Does Mandating Women on Corporate Boards Backfire?*

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Abstract

When board gender quotas clash with gender stereotypes prevailing within an organization, do they trigger backlash and lead to worse female labor market outcomes? We examine staggered adoptions of quotas in Europe and document a significant drop in the share of female employment. Applying textual analysis to job ads in the US, we find that quota-exposed firms write less female-friendly job ads, suggesting a lower demand for female labor. This is especially true among firms that face less competition, lack female leadership, or are Republican-leaning. Evidence from employee reviews and labor-related violations pinpoints quota-triggered gender discrimination as the likely culprit.

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1 Introduction

The past two decades have witnessed major progress in female representation in the top corporate echelon, especially on corporate boards. Since 2010, the share of women on boards of the largest publicly listed European companies has more than doubled (European Institute for Gender Equality, 2022). Underpinning this progress are various board gender diversity mandates and policies, with Norway, in 2003, being the first country ever to legislate board gender quotas. While there is no doubt that such quotas can reduce gender inequality at the top, little is known about the impact of these policies on gender equality outside the boardroom. On the one hand, women at the top can cultivate a female-friendly culture and pave the way toward greater gender equality within an organization. On the other hand, empowering women through board quotas may backfire by triggering backlash, which in turn limit firms' gender-balancing efforts outside the boardroom.

Our "backlash" hypothesis traces its roots to the influential work on the interplay between laws and social norms (Benabou and Tirole, 2011; Bowles and Polania-Reyes, 2012; Acemoglu and Jackson, 2017; Wheaton, 2022). When legislative efforts clash with individuals' ideological preferences, the continuity of those preferences is under threat. To preserve those preferences and/or regain their sense of autonomy, affected individuals may endorse an ideological viewpoint in direct opposition to that dictated by law. In our setting, when "abrupt" legislative efforts such as board gender quotas clash with gender stereotypes prevailing within an organization, firms may push back by reducing gender diversity elsewhere within their organizations.

In this paper, we provide novel evidence on the unintended consequences of board gender quotas on female employment in the corporate sector using international and US data. We ask whether and how board gender quotas may create backlash and exacerbate gender gaps in employment *outside* the boardroom. In light of the Securities and Exchange Commission's (SEC) approval of Nasdaq's board diversity listing rules in 2021, and the passing of the European Union's "Women on Boards" directive in 2022, we expect our findings from both

the US and Europe to have important policy implications.

We employ two alternative research designs. In the European cross-country setting, we exploit the fact that ten countries have introduced board gender quotas since 2003, which allows us to employ a staggered difference-in-differences specification to help establish causality. Using a sample of industry-level shares of female employment in 32 European countries over the period 2008-2020, we find that the adoption of board gender quotas has been followed by a significant drop in the share of female employment across countries and industries. This effect shows up only in countries with strong enforcement of such quotas. In terms of economic significance, our results suggest that the introduction of board gender quotas has set back progress in female labor market participation by two years.

Besides facilitating reasonable causal inference, the European setting allows us to estimate a country-industry level effect by netting out firm-level adjustments, pointing to the general equilibrium nature of these estimates. However, as is typical in aggregate-level analysis, our European analysis is too coarse to delineate the mechanism through which backlash emerges or to identify any mitigating factors. For example, can the drop in female labor market participation be explained by a reduced demand for female labor from affected firms due to backlash triggered by quotas? To unpack the aggregate-level findings and provide direct evidence consistent with our backlash interpretation, a key challenge is to capture firms' gender-specific demands for labor. Most firms do not disclose the gender composition of their workforce. Even if they do, their workforce is shaped by both the supply and demand of labor.

We overcome this challenge by using granular data from online job ads, which convey important information about a firm's labor demand. While explicit discrimination against females in the recruitment process is unlawful, implicit discrimination through word choices in job ads is hard to detect. These choices are a low-cost approach to shaping the makeup of the applicant pool and satisfying a firm's labor demand. To help undercover the mechanism, our analysis employs both a new data set of job postings in the US and a novel approach to

capturing gendered language in job postings. To this end, the two settings and analyses are complementary.

We obtain job posting data over the period 2014-2020 from LinkUp, an employment intelligence company. To measure gender bias in job ads, we employ the bag-of-words approach using the gendered word list from Gaucher et al. (2011), who demonstrate that when job ads contain more masculine than feminine wording, women find those jobs less appealing. Our key measure is the share of feminine words out of all gendered words used in each job ad.

We first show that there is a negative and significant association between a firm's share of female directors and its share of feminine words in job ads, suggesting that a high share of women on boards correlates with a weaker demand for female labor. To establish causality, we use the passage of Senate Bill (SB) 826 in California (CA) in September 2018 as a laboratory. SB 826 mandated that all publicly listed companies headquartered in the state have at least one female director by the end of 2019. We employ a difference-in-differences design in which we compare CA-headquartered firms (the treatment) with non-CA-headquartered firms (the control). At the job ad level, we find that the adoption of SB 826 resulted in a four-to-five percentage-point drop in the share of feminine words out of all gendered words. We then estimate the dynamic effect of SB 826 and document little pre-trends but a clear negative post-trend. To the best of our knowledge, we provide the first piece of granular evidence on the unintended consequences of board gender quotas/policies on female labor demand. It is worth noting that our main findings are robust to including an extensive set of control variables, fixed effects, and alternative samples or ways to calculate gendered word usage in job ads.

We next investigate potential explanations for the change in firms' labor demand preferences in response to gender equality policies by exploiting heterogeneities across firms. If the reduced demand for female labor is indeed driven by (quota-triggered) gender discrimination, we would expect to see a weaker effect when gender discrimination in the workplace becomes less affordable or less likely. Becker (1957) famously argues that competitive pressure should

drive discriminating employers out of business. We find that the backlash effect is attenuated in industries with more competition. We next show that backlash is mitigated when there are more female top executives, especially when a firm has a female human resource C-suite executive (Chief Operating Officer). We further examine the role of a firm's political preference based on its contributions via political action committees (PACs) to Republican candidates as opposed to Democrat candidates. We detect stronger backlash in more conservative, Republican-leaning firms. These cross-sectional heterogeneities provide support for our backlash hypothesis and suggest gender discrimination could be a possible explanation for the reduced demand for female labor documented in this paper.

To provide direct evidence on quota-triggered gender discrimination in the workplace, ideally one would need to show changes in employee attitudes/preferences toward women in quota-exposed firms. Given that individual attitudes/preferences are typically unobservable, we resort to granular information on employee reviews as well as gender-related labor violation cases to uncover potential shifts in employee attitudes toward women. We show that after the passage of SB 826, compared to firms headquartered outside California, those headquartered in California received more negative employee reviews and poorer ratings of workplace accommodations that are important for female employees, such as diversity and inclusion, work-life balance, and respect for women. We also document that mandating women on corporate boards leads to a significant increase in both the number of and the amount of penalties paid for gender-related labor violations. Both pieces of evidence confirm that the working environment becomes more hostile to female employees, supporting our backlash hypothesis.

We conclude that board gender quotas can backfire, resulting in worse labor market outcomes for women in the corporate sector. This finding underscores the complexity in the evaluation of aggressive gender policies, pointing to the important trade-off between direct, functional consequences of these policies and potential backlash in the corporate world.

Related Literature. Our paper makes a number of contributions to existing literature.

First, our paper contributes to the burgeoning economics and finance literature studying board diversity and gender quotas. Prior work produces mixed evidence on stock market responses to board gender quotas and their effects on operating performance and corporate innovation (Nygaard, 2011; Ahern and Dittmar, 2012; Matsa and Miller, 2013; Hwang et al., 2021; Griffin et al., 2021; Gertsberg et al., 2021; von Meyerinck et al., 2021; Eckbo et al., 2022).[1] There is, however, a scarcity of research exploring how quotas affect women's labor market outcomes, especially for those not in leadership roles. We are among the first to examine whether and how mandating/promoting more women on corporate boards can surprisingly generate negative spillover effects on the female workforce, ranging from weaker demand for female labor to poorer treatment of female employees. To this end, our paper is related to Bertrand et al. (2019) who examine the effect of board quotas on female labor market outcomes in Norway—one of the most progressive countries on gender equality—and conclude that there is no robust evidence suggesting that such quotas help improve female labor market outcomes beyond women who made it into boardrooms.[2] Our paper differs from Bertrand et al. (2019) in a number of ways. First, we examine backlash in response to board gender quotas by exploiting quotas in an international setting. Second, by applying textual analysis to job posting data in the US, we establish labor demand as a key economic mechanism through which backlash materializes. Third, rich job-level data, as well as granular information on employee reviews and gender-related labor violation cases, allow us to pinpoint gender discrimination as the likely culprit.

Second, our paper adds to the fast-growing body of research that uses computational linguistic methods to gain insights into labor market dynamics and corporate outcomes. Deming and Kahn (2018) and Hershbein and Kahn (2018) are the pioneer users of job posting data to study skill requirements across firms and labor markets over time. Using job posting data, Babina et al. (2021) develop firm-level measures of AI investments to study

[1]Earlier pioneering work focuses on endogenously chosen gender diverse boards and their effects on firm outcomes, see Adams and Ferreira (2009); Levi et al. (2014); Kim and Starks (2016).

[2]Similarly, Maida and Weber (2022) evaluate the Italian board gender quota introduced in 2011 and find no evidence of spillover effects on the representation of women in top corporate positions or as top earners.

firm growth and product innovation. Applying machine learning to earnings call transcripts, Li et al. (2021) develop measures of corporate culture and relate the presence of a strong culture to shareholder value. On the basis of tens of millions of job ads, our paper is one of the first to quantify firms' preferences for one gender over another in their labor demands (see Bertrand (2020) for initial evidence on the demand for female labor). Our measures vary across different job positions within a firm and over time, thereby capturing firms' demand for female labor in a granular and timely way. We expect that our method can be applied to job ads of private firms to study their labor market demand and/or extended to other countries and in different languages.

Finally, our paper contributes to the economics literature on backlash against regulatory and legislative efforts that push for social changes. A number of papers provide evidence consistent with backlash against major social policy laws in the US, such as the 1975 revision to the Voting Rights Act (Ang, 2019) and the state Equal Rights Amendments in the 1970s (Wheaton, 2022). Existing work (Acemoglu and Angrist, 2001; Cullen and Pakzad-Hurson, 2021; Bailey et al., 2022) also cautions against laws targeting firms with social agendas, including gender equality, since firms' responses might undo the intended effects or even backfire. In the context of empowering women in business, our findings suggest that legislative tools may have unintended consequences—they can harm women's advancement in business, because firms push back by reducing their demand for female labor. Our paper thus paints a more nuanced picture of the economic consequences of board gender quotas and provides relevant input into future lawmaking and policymaking with a social agenda.

2 Background

2.1 Conceptual framework

While an extensive cultural economics literature studies the effects of culture on institutions, institutions can also profoundly influence culture (see the survey by Alesina and Giuliano (2015)). Pioneering work in legal scholarship discusses the expressive role of law and its

effects on cultural norms and attitudes (Sunstein, 1996; Cooter, 1998; Posner, 2009). Simply put, in addition to its functional role, law also plays a key role in expressing and shaping the values of a society. In economics, the theoretical literature on the effects of laws/institutions on culture provides microfoundations for potential backlash when laws conflict with prevailing social norms. Benabou and Tirole (2011) model the interplay between laws and norms and show that laws can crowd out and undermine social norms in certain scenarios, especially when the expressive role of a law is invoked. In their model, laws impose material incentives as well as signal a society's values/norms, and optimal incentive-setting can differ in the presence of social norms. Acemoglu and Jackson (2017) show that when laws clash with prevailing social norms – for example, when laws attempt to restrict people's behavior relative to the distribution of anticipated payoff-relevant behavior (i.e., a social norm) in society, more people will elect to break the law. The authors conclude that social norms are shaped by laws, even as those norms critically constrain the effectiveness of laws.

In a similar vein, Wheaton (2022) highlights a mechanism that in essence is a social version of crowd-out (Bowles and Polania-Reyes, 2012) – individuals may push back against a law as they seek to preserve their preferred norms. Specifically, when a law clashes with an individual's ideological preferences, it may spearhead backlash against the law by influencing others to espouse their own opposing ideological viewpoint. Wheaton (2022) concludes that there is an important trade-off between the direct, functional role of law and the backlash it induces among the public. He warns that any aggressive push for social change through legislation may face significant costs in terms of countervailing cultural backlash.

Empirically, using both historical data and surveys, Ang (2019) examines the long-run effects of federal oversight of election laws through the US Congress' 1975 revision to the Voting Rights Act (VRA), and finds that on the one hand, there have been lasting gains in minority participation in voting; on the other hand, there is evidence of backlash among the white majority, who have reduced their support for the Democratic party. Using survey data, Wheaton (2022) shows that after the enactment of the state Equal Rights Amendments

(ERA) of the 1970s, women in states that passed an ERA became marginally more likely to believe in women's equality, while men in those states reacted by becoming significantly less likely to do so. He points out that virtually every major US social policy law in the past 50 years, such as the legalization of abortion in the 1970s, and the legalization of gay marriage in the 2010s, has induced sharp and significant backlash.

In our setting, using the language in Acemoglu and Jackson (2017), when "abrupt" legislative efforts such as "extremely tight" board gender quotas clash with gender stereotypes regarding gender-specific skills and roles prevailing within an organization, the continuity of those preferences is under threat. To preserve those preferences and/or regain their sense of autonomy, affected individuals may elect to act in direct opposition to ideological approaches dictated by the law (Bowles and Polania-Reyes, 2012; Dobbin and Kalev, 2016; Wheaton, 2022). In practice, a wide range of employees within the affected corporations, in addition to key decision-makers, may be involved. For example, in the presence of stringent board gender quotas to promote gender equality, gender discrimination may be exercised by rank-and-file employees as a way to uphold their gender stereotypes.

2.2 Institutional background

The European setting. In 2000, only 5% of board members in public limited liability companies in Norway were women, and the pay of female directors was more than 30% lower than that of their male counterparts on the same board. To address this disparity, in December 2003 Norway passed a law requiring 40% representation of women as well as men on the board of directors of public limited liability companies. The law became compulsory in January 2006. In accordance with the law, firms that had not complied by January 2008 were dissolved.

Following Norway's lead, nine other European countries – Spain, Iceland, France, the Netherlands, Italy, Belgium, Germany, Austria, and Portugal – introduced similar laws. Based on the strength of the enforcement, the wording of the relevant law, and the institutional context in which the law is embedded, Mensi-Klarbach and Seierstad (2020) classify

these board gender quotas into soft (e.g., Spain and Iceland) versus non-soft (e.g., Norway and France). Table B1 in the Online Appendix lists quotas in Europe introduced over the period 2003-2017.

The US setting. Over the past two decades, gender diversity on corporate boards has improved steadily. Among publicly listed firms with information on board composition from BoardEx, the share of female directors has increased from about 5% in 2000 to over 20% as of 2020 (see Figure B1a). Among the largest market-capitalization companies in S&P 1500, this share has grown by even more (see Figure B1b). We also observe an acceleration in female board representation since 2017. Underpinning this acceleration are social pressure fueled by the #MeToo Movement in 2017, shareholder engagement and voting policies from asset managers in 2017 (Gormley et al., 2021), and a board gender diversity mandate in California in 2018.[3]

Our sample period is from 2014 to 2020, coinciding with the onset of ever-growing pressure from stakeholders to improve board gender diversity. We exploit the passage of SB 826 in California on September 30, 2018 for identification. The Bill requires companies listed on major US stock exchanges and headquartered in the state (over 600 firms) to have at least one female director on their boards by the end of 2019.[4]

Until the end of our sample period in 2020, there was no requirement on board gender diversity from major stock exchanges in the US or from the SEC. However, on August 16, 2021, the SEC approved Nasdaq's board diversity listing rules. Rule 5606 requires each Nasdaq-listed company to publicly disclose the level of diversity among its directors.[5] In light of this requirement, more firms in the US will need to deal with constraints imposed

[3]State Street started a policy initiative requiring at least one female director on the boards of their portfolio firms in 2017. BlackRock and Vanguard followed suit shortly thereafter. Institutional Shareholder Services (ISS) recommended against all-male boards starting in 2020.

[4]It further requires that by the end of 2021, all firms must have at least one female director if their boards have four directors or fewer, two female directors if their boards have five directors, and three female directors if their boards have six directors or more.

[5]Rule 5605(f) takes a "comply or explain" approach to board composition that requires each Nasdaq-listed company to have at least two "diverse" board members (in terms of self-identified female, "underrepresented minority," or part of the LGBTQ+ community).

by board diversity requirements going forward.

3 Data, Measurement, and Empirical Strategy

In this section, we first describe data sources and sample formation for both the European cross-country analysis and the US job-level analysis. Second, we explain how we measure gendered wording in job ads and provide a set of descriptive analyses using this new measure. Finally, we explain our empirical strategies and provide summary statistics.

3.1 Data

3.1.1 The European cross-country setting

We obtain information on board gender quotas, including passage and compliance dates, enforcement methods, and scope, from the legislature offices. We obtain data on the average share of female directors at the largest publicly listed (up to 50) firms in each European country since 2003 from the European Institute for Gender Equality (EIGE).

We next collect data on the share of female employment (men and women, age 15-64) from the Labor Force Survey (LFS) of Eurostat. LSF provides employment information at annual frequency for each industry in 32 participating countries across Europe.[6] Our industry classification follows the Statistical Classification of Economic Activities in the European Community, commonly referred to as NACE. There are 89 two-digit NACE industries in our sample. The information at the country-industry level, which first became available in 2008, determines the beginning of our sample period. Our panel data set is unbalanced, since the coverage of some countries started after 2008. Table A1 in the Online Appendix provides the list of variables, their definitions, and data sources for the European analysis.

3.1.2 The US job-level setting

Our job posting data come from LinkUp, an employment intelligence company. LinkUp has scraped job postings directly from public companies' websites since 2007; its coverage has improved significantly since 2014. LinkUp provides reliable data for large companies that

[6]The term "employed persons" refers to official employees with either full-time (over 80%) or part-time jobs.

typically post jobs on their own websites. The data include full-text descriptions of each job, information about the employer, the date of the posting, the location in which a job is posted, and basic occupation information, such as six-digit ONET Standard Occupation Classification (SOC) codes. There are two advantages to obtaining job postings directly from employer websites as opposed to third-party job boards. First, employers update their own websites more regularly than they update job boards. Second, employers post a job opening only once on their company's website, as opposed to posting the same job multiple times across various job boards. As a result, LinkUp data suffer less from stale postings or duplicate postings compared to job posting data obtained from job boards (e.g., Burning Glass data).

For each job, we match LinkUp data to Compustat to obtain firm financial information; to BoardEx to obtain board characteristics, including the share of female directors in the job posting month; and to ExecuComp to obtain information on (up to) five top executives. Our US job-level sample comprises 30 million job ads from over 3,000 unique public companies over the period 2014-2020. We discuss the coverage of LinkUp in Online Appendix B.1 – our sample using LinkUp data captures the largest firms in the economy without any industry or geographic biases. To facilitate regression analysis, most of our regression analyses employ a random one-fifteenth (1/15) of the full sample that comprises close to 2 million job ads. Table A2 in the Online Appendix provides the list of variables, their definitions, and data sources for the US analysis.

3.2 Measuring gendered wording in job ads

Gendered word dictionaries are pre-compiled word lists describing social traits and behaviors that differentiate females and males. These word lists are typically extracted from questionnaires given to college students to measure their self-concept and valuation of feminine and masculine characteristics (Bem, 1974; Rosenkrantz et al., 1968). We employ the gendered word dictionary created by Gaucher et al. (2011), based on published lists of communal (e.g., committed, supportive) and agentic words (e.g., individualistic, competitive)

as well as feminine (e.g., compassionate, understanding) and masculine trait words (e.g., ambitious, assertive).[7] Their list contains words and lemmas. Each lemma is followed by a wildcard (asterisk) that accepts all letters, hyphens, or numbers to incorporate inflectional or derivationally-related forms of a word. For example, aggress* will match aggressive and aggressiveness. For our corpus of job ads, we take standard pre-processing steps, including lower-case transforming all words, removing trailing whitespace, line break, non-English words/posts, URLs and special characters, etc.[8] We then use regular expressions to reflect the aforementioned wildcard at the end of lemmas.

For each job ad, our bag-of-words approach counts the number of feminine (masculine) words, and computes the share of feminine words over the total number of feminine and masculine words. Figure 1a (Figure 1b) shows the share of word frequency counts for the most frequent feminine (masculine) words in all feminine (masculine) word frequency counts over the entire sample period (2014-2020). We further document relatively stable shares of the most frequent gendered words over time in Figure 1c and Figure 1d.

As a sanity check, we examine whether and how gendered language usage in job ads varies with occupation-level characteristics. We start with different occupations based on a job's two-digit ONET-SOC code. Figure B5 in the Online Appendix presents a sample overview of gendered language usage in different occupations. Consistent with our intuition, we show that across the six major occupational categories, the sales and office sector and the service sector have the highest shares of feminine words in job ads, whereas the military sector has the lowest share.

Figure B6 splits the sample using four different occupation-level characteristics: job zone,

[7]Gaucher et al. (2011) show that the mere presence of wording differences may be sufficient to change individuals' appraisals of relevant jobs. For example, in their Study 4, masculinely-worded jobs are ranked 10%-20% less favorably than femininely-worded jobs by female subjects; the opposite pattern holds for male subjects. In other words, the share of female applicants in the pool of applicants can be reduced by 10%-20% due to language use in job ads. In the authors' other experiments, when job ads include more masculine than feminine wording, participants perceive more men within those occupations (Study 3), and importantly, women find those jobs less appealing (Studies 4 and 5).

[8]Table B2 in the Online Appendix provides the complete dictionary of feminine and masculine words in Gaucher et al. (2011).

mean wage, entry education requirement, and STEM occupations or not. We show that jobs requiring more preparation (Figure B6a), offering above-the-median pay (Figure B6b), requiring above-the-median levels of education (Figure B6c), or being in STEM sectors (Figure B6d) tend to employ more masculine words in job ads than jobs requiring less preparation, offering below-the-median pay, requiring below-the-median levels of education, or not being in STEM sectors.

3.3 Empirical strategy

3.3.1 Industry-level analysis in Europe

Our European cross-country sample comprises a *country* × *industry* × *year* panel over the period 2008-2020. To examine the effect of board gender quotas on female labor market participation, we first employ the following staggered difference-in-differences (DID) regression specification:

$$Y_{j,l,t} = \boldsymbol{\gamma_{j,l}} + \boldsymbol{\delta_{l,t}} + \boldsymbol{\alpha_{k,t}} + \beta \times Quota_{j,t} + \boldsymbol{\theta' X_{j,t}} + \varepsilon_{j,l,t} \quad (1)$$

where j denotes country, l denotes two-digit NACE industry, k denotes region (i.e., Europe is divided into east/west/south/north regions), and t denotes year. The dependent variable is the share of female employees in country j, industry l, and year t, which captures the gender employment gap in each industry-year. The treatment indicator, $Quota_{j,t}$, takes the value of one if country j has implemented a board gender quota policy by year t, and zero otherwise.

Country-level control variables, denoted by $X_{j,t}$, are female population share, log (population), population growth, log (GDP per capita), and GDP per capita growth. We include several sets of fixed effects in the regression, starting with industry fixed effects and country fixed effects. We include country × industry fixed effects ($\gamma_{j,l}$) in the regression to absorb time-invariant country by industry characteristics. We also include industry × year and region × year fixed effects ($\delta_{l,t}$ and $\alpha_{k,t}$) to control for time-varying industry- and region-specific shocks. The regression is weighted by the total number of employees in a country-industry-year; we therefore assign more weight to larger economies and more important industries

that have more employees. We cluster standard errors at the country level.

In Equation 1, the coefficient of interest, β, captures the impact of board gender quotas on the female employment share. To tighten identification, we also compare the effects of "hard" and "soft" board gender quotas, depending on whether a particular quota has clear and strong enforcement mechanisms or not (Mensi-Klarbach and Seierstad, 2020).

To establish a direct link between female representation in the boardroom and female labor market participation in general, we further use $Quota_{j,t}$ to instrument the share of female directors and run two-stage least squares (2SLS) regressions. The premise is that gender quota policies affect female labor market participation only through their influence on board gender composition.

3.3.2 Job-level analysis in the US

Correlational analysis. Our US job sample comprises job ads with non-missing information on the number of words in a job ad, ONET-SOC code, and job state (job zip). We include only ads for jobs in the US. To examine the correlation between board gender diversity and gender bias in job ads, we rely on a job-level sample and run the following regression:

$$Y_{p,t} = \boldsymbol{\gamma_i} + \boldsymbol{\delta_{l,t}} + \boldsymbol{\alpha_{k,t}} + \boldsymbol{\vartheta_q} + \beta \times \%FemDir_{i,t} + \boldsymbol{\theta'} \boldsymbol{X_{i,t}} + \varepsilon_{p,t} \tag{2}$$

where p denotes job ad, i denotes firm, l denotes two-digit SIC industry, k denotes region (state/zip), q denotes occupation, and t denotes year-month when a job is posted. The dependent variable, $Y_{p,t}$, is the share of feminine words out of all gendered words in a job ad – an ad-level measure of gender bias detected from job ads. Ad- and firm-level control variables, denoted by $X_{i,t}$, include log (# words in an ad), firm female leadership (CEO, CFO, COO), firm size, cash holdings, tangibility, Tobin's Q, leverage, ROA, and capex. In Equation 2, the coefficient of interest, β, captures the relationship between female board representation and gendered language in job ads.

Identification using SB 826 in California. To establish causality, we run the following DID regression:

$$Y_{p,t} = \boldsymbol{\gamma_i} + \boldsymbol{\delta_{l,t}} + \boldsymbol{\alpha_{k,t}} + \boldsymbol{\vartheta_q} + \beta \times Flag\_CA_i \times Post\_2018m9_t + \boldsymbol{\theta' X_{i,t}} + \varepsilon_{p,t} \quad (3)$$

where the notations are the same as those in Equation 2. The indicator variable, $Flag\_CA_i$, takes the value of one for public firms headquartered in California, and zero otherwise. The indicator variable, $Post\_2018m9_t$, takes the value of one after September 30, 2018, and zero otherwise. The coefficient of interest, β, captures the reduced-form effect of SB 826. If firms in California push back gender-balancing quotas in the boardroom by reducing their demand for female labor elsewhere within their organizations, we expect a negative β.

In both Equation 2 and Equation 3, the unit of observation is at the job-ad level. One benefit of such a specification is that it allows us to include high-dimensional fixed effects to control for occupation-specific characteristics and local labor supply shocks. Specifically, we include firm and industry $\times$ time fixed effects (γ_i and $\delta_{l,t}$) to absorb firm-invariant characteristics and time-varying industry-specific shocks. Since labor markets are segmented by region, we add region $\times$ time fixed effects ($\alpha_{k,t}$) to account for time-varying regional labor supply shocks. We define region at both state and zipcode level.[9] Importantly, we also include granular occupation fixed effects (at the six-digit ONET-SOC code level) to allow for a comparison of job ads within a narrowly defined occupation.[10]

3.4 Summary statistics

European country-industry-year level. Panel A of Table 1 presents the summary statistics for our European panel data. The mean/median share of women in the labor force at the country-industry-year level is 39%/36%. The key variable of interest, *Quota*, has a mean of 24%, suggesting that 24% of observations are subject to board gender quotas. Moreover, the mean for another key independent variable, *Hard quota*, is 15%. The mean/median number of employees at the country-industry-year level is 105,000/22,400. The number of employees in each industry is used as a weight in our main analysis. For an average country, the share

[9]Note that information for a zipcode is not always available, resulting in a smaller sample size when job zip $\times$ year-month fixed effects are included in the regression.

[10]There are around 1,000 unique occupations at the six-digit ONET-SOC code level. See `https://www.onetonline.org/find/all` for a list of occupations.

of women in the population is 51%.

US job level. As mentioned earlier, to facilitate regression analysis, we divide the fully-merged sample into 15 randomly formed equal subsamples and use one subsample for our US analysis. Using a fifteenth of our job-level sample, Panel B of Table 1 presents the summary statistics for observations at the job level. The mean/median share of feminine words in a job ad is 58%/57%. The mean/median number of feminine (masculine) words in a job ad is 4.51/3.71 words (4/2 words).

Panel C presents the summary statistics for job ads at the firm-year level, aggregated using all 30 million job ads posted by public firms in the fully-merged sample. A median firm in our merged sample posts 214 jobs per year, with a mean share of feminine words around 55%. Out of the 9 directors in a median firm, 17% are females.[11] Panel C also presents the summary statistics for control variables used in the regression analysis of Equation 2. These firm characteristics are largely consistent with those of large Compustat firms, given that LinkUp's coverage leans toward large companies that typically post job ads on their own websites.

4 Results: The European Cross-country Setting

Panel A of Table 2 presents regression results following Equation 1, where the dependent variable is the share of women in the labor force in each country-industry-year. Using a staggered DID specification, we detect a negative and significant effect of a country's introduction of a board gender quota on its share of female employment. In column (1), we include only industry, country, and region × year fixed effects. The estimated coefficient on *Quota* is -0.289 and is significant at the 1% level. In column (2), we further include industry × year fixed effects to absorb any time-varying industry shocks. We continue to find a negative and statistically significant estimated coefficient on *Quota*. The estimated coefficient in column (3) is also similar when we difference out any time-invariant factors at

[11] In our regression specification of Equation 2, the variable of interest is the share of female directors at the firm-month level, to accurately capture director turnovers that could take place at any month in a given year.

the country-industry level. The regression specifications in columns (4) to (6) are similar to those in columns (1) to (3), except that we include a set of time-varying country-level variables. The estimated coefficients on *Quota* change little from those in columns (1) to (3).[12] An emerging literature shows that traditional two-way fixed effects regressions may produce misleading estimates in staggered DID settings.[13] We therefore also follow methodologies in Borusyak et al. (2021) and Callaway and Sant'Anna (2021) to re-estimate the average treatment effect and find similar results (columns (3) and (4) of Table B3).

In terms of economic significance, using the specification with the most comprehensive set of fixed effects and controls in column (6), we find that the adoption of board gender quotas leads to a 0.30 percentage-point drop in the share of female employment at the country-industry-year level. Given that the sample mean female share is 39%, this drop represents a 0.8% drop. The magnitude appears small because the share of women in the labor force is extremely sticky over time, resulting in very limited temporal variations, as shown in Figure B7a. At the aggregate level, the share of women in the labor force increases by less than five percentage points over the past 30 years, equivalent to an increase of about 0.15 percentage points per year. In other words, board gender quotas in Europe set back the progress in female labor market participation by two years.

Do all quotas have the same effect on female labor market participation? We divide all ten quotas into two regimes depending on whether a quota is enforced by the state as opposed to a voluntary target. Panel B of Table 2 presents the regression results. We show that the above effect is stronger when we focus on hard-/medium-hard quotas with strong and clear enforcement mechanisms. In contrast, the effect is close to zero when we focus on soft quotas.

To strengthen the causal interpretation of our findings, Figure 2 plots the dynamic effects of such quotas on female labor market participation. We observe a clear post-quota down-

[12] Our findings remain when we cluster standard errors at the industry level or assign equal weight to each country-industry-year observation, as shown in columns (1) and (2) of Table B3.

[13] See De Chaisemartin and d'Haultfoeuille (2020); Callaway and Sant'Anna (2021); Goodman-Bacon (2021).

ward trend, although the estimated coefficients for the years immediately following the quota are not statistically significant. In contrast, in the pre-quota years the estimated coefficients fluctuate around zero and are always insignificant. In our setting with staggered treatments, Sun and Abraham (2021) show that the estimated coefficients from a standard two-way fixed effects regression with leads and lags of the treatment can be difficult to interpret when the treatment effects are heterogeneous across adoption cohorts. In particular, the traditional estimation method may generate misleading pre-trends. We thus use an alternative estimator proposed by Sun and Abraham (2021), which is robust to heterogeneity in the treatment effect, with weights corresponding to cohort shares. The dynamic effects are presented in Figure B8.[14] Both figures provide evidence against pre-trends and show that the estimated coefficients for the years after the quota are negative and significant.

To help establish a causal effect, the above analysis takes advantage of the staggered adoptions of board gender quotas in ten European countries. To directly link female representation on corporate boards to women in the general labor force, we adopt an instrumental variable approach. In the first stage, we regress the average share of female directors on the indicator variable for board gender quotas. In the second stage, we regress the share of female employment on the fitted value of the share of female directors from the first stage.

Table 3 presents the results. Columns (1) and (4) present the reduced-form effect of the quotas on the share of female employment, which are the same regressions as in Table 2. Columns (2) and (5) present the results for the first-stage regressions. We show that, using either *Quota* or *Hard quota* as the instrument, the adoption of quotas results in a five-percentage-point increase in the average share of female directors. Results for the second-stage regressions are presented in columns (3) and (6). The coefficients on the instrumented $\%Fem\ dir$ are negative and significant, suggesting that an increase in female board representation leads to a drop in female labor market participation. In terms of economic significance, a ten percentage-point increase in the share of female directors translates into

[14]Some relative time periods are binned to ensure a sufficient number of treated units for the estimation.

approximately a 0.7 percentage-point drop in the share of female employment. According to this estimation, a ten-percentage-point increase in the share of female directors sets back the progress in female labor market participation by roughly four years.

One threat to identification is endogenous quota introduction. In the regressions we have already controlled for several country-level variables that might predict quotas; we further show that countries that have introduced quotas and countries that have not during our sample period are somewhat similar in their national cultural values and progress in bridging the gender employment gap. We compare countries with and without gender quotas by 2020 along the two most relevant values – masculinity and power distance (Hofstede, 1980; Hofstede and Hofstede, 2001). Figure B9a and B9b in the Online Appendix show that there is barely any difference in masculinity and power distance between quota-adopting and non-quota-adopting countries. We then compute pre-existing trends in the gender employment gap over a one-year window and a three-year window and contrast those trends in countries with and without quotas. In Figure B9c and B9d, we again find no significant difference between the quota-adopting and non-quota-adopting groups, alleviating the concern that countries might resort to quotas when the gender employment gap is widening.

Additional analyses in Online Appendix B.2 further show less full-time and more part-time employment for women as well as more women dropping out of the labor force. Adding women to the boardroom seems to crowd out female (full-time) employment. What drives this seemingly counter-intuitive finding? Can it be explained by a reduced female labor supply? Many public policies support women joining the labor force, such as subsidized child-care, parental leaves, and women-specific vocational and business training programs. It may be possible that board gender quotas eliminate some of the government support/subsidies available to women, resulting in a reduced supply of female labor. We argue that this explanation is unlikely, since board gender quotas are not directly costly to the government, unlike other government schemes. To provide empirical support, we rely on the World Bank's Women, Business and the Law (WBL) index, which captures the law, legal rights, and the

provision of different benefits to bolster women's labor market participation (Hyland et al., 2020). We examine whether the adoption of board gender quotas crowds out government efforts elsewhere in empowering women in business, and therefore leads to a lower WBL index (or its eight components).[15] Table B6 in the Online Appendix presents the results. All the estimated coefficients are close to zero and insignificant, suggesting no crowd-out of government schemes.[16] Instead, we conjecture that a reduced demand for female labor likely plays a key role. Similar to the supply-side argument, government-imposed quotas in boardrooms may trigger backlash and crowd out firms' own efforts to promote gender equality outside the boardroom.

The advantages of using the European setting are two-fold. First, the staggered adoptions of board gender quotas across countries at different points in time allow us to make causal inferences. Second, our European analysis compares different observations at the country-industry-year level and therefore measures the effects after firms have made adjustments along all margins, including the migration of female workers between firms. As such, our estimates in the European setting capture the net effect of board gender quotas on female labor market outcomes at the country-industry-year level, pointing to the general equilibrium nature of these estimates.[17] However, as is typical in aggregate-level analysis, our European analysis is too coarse to delineate the mechanism through which backlash occurs, or to identify any mitigating factors. In addition, it is unclear whether our set of findings can be generalized to other countries, such as the US, with very different institutional settings. In the next section, we turn to job-level data in the US and investigate the demand-side mechanism to unpack aggregate-level findings from our European analysis.

[15]The eight components are mobility, workplace, pay, marriage, parenthood, entrepreneurship, assets, and pensions.

[16]Some coefficients are not identified, since the index values are unchanged for the 32 European countries in our sample during the sample period 2008-2020.

[17]It may come as a surprise that we observe an effect on the overall female labor force despite the fact that most quotas are only applicable to large, public firms. We argue that backlash may as well take place in private firms or firms not directly exposed to board gender quotas, given their high-profile nature and expectations that their coverage might expand.

5 Results: The US Job-level Setting

To shed light on a potential demand-side mechanism, we examine the first step in the job creation process - the drafting of job ads. Job ads are a low-cost means of shaping the makeup of the applicant pool and satisfying a firm's labor demand. We hypothesize that employers push back (externally-imposed) gender diversity in the boardroom by embedding less female-friendly words in job ads, which could discourage potential female job applicants. To test this hypothesis, we first study the correlation between female board representation and gendered wording in job ads and then sharpen identification by exploiting SB 826 in California.

5.1 Correlational analysis

Table 4 presents the baseline regression results following Equation 2. In column (1), we include time-varying accounting variables and a rich set of fixed effects to control for firm-level time invariant characteristics, industry shocks, and state-level shocks that can affect labor supply in a given state. We find a negative and significant coefficient on $\%Fem\ dir$, pointing to a negative association between the share of female directors at a firm and the share of feminine words in job ads of the same firm. We continue by adding more granular fixed effects in columns (2) and (3). We compare within each narrowly defined occupation (at the six-digit ONET-SOC code level) for jobs posted by firms with different levels of female board representation in column (2). The estimated coefficient is similar in terms of magnitude and significance to that in column (1). To better control for local labor supply shocks, we add job zip $\times$ year-month fixed effects in column (3) and again find a negative and significant coefficient on $\%Fem\ dir$. Columns (4) and (6) further include female executive indicators and the length of each job ad as controls. The estimated coefficients change little.

In terms of economic significance, we find that a one-standard-deviation increase in the share of female directors (0.12) is associated with a 1.2 percentage-point drop in the share of feminine words in job ads (based on the most stringent specification in column (6)). The

increase per year before SB 826 in the share of feminine word usage in job ads is at 0.7 percentage points, according to the temporal trend in the average share of feminine words in job ads from 2014 to 2017 (see Figure B7b). The estimates in Table 4 suggest that the backlash that followed the passage of SB 826 set back progress by roughly two years.

We conclude that female representation on boards negatively correlates with female-friendly word usage in job ads in 2014-2020, during which improvements in board gender diversity are unlikely voluntary but rather a response to external forces such as social pressure or large institutional shareholders' voting policies. Omitted variable bias or selection is a potential concern, since the above analysis is correlational in nature. It is worth noting, however, that the coefficient estimates go up when we use more stringent specifications in Table 4, suggesting that possible endogeneity or selection likely results in an underestimation rather than an overestimation of the true effect. The reason is that any unobserved factor tends to drive the share of female directors and the share of feminine words in job ads in the same direction, biasing the estimated coefficient upward, i.e., towards zero. For example, assume that we cannot measure a female-friendly culture at a firm. Such a culture is likely positively correlated with both the share of female directors and the share of feminine words in job ads. Nevertheless, to establish causality, we next exploit a relevant law change in California.

5.2 Identification through SB 826

We resort to the law change in California during our sample period for clean identification of the impact of female board representation on gendered language usage in job ads. SB 826, enacted on September 30, 2018, applied to US and foreign firms listed on major US stock exchanges and headquartered in the state. We first determine a firm's headquarters' state from Compustat. We limit our analysis to US firms; 17% of these firms have their headquarters in California.

Figure 3 compares the time trend in the share of feminine words for CA-headquartered firms around the Bill's passing in September 2018 with that for non-CA-headquartered firms

over the same period. We observe a distinct drop in the share of feminine words used by CA-headquartered firms in their job ads compared to that by non-CA-headquartered firms. Moreover, the drop in the share of feminine words used by CA firms appears to have started in early 2018. Based on SB 826's history from the state government website,[18] the first sign that the Bill would become law appeared in April 2018, when it was read at the state assembly for the first time and passed with strong support.

In Table B7 in the Online Appendix, we first cross-validate whether the adoption of SB 826 resulted in an increase in the number/share of female directors for CA firms compared to non-CA firms. We find that indeed, the adoption of SB 826 resulted in a 0.12-0.15 (1.7% - 1.8%) increase in the number (share) of female directors in CA firms compared to that in non-CA firms.

We next employ a DID design in Equation 3 in which we compare firms headquartered *inside* and *outside* California, *before* and *after* the September 2018 law change. Table 5 presents the results. We find that SB 826 reduced the share of feminine words by 4.2-5.4 percentage points. As discussed earlier, using a law change helps address potential endogeneity issues and underestimations associated with OLS regressions, leading to a significantly larger effect.

Treatment intensity. To address the concern that our DID results could be driven by concurrent events such as the #MeToo Movement in 2017, we explore different treatment intensities based on whether a CA firm was in compliance with SB 826 or not prior to the law change, or whether a CA firm experienced an increase in its number of female directors after the law change. Table 6 presents the results. Columns (1) and (2) compare firms just below the threshold set by SB 826 (one female director short) and firms at the threshold before the treatment date. We show a significantly negative effect on CA firms when their number of female directors fell short of the threshold. In contrast, those meeting the threshold experienced little backlash. Columns (3) and (4) compare firms that experienced an increase

[18] https://leginfo.legislature.ca.gov/faces/billVotesClient.xhtml?bill_id=201720180SB826.

in their number of female directors after the treatment date versus those without an increase. Again, the treatment effect only showed up in the former set of firms. The findings above further strengthen our identification strategy using SB 826.

Dynamic effect. A key identifying assumption is the presence of parallel trends, i.e., in the absence of SB 826, the usage of gendered language in job ads would have followed similar trends for CA-headquartered and non-CA-headquartered firms. To validate this assumption, we visually examine the pre-quota trends by estimating the dynamic effect of SB 826 around its passage. In the quarter preceding the official signing of SB 826 into law, there were already high expectations that the Bill would pass since it received strong support in a series of votes at the state assembly in April and May 2018. Consistent with this fact, the pattern in Figure 3 based on univariate statistics indicates that CA firms have taken action a couple of months before the Bill's passage in September 2018. To account for this anticipatory effect, we set the second quarter of 2018 as the event quarter (0) when analysing the dynamic effect. In Figure 4, we present the temporal pattern based on regression results. To reduce estimation error, we group every three months within a corresponding quarter. We assign quarter -1 as the benchmark quarter and combine quarters prior to $t = -6$ (or after $t = 6$) into a single period. The dynamic DID coefficients confirm that the effect of SB 826 only materialized after strong expectations of the Bill's passing were formed. The coefficients for all quarters prior to the second quarter of 2018 are mostly close to zero and insignificant. However, there is a clear negative post-quota trend, suggesting significant backlash after the passage of SB 826.[19]

5.3 Robustness checks

Alternative sampling criteria. In our main analysis, we keep all job posting observations with non-missing data over the period 2014-2020. However, we need to address concerns

[19]In 2019, three California taxpayers filed a lawsuit (*Crest v. Padilla I*), seeking to nullify SB 826. The plaintiffs' main argument is that the Bill violated the Equal Protection Clause of the California Constitution. The fact that the lawsuit was initiated shortly after the Bill's passing is consistent with backlash. A Los Angeles County Superior Court struck down SB 826 in May 2022. The California Secretary of State appealed and a final ruling is still pending as of August 2023. Although these recent legal developments are outside of our sample period, future research on their ramifications will have important policy implications.

that the limited coverage of LinkUp in 2014 and 2015 might bias the estimation, and that the COVID pandemic might affect labor demands across states and firms. We therefore use subsamples starting in 2016, or including only the pre-COVID period (before March 2020). During our sample period, a number of states in addition to California (Colorado, Maryland, Illinois, Washington, and New York) have also introduced board gender diversity interventions. Although these interventions differ markedly in their scope and strength compared to SB 826 in California, we drop these states in robustness checks as a precautionary measure.[20] We also remove firms with a very small or large board size (below the 1st percentile or above the 99th percentile). Since the length of job ads varies substantially, we exclude extremely long or short ads to eliminate the effect of such outliers. Figure 5 compares the estimated coefficients using these alternative samples with the baseline estimate. The estimates are similar in both the correlational analysis (Panel A) and the DID analysis using SB 826 (Panel B).

There are two additional issues concerning the applicability of SB 826. In recent years, some California firms moved their headquarters out of the state. To address the measurement error associated with a CA firm's exposure to SB 826, we compare firms' headquarters before and after SB 826 and drop those relocated over our estimation period. The results in the DID analysis remain highly similar (Figure 5 Panel B). SB 826 only applies to CA firms listed on a major US stock exchange. Our sample consists of large public firms in the US and over 99.5% of the job postings are by firms listed on NYSE, AMEX, or NASDAQ. Nevertheless, we repeat the DID analysis by using only firms listed on a major US stock exchange, and the results barely change (Figure 5 Panel B).

Alternative regression specifications. We also carry out robustness checks using alternative regression specifications. Our results are robust to excluding all control variables and controlling for occupation-specific shocks (at either the two-digit or six-digit ONET-SOC

[20]The interventions in Maryland, Illinois, and New York only imposed disclosure requirements. The state of Washington took a less aggressive "comply or explain" approach. The intervention in Colorado was a non-binding resolution, encouraging more gender diverse boards.

code level) or even shocks at the occupation × job zip level. However, mandating female directors could have the unintended consequence of causing firms to change their business operations and job composition, with the outcome of limiting female-dominant occupations. To rule out this possibility, we add firm by occupation (at the six-digit ONET-SOC code level) fixed effects. Figure 5 contrasts the estimated coefficients from these alternative specifications with the baseline estimate. The estimates are quite similar in both panels.

Augmenting the feminine and masculine word list. One concern about our bag-of-words approach is that the gendered word list from Gaucher et al. (2011) may have become outdated. We thus augment the original word list with a gendered word list used by Ongig, an industry leader committed to eliminating biased job ads. We recalculate our key measure using the augmented list and find similar results, as shown in the last row of each panel in Figure 5.

Excluding top feminine or masculine words. To ensure that our results are not driven by a few feminine or masculine words, we recalculate our key measure by excluding each of the ten most popular feminine or masculine words in job ads. As shown in Figure B10 and Figure B11, the estimated coefficients using these new measures are similar to the baseline estimate.

Random sampling. In our US job-level analysis, we use a randomly drawn subsample that is one fifteenth of the full sample. Although randomly drawing nearly 2 million observations from a sample of 30 million observations likely loses no generality, we also use other randomly drawn subsamples to confirm that our results are not driven by chance. Figure B12 presents the distribution of the estimated coefficients for 1,000 randomly drawn subsamples, each corresponding to one fifteenth of the full sample. In both the correlational analysis (Panel A) and the DID analysis using SB 826 (Panel B), we find that the estimated coefficients center around the baseline estimate and are far away from zero.

6 The role of gender discrimination

Thus far we have provided robust evidence that firms subject to board gender policies push back by posting less female-friendly job ads. We next investigate potential explanations for the change in firms' labor demand preferences in response to gender equality policies. Under our conceptual framework of backlash, we predict that corporate leaders and their employees will act in opposite to board gender diversity laws in an attempt to restore their personal autonomy and uphold their ideological viewpoints regarding gender-specific roles. Providing direct evidence on individual attitudes/preferences is challenging, due to a lack of granular, high frequency data on preferences. Instead, we proceed as follows.

First, we focus on testable predictions in the presence of employer-based discrimination against women – an ideological preference in opposition to gender equality – by exploiting heterogeneity in the backlash effect across firms. If the reduced demand for female labor is indeed driven by (quota-triggered) gender discrimination, we would expect to see a weaker effect when gender discrimination in the workplace becomes less affordable or less likely. Second, to uncover potential shifts in employee attitudes toward women, we examine employee reviews as well as gender-related labor violations. If companies and certain employees engage in discriminatory practices against women to uphold gender stereotypes, it can create a hostile working environment for women, manifesting in more negative employee reviews of gender-related benefits and amenities and more gender-related labor violations in the workplace.

6.1 Heterogeneity in the backlash effect

6.1.1 Product market competition

We start by examining the effect of a firm's competitive environment on its labor demand preferences. The seminal work of Becker (1957) predicts that competition drives discriminatory employers out of the market. Using this argument, product market competition serves as a disciplinary device, as the competitive pressure forces discriminatory employers, who

have relatively lower profits compared to their non-discriminatory counterparts, to exit, cut growth, or forgo their discriminatory behavior. We thus expect to see less backlash in the presence of fierce competition.

Table 7 presents the results. In columns (1) and (2), we use continuous Herfindahl-Hirschman index (HHI) measures defined at the two-digit and three-digit SIC code level using sales, respectively.[21] We find a negative coefficient on the interaction term, suggesting more backlash occurs in industries with a higher HHI, or less competition. In columns (3) and (4), we instead use an indicator variable flagging firms in industries with a high level of concentration (top quartile), and hence low competition. The results are consistent with those in columns (1) and (2). In fact, backlash seems to have been entirely driven by a subset of firms that face limited competition, as the estimated coefficient on the standalone term ($\%Fem\ Dir$) is close to zero. Taken together, the above findings offer evidence of competition mitigating backlash, consistent with our conjecture that gender discrimination in labor demand is weaker when such discrimination is more costly to a firm.

6.1.2 Corporate leadership

Next, we examine whether women in leadership roles help mitigate backlash. The ideological preferences of female executives likely do not clash with board gender diversity policies, which is predictive of less backlash. Moreover, the presence of female executives helps ease the bluntness of such policies and raises awareness of female employees' skills and abilities, which again is predictive of less backlash (Dobbin and Kalev, 2016; Acemoglu and Jackson, 2017). Finally, female executives can also help curtail gender discrimination in the workplace by the very fact of their roles as leaders.

By hand collecting relevant data, we identify the genders of CEOs, CFOs, and COOs based on their respective job titles. Our focus on COOs is new in the literature.[22] Table 8

[21] These indexes are defined using the full set of public firms covered by Compustat, which allows us to better capture the market-wide competition faced by our sample firms.

[22] The Chief Operating Officer (COO), as the human resource C-suite executive, ensures that a company's operations run smoothly. Their focus is on areas such as recruitment, training, payroll, legal, and administrative services. The COO is usually second in command to the CEO.

presents the results. We find evidence that the presence of female top executives helps mitigate backlash, especially when the COO is a female, as shown by the positive coefficient on the interaction term.

6.1.3 Firms' political preferences

Our evidence thus far suggests that the forces fueling backlash are gender stereotypes and ideological preferences prevailing within an organization. Given that supporters of the Republican party hold conservative views in general, we expect Republican-leaning firms to exhibit more backlash compared to their Democratic-leaning peers. To capture a firm's political preference, we obtain data from the Federal Election Commission. Specifically, we use each firm's political contributions made via corporate PACs and compute the share of its total PAC contributions to Republican candidates, i.e., $\%Republican\ Contribution$. We also introduce an indicator variable, $> 50\%$ *Republican share*, flagging firms that contribute more to Republican candidates than to Democrat candidates. Table 8 columns (5) and (6) present the results. Consistent with our intuition, we document stronger backlash in more Republican-leaning firms.

6.1.4 Does "Who writes the job ad" matter?

The premise of our study is that when individuals' ideological preferences clash with legislative efforts, backlash occurs. An important follow-up question to ask is: Who writes the job ads? While it is difficult to pinpoint the individuals responsible for drafting each job ad within an organization, creating measures to capture how decentralized this process can be informative. Specifically, for a given occupation, we can assess the degree of similarity across job ads posted by a firm. If those job ads are very similar (different), likely the firm has a centralized (decentralized) process of drafting job ads.

We create four measures at the firm level to capture the degree of decentralization in a firm's drafting of job ads. We start by computing the standard deviation of the share of feminine words and the length of a job ad at the occupation level. We then average across different occupations to generate two firm-level continuous measures. A larger value

is indicative of more dispersion, and hence a higher degree of decentralization, in a firm's writing of job ads. For each continuous measure, we further create an indicator variable for an above-median level of decentralization.

Table B8 presents the results using the above measures. We show that the backlash effect is invariant across firms with different degrees of decentralization, suggesting that backlash exists in a wide range of firms that differ in their hiring practices. In decentralized firms, a large number of employees who provide inputs for job ads can all push back as gender stereotypes or ideological preferences prevail within the organization. In centralized firms, a few conservative decision-makers may have a dominant voice and drive the pushback.

In summary, the heterogeneities across firms suggest gender discrimination could be a driver of firms' reduced demands for female labor. The evidence supports the backlash hypothesis, as gender discrimination contradicts the principle of gender equality advanced through board gender quotas.

6.2 Direct evidence from employee reviews and labor violations

6.2.1 Employee reviews of female-friendly amenities

Sockin (2022) identifies 50 amenities using textual analysis of Glassdoor employee reviews. For our purposes, we focus on eight amenities (5-Paid time off, 10-Work-life balance, 11-Hours, 12-Work schedule, 16-Teleworking, 19-Respect/abuse, 21-Support, and 31-Diversity/inclusion) that are important for female employees in the workplace. These "female-friendly" amenities not only reflect firm-level policies but also are shaped by supervisors and coworkers who interact with female employees. If quota-triggered gender discrimination exists and the working environment becomes more hostile for female employees, we expect more (female) employees to express their dissatisfaction by leaving negative reviews about these workplace accommodations. Table B9 in the Online Appendix provides the word list of the eight amenities (anchor words and top 20 relevant words) that we use to obtain a word count of different amenities in the pros and cons sections of Glassdoor reviews. Table B10 Panel A in the Online Appendix provides the summary

statistics for Glassdoor amenity measures.

We empirically test the above conjecture and the results are presented in Table 9. Panel A examines the relationship between the share of female directors and employee reviews of female-friendly amenities. We find largely negative and significant associations between a firm's share of female directors and employee reviews of female-friendly amenities when the outcome variables are based on reviews in the pros section (columns (1) and (2)) and the difference between pros and cons sections (columns (5) to (8)). However, the relationship turns positive when we use employee reviews of amenities in the cons section (columns (3) and (4)). The evidence thus consistently suggests less favorable reviews of female-friendly amenities when firms have more female directors. Panel B of Table 9 further explores the effect of SB 826. We find robust evidence that SB 826 resulted in a substantial drop (increase) in positive (negative) reviews of female-friendly amenities in California firms. Although not all estimated coefficients are significant across the eight specifications, the directions of the estimates paint a consistent picture. Glassdoor also collects employee ratings of various aspects of a firm's operations on a scale of 1-5. For our purposes, we focus on both a firm's overall rating and its specific ratings for compensation and benefits, culture and values, and work-life balance - benefits that likely matter (more) for female employees in the workplace. Table B11 provides strong evidence that SB 826 resulted in a significant drop in employee ratings of these benefits in California firms.[23]

6.2.2 Gender-related labor violations

We next explore whether (quota-triggered) gender discrimination manifests in the unfair treatment of female employees in the workplace. We start with all employment-related violation cases from Violation Tracker and take two approaches to identifying gender-related labor violations. First, a violation is considered gender-related if it mentions any of the following seed words in the "description" or "secondary offense" fields: female, gender, hostile,

[23]The anonymous nature of reviews on Glassdoor allows employees to rate and/or discuss their (former) employers without fear of retaliation or repercussions. It is thus unlikely that our results are driven by female directors encouraging employees to write about poor workplace gender-related practices and misbehaviors.

hours, leave, sex, sexual, support, and vacation. Second, we expand this initial word list by adding words from the above two fields with high associations in terms of pmi-freq scores (Jin et al., 2021) with the seed words: applicants, women, job, positions, discrimination, environment, medical, sick, and harassment. We then aggregate case-level information to firm-year level and calculate the number of gender-related violations and the dollar amount of penalties paid for those violations.[24] Table B10 Panel C in the Online Appendix provides the summary statistics. An average firm has 0.011 gender-related violations in a year based on the expanded word list.

Table 10 presents the results. Panel A documents a positive association between the share of female directors and the number of (the amount of penalties paid for) gender-related labor violations. While we lack statistical power in columns (1) and (2), the results become significant at the 5% level when the expanded word list helps identify a larger set of relevant violations. Table 10 Panel B further exploits SB 826 for identification. We find consistent evidence that mandating women on corporate boards led to a significant increase in both the number of gender-related violations and the amount of penalties paid for those violations. The evidence suggests that SB 826-triggered gender discrimination was accompanied by more women experiencing unjust workplace treatments, such as gender discrimination and sexual harassment.

To summarize, this section provides some direct evidence that the working environment becomes more hostile to female employees after the passage of SB 826 – they leave more negative reviews of workplace accommodations that are important for females and file more gender-related labor violations cases. These findings pinpoint quota-triggered gender discrimination as a possible explanation for backlash.

6.3 Discussions on alternative interpretations

One may argue that our baseline findings are not due to a proactive act of backlash within an organization, but a natural, passive consequence of either moral licensing (Blanken et al.,

[24]These cases are mostly brought by the Equal Employment Opportunity Commission (EEOC) or the Office of Federal Contract Compliance Programs (OFCCP).

2015; List and Momeni, 2021) or exemplar-based information processing extending to social progress perceptions for stigmatized groups (Georgeac and Rattan, 2019). Under the former, when people initially behave in a moral way (e.g., supporting greater female representation on boards), they are later more likely to engage in behaviors that are immoral or unethical (e.g., not supporting broader gender equality in the workplace). Under the latter, perceiving progress in female representation in the top corporate echelon may reduce people's concern with ongoing gender inequality elsewhere within their organizations.

We acknowledge that our baseline findings using job ads could possibly be interpreted as a tradeoff between achieving more visible gender equality outcomes at the top and achieving less visible broad-based gender equality outcomes at the rank-and-file level. Differentiating between the proactive and passive narratives poses a considerable challenge in non-experimental settings like ours.[25] The line separating "deliberate" and "non-deliberate" actions is often invisible. Our evidence from gender-related labor violations (e.g., gender discrimination or sexual harassment cases reported to authorities) suggests possible deliberate, proactive actions within an organization when board gender quotas are in place. Our hope is that more granular and better data in future work will help delineate different interpretations.

7 Conclusion

We examine backlash among firms in countries subject to board gender quotas or policies. Our analysis starts with firms in Europe, where ten countries have introduced board gender quotas since 2003. Using a sample of industry-year observations in 32 European countries with data on the share of female employment over the period 2008-2020 and a staggered difference-in-differences specification, we find that the adoption of board gender quotas leads to a significant drop in the share of female employment across countries and industries.

To explore possible economic mechanisms for our findings, we study job postings in the

[25]Evidence on moral licensing and exemplar-based information processing mostly comes from experiments or surveys in organizational behaviour and psychology studies.

US; while US firms have been under increasing pressure to install gender-diverse boards, they have not, as yet, had a mandate to do so. We apply textual analysis to job ads to detect gender biases and quantify firms' labor demand preferences for women versus men. We find a negative and significant association between the share of female directors and the share of feminine words in job ads likely to appeal to female applicants. For identification, we rely on California's Senate Bill 826 passed in 2018 that imposed board gender quotas on locally headquartered firms. Consistent with the backlash interpretation, we find evidence of quota-triggered gender discrimination. Specifically, we observe less favorable reviews of workplace accommodations that are important for female employees and more gender-related labor violation cases. We conclude that board gender quotas/policies could backfire, resulting in worse labor market outcomes for women.

The findings of our paper suggest that the complex welfare implications of (aggressive) gender equality policies might have long-run distributive effects when (targeted) firms fail to internalize the social cost of such policies. More broadly, our findings suggest that when governments introduce laws that signal societal trends, the potential for backlash from firms' stakeholders, such as their employees, should be considered when evaluating a given law's overall effectiveness.

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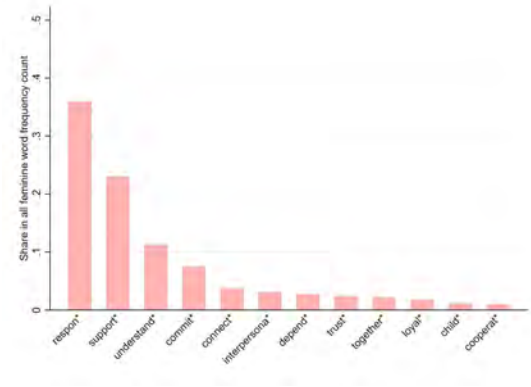
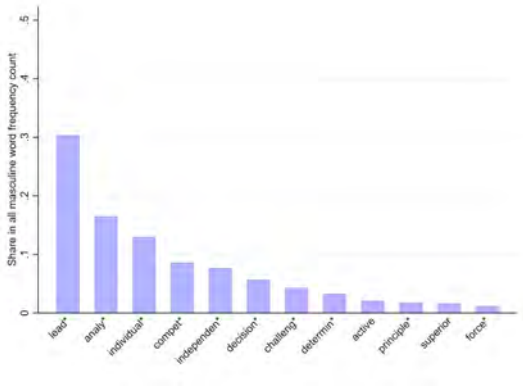
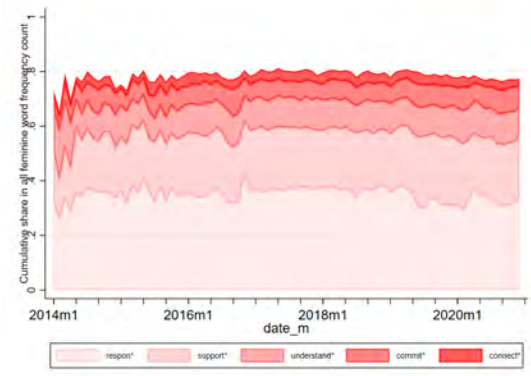
Figure 1: Frequency Counts of Top Feminine & Masculine Words



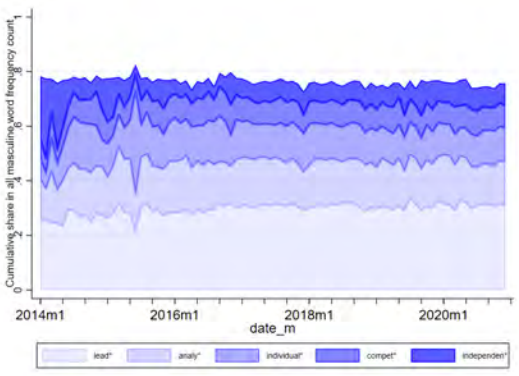
(a) Feminine Words (Share $> 1\%$)



(b) Masculine Words (Share $> 1\%$)



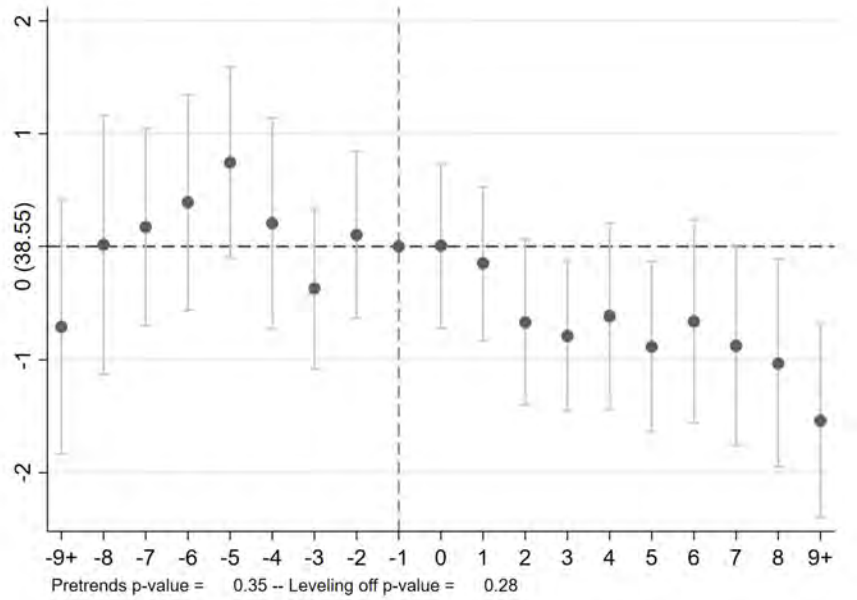
(c) Top 5 Feminine Words Over Time



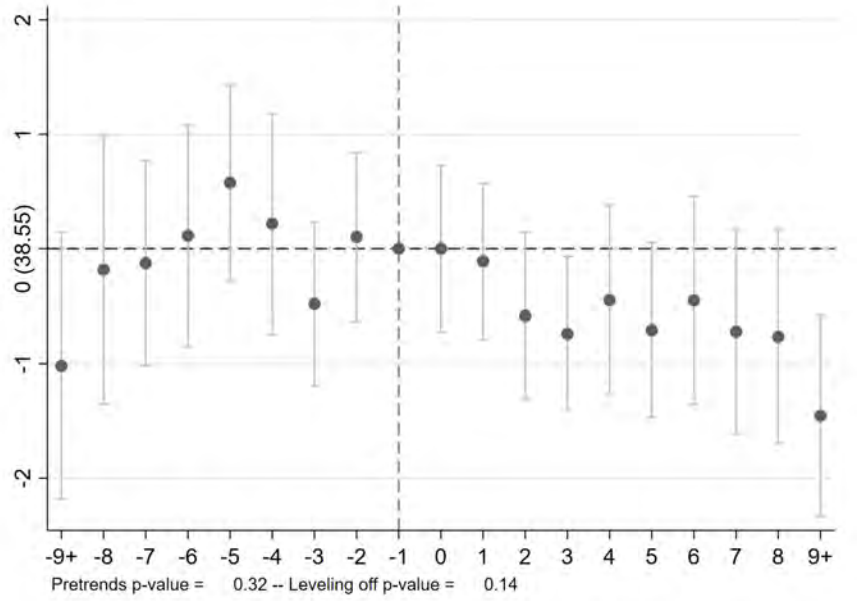
(d) Top 5 Masculine Words Over Time

This figure shows frequency counts of the most frequent feminine and masculine words in job ads from the Gaucher et al. (2011) list. Figure 1a (Figure 1b) shows the share of the most frequent feminine (masculine) words out of all feminine (masculine) words over the sample period (2014-2020). Figure 1c (Figure 1d) shows the cumulative share of the top 5 feminine (masculine) words out of all feminine (masculine) words over time from 2014 to 2020. The asterisk denotes the acceptance of all letters, hyphens, or numbers following its appearance.

Figure 2: Effect of Board Gender Quotas on Female Labor Market Participation – Dynamics



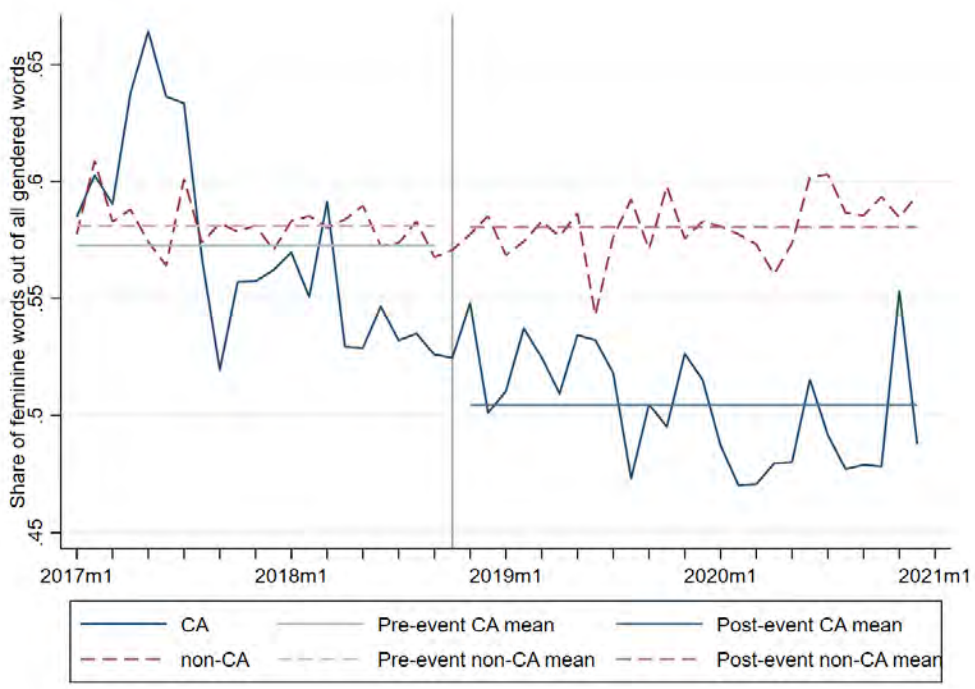
(a) Without Controls



(b) With Controls

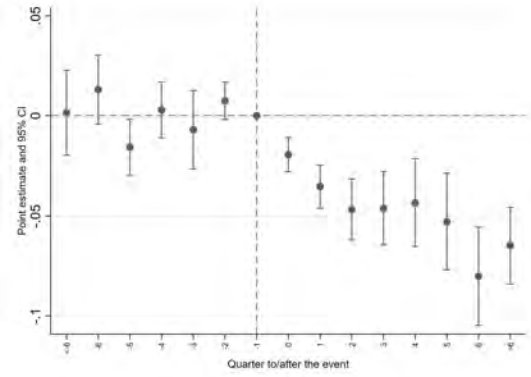
This figure plots the dynamic effect of board gender quotas on the share of female employment. Year minus one is the year before the announcement of board gender quotas and is the omitted category. The outcome variable is scaled by 100 for easy interpretation of the regression coefficients. Figure 2a (Figure 2b) presents the estimated coefficients without (with) control variables in the regression. P-values for testing for the absence of pre-event effects and p-values for testing the null that dynamics have leveled off are included. Pointwise 95 percent confidence intervals are included.

Figure 3: California Statute and Gendered Language Usage in Job Ads – Dynamics (Univariate)

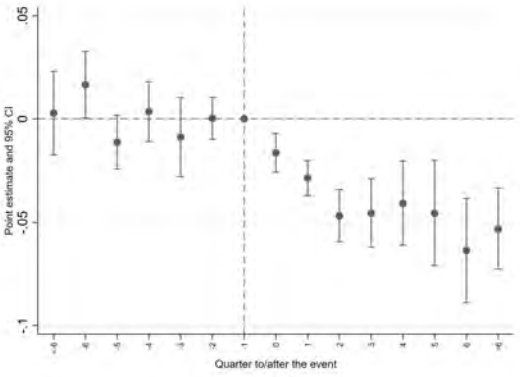


This figure shows the monthly movement in the average share of feminine words across all jobs posted by CA headquartered and non-CA headquartered firms around the California board gender diversity statute (SB 826). The share of feminine words out of all gendered words in a job ad is shown on the y-axis. The months from January 2017 to December 2020 are shown on the x-axis. The vertical line indicates the event date (the passage of the Bill in September 2018).

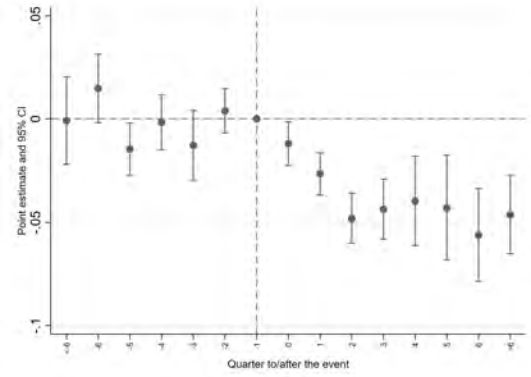
Figure 4: California Statute and Gendered Language Usage in Job Ads – Dynamics (Regression)



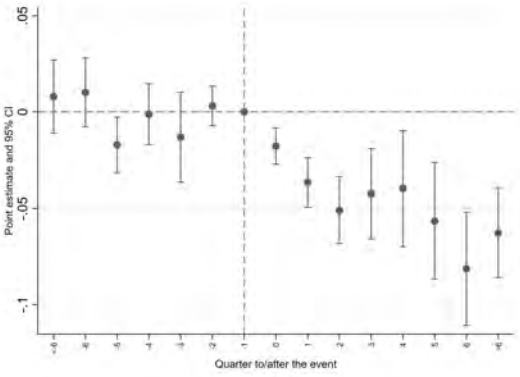
(a) Column (1) of Table 5



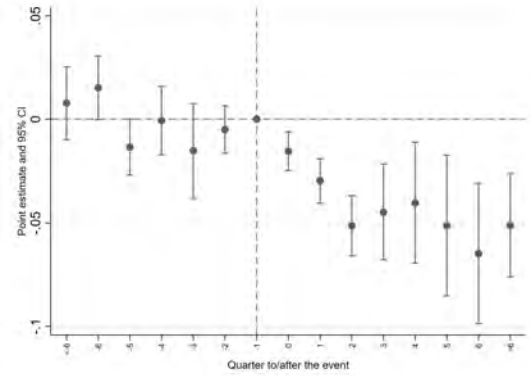
(b) Column (2) of Table 5



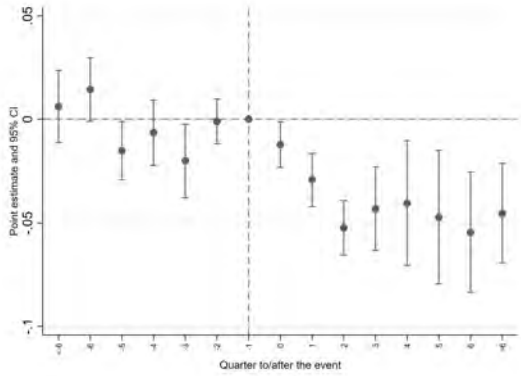
(c) Column (3) of Table 5



(d) Column (4) of Table 5



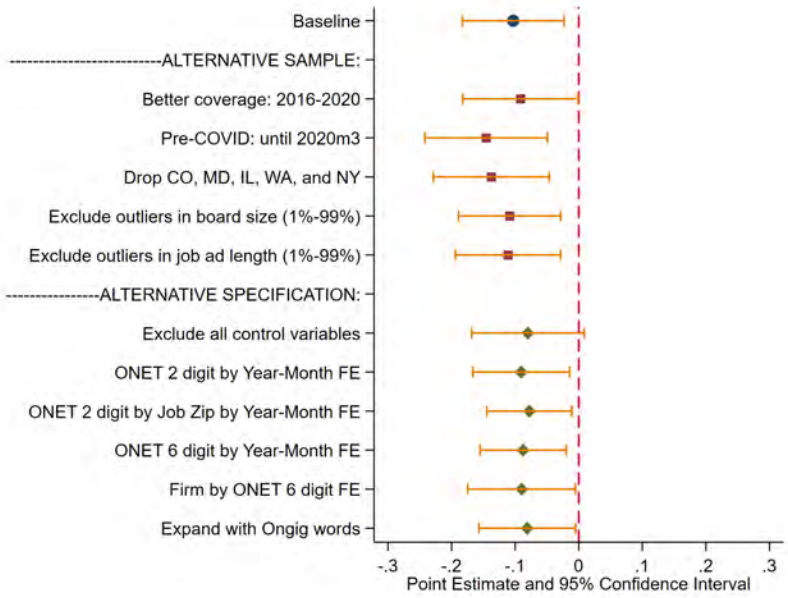
(e) Column (5) of Table 5



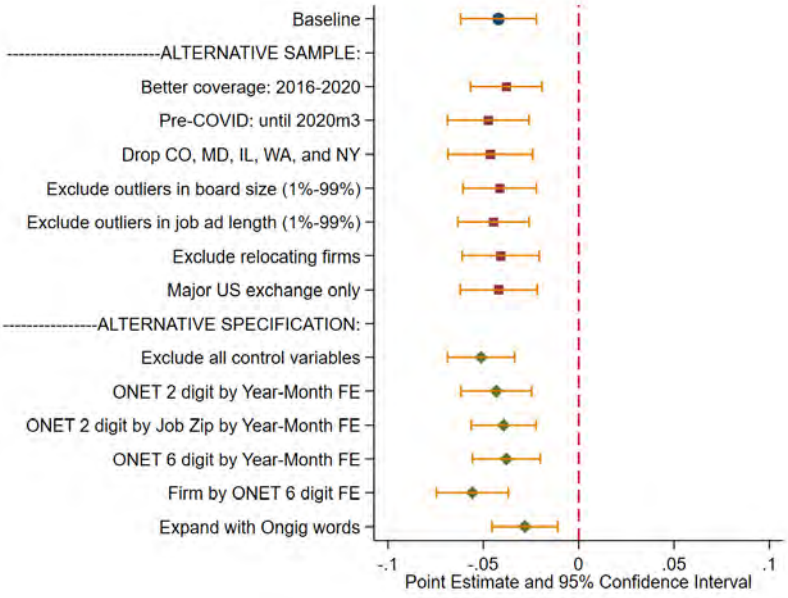
(f) Column (6) of Table 5

This figure shows the dynamic effect of the California board gender diversity statute (SB 826) on gendered language usage in job ads. Each figure corresponds to a specification used in the six columns of Table 5, which include different sets of controls and fixed effects. Quarter -1 is the first quarter of 2018 – by the second quarter of 2018, there were high expectations of the Bill's passing – and is the omitted category. Every three months in a corresponding quarter are grouped together to reduce estimation error.

Figure 5: Robustness - Alternative Samples and Specifications



(a) Correlational Analysis



(b) CA DID

This figure shows the robustness of the job-level regression results to using alternative samples and specifications. Both the relationship between the share of female directors and gendered language usage in job ads (Figure 5a) and the effect of the California board gender diversity statute on gendered language usage in job ads (Figure 5b) are examined. The regression specifications are the same as those in column 6 of Table 4 and Table 5. The top row of each panel shows the baseline estimate in column 6 of Table 4 and Table 5.

Table 1: Summary Statistics

Panel A: European Country-Industry-Year Level

Variable	N	Mean	Std. Dev.	Median	p1	p99
%Fem emp	29,734	0.39	0.23	0.36	0.03	0.91
%Fem dir	29,734	0.19	0.10	0.17	0.03	0.45
Qutoa	29,734	0.24	0.42	0.00	0.00	1.00
Hard quota	29,734	0.15	0.36	0.00	0.00	1.00
Soft quota	29,734	0.08	0.28	0.00	0.00	1.00
Total emp (1,000)	29,734	105.00	305.00	22.40	0.80	1409.00
%Fem population	29,734	0.51	0.01	0.51	0.50	0.54
Log (population)	29,734	16.00	1.44	16.00	12.70	18.20
Population growth	29,734	0.32	0.79	0.30	-1.67	2.40
Log (GDP per capita)	29,734	10.20	0.73	10.20	8.56	11.60
GDP per capita growth	29,734	0.98	3.70	1.38	-8.60	8.37

Panel B: US Job Level

Variable	N	Mean	Std. Dev.	Median	p1	p99
%Fem words	1,857,301	0.58	0.27	0.57	0.00	1.00
#Fem words	1,857,156	4.51	3.84	4.00	0.00	17.00
#Mas words	1,857,156	3.71	4.04	2.00	0.00	18.00
#Words	1,857,156	425.87	245.96	389.00	79.00	1139.00
Job Zone	1,296,275	2.74	1.01	2.00	1.00	5.00
Mean Wage	1,359,316	28.48	16.30	22.74	12.36	74.49
Entry Education	1,360,709	2.01	2.02	1.00	0.00	7.00
STEM	1,360,709	0.07	0.25	0.00	0.00	1.00

Panel C: US Firm-Year Level

Variable	N	Mean	Std. Dev.	Median	p1	p99
#Job	14,601	2,223	14,050	214	1	36,956
%Fem words [mean]	14,601	0.547	0.135	0.541	0.205	0.91
#Dir	14,601	9.07	2.35	9.00	5.00	15.00
%Fem Dir	14,601	0.18	0.12	0.17	0.00	0.50
Female CEO	8,888	0.07	0.25	0.00	0.00	1.00
Female CFO	8,888	0.13	0.34	0.00	0.00	1.00
Female COO	8,888	0.02	0.14	0.00	0.00	1.00
Firm Size (log assets)	8,888	8.40	1.74	8.32	4.72	12.80
Cash Holdings	8,888	0.14	0.15	0.08	0.00	0.68
Tangibility	8,888	0.23	0.23	0.14	0.00	0.88
Tobin's Q	8,888	2.16	1.76	1.59	0.77	9.61
Leverage	8,888	0.28	0.23	0.26	0.00	0.95
ROA	8,888	0.11	0.12	0.11	-0.18	0.37
Capex	8,888	0.04	0.04	0.02	0.00	0.20

The table presents summary statistics for the main variables used in our analysis. Panel A summarizes variables at the European country-industry-year level. Panel B summarizes measures at the US job level based on a random 1/15 of the full sample of job ads. Panel C summarizes variables at the firm-year level.

Table 2: Effect of Board Gender Quotas on Female Labor Market Participation

Panel A: All Quotas

	(1)	(2)	(3)	(4)	(5)	(6)
Dep. Var.	Share of female employment out of total employment (%Fem Emp × 100)					
Quota	-0.289***	-0.252**	-0.228**	-0.358***	-0.294**	-0.299***
	[0.105]	[0.106]	[0.092]	[0.130]	[0.127]	[0.098]
%Fem population				0.268	0.276	0.156
				[0.268]	[0.238]	[0.139]
Log (population)				7.311**	6.052**	4.244*
				[2.991]	[2.834]	[2.160]
Population growth				0.066	0.025	0.088*
				[0.050]	[0.081]	[0.044]
Log (GDP per capita)				0.959	1.543*	0.991*
				[0.807]	[0.872]	[0.548]
GDP per capita growth				-0.002	0.004	-0.007
				[0.012]	[0.019]	[0.011]
Industry FE	YES	-	-	YES	-	-
Country FE	YES	YES	-	YES	YES	-
Region × Year FE	YES	YES	YES	YES	YES	YES
Industry × Year FE	NO	YES	YES	NO	YES	YES
Country × Industry FE	NO	NO	YES	NO	NO	YES
Obs	29,734	29,734	29,688	29,734	29,734	29,688
Adj R2	0.918	0.917	0.991	0.918	0.917	0.991

Panel B: Hard vs. Soft Quotas

	(1)	(2)	(3)	(4)	(5)	(6)
Dep. Var.	Share of female employment out of total employment (%Fem Emp × 100)					
Hard quota	-0.311**	-0.265**	-0.238**	-0.385***	-0.311**	-0.313***
	[0.117]	[0.110]	[0.095]	[0.139]	[0.130]	[0.101]
Soft quota	0.194	0.009	-0.013	0.093	-0.012	-0.06
	[0.119]	[0.277]	[0.307]	[0.163]	[0.286]	[0.300]
%Fem population				0.22	0.247	0.132
				[0.264]	[0.239]	[0.143]
Log (population)				7.074**	5.929**	4.132*
				[2.949]	[2.847]	[2.171]
Population growth				0.067	0.025	0.089*
				[0.048]	[0.081]	[0.044]
Log (GDP per capita)				1.046	1.605*	1.038*
				[0.834]	[0.887]	[0.555]
GDP per capita growth				-0.003	0.004	-0.007
				[0.012]	[0.019]	[0.011]
Industry FE	YES	-	-	YES	-	-
Country FE	YES	YES	-	YES	YES	-
Region × Year FE	YES	YES	YES	YES	YES	YES
Industry × Year FE	NO	YES	YES	NO	YES	YES
Country × Industry FE	NO	NO	YES	NO	NO	YES
Obs	29,734	29,734	29,688	29,734	29,734	29,688
Adj R2	0.918	0.917	0.991	0.918	0.917	0.991

This table shows the effect of board gender quotas on the share of female employment. The unit of observation is a country-industry-year. The sample includes 89 two-digit NACE industries in 32 European countries from 2008 to 2020. Panel A considers all board gender quotas adopted by the ten European countries. Panel B compares gender quotas with stronger enforcement and more precise policy wording ("hard" quotas) relative to ones with weaker enforcement and less precise policy wording ("soft" quotas). The outcome variable across all columns is the share of female employment, which is scaled by 100 for easy interpretation of the regression coefficients. All regressions are weighted by total employment in a country-industry-year. Robust standard errors clustered at the country level are in brackets. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table 3: Female Directors and Female Labor Market Participation – IV Estimators

	(1)	(2)	(3)	(4)	(5)	(6)
Regression Model	Reduced Form	First Stage	IV	Reduced Form	First Stage	IV
Dep. Var.	%Fem emp	%Fem dir	%Fem emp	%Fem emp	%Fem dir	%Fem emp
Quota	-0.299***	4.615***				
	[0.098]	[1.299]				
Hard quota				-0.305***	5.519***	
				[0.102]	[1.401]	
%Fem dir			-0.065*			-0.055**
			[0.034]			[0.026]
Controls	YES	YES	YES	YES	YES	YES
Region × Year FE	YES	YES	YES	YES	YES	YES
Industry × Year FE	YES	YES	YES	YES	YES	YES
Country × Industry FE	YES	YES	YES	YES	YES	YES
Obs	29,688	29,688	29,688	29,688	29,688	29,688

This table shows the effect of female board representation on the share of female employment. The unit of observation is a country-industry-year. The sample includes 89 two-digit NACE industries in 32 European countries from 2008 to 2020. Columns (1) and (4) show the reduced-form effect of board gender quotas on the share of female employment. Columns (2) and (5) show the first-stage regression results – the effect of board gender quotas on the share of female directors. Columns (3) and (6) show the second-stage regression results where the share of female directors is instrumented by board gender quotas and hard quotas, respectively. All outcome variables are scaled by 100 for easy interpretation of the regression coefficients. All regressions are weighted by total employment in a country-industry-year. Robust standard errors clustered at the country level are in brackets. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table 4: Female Directors and Gendered Language Usage in Job Ads

	(1)	(2)	(3)	(4)	(5)	(6)
Dep. Var.	Share of feminine words out of all gendered words (%Fem words)					
%Fem Dir	-0.071*	-0.085**	-0.091**	-0.076*	-0.094**	-0.103**
	[0.040]	[0.039]	[0.034]	[0.044]	[0.045]	[0.040]
Log (#Words)				-0.037***	-0.026***	-0.025**
				[0.013]	[0.009]	[0.010]
Female CEO				-0.061***	-0.047**	-0.041**
				[0.021]	[0.023]	[0.018]
Female CFO				-0.023	-0.023	-0.024**
				[0.014]	[0.014]	[0.012]
Female COO				0.014	0.019	0.008
				[0.025]	[0.023]	[0.020]
Firm Size	0.016	0.013	0.01	0.013	0.01	0.007
	[0.012]	[0.011]	[0.009]	[0.013]	[0.012]	[0.010]
Cash Holdings	-0.101***	-0.090***	-0.075**	-0.155***	-0.137***	-0.121***
	[0.032]	[0.032]	[0.029]	[0.038]	[0.038]	[0.034]
Tangibility	-0.129	-0.152*	-0.142*	-0.202**	-0.222**	-0.209**
	[0.078]	[0.087]	[0.079]	[0.079]	[0.091]	[0.084]
Tobin's Q	0.007**	0.008***	0.006**	0.008**	0.010**	0.007**
	[0.003]	[0.003]	[0.003]	[0.004]	[0.004]	[0.003]
Leverage	0.008	0.015	0.01	-0.013	-0.001	-0.008
	[0.020]	[0.020]	[0.018]	[0.022]	[0.024]	[0.021]
ROA	-0.148**	-0.149***	-0.112***	-0.224***	-0.222***	-0.183***
	[0.058]	[0.053]	[0.042]	[0.071]	[0.067]	[0.059]
Capex	0.219	0.237	0.311**	0.445*	0.463*	0.496**
	[0.176]	[0.174]	[0.148]	[0.233]	[0.231]	[0.213]
Firm FE	YES	YES	YES	YES	YES	YES
Industry × Year-Month FE	YES	YES	YES	YES	YES	YES
Job State × Year-Month FE	YES	YES	-	YES	YES	-
Job Zip × Year-Month FE	NO	NO	YES	NO	NO	YES
Occupation (ONET 6 digit) FE	NO	YES	YES	NO	YES	YES
Obs	1,802,618	1,802,618	1,802,618	1,629,816	1,629,816	1,629,816
Adj R2	0.355	0.414	0.429	0.361	0.419	0.434

This table shows the relationship between the share of female directors and gendered language usage in job ads. The unit of observation is a job ad. The sample includes a random 1/15 of the full sample of job ads. The outcome variable is the share of feminine words out of all gendered words in a job ad. Robust standard errors double clustered at the firm and state (state of a job) level are in brackets. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table 5: Effect of California Statute on Gendered Language Usage in Job Ads

	(1)	(2)	(3)	(4)	(5)	(6)
Dep. Var.	Share of feminine words out of all gendered words (%Fem words)					
Flag_CA × Post_2018m9	-0.053***	-0.046***	-0.041***	-0.054***	-0.047***	-0.042***
	[0.008]	[0.008]	[0.008]	[0.010]	[0.011]	[0.010]
Controls	NO	NO	NO	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES	YES
Industry × Year-Month FE	YES	YES	YES	YES	YES	YES
Job State × Year-Month FE	YES	YES	-	YES	YES	-
Job Zip × Year-Month FE	NO	NO	YES	NO	NO	YES
Occupation (ONET 6 digit) FE	NO	YES	YES	NO	YES	YES
Obs	1,816,477	1,816,477	1,816,477	1,642,550	1,642,550	1,642,550
Adj R2	0.354	0.414	0.429	0.36	0.419	0.434

This table shows the effect of the California board gender diversity statute (SB 826) on gendered language usage in job ads. The unit of observation is a job ad. The sample includes a random 1/15 of the full sample of job ads. Flag_CA is a dummy that equals 1 for public firms headquartered in California, and 0 otherwise. Post_2018m9 is a dummy that equals 1 after September 30, 2018, and 0 otherwise. The outcome variable is the share of feminine words out of all gendered words in a job ad. Robust standard errors clustered at the state (headquarters state of a firm) level are in brackets. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table 6: Effect of California Statute on Gendered Language Usage in Job Ads – Treatment Intensity

	(1)	(2)	(3)	(4)
Dep. Var.	Share of feminine words out of all gendered words (%Fem words)			
Subsamples	Met the threshold in SB 826 before 2018m9?		Change in female directors around 2018m9?	
	Just below the threshold	At the threshold	Increase	No Increase
Flag_CA × Post_2018m9	-0.041***	0.000	-0.049***	-0.006
	[0.008]	[0.015]	[0.010]	[0.015]
p-value (diff)	0.002		0.008	
Controls	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES
Industry × Year-Month FE	YES	YES	YES	YES
Job Zip × Year-Month FE	YES	YES	YES	YES
Occupation (ONET 6 digit) FE	YES	YES	YES	YES
Obs	377,637	630,272	512,965	1,082,906
Adj R2	0.545	0.357	0.463	0.448

This table shows heterogeneities in the effect of the California board gender diversity statute (SB 826) on gendered language usage in job ads across firms that are differentially treated by the statute. The unit of observation is a job ad. The sample includes a random 1/15 of the full sample of job ads. Columns (1) and (2) compare firms just below the threshold set by SB 826 (one female director short) and firms at the threshold before the treatment date. Columns (3) and (4) compare firms that experience an increase in their number of female directors after the treatment date versus firms without an increase. Flag_CA is a dummy that equals 1 for public firms headquartered in California, and 0 otherwise. Post_2018m9 is a dummy that equals 1 after September 30, 2018, and 0 otherwise. The outcome variable is the share of feminine words out of all gendered words in a job ad. p-val (diff) reports the p-value for testing the difference between the coefficients yielded by different subsamples. Robust standard errors clustered at the state (headquarters state of a firm) level are in brackets. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table 7: Female Directors and Gendered Language Usage in Job Ads – Heterogeneity: Product Market Competition

	(1)	(2)	(3)	(4)
Dep. Var.	Share of feminine words out of all gendered words (%Fem words)			
%Fem Dir	0.000	0.025	-0.059	-0.072**
	[0.047]	[0.062]	[0.035]	[0.035]
%Fem Dir × HHI	-0.991*	-0.734*		
	[0.495]	[0.372]		
%Fem Dir × High Concentration			-0.276**	-0.298**
			[0.115]	[0.136]
Competition Definition (SIC)	2 digit	3 digit	2 digit	3 digit
Controls	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES
Industry × Year-Month FE	YES	YES	YES	YES
Job Zip × Year-Month FE	YES	YES	YES	YES
Occupation (ONET 6-digit) FE	YES	YES	YES	YES
Obs	1,642,316	1,642,316	1,642,316	1,642,316
Adj R2	0.434	0.434	0.434	0.434

This table shows heterogeneities in the relationship between the share of female directors and gendered language usage in job ads across firms facing different levels of competition. The unit of observation is a job ad. The sample includes a random 1/15 of the full sample of job ads. The outcome variable is the share of feminine words out of all gendered words in a job ad. In columns (1) and (2), female director share (% Fem dir) is interacted with the Herfindahl-Hirschman index (HHI) defined at the two-digit SIC and three-digit SIC code level using sales, respectively. In columns (3) and (4), the interaction term is a dummy indicating firms in industries with a high level of concentration (top quartile), hence low competition. Robust standard errors double clustered at the firm and state (state of a job) level are in brackets. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table 8: Female Directors and Gendered Language Usage in Job Ads – Heterogeneity: Corporate Leadership Roles and Political Preference

	(1)	(2)	(3)	(4)	(5)	(6)
Dep. Var.	Share of feminine words out of all gendered words (%Fem words)					
%Fem Dir	-0.236***	-0.238***	-0.257***	-0.264***	-0.172	-0.185*
	[0.084]	[0.083]	[0.082]	[0.084]	[0.124]	[0.093]
%Fem Dir × Female CEO	0.026					
	[0.114]					
%Fem Dir × Female CFO		0.047				
		[0.071]				
%Fem Dir × Female COO			0.444***			
			[0.122]			
%Fem Dir × Female Top3 Exec				0.115**		
				[0.055]		
%Fem Dir × %Republican Contribution					-0.236*	
					[0.134]	
%Fem Dir × >50% Republican Contribution						-0.163**
						[0.062]
Controls	YES	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES	YES
Industry × Year-Month FE	YES	YES	YES	YES	YES	YES
Job Zip × Year-Month FE	YES	YES	YES	YES	YES	YES
Occupation (ONET 6-digit) FE	YES	YES	YES	YES	YES	YES
Obs	1,152,891	1,152,891	1,152,891	1,152,891	775,962	776,520
Adj R2	0.461	0.461	0.461	0.461	0.432	0.432

This table shows heterogeneities in the relationship between the share of female directors and gendered language usage in job ads across firms with and without women in corporate leadership roles, and with different political preferences. The unit of observation is a job ad. The sample includes a random 1/15 of the full sample of job ads. The outcome variable is the share of feminine words out of all gendered words in a job ad. In columns (1) to (3), female director share (% Fem dir) is interacted with dummies indicating whether a firm has a female CEO, CFO, or COO. In column (4), the interaction term is a dummy indicating whether a firm has at least one female top executive (CEO, CFO, or COO). In column (5), the interaction term is the share of a firm's political contributions to Republican candidates out of its total political contributions. In column (6), the interaction term is a dummy indicating whether more than 50% of a firm's political contributions go to Republican candidates. Robust standard errors double clustered at the firm and state (state of a job) level are in brackets. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table 9: Female Directors and Employee Reviews of Female-Friendly Amenities

Panel A: Correlation with Female Directors

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dep. Var.	Coverage of 8 amenities in Glassdoor job reviews (word frequency)							
	Pros	Pros	Cons	Cons	Pros - Cons	Pros - Cons	Pros - Cons (weighted)	Pros - Cons (weighted)
%Fem Dir	-0.242**	-0.238*	0.241*	0.283	-0.241***	-0.298***	-0.268**	-0.346**
	[0.115]	[0.132]	[0.136]	[0.183]	[0.088]	[0.114]	[0.110]	[0.152]
List of words for amenities	Anchor	Anchor&Top20	Anchor	Anchor&Top20	Anchor	Anchor&Top20	Anchor	Anchor&Top20
Controls	YES	YES	YES	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES	YES	YES	YES
Industry × Year-Month FE	YES	YES	YES	YES	YES	YES	YES	YES
Obs	54,814	54,814	54,814	54,814	54,814	54,814	54,814	54,814
Adj R2	0.054	0.057	0.084	0.089	0.074	0.075	0.081	0.084

Panel B: Effect of California Statute

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dep. Var.	Coverage of 8 amenities in Glassdoor job reviews (word frequency)							
	Pros	Pros	Cons	Cons	Pros - Cons	Pros - Cons	Pros - Cons (weighted)	Pros - Cons (weighted)
Flag_CA × Post_2018m9	-0.035	-0.019	0.048*	0.067	-0.043***	-0.041*	-0.044**	-0.048
	[0.023]	[0.022]	[0.028]	[0.048]	[0.012]	[0.021]	[0.020]	[0.033]
List of words for amenities	Anchor	Anchor&Top20	Anchor	Anchor&Top20	Anchor	Anchor&Top20	Anchor	Anchor&Top20
Controls	YES	YES	YES	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES	YES	YES	YES
Industry × Year-Month FE	YES	YES	YES	YES	YES	YES	YES	YES
Obs	52,856	52,856	52,856	52,856	52,856	52,856	52,856	52,856
Adj R2	0.056	0.059	0.087	0.092	0.077	0.077	0.083	0.085

This table shows potential backlash against female employees in the workplace in terms of the provision of female-friendly amenities. The unit of observation is an employee review. The sample includes all Glassdoor reviews in English from full-time former employees whose review text in the pros and cons sections has more than 50 characters. Panel A shows the relationship between the share of female directors and employee reviews of female-friendly amenities. Panel B shows the effect of the California board gender diversity statute (SB 826) on employee reviews of female-friendly amenities. The outcome variables are the frequency counts of words related to eight female-friendly amenities in the review text in the pros section (columns (1) and (2)) or the cons section (columns (3) and (4)). Columns (5) and (6) use the difference in word counts between the pros and cons sections. Columns (7) and (8) take into account the length of the review text and use the weighted difference in word counts between the pros and cons sections. Columns (1), (3), (5), and (7) count anchor words while columns (2), (4), (6), and (8) count both anchor and top 20 words in the respective amenities group in Appendix Section I of Sockin (2022). Out of 50 amenities, we identify eight amenities that are important for female employees in the workplace (5-Paid time off, 10-Work-life balance, 11-Hours, 12-Work schedule, 16-Teleworking, 19-Respect/abuse, 21-Support, and 31-Diversity/inclusion). Table B9 in the Online Appendix provides the word list of the eight amenities. Robust standard errors clustered at the firm level are in brackets in Panel A. Robust standard errors clustered at the state (headquarters state of a firm) level are in brackets in Panel B. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table 10: Female Directors and Gender-Related Labor Violations

Panel A: Correlation with Female Directors

	(1)	(2)	(3)	(4)
Dep. Var.	Seed words only		Expanded word list	
	#Violations	log (1 + $ penalties)	#Violations	log (1 + $ penalties)
%Fem Dir	0.01	0.131	0.041**	0.470**
	[0.011]	[0.145]	[0.018]	[0.213]
Controls	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES
Industry × Year FE	YES	YES	YES	YES
Obs	11,182	11,182	11,182	11,182
Adj R2	0.124	0.105	0.133	0.116

Panel B: Effect of California Statute

	(1)	(2)	(3)	(4)
Dep. Var.	Seed words only		Expanded word list	
	#Violations	log (1 + $ penalties)	#Violations	log (1 + $ penalties)
Flag_CA × Post_2018m9	0.005**	0.056***	0.005*	0.128***
	[0.002]	[0.021]	[0.003]	[0.031]
Controls	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES
Industry × Year FE	YES	YES	YES	YES
Obs	10,967	10,967	10,967	10,967
Adj R2	0.126	0.106	0.134	0.117

This table shows potential backlash against female employees in the workplace in terms of gender-related labor violations and penalties. The unit of observation is a firm-year. We use case-level data from Violation Tracker and aggregate them to firm-year level. Panel A shows the relationship between the share of female directors and gender-related labor violations and penalties. Panel B shows the effect of the California board gender diversity statute (SB 826) on gender-related labor violations and penalties. In columns (1) and (2), the outcome variable is the number of or the penalties incurred by labor violations that can be labeled as gender-related. These violations mention any of the following seed words in the "description" or "secondary offense" fields: female, gender, hostile, hours, leave, sex, sexual, support, and vacation. In columns (3) and (4), the outcome variable is the number of or the penalties incurred by labor violations that can be labeled as gender-related using an expanded word list. The following words are added as they have high associations with the above seed words in terms of pmi-freq scores (Jin et al., 2021): applicants, women, job, positions, discrimination, environment, medical, sick, and harassment. Robust standard errors clustered at the firm level are in brackets in Panel A. Robust standard errors clustered at the state (headquarters state of a firm) level are in brackets in Panel B. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

For Online Publication:

Appendix to "Does Mandating Women on Corporate Boards Backfire?"

Appendix A Definition of Variables

Table A1: List of Variables, Definitions, and Data Sources - European Analysis

Variable	Definition	Source
%Fem emp	Share of female employment out of total employment at the country-industry (NACE)-year level	Eurostat LSF
%Fem dir	Average share of female directors in the largest publicly listed companies at the country-year level	EIGE
Quota	Equals 1 if a country has implemented a board gender quota policy, and 0 otherwise	Legislative files
Hard quota	Equals 1 if a country has implemented a hard or medium-hard board gender quota policy, and 0 otherwise	Legislative files
Soft quota	Equals 1 if a country has implemented a soft board gender quota policy, and 0 otherwise	Legislative files
Total emp (1,000)	Total employment at the country-industry (NACE)-year level	Eurostat LSF
%Fem population	Share of female population	WorldBank
Log (population)	Log of total population	WorldBank
Population growth	Year-on-year population growth	WorldBank
Log (GDP per capita)	Log of GDP per capita	WorldBank
GDP per capita growth	Year-on-year GDP per capita	WorldBank

The table lists variables used in the European country-industry-level analysis.

Table A2: List of Variables, Definitions, and Data Sources - US Analysis

Variable	Definition	Source
%Fem words	Share of feminine words out of all gendered words in a job ad	LinkUp
#Fem words	Number of feminine words in a job ad	LinkUp
#Mas words	Number of masculine words in a job ad	LinkUp
#Words	Number of words in a job ad	LinkUp
Job zone	Job zones: 1 (less preparation required) to 5 (most preparation required)	ONET 26.2 Database
Mean wage	Average hourly wage of an occupation	BLS OEWS
Entry education	Typical entry-level education requirement: 0 (no formal educational credential) to 7 (Doctoral or professional degree)	BLS OEWS
STEM	Equals 1 if an occupation is in STEM fields, and 0 otherwise	BLS OEWS
#Job	Number of job ads in a firm-year	LinkUp
#Dir	Number of directors	BoardEx
%Fem dir	Share of female directors out of all directors	BoardEx
Female CEO	Equals 1 if a firm has a female CEO, and 0 otherwise	ExecuComp
Female CFO	Equals 1 if a firm has a female CFO, and 0 otherwise	ExecuComp
Female COO	Equals 1 if a firm has a female COO, and 0 otherwise	ExecuComp
Female top3 exec	Equals 1 if a firm has at least one female top executive (CEO, CFO, or COO), and 0 otherwise	ExecuComp
Firm size	Size of a firm: log of total assets (ta)	Compustat
Cash holdings	Cash holdings: che/at	Compustat
Tangibility	Tangibility: ppent/at	Compustat
Tobin's Q	Tobin's Q: $(\text{at}+\text{prcc}_f * csho - ceq - txditc)/at$	Compustat
Leverage	Book levarage: (dltt+dlc)/at	Compustat
ROA	Profitability: oibdp/at	Compustat
Capex	Capital Investment: capx/at	Compustat
HHI (SIC 2-digit)	Herfindahl-Hirschman index, defined at the two-digit SIC code level using sales	Compustat
HHI (SIC 3-digit)	Herfindahl-Hirschman index, defined at the three-digit SIC code level using sales	Compustat
High concentration (SIC 2-digit)	Equals 1 for firms in industries with a high level of concentration (top quartile HHI defined at the two-digit SIC code level), and 0 otherwise	Compustat
High concentration (SIC 3-digit)	Equals 1 for firms in industries with a high level of concentration (top quartile HHI defined at the three-digit SIC code level), and 0 otherwise	Compustat
%Republican Contribution	Share of a firm's political contributions to Republican candidates out of its total political contributions	Federal Election Commission
>50% Republican Contribution	Equals 1 if more than 50% of a firm's political contributions go to Republican candidates	Federal Election Commission
Pros	Frequency counts of words related to eight female-friendly amenities in the review text in the pros section	Glassdoor
Cons	Frequency counts of words related to eight female-friendly amenities in the review text in the cons section	Glassdoor
Pros - Cons	Difference in frequency counts of words related to eight female-friendly amenities in the pros and cons section	Glassdoor
Pros - Cons (weighted)	Difference in frequency counts of words related to eight female-friendly amenities in the pros and cons section, weighted by length of the review	Glassdoor
Ratings: Overall	Overall employee ratings (1-5)	Glassdoor
Ratings: Compensation and benefits	Employee ratings for compensation and benefits (1-5)	Glassdoor
Ratings: Culture and values	Employee ratings for culture and values (1-5)	Glassdoor
Ratings: Work-life balance	Employee ratings for work-life balance (1-5)	Glassdoor
#Violation	Number of gender-related labor violations	Violation Tracker
log (1 + $ penalties)	Log of 1 plus dollar amount of penalty incurred by gender-related labor violations	Violation Tracker

The table lists variables used in the US job-, review-, and firm-level analysis.

Appendix B Additional Analysis, Figures, and Tables

B.1 Coverage of LinkUp

Figure B2a shows that LinkUp's coverage of job ads grows over time. The number of job ads increases from fewer than 0.2 million per month in 2014 to around 0.6 million per month toward the later half of our sample period. Figure B2b shows LinkUp's monthly coverage of public firms. Their coverage grows from fewer than 1,000 firms at the beginning of 2014 to close to 2,500 firms at the end of 2020.

Figure B3a shows that the merged sample of LinkUp and BoardEx firms (blue bar) spans between 1,647 to 2,447 Compustat firms over the period 2014-2020, capturing between 37% to 64% of BoardEx firms. While this coverage ratio does not seem particularly high, LinkUp tends to cover large companies that are also big employers. The blue bar in Figure B3b shows the assets-weighted share of public firms in the merged sample of LinkUp and BoardEx. This ratio varies from 71% to 85%.

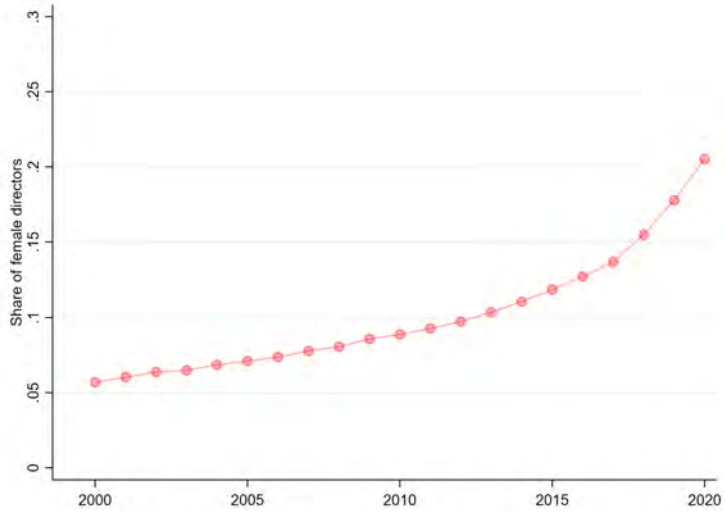
Next, when we focus on large companies by further merging the data with ExecuComp (ExecuComp covers public firms that are the constituents of S&P 1500), the resulting sample has between 1,180 to 1,453 S&P 1500 firms over the period 2014-2020, as shown by the green bar in Figure B3a. This represents a majority of S&P1500 firms, both in terms of the number of firms and the assets-weighted share. The green bar in Figure B3b shows that 74% to 88% of the aggregate assets value of S&P1500 firms in ExecuComp are covered by LinkUp.

Our sample using LinkUp data captures the most significant firms in the economy. We next examine if there are any industry or geographic biases. We compare the distribution of firms in our merged sample across industries and states with the distribution of firms in BoardEx or ExecuComp. Figure B4 suggests that the sample merged with LinkUp has industry (Figure B4a and B4b) and geographic (Figure B4c and B4d) coverage very similar to that of BoardEx and ExecuComp.

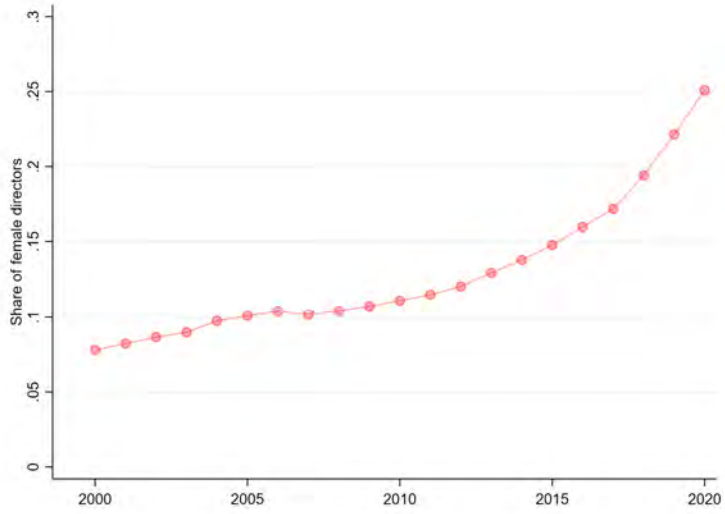
B.2 Additional analysis: female labor market outcomes in Europe

To provide further support for our hypothesis that quotas result in worsening female labor market outcomes, we provide additional evidence on how women in Europe are affected by quotas. Table B4 in the Online Appendix presents our analysis on the effects of board gender quotas on the shares of female employees (Panel A) and non-employees (Panel B). We show that board gender quotas lead to a significant drop in the share of females employed by firms and institutions, whereas these quotas have little effect on the share of female non-employees, suggesting that the findings in Table 2 are likely driven by the formal sector being (more) exposed to quotas. Table B5 in the Online Appendix further examines whether women in Europe have taken part-time jobs and/or are no longer in the labor force. We show that board gender quotas lead to a significant increase in the share of female part-time employment (Panel A) and a significant drop in the share of females active in the labor force (Panel B). Taken together, our evidence points to worsening female labor market outcomes after board gender quotas in terms of less full-time and more part-time employment, and the possibility of more women dropping out of the labor force.

Figure B1: Female Board Representation from 2000 to 2020



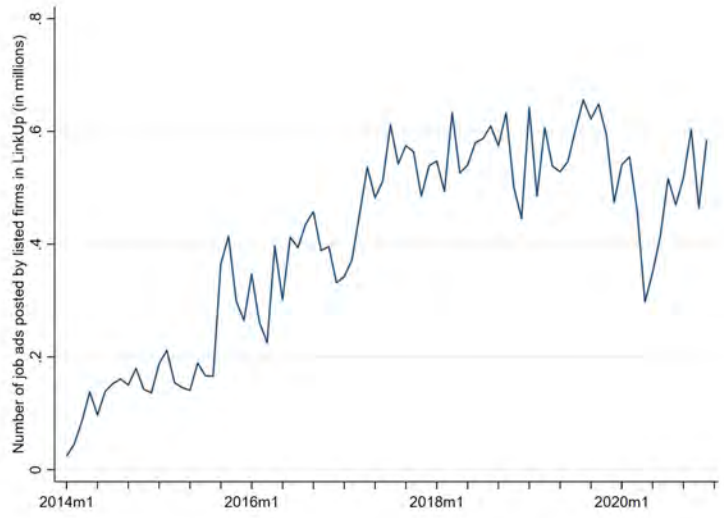
(a) BoardEx Firms



(b) S&P 1500 Firms

This figure shows the time trend in female board representation from 2000 to 2020. Figure B1a plots the average share of female directors in public firms with available data in Compustat and BoardEx. Figure B1b plots the average share of female directors in S&P 1500 firms.

Figure B2: LinkUp Coverage from 2014 to 2020

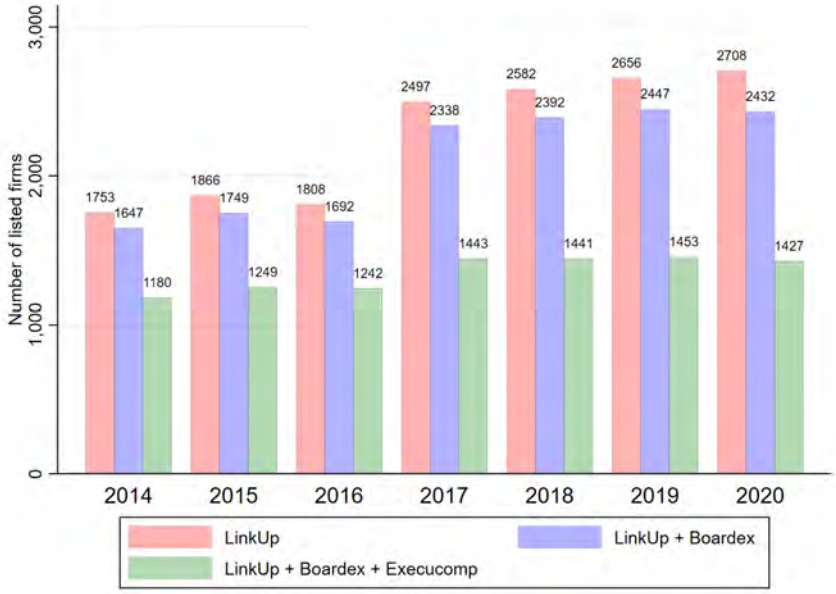


(a) Number of Job Ads in LinkUp

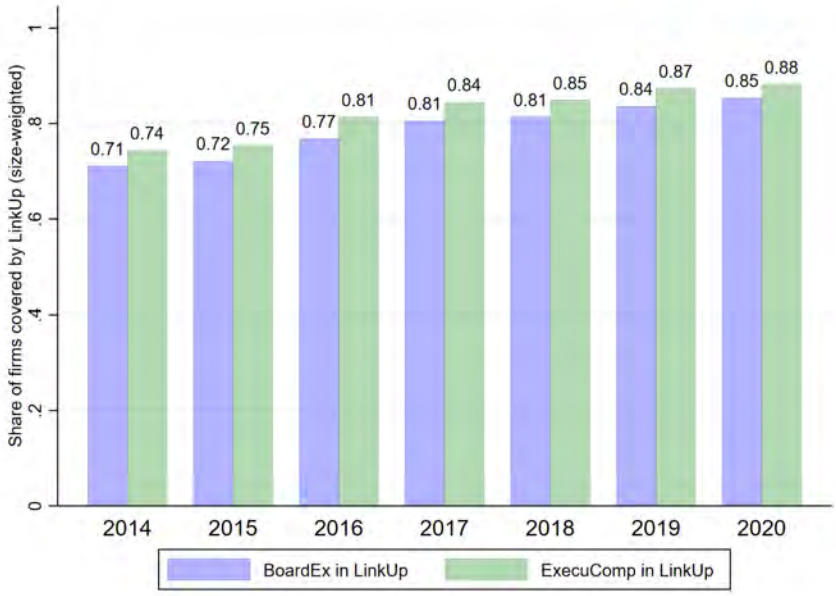
(b) Number of Listed Firms in LinkUp

This figure shows the coverage of LinkUp from 2014 to 2020. Figure B2a plots the number of job ads covered by LinkUp. Figure B2b plots the number of public firms covered by LinkUp.

Figure B3: LinkUp vs. BoardEx/ExecuComp



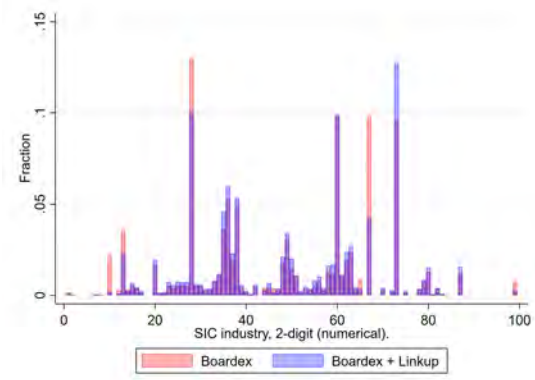
(a) Number of Public Firms in LinkUp and LinkUp ∩ BoardEx/ExecuComp



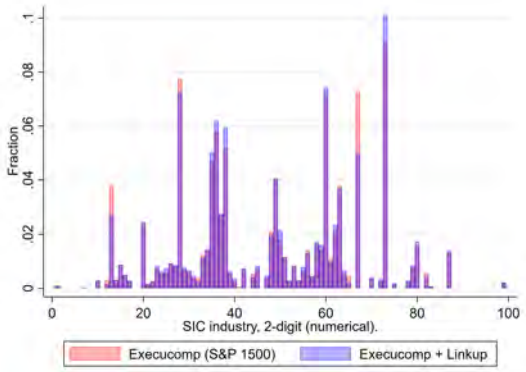
(b) Share of BoardEx/ExecuComp Firms Covered by LinkUp

This figure shows the coverage of LinkUp relative to BoardEx and ExecuComp. Figure B3a shows the number of public firms in LinkUp relative to the number of firms covered by both LinkUp and BoardEx, or the number of firms covered by LinkUp, BoardEx, and ExecuComp. Figure B3b shows the assets-weighted share of BoardEx (ExecuComp) firms covered by LinkUp.

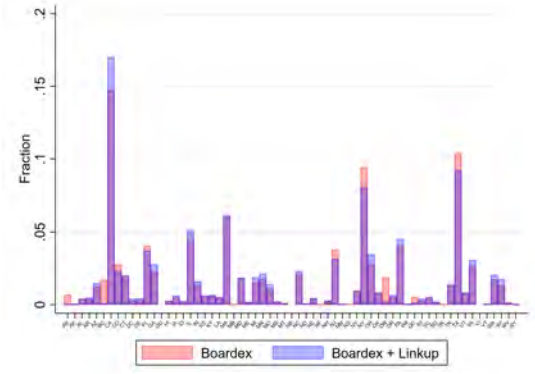
Figure B4: Sample Representativeness: LinkUp ∩ BoardEx/ExecuComp – Industry and Geography



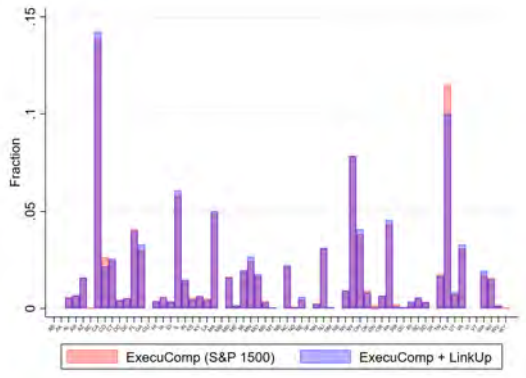
(a) Industry, BoardEx vs. BoardEx + LinkUp



(b) Industry, ExecuComp vs. ExecuComp + BoardEx + LinkUp



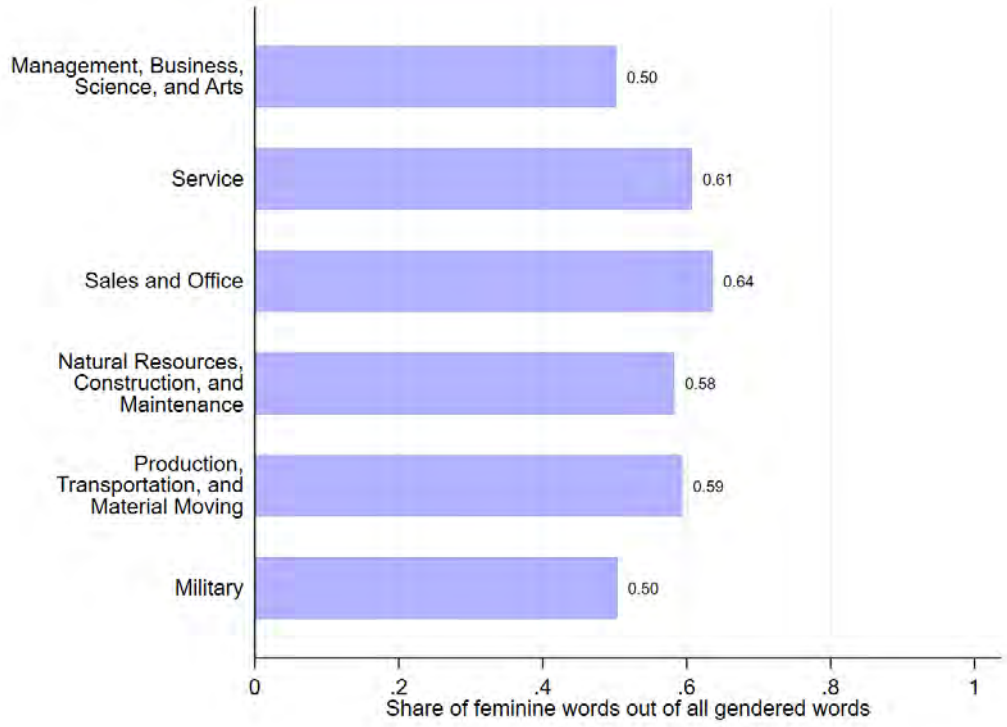
(c) HQ State, BoardEx vs. BoardEx + LinkUp



(d) HQ State, ExecuComp vs. ExecuComp + BoardEx + LinkUp

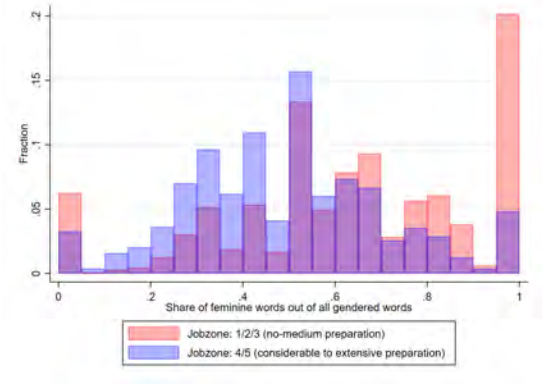
This figure shows the industry (two-digit SIC) and geographical coverage of the merged data set of LinkUp and BoardEx (and ExecuComp). Figure B4a (Figure B4c) compares the fraction of public firms in each two-digit SIC industry (in each headquarters state) in the BoardEx data set with the corresponding fraction in the merged data set of LinkUp and BoardEx. Figure B4b (Figure B4d) compares the fraction of public firms in each two-digit SIC industry (in each headquarters state) in the ExecuComp data set with the corresponding fraction in the merged data set of LinkUp, BoardEx, and ExecuComp.

Figure B5: Gendered Language Usage in Different Occupations – High-Level Aggregation

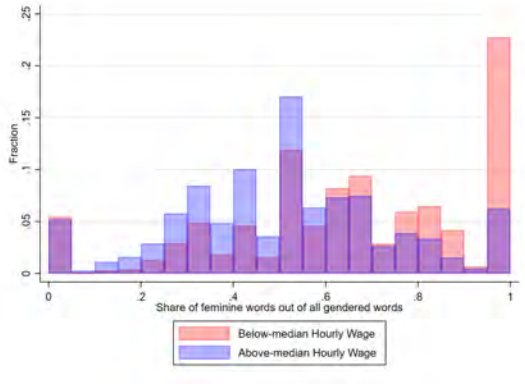


This figure shows gendered language usage in six occupations, based on the two-digit ONET-SOC code (11-29, 31-39, 41-43, 45-49, 51-53, 55). The definitions are from Table 6 of the Standard Occupational Classification (SOC) User Guide. See `https://www.aila.org/File/Related/17122005a.pdf`

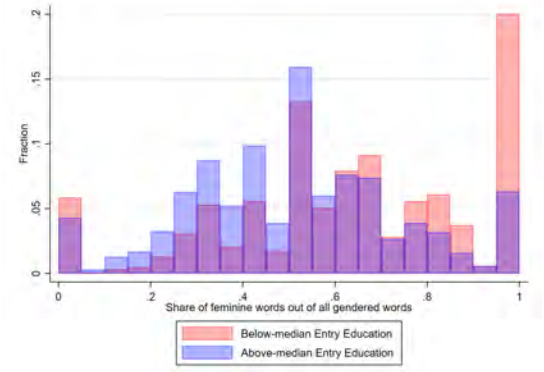
Figure B6: Gendered Language Usage in Different Occupations – Occupation-Level Characteristics



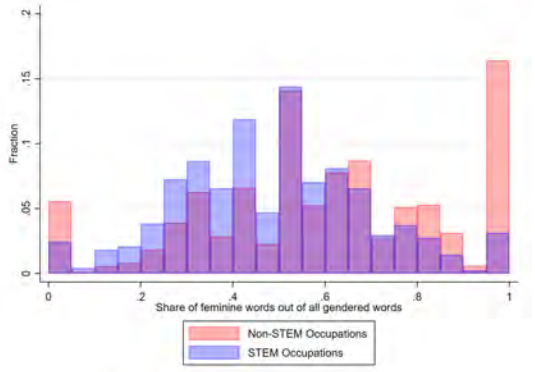
(a) Job Zone



(b) Mean Wage



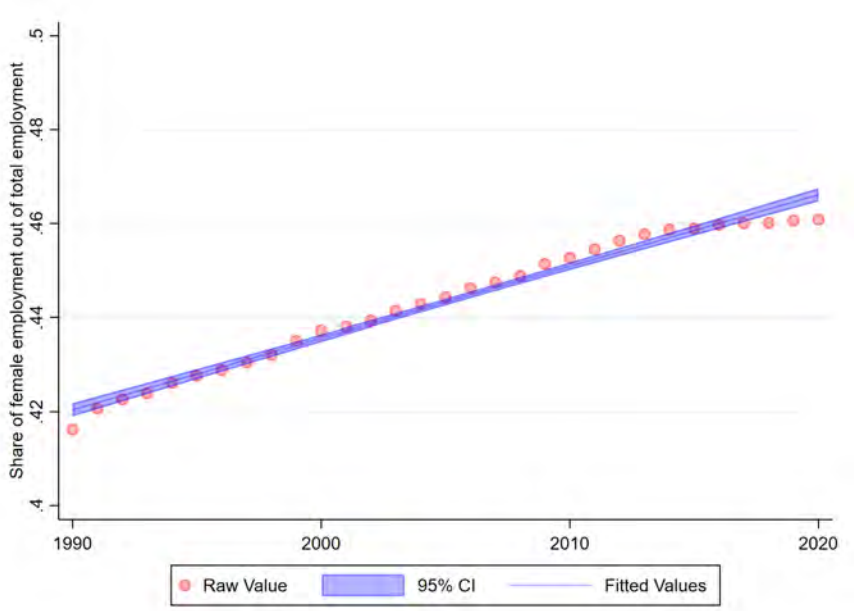
(c) Entry Education



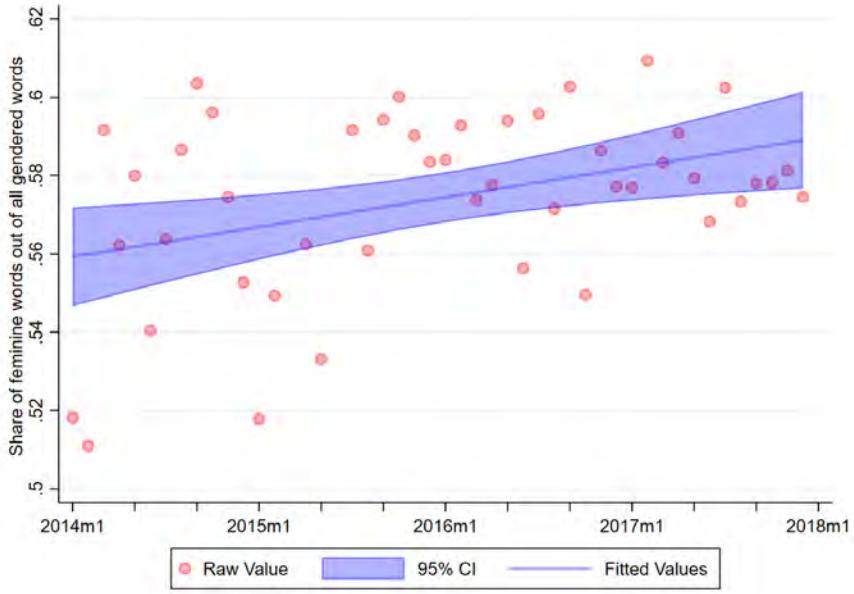
(d) STEM

This figure shows how gendered language usage in job ads varies with occupation-level characteristics. Figure B6a splits the sample by the value of job zone, which is a group indicator from 1 to 5 for occupations that are similar in their education, experience, and training requirements. The higher the value of a job zone, the more complex skills a job requires. Information on job zone is from the ONET Database. Figure B6b splits the sample by the median of the average hourly wage for each occupation, using the 2020 national Occupational Employment and Wage Statistics (OEWS) data sets from BLS. Figure B6c splits the sample by the median of the entry education requirement for each occupation, using OEWS' typical entry-level educational requirement data sets. Figure B6d splits the sample into STEM and non-STEM occupations, using OEWS' STEM data sets.

Figure B7: Progress in Female Labor Market Participation Over Time



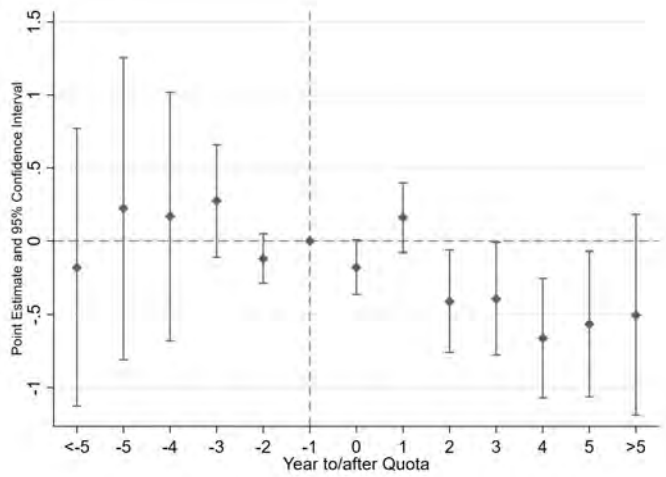
(a) EU Share of Female Employment



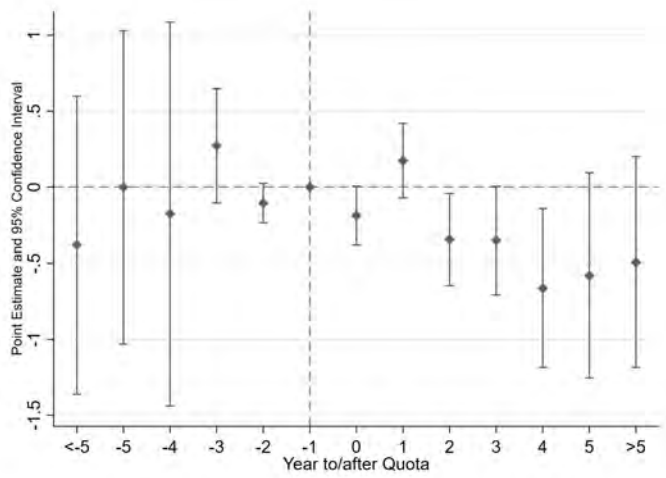
(b) US Gendered Language Usage in Job Ads: %Fem words

This figure shows progress in European female labor market participation and gendered language usage in US job ads over time. Figure B7a plots the female share of the labor force in EU from 1990 to 2020 using data from the World Bank (ILOSTAT database). Figure B7b plots the monthly average share of feminine words out of all gendered words in job ads covered by LinkUp from 2014 to 2017, before the California Statute.

Figure B8: Effect of Board Gender Quotas on Female Labor Market Participation – Dynamics: Estimation Following Sun and Abraham (2021)



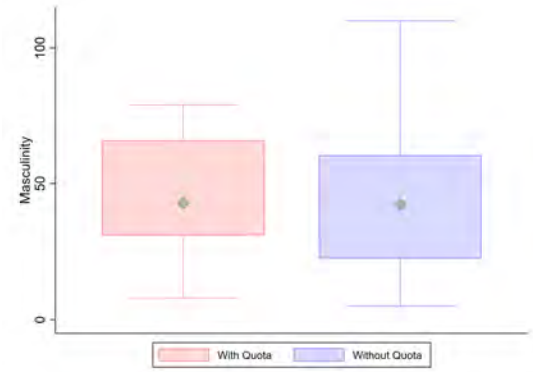
(a) Without Controls



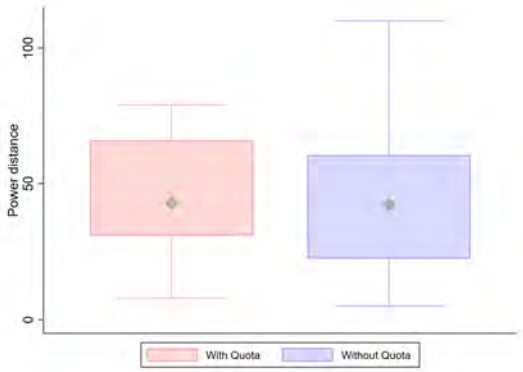
(b) With Controls

This figure plots the dynamic effect of board gender quotas on the share of female employment following the methodology in Sun and Abraham (2021). Year minus one is the year before the announcement of board gender quotas and is the omitted category. The outcome variable is scaled by 100 for easy interpretation of the regression coefficients. Figure B8a (Figure B8b) presents the estimated coefficients without (with) control variables in the regression.

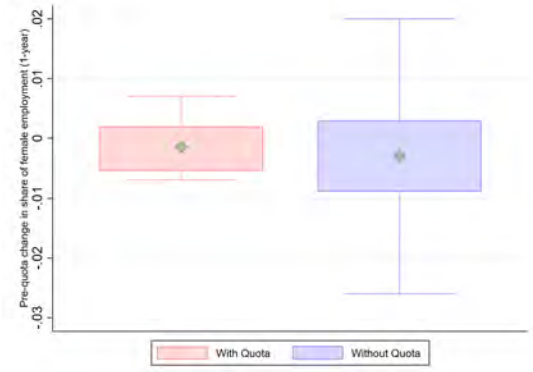
Figure B9: Introduction of Board Gender Quotas – National Culture and Trends in Female Labor Market Participation



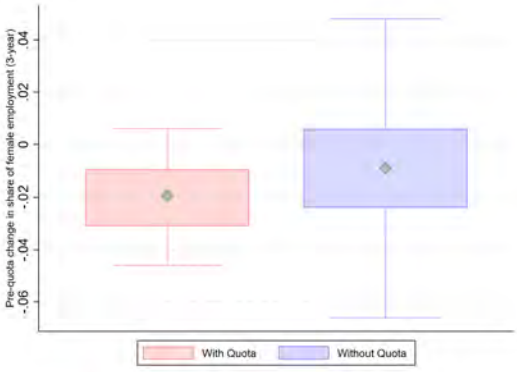
(a) Masculinity



(b) Power distance



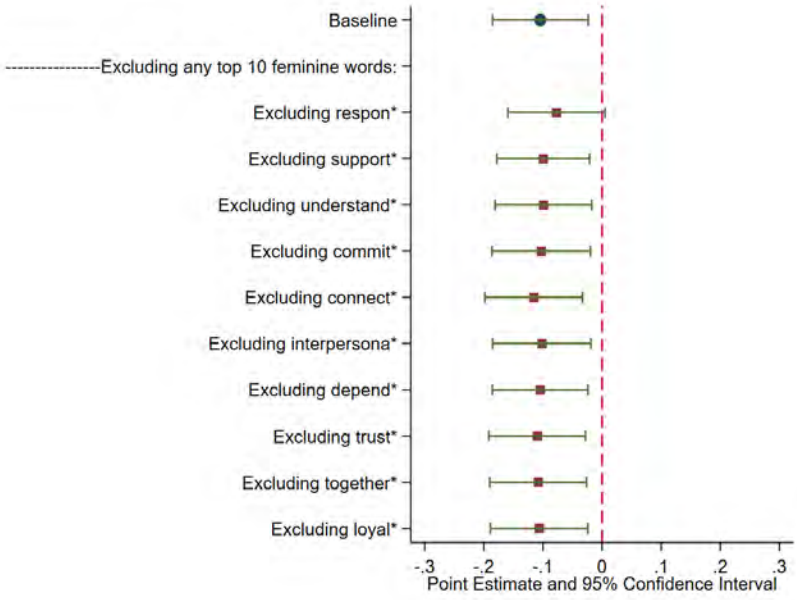
(c) Change in share of female employment before quotas (1 year)



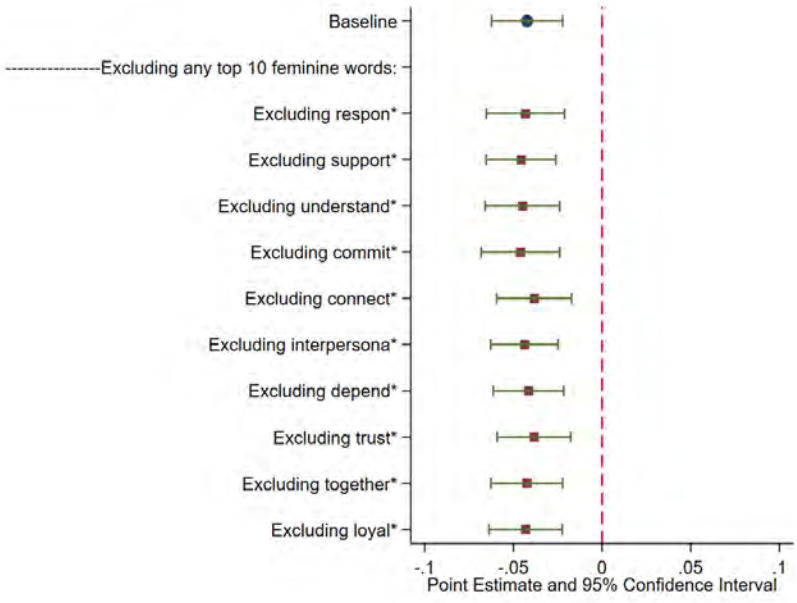
(d) Change in share of female employment before quotas (3 year)

This figure compares European countries that have implemented board gender quotas by 2020 ("With Quota" group) to countries that have not ("Without Quota" group). Figure B9a and B9b examine two Hofstede natural culture values - masculinity and power distance. Figure B9c and B9d examine the pre-quota trend in the share of female employment over one year and three years.

Figure B10: Robustness - Excluding Top Feminine Words



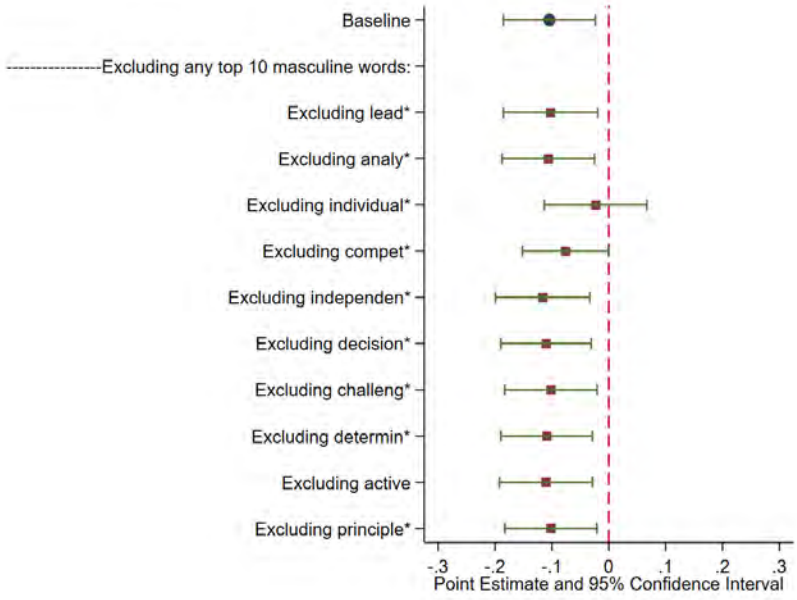
(a) Correlational Analysis



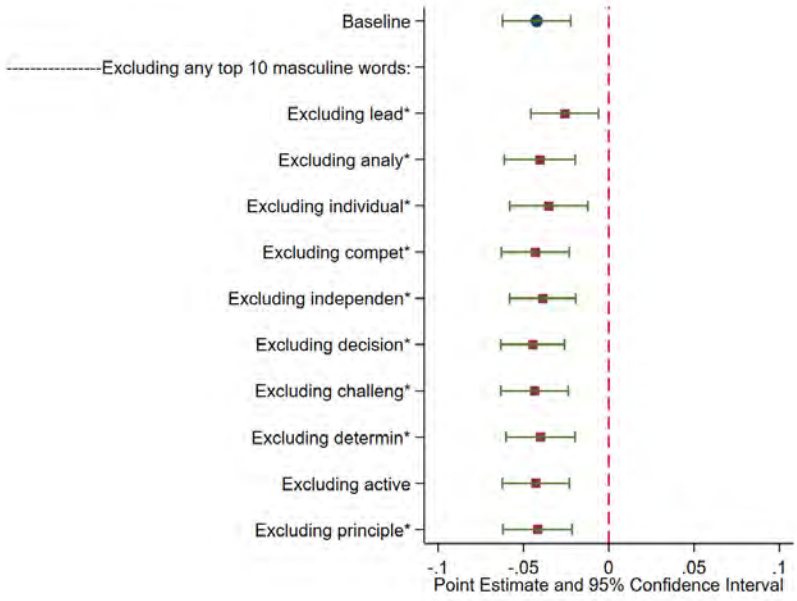
(b) CA DID

This figure shows the robustness of the job-level regression results to excluding top feminine words when computing gendered language usage in each job ad. The asterisk denotes the acceptance of all letters, hyphens, or numbers following its appearance. Both the relationship between the share of female directors and gendered language usage in job ads (Figure B10a) and the effect of the California board gender diversity statute on gendered language usage in job ads (Figure B10b) are examined. The regression specifications are the same as those in column 6 of Table 4 and Table 5. The top row of each panel shows the baseline estimate in column 6 of Table 4 and Table 5.

Figure B11: Robustness - Excluding Top Masculine Words



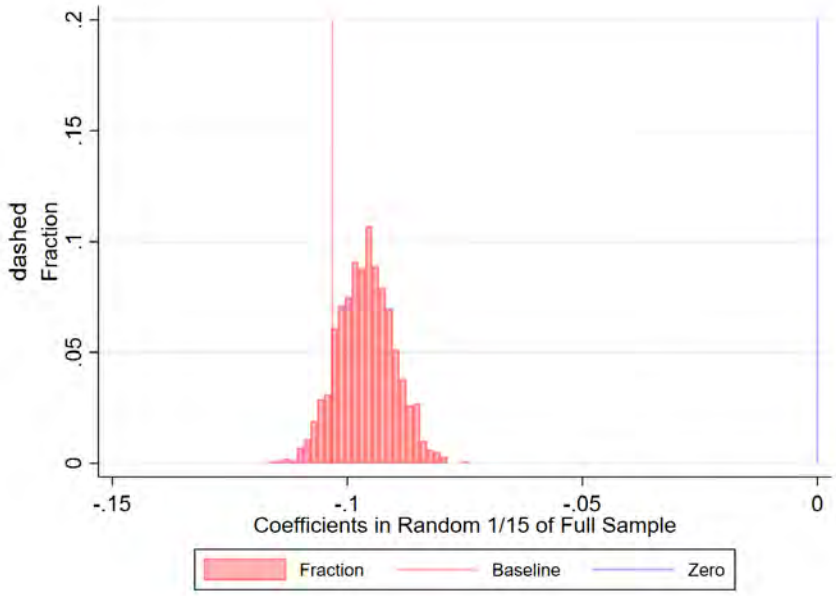
(a) Correlational Analysis



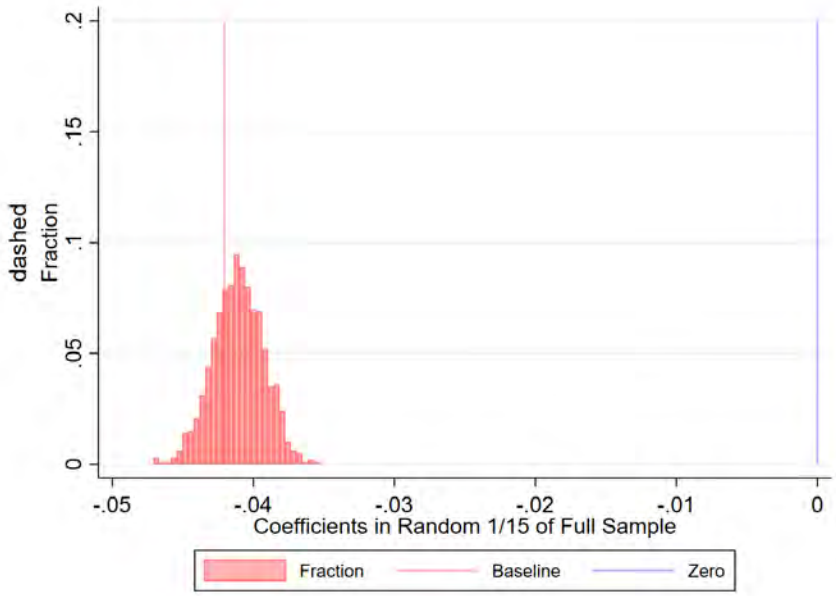
(b) CA DID

This figure shows the robustness of the job-level regression results to excluding top masculine words when computing gendered language usage in each job ad. The asterisk denotes the acceptance of all letters, hyphens, or numbers following its appearance. Both the relationship between the share of female directors and gendered language usage in job ads (Figure B11a) and the effect of the California board gender diversity statute on gendered language usage in job ads (Figure B11b) are examined. The regression specifications are the same as those in column 6 of Table 4 and Table 5. The top row of each panel shows the baseline estimate in column 6 of Table 4 and Table 5.

Figure B12: Robustness - Random Sampling



(a) Correlational Analysis



(b) CA DID

This figure shows the robustness of the job-level regression results to alternative draws from the full sample. A random 1/15 of the full sample is drawn each time, for 1000 times. Both the relationship between the share of female directors and gendered language usage in job ads (Figure B12a) and the effect of the California board gender diversity statute on gendered language usage in job ads (Figure B12b) are examined. The regression specifications are the same as those in column 6 of Table 4 and Table 5. The red line in each panel indicates the baseline estimate in column 6 of Table 4 and Table 5. The blue line in each panel indicates zero treatment effect.

Table B1: Board Gender Quotas in Europe

Country	Passage Date	Compliance Date	Quota	Quota Law	Hard/Soft Quota?
NO	12/19/2003	2008	40%	Norwegian Company Act	Hard
ES	3/12/2007	2015	40%	Spanish Equality Act	Soft
IS	3/4/2010	2013	40%	Icelandic Company Act	Soft
FR	1/13/2011	2017	40%	French Cope Zimmerman Company Act	Medium Hard
NL	6/6/2011	2016	30%	Dutch Civil Code	Soft
IT	6/28/2011	2015	33%	Italian Golfo Mosca Company Act	Hard
BE	6/30/2011	2018	33%	Belgian Company Act	Hard
DE	3/15/2015	2016	30%	German Company Act	Hard
AT	7/26/2017	2018	30%	Austrian Company Act	Medium Hard
PT	8/1/2017	2020	33.30%	Portuguese Law	Hard

The table lists board gender quotas in Europe introduced over the period 2003 - 2017, including each quota's passage/compliance dates and the relevant quota law. Whether a quota is hard, medium hard, or soft is classified by Mensi-Klarbach and Seierstad (2020).

Table B2: Dictionary of Masculine and Feminine Words in Gaucher et al. (2011)

Masculine	Feminine
active	affectinate
adventurous	child*
aggress*	cheer*
ambitio*	commit*
analy*	communal
assert*	compassion*
athlet*	connect*
autonom*	considerate
boast*	cooperat*
challeng*	depend*
compet*	emotiona*
confident	empath*
courag*	feminine
decide	flatterable
decisive	gentle
decision*	honest
determin*	interpersonal
dominant	interdependen*
domina*	interpersona*
force*	kind
greedy	kinship
headstrong	loyal*
hierarch*	modesty
hostil*	nag
impulsive	nurtur*
independen*	pleasant*
individual*	polite
intellect*	quiet*
lead*	respon*
logic	sensitiv*
masculine	submissive
objective	support*
opinion	sympath*
outspoken	tender*
persist	together*
principle*	trust*
reckless	understand*
stubborn	warm*
superior	whin*
self-confiden*	yield*
self-sufficien*	
self-relian*	

The table lists all the masculine and feminine words identified in Gaucher et al. (2011). The asterisk denotes the acceptance of all letters, hyphens, or numbers following its appearance.

Table B3: Effect of Board Gender Quotas on Female Labor Market Participation – Robustness to Alternative Specifications and Estimations

	(1)	(2)	(3)	(4)
Dep. Var.	Share of female employment out of total employment (%Fem Emp)			
Quota	-0.299**	-0.399**	-0.469**	-0.670**
	[0.119]	[0.185]	[0.225]	[0.311]
Alternative Estimator	Cluster by Industry	Equal-weighted	Borusyak et al. (2021)	CSDID
Controls	YES	YES	YES	YES
Region × Year FE	YES	YES	YES	NO
Industry × Year FE	YES	YES	YES	NO
Country × Industry FE	YES	YES	YES	YES
Year FE	-	-	-	YES
Obs	29,688	29,688	27,545	26,909
Adj R2	0.991	0.943	0.858	0.858

This table shows the effect of board gender quotas on the share of female employment using different specifications or alternative DID estimators. The unit of observation is a country-industry-year. The sample includes 89 two-digit NACE industries in 32 European countries from 2008 to 2020. Column (1) uses alternative clustering at the industry level instead of the country level. Column (2) puts no weight to a country-industry-year in the regression analysis. Column (3) uses the imputation approach in Borusyak et al. (2021). Column (4) uses the estimator in Callaway and Sant'Anna (2021). All outcome variables are scaled by 100 for easy interpretation of the regression coefficients. Robust standard errors clustered at the country level are in brackets. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table B4: Effect of Board Gender Quotas on Female Labor Market Participation – Employees vs. Non-Employees

Panel A: Employees (Employed by Firms or Institutions)

	(1)	(2)	(3)	(4)	(5)	(6)
Dep. Var.	Share of female employee out of total employees					
Quota	-0.642*	-0.640*	-0.654**	-0.403**	-0.404**	-0.496***
	[0.333]	[0.340]	[0.299]	[0.168]	[0.175]	[0.181]
%Fem population				-0.094	-0.057	0.121
				[0.761]	[0.766]	[0.701]
Log (population)				12.647***	12.690***	10.646***
				[2.571]	[2.613]	[2.306]
Population growth				0.266	0.302	0.23
				[0.219]	[0.223]	[0.185]
Log (GDP per capita)				-0.568	-0.541	-0.493
				[0.766]	[0.769]	[0.756]
GDP per capita growth				-0.004	-0.002	-0.009
				[0.019]	[0.019]	[0.019]
Industry FE	YES	-	-	YES	-	-
Country FE	YES	YES	-	YES	YES	-
Region × Year FE	YES	YES	YES	YES	YES	YES
Industry × Year FE	-	YES	YES	-	YES	YES
Country × Industry FE	-	-	YES	-	-	YES
Obs	8,078	8,078	8,073	8,078	8,078	8,073
Adj R2	0.903	0.902	0.975	0.903	0.902	0.975

Panel B: Non-Employees (Self-Employment and Unpaid Family Workers)

	(1)	(2)	(3)	(4)	(5)	(6)
Dep. Var.	Share of female non-employees out of total non-employees					
Quota	-0.604	-0.572	-0.293	-0.224	-0.07	0.209
	[1.092]	[1.006]	[1.022]	[1.311]	[1.291]	[1.280]
%Fem population				-1.756	-2.262	-1.861
				[1.993]	[1.898]	[1.745]
Log (population)				1.356	3.758	6.712
				[10.183]	[9.866]	[10.917]
Population growth				-0.386	-0.659	-0.68
				[0.575]	[0.577]	[0.566]
Log (GDP per capita)				0.889	0.687	0.703
				[2.933]	[3.061]	[2.708]
GDP per capita growth				0.093	0.098	0.112*
				[0.059]	[0.061]	[0.061]
Industry FE	YES	-	-	YES	-	-
Country FE	YES	YES	-	YES	YES	-
Region × Year FE	YES	YES	YES	YES	YES	YES
Industry × Year FE	-	YES	YES	-	YES	YES
Country × Industry FE	-	-	YES	-	-	YES
Obs	7,516	7,516	7,506	7,516	7,516	7,506
Adj R2	0.632	0.636	0.746	0.631	0.636	0.746

This table shows the effect of board gender quotas on the share of female employees (Panel A) and female non-employees (Panel B). The unit of observation is a country-industry-year. The sample includes one-digit NACE industries in 32 European countries from 2008 to 2020. All outcome variables are scaled by 100 for easy interpretation of the regression coefficients. Robust standard errors clustered at the industry level are in brackets. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table B5: Effect of Board Gender Quotas on Female Labor Market Participation – Part-Time Jobs and Active Persons

Panel A: Part-Time Employment

	(1)	(2)	(3)	(4)	(5)	(6)
Dep. Var.	Share of female part-time employment out of total part-time employment					
Quota	3.449***	3.090***	3.355***	3.492***	3.107***	3.270***
	[0.864]	[0.870]	[0.955]	[0.846]	[0.829]	[0.806]
%Fem population				-2.098	-1.658	-1.776
				[3.205]	[3.308]	[3.367]
Log (population)				-1.986	-0.834	-12.277
				[16.068]	[17.105]	[17.040]
Population growth				0.59	0.8	1.028*
				[0.583]	[0.624]	[0.541]
Log (GDP per capita)				0.456	-0.09	2.261
				[6.030]	[6.389]	[6.502]
GDP per capita growth				-0.104	-0.081	-0.052
				[0.109]	[0.105]	[0.085]
Industry FE	YES	-	-	YES	-	-
Country FE	YES	YES	-	YES	YES	-
Region × Year FE	YES	YES	YES	YES	YES	YES
Industry × Year FE	-	YES	YES	-	YES	YES
Country × Industry FE	-	-	YES	-	-	YES
Obs	1,474	1,474	1,469	1,474	1,474	1,469
Adj R2	53.726	53.726	53.684	53.726	53.726	53.684

Panel B: Active Persons (Persons in the Labor Force)

	(1)	(2)
Dep. Var.	Share of female active persons out of all active persons	
Quota	-0.347**	-0.256**
	[0.147]	[0.114]
%Fem population		0.956***
		[0.331]
Log (population)		7.198**
		[2.840]
Population growth		-0.034
		[0.068]
Log (GDP per capita)		-0.369
		[0.691]
GDP per capita growth		0.009
		[0.010]
Country FE	YES	YES
Region × Year FE	YES	YES
Obs	426	426
Adj R2	0.997	0.998

This table shows the effect of board gender quotas on the share of female part-time employment (Panel A) and the share of female active persons out of all active persons (Panel B). The unit of observation is a country-industry-year in Panel A. The sample includes one-digit NACE industries in 32 European countries from 2008 to 2020. The unit of observation is a country-year in Panel B. The sample period is from 2008 to 2020. All outcome variables are scaled by 100 for easy interpretation of the regression coefficients. Robust standard errors clustered at the industry level are in brackets. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table B6: Effect of Board Gender Quotas on Gender Equality Laws

Panel A: Without Controls

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dep. Var.	Women, Business and the Law (WBL) index (0-1)								
	Overall	Mobility	Workplace	Pay	Marriage	Parenthood	Entrepreneurship	Assets	Pension
Quota	0.005	0.000	0.000	0.038	-0.002	0.009	-0.008	0.000	0.002
	[0.009]	[.]	[0.000]	[0.057]	[0.030]	[0.026]	[0.013]	[.]	[0.032]
Controls	NO	NO	NO	NO	NO	NO	NO	NO	NO
Country FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Region × Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Obs	416	416	416	416	416	416	416	416	416
Adj R2	0.834	1	0.1	0.715	0.656	0.852	0.714	1	0.81

Panel B: With Controls

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dep. Var.	Women, Business and the Law (WBL) index (0-1)								
	Overall	Mobility	Workplace	Pay	Marriage	Parenthood	Entrepreneurship	Assets	Pension
Quota	0.014	0.000	0.002	0.034	0.014	0.013	-0.007	0.000	0.058
	[0.009]	[.]	[0.003]	[0.058]	[0.026]	[0.031]	[0.011]	[.]	[0.036]
Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Region × Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Obs	416	416	416	416	416	416	416	416	416
Adj R2	0.853	1	0.089	0.716	0.697	0.858	0.727	1	0.839

This table shows the effect of board gender quotas on laws and regulations that affect women's economic opportunity using data on *Women, Business and the Law* (WBL) from the World Bank. The unit of observation is a country-year. The sample includes 32 European countries from 2008 to 2020. Panel A includes no control variables. Panel B includes the same control variables as those in Table 2. The outcome variables include the overall index, ranging from 0 to 1, in column (1), as well as eight indicators structured around women's interactions with laws and regulations as they progress through their lives and careers: Mobility, Workplace, Pay, Marriage, Parenthood, Entrepreneurship, Assets, and Pension, in columns (2) to (9). Robust standard errors clustered at the country level are in brackets. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table B7: Effect of California Statute on Female Directors

	(1)	(2)	(3)	(4)
Dep. Var.	# Fem dir		%Fem dir	
Flag_CA × Post_2018m9	0.147***	0.122***	0.018***	0.017***
	[0.029]	[0.038]	[0.003]	[0.004]
Controls	NO	YES	NO	YES
Firm FE	YES	YES	YES	YES
Industry × Year-Month FE	YES	YES	YES	YES
Firm State × Year-Month FE	YES	YES	YES	YES
Obs	136,194	86,330	136,194	86,330
Adj R2	0.841	0.834	0.815	0.807

This table shows the effect of the California board gender diversity statute (SB 826) on the number or share of female directors. The unit of observation is a firm-year. Flag_CA is a dummy that equals 1 for public firms headquartered in California, and 0 otherwise. Post_2018m9 is a dummy that equals 1 after September 30, 2018, and 0 otherwise. In columns (1) and (2), the outcome variable is the number of female directors on corporate boards. In columns (3) and (4), the outcome variable is the share of female directors on corporate boards. Robust standard errors clustered at the state (headquarter state of a firm) level are in brackets. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table B8: Female Directors and Gendered Language Usage in Job Ads – Heterogeneity: Decentralization in Drafting Job Ads

	(1)	(2)	(3)	(4)
Dep. Var.	Share of feminine words out of all gendered words (%Fem words)			
%Fem Dir	-0.103**	-0.103**	-0.136***	-0.111**
	[0.040]	[0.040]	[0.046]	[0.052]
%Fem Dir × Std Dev (%Fem words)	0.009			
	[0.041]			
%Fem Dir × Std Dev (#Words)		-0.008		
		[0.043]		
%Fem Dir × Decentralized (%Fem words)			0.066	
			[0.074]	
%Fem Dir × Decentralized (#Words)				0.015
				[0.078]
Controls	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES
Industry × Year-Month FE	YES	YES	YES	YES
Job Zip × Year-Month FE	YES	YES	YES	YES
Occupation (ONET 6-digit) FE	YES	YES	YES	YES
Obs	1,642,315	1,642,315	1,642,315	1,642,315
Adj R2	0.434	0.434	0.434	0.434

This table shows heterogeneities in the relationship between the share of female directors and gendered language usage in job ads across firms with different levels of decentralization in drafting job ads. The unit of observation is a job ad. The sample includes a random 1/15 of the full sample of job ads. The outcome variable is the share of feminine words out of all gendered words in a job ad. Decentralization is measured by a lack of consistency in the language used in job ads. For each two-digit ONET-SOC occupation in a firm, we first calculate the standard deviation of gendered language usage (%Fem words) and length of job ads (#Words). We then take the average across all occupations to obtain a firm-level score that captures the degree of decentralization in drafting job ads. A higher score means that a firm writes different ads for functionally similar jobs, suggesting a high level of decentralization. In columns (1) and (2), female director share (% Fem dir) is interacted with the standard deviation of gendered language usage (%Fem words) and length of job ads (#Words), respectively. In columns (3) and (4), the interaction term is a dummy indicating firms with a high level of decentralization (above median). Robust standard errors double clustered at the firm and state (state of a job) level are in brackets. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table B9: Descriptions of Female-Friendly Amenities

#	Category	Amenity	Anchor words	Top 20 words
5	Fringe benefits	Paid time off	vacation, pto, sick days, leave, pay time off	leave, pto, vacation, pay time off, sick days, bereavement, pto sick, benefit unlimited, good amount, must use, paternal, lot desire, generous amount, benefit pay, accumulation, hard take, maternal, benefit generous, vto, pay time off sick
10	Working conditions	Work-life balance	work life balance, work life	work life balance, work life, balance ability, maintain healthy, promote healthy, balance none, balance limited, hard balance, imbalance, difficult maintain, culture good, hard maintain, good balance, culture benefit, balence, long hours little, balace, benefit culture, flexibility good, ballance
11	Working conditions	Hours	hours, full time, part time	hours, full time, part time, work full time, part timer, part time employee, college student, get hours, seasonal, get full time, cut hours, position available, full time position, hours cut, require long, normal business, part time job, work part time, hours hours, benefit flexible
12	Working conditions	Work schedule	hours, shift, schedule, flex time	hours, schedule, shift, flex time, scheduling, availability, hour shift, early morning, pick extra, swap, pay flexible, monday friday, late night, inflexible, super flexible, offer flexible, night shift, extremely flexible, schedule change, week advance
16	Working conditions	Teleworking	telecommute, telework, work home, home office, remote	work home, remote, home office, telework, telecommute, one day week, flexible work, schedule ability, set hours, flexible work schedule, option available, flex schedule, days per week, hours ability, make schedule, equipment provide, flexibility ability, provide equipment, remote position, benefit ability
19	Working conditions	Respect/abuse	respect, dignity, abuse, harass, hostile	respect, abuse, hostile, harass, reason, lie, joke, upper management, write, literally, dignity, quit, unless, promise, woman, speak, blame, absolutely, claim, ignore
21	Working conditions	Support	help, support, supportive, encourage	help, support, encourage, supportive, always available, always ready, always happy, nice willing, student need, worker willing, manager willing, available need, wiling, pay school, further education, class size, support teacher, assist need, lots training, administrative support
31	Working conditions	Diversity/inclusion	diversity, ethnic, multicultural, inclusive, lgbtq, inclusion, equality, diverse	diversity, diverse, inclusive, inclusion, equality, lgbtq, multicultural, ethnic, gender, diversity equity, lack diversity, ethnicity, inclusivity, focus diversity, commitment diversity, race gender, patient population, inclusiveness, nationality, student body

This table provides the anchor and top 20 word list of the eight female-friendly amenities from Sockin (2022).

Table B10: Additional Summary Statistics

Panel A: Employee Reviews of Female-Friendly Amenities

Variable (word frequency)	List of words for amenities	N	Mean	Std. Dev.	Median	p1	p99
Pros	Anchor	54,814	0.49	0.83	0.00	0.00	4.00
Pros	Anchor&Top20	54,814	0.61	0.93	0.00	0.00	4.00
Cons	Anchor	54,814	0.61	1.08	0.00	0.00	5.00
Cons	Anchor&Top20	54,814	0.90	1.37	0.00	0.00	7.00
Pros - Cons	Anchor	54,814	-0.06	0.68	0.00	-2.50	1.50
Pros - Cons	Anchor&Top20	54,814	-0.17	0.88	0.00	-3.75	1.78
Pros - Cons (weighted)	Anchor	54,814	-0.14	0.82	0.00	-3.00	2.00
Pros - Cons (weighted)	Anchor&Top20	54,814	-0.30	1.14	0.00	-4.97	2.08

Panel B: Employee Ratings of Female-Friendly Benefits

Variable	N	Mean	Std. Dev.	Median	p1	p99
Ratings: Overall	180,247	3.15	1.30	3.00	1.00	5.00
Ratings: Compensation and benefits	172,010	3.06	1.49	3.00	0.00	5.00
Ratings: Culture and values	171,542	2.81	1.61	3.00	0.00	5.00
Ratings: Work-life balance	171,960	2.76	1.53	3.00	0.00	5.00

Panel C: Gender-Related Labor Violations and Penalties

Variable (word frequency)	List of words for violations	N	Mean	Std. Dev.	Median	p1	p99
#Violations	Seed word only	11,182	0.005	0.074	0.000	0.000	0.000
$ penalties	Seed word only	11,182	39,941	2,529,465	0	0	0
#Violations	Expanded word list	11,182	0.011	0.115	0.000	0.000	1.000
$ penalties	Expanded word list	11,182	1,520,086	130,000,000	0	0	7,939

The table presents additional summary statistics. Panels A and B present summary statistics for variables constructed from employee reviews and ratings of female-friendly amenities and benefits from Glassdoor. Panel C presents summary statistics for gender-related labor violations and penalties from Violation Tracker.

Table B11: Employee Ratings of Female-Friendly Benefits

Panel A: Correlation with Female Directors

	(1)	(2)	(3)	(4)
Dep. Var.	Ratings (1-5)			
	Overall	Compensation and benefits	Culture and values	Work-life balance
%Fem Dir	-0.163	-0.043	0.037	0.1
	[0.104]	[0.112]	[0.129]	[0.106]
Controls	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES
Industry × Year-Month FE	YES	YES	YES	YES
Obs	180,247	172,010	171,542	171,960
Adj R2	0.129	0.09	0.072	0.067

Panel B: Effect of California Statute

	(1)	(2)	(3)	(4)
Dep. Var.	Ratings (1-5)			
	Overall	Compensation and benefits	Culture and values	Work-life balance
Flag_CA × Post_2018m9	-0.052***	-0.111***	-0.174***	-0.079***
	[0.018]	[0.030]	[0.025]	[0.025]
Controls	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES
Industry × Year-Month FE	YES	YES	YES	YES
Obs	173,019	164,936	164,479	164,890
Adj R2	0.128	0.094	0.074	0.07

This table shows potential backlash against female employees in the workplace in terms of the provision of female-friendly benefits. The unit of observation is an employee review. Panel A shows the relationship between the share of female directors and employee ratings of female-friendly benefits (on a scale of 1-5). Panel B shows the effect of the California board gender diversity statute (SB 826) on employee ratings of female-friendly benefits. The outcome variables are the overall rating, and ratings for compensation and benefits, culture and values, and work-life balance. Robust standard errors clustered at the firm level are in brackets in Panel A. Robust standard errors clustered at the state (headquarters state of a firm) level are in brackets in Panel B. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.