(Director Age)	0.380***	2.294***	0.116***	0.199***	0.187***	0.069***	0.006
	(0.026)	(0.171)	(0.011)	(0.018)	(0.018)	(0.012)	(0.027)
Firm-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	42,683	42,374	42,683	42,683	42,683	42,683	42,683
Adjusted R-squared	0.262	0.070	0.036	0.091	0.020	0.010	0.185

Table 9: Public Attention to Gender Equality and Director Responsibilities

This table reports the effect of public attention to gender equality on a director's probability of serving on a particular board committee, as the chair of a board committee or of the Board. All dependent variables are indicated on top of each column. All variables are defined in the Appendix. The standard errors are clustered by firm and by year. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

	(1) Compensation Committee	(2) Audit Committee	(3) Nomination Committee	(4) Executive Committee	(5) Committee Chair	(6) Board Chairman
Female	0.012	0.022	0.047***	-0.068***	-0.069***	-0.066***
	(0.013)	(0.014)	(0.011)	(0.008)	(0.013)	(0.004)
Female*Gender Equality SVI	-0.009	0.003	-0.011	0.032**	0.081***	0.049***
	(0.026)	(0.028)	(0.024)	(0.015)	(0.028)	(0.008)
Log(Director Age)	0.106***	0.132***	0.164***	-0.029***	0.179***	0.074***
	(0.017)	(0.019)	(0.016)	(0.010)	(0.017)	(0.009)
Log(Director Tenure)	0.052***	-0.022***	0.058***	0.059***	0.148***	0.012***
	(0.003)	(0.003)	(0.003)	(0.002)	(0.003)	(0.002)
Advanced Degree	0.010	-0.017**	0.024***	-0.008*	0.004	-0.003
	(0.007)	(0.007)	(0.006)	(0.004)	(0.006)	(0.003)
Professional Achievement	0.019***	-0.108***	0.032***	0.001	-0.018***	0.011***
	(0.005)	(0.006)	(0.005)	(0.003)	(0.005)	(0.003)
# of Other Board Seats	0.009***	0.008***	0.010***	-0.005***	0.022***	0.001
	(0.002)	(0.002)	(0.001)	(0.001)	(0.003)	(0.001)
CEO Experience	-0.008	-0.098***	-0.050***	0.051***	-0.043***	0.053***
	(0.005)	(0.006)	(0.005)	(0.003)	(0.005)	(0.003)
Firm-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	321,406	321,406	321,406	321,406	321,406	321,406
Adj. R-squared	0.087	0.011	0.240	0.342	0.028	0.087

Table 10: Connections and Director Appointments

In this table, the dependent variable is equal to 100 if director *j* is appointed to the board of listed company *i* in year *t* and equal to zero if the potential director is not appointed. Potential directors of listed company *i* include any individuals in Boardex that have previously overlapped with the current directors of listed company *i*. The current directors of listed company *i* are excluded. In column 4 and 5 of Panel A, we restrict the sample to previous connections that entail sitting on the same board and previous work connections in listed companies, respectively. In Panel B, "Connections" is a dummy variable capturing whether a potential director *j* has a prior connection with the current CEO of firm *i* in columns (1) to (3), and it is the number of connections between the potential director *j* and a company's existing directors in columns (4) to (6). "Gender Equality SVI" is the average Google search intensity of the term "Gender Equality" in the prior year. All remaining variables are defined in the Appendix. Standard errors are clustered by firm and by year. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

Panel A. Basic Findings

	% Appointed				
Sample	All connections			Directors Only	Listed Companies Only
	(1)	(2)	(3)	(4)	(5)
Female	-0.0005***	-0.0003***	-0.001***	-0.001***	-0.005***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
Female*Gender Equality SVI			0.002***	0.003***	0.007***
			(0.001)	(0.001)	(0.001)
Executive Experience		0.003***	0.003***	0.001***	0.006***
		(0.000)	(0.000)	(0.000)	(0.000)
Social		-0.002***	-0.002***	-0.000	-0.002*
		(0.000)	(0.000)	(0.000)	(0.001)
Academic		-0.001***	-0.001***	-0.000	0.000
		(0.000)	(0.000)	(0.000)	(0.001)
Government		-0.000***	-0.000***	0.000*	0.002**
		(0.000)	(0.000)	(0.000)	(0.001)
Military		-0.001***	-0.001***	-0.001**	0.001
		(0.000)	(0.000)	(0.000)	(0.003)
Listed Company		0.003***	0.003***	0.001***	0.004***
		(0.000)	(0.000)	(0.000)	(0.000)
Log(Director Age)		0.003***	0.002***	0.003***	0.011***
		(0.000)	(0.000)	(0.000)	(0.001)
# of Positions		0.000***	0.000***	0.000**	0.001***
		(0.000)	(0.000)	(0.000)	(0.000)
Firm-Year FE	Yes	Yes	Yes	Yes	Yes
Observations	272,996,290	272,996,290	272,996,290	99,684,644	80,364,991
Adjusted R-squared	0.001	0.001	0.001	0.003	0.006

Panel B. Intensity of Connections

	%Appointment					
Connections:	Connection to the CEO			Number of Connections to Board Members		
	(1)	(2)	(3)	(4)	(5)	(6)
Female	-0.000	-0.0002**	-0.001**	0.001	0.001*	0.004***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
Connections	0.003***	0.003***	0.005***	0.007***	0.007***	0.009***
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
Female*Connections	-0.001***	-0.001***	-0.004***	-0.004***	-0.001**	-0.001**
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)
Connections*Gender Equality SVI			-0.005***			-0.006***
			(0.001)			(0.001)
Female*Connections* Gender Equality SVI			0.006***			0.008***
			(0.002)			(0.002)
Female*Gender Equality SVI			0.002***			-0.009***
			(0.000)			(0.003)
Executive Experience		0.003***	0.003***		0.003***	0.003***
		(0.000)	(0.000)		(0.000)	(0.000)
Social		-0.002***	-0.002***		-0.002***	-0.001***
		(0.000)	(0.000)		(0.000)	(0.000)
Academic		-0.001***	-0.001***		-0.001***	-0.001***
		(0.000)	(0.000)		(0.000)	(0.000)
Government		-0.000**	-0.000**		-0.000**	-0.000
		(0.000)	(0.000)		(0.000)	(0.000)
Military		-0.001***	-0.001***		-0.001***	-0.005***
		(0.000)	(0.000)		(0.000)	(0.000)
Listed Company		0.003***	-0.000**		0.002***	0.002***
		(0.000)	(0.000)		(0.000)	(0.000)
Log(Director Age)		0.003***	0.003***		0.002***	0.001***
		(0.000)	(0.000)		(0.000)	(0.000)
# of Positions		0.000***	0.000***		0.000***	0.000***
		(0.000)	(0.000)		(0.000)	(0.000)
Firm-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	272,996,290	272,996,290	272,996,290	272,996,290	272,996,290	272,996,290
Adjusted R-squared	0.001	0.001	0.001	0.001	0.001	0.001

Figure 1: Public Attention to Gender Equality over Time

This figure plots the 12-month moving average of the monthly Google search volume index for the term "Gender Equality" between January 2005 and January 2018. In the empirical analysis, the Google search volume index is divided by 100. We highlight the peak search times for events or individuals that coincide with higher public attention to gender equality, such as the Fair Pay Debate, Sheryl Sandberg, Hillary Clinton, Women's March, and the Me Too movement.

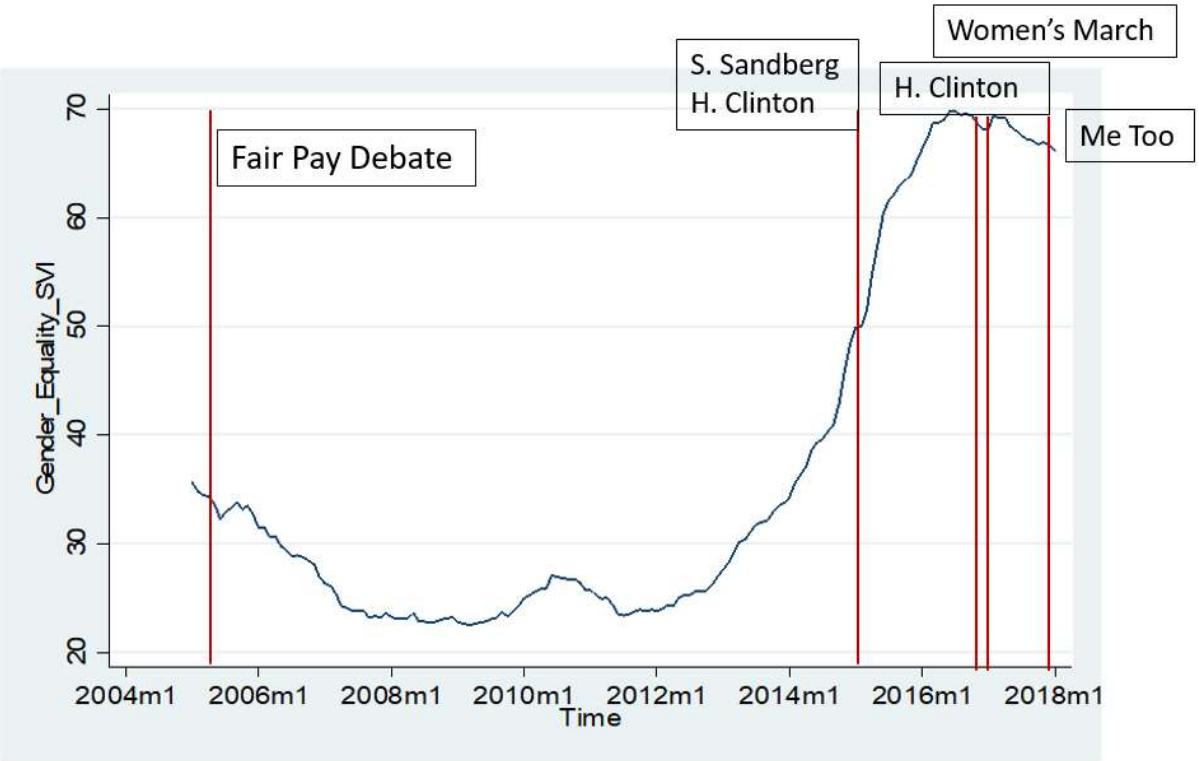
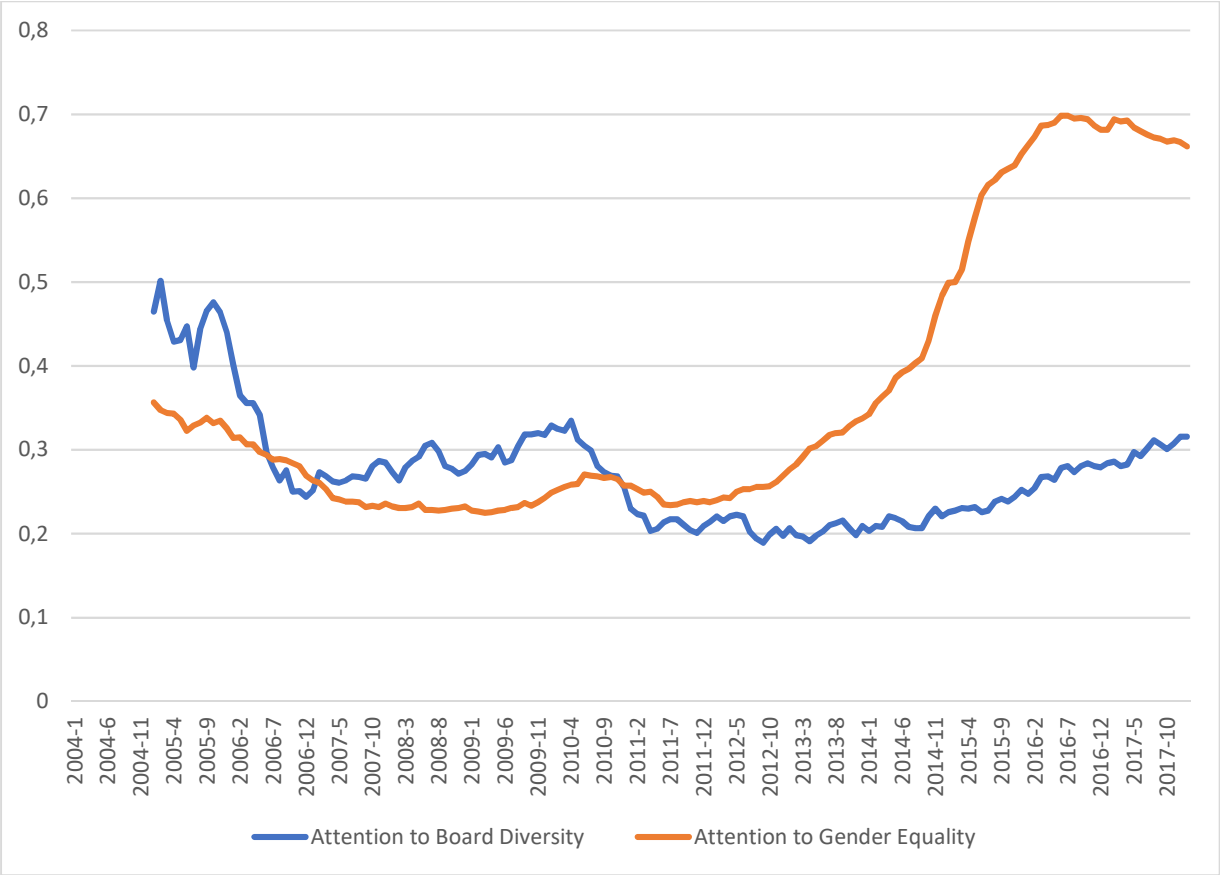


Figure 2: Public Attention to Gender Equality vs. to Board Diversity

This figure plots the 12-month moving average of the monthly Google search volume index for the term "Gender Equality" (red line) and for the term "Board Diversity" (blue line) between January 2005 and January 2018. Both Google search volume indices are divided by 100.



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