Is Cash Still King: Why Firms Offer Non-Wage Compensation and the Implications for Shareholder Value*

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Abstract

Over the past 40 years, the share of non-wage benefits in employee compensation grew from 5% to 30%. Using disaggregated data from Glassdoor, we first document a series of stylized facts about the availability of non-wage benefits and how these benefits are correlated with firm characteristics. We propose that firms use certain non-wage benefits to attract and retain specific employee groups, a hypothesis we test with maternity benefits and female talent. As predicted, we find that in industries and states where women are underrepresented and the supply of female talent is limited, firms offer better quality maternity benefits. We provide suggestive evidence that offering non-cash maternity benefits is associated with more balanced gender employee composition.

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1 Introduction

A large literature has sought to explain firms' optimal compensation policies by focusing on wages and performance-related pay (Edmans and Gabaix (2017)). Non-wage benefits — that is, any form of compensation or perk offered to employees in addition to their monetary compensation — contribute, on average, 30% of total employee compensation, up dramatically from 5% in 1966 (Woodbury (1983)).[1] Most non-wage benefits are voluntarily provided by the firm, costly to provide, and not universally valued by employees.[2] This suggests a puzzle: Why do firms prefer to provide employees with non-wage benefits instead of the equivalent compensation in cash wages?

In this paper, we focus on a sorting mechanism that can explain why firms offer non-wage benefits. Our hypothesis is that firms use these benefits to target employees with desirable characteristics, given different types of employees will assign different values to a given non-wage benefit (Lazear (1998)). This allows firms to preferentially attract and retain workers based on preferred characteristics.

To test this hypothesis, we focus on firms' maternity policies, non-wage benefits that disproportionately impact women. We argue that when supply-side constraints reduce the availability of high skill female workers, firms offer better maternity benefits to specifically attract and retain female talent. Google, for example, recently increased their paid maternity leave, which was associated with higher retention rates of female employees.[3]

Maternity benefits offer a clean setting to test sorting as an explanation for why firms offer non-wage benefits. Maternity benefits are clearly important to women. Paid maternity leave has been associated with positive effects on women's labor outcomes, as in Ruhm (1998) and Rossin-Slater et al. (2012). As such, firms providing paid maternity leave may be better able to retain female employees. Maternity benefits can also act as a recruiting tool for women

[1] https://www.bls.gov/news.release/ecec.nr0.htm

[2] Exception are some non-wage benefits mandated by federal law, such as health benefits at firms with more than 50 employees.

[3] https://www.nytimes.com/2015/08/05/business/netflix-offers-expanded-maternity-and-paternity-leave.html

who expect to utilize these benefits or who view it as a signal of a female-friendly workplace. Offering maternity benefits also has an additional advantage in that it allows firms to favor women without paying unequal wages across genders, an action which could potentially create a sentiment of unfairness among male employees (Akerlof and Yellen (1990)) or possibly expose the firm to litigation risk (see for example the Equal Pay Act.)

Paid maternity leave is not legally mandated in the U.S., which offers a unique opportunity for firms to provide such benefits as part of their compensation package. The United States' Family and Medical Leave Act (FMLA) provides up to 12 weeks of unpaid leave that may be used to care for a newborn child.[4] However, Klerman et al. (2013) finds that one-quarter of mothers who took maternity leave returned to work after less than 10 days in 2012, presumably as these women could not afford to take more time off. It is thus not surprising that the FMLA appears to have little to no impact on female employment and wages (Blau and Kahn (2017)).

Firms publicly state their desire for a gender balanced workforce. For example, in 2017, CEOs of 175 companies, many of which in the Fortune 500, formed the CEO Action for Diversity and Inclusion, stating: "we know that diversity is good for the economy; it improves performance, drives growth and enhances employee engagement."[5] This goal of gender balance may be driven by economic arguments, as a diverse employment profile can facilitate the consideration of a more comprehensive set of potential strategies and may lead to higher quality decisions (Dezso and Ross (2012); Hillman et al. (2007); Matsa and Miller (2013)). Alternatively, firms may take actions to increase gender equality within the firm to avoid unfavorable exposure in the mainstream press or social media or in response to pressure from policymakers.[6] In support of this argument, we find that firms receiving government contracts, which are likely

[4]It covers only those individuals who work for employers with 50 or more employees at the work site or within 75 miles of the work site.

[5]Techstars, a non-profit dedicated to increasing diversity in technology entrepreneurship, show that 72% of surveyed entrepreneurs believe diversity is important. McKinsey, in their 2018 piece, Delivering through Diversity, finds that firms with more executive diversity were 21% more likely to experience above average profitability.

[6]Examples highlighting government's interest in gender equality include recent California law that mandates more women on boards with no or very few female directors, and a new regulation in 11 states that prevents employers from asking about past wages as a means to reduce the gender pay gap. Examples of firms receiving negative press for limited diversity include Uber (CNET, 2017), Google (Washington Post, 2014), and H&M (USA Today, 2018).

to be especially sensitive to these concerns, have higher maternity benefits. Similarly, investors are increasingly demanding that firms diversify their pool of employees as they believe diversity is associated with better long-term success.[7]

A gender balanced workforce will be hardest to achieve in labor markets with a low supply of female talent. Despite the fact that 50.4% of college-educated workers are female, there is significant heterogeneity across sectors and geographies. We thus predict that firms facing such supply-side factors should be more likely to use maternity benefits to attract and retain female employees.

To test this prediction, we rely on a unique dataset provided by Glassdoor, which provides comprehensive coverage of the different types of non-wage benefits offered by firms, including maternity benefits. More broadly, our data covers 55 unique benefits pertaining to health and casualty insurance, retirement, non-salary compensation, training and education, leave and vacation, flexibility, and perks. Besides information on benefits availability, we also observe employee rankings of these benefits on a 1-5 scale. Moreover, we observe information on worker characteristics, including wage and job title, as well as employee ratings of the firm, top management, and benefits provided.

Our paper provides the first comprehensive descriptive evidence on the cross-section of non-wage benefits, a first-step towards a richer understanding of the impact of these benefits on employee and firm outcomes. We document the prevalence of maternity benefits at US firms. Moreover, to better position these benefits within the broader compensation plan for a given firm, we also document the prevalence of other key non-wage benefits. We measure these benefits on both the intensive (i.e., quality) and extensive (i.e., existence) margins. Non-wage benefits are prevalent in both private and public firms. Maternity benefits are offered by 75% of firms. In contrast, health insurance, mandated by law at larger firms, is offered by 98% of firms in our sample. On the other hand, benefits pertaining to flexibility are offered by only

[7] Bloomberg reported in 2018 that CEOs believe investors are increasingly demanding diversity. McKinsey, in their 2015 report "Why Diversity Matters," argues that diversity drives shareholder value. Blackrock, in its 2018 annual letter to CEOs, states that it will "continue to emphasize the importance of diverse boards" and ensure that companies are "working to create a diverse workforce."

half of the firms. Across all benefit categories, there exists significant variation in employees' perceptions of the benefits offered across firms. This is particularly true in the case of maternity benefits. Maternity benefits tend to be of higher quality in larger, more innovative firms, that hold more cash and have less debt. Interestingly, maternity benefits also seem to explain more of the variation in overall firm rating and firm culture rating than all other benefits, except health insurance.

Consistent with supply-side constraints, we show that firms in industries with fewer college-educated female workers offer higher quality maternity benefits. Our findings are economically important: a one standard deviation decrease in the percent of female college-educated employees in a given industry is associated with an increase in expected maternity benefits by 0.14, which reflects 0.11 of the standard deviation in the maternity benefits rating variable. Our results are robust to measuring the share of female college-educated workers at a state-level and when we instrument using plausibly exogenous determinants of the geographical distribution of college-educated women. These findings are consistent with our intuition that firms in labor markets where female talent is scarce will offer better quality benefits to attract and retain female employees.

Our data is unique in that it allows us to observe the quality of the benefit in addition to its existence. The quality of maternity benefits is more informative than the actual policy of, for example, the number of weeks of paid maternity leave, as often women entitled to maternity benefits choose to opt out if they think they will be valued less at work (Zagorsky (2017)). Nevertheless, we use supplemental crowdsourced data on paid weeks of maternity benefits and show that the correlation between our ratings measure and the number of weeks of paid leave offered is positive and statistically significant.

We provide suggestive evidence that providing higher quality maternity benefits is an effective strategy to attract and retain female employees in the firm. We find that, controlling for the level of college-educated female industry participation, better quality maternity benefits are positively correlated with the percent of college-educated female respondents in the firm. To the extent that the percent of respondents reflects the distribution of employees within a

firm, these results capture a positive correlation between the quality of maternity benefits and the percent of female employees in the firm. We hand-collect data for a subset of our sample firms and validate that the percent of Glassdoor female respondents is highly correlated with the percent of female employees at the firm-level.

We conclude by considering the value implications for firms that voluntarily offer generous maternity benefits. Specifically, we investigate the impact of legislation, in the states of New York and Washington, and the district of Washington D.C., which created programs that provide a minimum level of paid maternity leave for employees, financed using taxes. These programs effectively subsidize some of the maternity benefits provided by firms in these states, which could increase value at firms providing maternity benefits. However, they also result in a minimum paid maternity leave being offered by all firms, which will reduce the *relative* value of maternity plans voluntarily offered by firms. If firms which voluntarily offered these plans did so to gain competitive advantage in terms of hiring and retaining female talent, and this created value, then an increase in maternity benefits by their peers should result in lower firm value at these firms. We show results consistent with the latter. Firms that offered more generous maternity benefits prior to the legislation lose value upon announcement of these plans, particularly in industries with low female participation. These results are consistent with maternity benefits, at firms which voluntarily adopted them, adding value.

Our paper contributes to the literature that studies the drivers of non-wage benefits. Firms may be able to provide non-wage benefits at a lower cost, relative to the employee purchasing the same benefits for self-consumption. Such discounts may arise due to bulk purchasing discounts (Woodbury (1983)). Moreover, several non-wage benefits are subject to preferential tax treatment for firms and/or employees, which similarly reduces the cost of offering such benefits instead of the equivalent dollar amount in wages (Feldstein (1973), Cymrot (1980)). Oyer (2008) finds empirical support for these arguments, showing, in addition, that employers offer non-wage benefits to mitigate the disutility of work for groups of employees with relatively longer hours. Our paper extends this earlier literature in two fundamental ways. First, we can observe the individual's firm, which allows us to merge financial firm characteristics to con-

trol for cross-sectional differences. Second, we have information on benefits and their relative quality which is more informative in cases where the actual benefits may not to be used.

A number of papers have shown how compensation policies can help employers sort workers based on desirable characteristics. Much of this literature has focused on using equity-based pay to attract more optimistic and productive workers, as in Lazear (2000), Oyer and Schaefer (2005) and Berman and Jenter (2007). These earlier papers focus on sorting on non-observable characteristics. We contribute to this literature by showing that sorting on an observable characteristic, gender, can also be a justification for non-wage benefits. Maternity leave presents a unique solution, as this benefit can be offered to all employees but is only valued by women.

Our paper is also related to the literature on gender and organizations. Matsa and Miller (2013) show that gender quotas in boardrooms change the style in corporate leadership. Adams and Funk (2011) show gender differences appear among board directors but in ways that do not map to gender differences identified in the general population. Tate and Yang (2015) show that female leadership cultivates more female-friendly culture inside the firms. Egan et al. (2017) show that female advisers face harsher outcomes following an incidence of misconduct, an effect that is mitigated in firms with a greater percentage of female executives. Adams et al. (2017) show that gender-specific barriers discourage women from working in finance, especially for women who are married, have children, or value tradition. Bennedsen et al. (2018) show that disclosing gender pay gaps not only results in lower pay gaps but also improves hiring rates and promotion outcomes for female employees. We add to this literature by showing that firms use maternity benefits as a means to attract and retain talented female employees.

2 Data and Measurement

2.1 Glassdoor

Benefits information comes from Glassdoor, a large crowd-sourcing company providing data on wages, non-wage benefits and employee ratings of those benefits. Information on individual

characteristics covers the period 2008 through 2016, although coverage of non-wage benefits is primarily populated in the last two years of our sample period. Despite limited time series coverage of non-wage benefits, we observe information on a broad cross-section of firms. While the ratings are inherently self-reported, an email is required to sign into the website and answers are made anonymous to further encourage truthful participation. There are nonetheless two possible concerns. First, recall bias. Since individuals can rate jobs that they had several years ago, we control for whether an individual is currently employed at the firm she is reviewing. Second, noise. Since individuals may in theory only log in to report very positive or negative perceptions of the firm, we may obtain noisy estimates based on extreme values. However, our distribution of ratings is quite balanced, and related work by Chamberlain et al. (2017) shows that the ratings are, on average, reliable.

Employees are asked to report personal characteristics, such as age, gender and education, details on their current employment, and occupation. While Glassdoor makes some of those data publicly available on their website, it is limited in what information is accessible. For example, the website reports only the mean and range of salaries at the job title-firm level. We instead observe more granular salary information at the individual-job-title-firm level. The website also reports information on benefit ratings but does not allow for these ratings to be linked to employee characteristics. Our version of the data allows for such linkages.

We report results using the full sample of firms on Glassdoor and the set of publicly-listed firms we are able to match to Compustat, hereafter referred to as the "Glassdoor-Compustat" sample. We focus on firm-years where we observe 50 or more unique employee observations per year and match those firms to Compustat using standardized firm names provided by Glassdoor. We end up with a sample of 3,504 firms overall, including 1,334 publicly listed firms matched to Compustat. On average, we observe 728 unique ratings of benefits per firm-year for the Glassdoor-Compustat sample.

Table 1 presents summary statistics of the individual employees in the Glassdoor-Compustat sample. More than half of these employees have a bachelor's degree or higher level of educational attainment. This is higher than the share of college attainment for the average worker in the

U.S., which is 25% in 2016. Likewise, our sample also disproportionately includes employees with PhD or MDs, suggesting our sample is biased towards higher skill workers.[8]

Our sample of employees is also younger compared to the distribution of working age Americans: 43.3% of employees in our sample are under 30 years of age, while workers over 50 years of age are underrepresented, reflecting only 11.8% of our sample. 52% of employees are male and 43% are female. The remainder of employees in the sample chose not to disclose their gender. Over 76% of our sample are full-time workers. Survey respondents have the option to review their current or a previous job. We find 52% of the reviews refer to a current job and nearly 48% to a previous employment. Worker characteristics are similar in Glassdoor-Compustat sample and the full sample of firms offering maternity benefits.

Respondents on the Glassdoor website are also asked to report their satisfaction with different aspects of the firm on a one to five ranking scale. Survey respondents rate the firm as a whole, career opportunities, compensation and benefits, senior management, work-life balance and culture. We report summary statistics of those ratings by employee characteristic in Table 2. On average, employees give an overall rating of 3.25 to firms, with higher ratings by younger employees and for a current job. Respondents tend to provide similar ratings when asked about the firm's culture and work-life balance. Perceptions of senior leadership, on the other hand, regularly receive lower ratings relative to the overall firm rating. Ratings for career opportunities and overall compensation and benefits typically fall between ratings of senior leaders and overall firm ratings.[9] Survey respondents are asked to report their satisfaction with non-wage amenities provided by their firm. Given our focus on maternity benefits, we report mean ratings for this benefit in Column 7.

In addition, survey respondents are asked to report the availability of non-wage amenities. Survey participants also have the option to report whether they are unsure as to the availability of a given benefit. Information is reported for 55 separate benefits. We summarize those benefits in seven broad benefit groups: Health and casualty insurance, retirement, non-salary

[8] https://www.bls.gov/spotlight/2017/educational-attainment-of-the-labor-force/pdf/educational-attainment-of-the-labor-force.pdf

[9] Internet Appendix Table IA1 shows these summary statistics using instead Glassdoor-Compustat sample.

compensation, training and education, leave and vacation, flexibility, and perks.[10] There is little within-firm variation of benefit availability, suggesting that, if provided, these benefits tend to be broadly available. Looking at the five most common benefits in our data, we observe that conditional on 50% or more of respondents at a given firm indicating a benefit is available, 94% report the benefit as available on average. As such, we assume a firm provides a given benefit to all of its employees if 50% of the individuals at that company report having the benefit.

In Table 3, we report summary statistics for the firms matched to Compustat. Panel A reports financial characteristics by industry for the Compustat-matched observations in our sample, Panel B reports the same statistics for the firms in our sample that offer maternity benefits, whereas Panel C repeats statistics for all firms in the Compustat database. Firms with maternity benefits are slightly larger, compared to the full Glassdoor-Compustat matched sample, however the differences are economically small. On the other hand, firms in our sample tend to be much larger, as compared to the typical Compustat firm. The median firm in the Compustat matched sample has $10 billion in revenues, 12,500 employees, and $21 billion in assets, whereas the median firm in Compustat overall has $131 million in revenues, 300 employees and $390 million in assets. The bias towards larger firms in our Glassdoor-matched sample may be explained by the requirement we imposed of observing at least 50 employees in a given firm-year. Our sample spans all industries in Compustat: Internet Appendix Table IA3 examines the similarities between the industry distribution in the Compustat-Glassdoor sample and the overall Compustat sample.

Since the survey data are self-reported, we are concerned that our sample might be skewed in non-random ways that could undermine external validity. To address these concerns, we compare our sample to nationally representative data collected by the US Census Bureau and the Bureau of Labor Statistics to quantify any such deviations. Figures 1 and 2 plot the distribution of annual labor income ("earnings") by metropolitan area and industry, respectively. Although our individual data tends to contain higher income workers across metro areas and

[10]Internet Appendix Table IA2 provides a detailed list of all benefits and the specific mapping between benefits and groups.

industries, our data seem to match the overall earnings across these different location and industry partitions quite well, minimizing selection concerns.

Figure 3 presents comparisons between our primary dataset and the Census in terms of the incidence of workers by education and industry. As we indicated earlier, our dataset is skewed towards more educated workers compared to the Census. However, our industry composition is more balanced with the main differences observed in the agriculture/mining/construction and services sectors, where our dataset is under and over represented, respectively.

2.2 Quarterly Workforce Indicators

We measure the percent of female employees at the industry and state level using the Quarterly Workforce Indicators (QWI) from the Census Bureau. These data are viewed as the gold standard for measuring labor market flows across space and time since they draw on data from state agencies for distributing and accounting for unemployment insurance.[11] Specifically, we compute the percent of female workers with a college degree or further advanced education as a fraction of total number of employees with a college degree or further advanced education by 4-digit NAICS industry group (*% Female College (Ind)*) and state (*% Female College (State)*). We focus specifically on college educated workers under the assumption that high skill workers contribute the most to firm value.

We measure the female workforce under the assumption that women are harder to attract in industries and geographies where females are traditionally under-represented, as the supply of talented females in those labor markets is lower. On average, around 40% of college educated workers in a given industry are female. However, there is substantial variation across industries ranging from 7% (coal mining) to just under 89% (child day care services). Around 50% of college educated workers in a given state are female. The discrepancy between percentage of college educated females by industry and state suggests that industries that skew towards educated females are relatively larger as compared to industries which skew towards educated men.

[11] https://lehd.ces.census.gov/doc/technical$_paper/tp-2006-01.pdf$

2.3 Paid weeks of maternity leave

To verify the quality of our maternity benefits ratings, we collect data on weeks of paid and unpaid maternity leave from Fairygodboss.com. Fairygodboss is a crowdsourcing service that aggregates reviews on firm characteristics of particular interest to female employees. Fairygodboss reviews are anonymous. Furthermore, the site does not pay reviewers for their reviews, mitigating incentives to misrepresent the quality of reviewed characteristics. We observe data on paid weeks of maternity leave for 1,205 firms. We observe data on unpaid weeks of maternity leave for 803 firms. The minimum and maximum paid maternity leave are 0 and 52 weeks, respectively, with an interquartile range of 4 to 12 weeks. The average and median weeks of paid maternity leave are 7.9 and 6, respectively. The minimum and maximum unpaid maternity leave are also 0 and 52 weeks, respectively, with an interquartile range of 6 to 12 weeks. The average and median weeks of unpaid maternity leave are 8.9 and 8, respectively.

2.4 WWII mobilization and midcentury demographics

In section 4.2, we instrument for the female labor share by using historic data on state-level WWII involvement and midcentury demographics. Specifically, we estimate WWII mobilization rates, or the fraction of males between ages 18-44 who either enlisted or were drafted during WWII. The original data is published in the Selective Service System monograms (Selective Service System (1956)). While all eligible males were registered for selective service, there remains substantial heterogeneity in actual draft rates across states. Individuals could defer service on the basis of marital status, fatherhood, and possession of essential domestic wartime skill sets (e.g., agriculture). African Americans and individuals with ancestry from Axis states were also less likely to be drafted (Acemoglu et al. (2004)).

We also obtain 1950 demographics from the United States Census. The median state had an equal female-to-male ratio. Montana had the lowest female percentage in 1950, with only 47.6% female population. On the other hand, Massachusetts had the highest female percentage, with 51.6% of the state's 1950 population being female.

3 Patterns of Non-Wage Compensation

Table 4 documents the prevalence and ratings distribution of non-wage benefits in publicly listed firms. Column 1 (2) reports the count (percent) of firms providing at least one benefit within a benefit group. "Health and Casualty" is the most popular benefit in our sample with nearly 98% of firms offering this benefit. This is not surprising since firms with more than 50 employees are mandated to provide health insurance or pay fines starting in 2016. It is also common for firms to offer a retirement plan (95.1%), some form of training or educational assistance (89.9%), and at least one perk (95.7%). As a comparison, the National Compensation Survey, implemented through the Bureau of Labor Statistics (BLS), finds that of establishments with 100 or more employees, 94% offered health insurance and 87% offered a defined contribution retirement plan. Three quarters of firms in our sample offer maternity benefits and stock based compensation. In contrast, flexible work arrangements are the least common with just above half the firms offering these benefits, such as the ability to work from home.

In Columns 3 and 4 of Table 4, we report the average and median ratings for each of these non-wage benefit groups. Average ratings cluster just above 3, similar to the firm-level ratings. The minimum and maximum median rating is 3 and 3.9, respectively. Non-salary compensation, which includes programs like stock option plans and employee stock purchase plans, and training & education, which includes tuition reimbursement programs, regularly receive the lowest ratings. On the other hand, benefits that are not mandated or particularly common, such as flexibility, perks, and maternity leave tend to rank higher.[12] Column 5 shows the standard deviation of benefit ratings by benefit group. Training & education and non-salary compensation exhibit the greatest dispersion in ratings while there appears to be more agreement on the quality of retirement benefits. In Internet Appendix Table IA4, Panel A, we find similar patterns when we look instead at the full sample of firms in Glassdoor. Voluntary benefits such as maternity benefits, flexibility and non-salary compensation are offered by fewer firms in the sample of public and private firms, suggesting that such benefits are less common

[12]Officially the "maternity leave" benefit can also include paternity benefits. However, due to the overwhelming use of this benefit by women, we refer to this group of benefits as maternity benefits for tractability.

among private firms.[13] Overall, there is significant variation across firms in the rating of these benefits, suggesting differing approaches to setting non-wage compensation across firms.

In Table 5, we present some stylized facts from our data on how benefit ratings correlate with key firm characteristics, using the Glassdoor-Compustat matched sample. Firm size is positively correlated with benefits' ratings, consistent with the argument that firms can act as a buyer's club for its employees, receiving bulk discounts on benefits (Oyer (2008)). Firms with greater R&D expenses also receive higher benefit ratings. This correlation may be driven by the fact that these firms tend to employ highly skilled employees. High skilled employees may receive greater benefits due to higher competition for talent or because their high income leads to high taxes and greater non-wage compensation can lower their personal taxes. Higher profitability, cash reserves, and lower debt are also positively associated with more highly rated benefits as these firms may be less financially constrained, allowing them to provide generous benefits. Similar patterns hold for maternity benefits which correlates most strongly with firm size by assets and most negatively with total employees.

4 Retention and Selection Effects: The case of maternity benefits

Do firms offer relatively more generous maternity benefits to attract and retain more female employees? Maternity benefits can be effective in hiring and retaining women for several reasons. There is no obvious cash equivalent to spending time with a newborn child allowed by more generous maternity benefits. In addition, offering maternity benefits can signal a female-friendly culture more generally. Favoring women by providing higher quality maternity benefits can be viewed as a fairer practice among male employees as opposed to compensating women

[13] In Table IA4, Panel B, we also show comparable results when we look at the distribution of specific benefits, as opposed to benefit groups, for the set of Compustat-matched firms. We find that 401K plans, paid holidays, dental, health, life and vision insurance, are all available at firms over 90% of the time. Free lunches receive the highest average rating, while performance bonuses receive the lowest ratings. Median ratings range from 3 to 4, with perks making up the lion's share of the 4 ratings. Of the benefits that are offered by more than 100 firms in Glassdoor, volunteer time off exhibited the greatest ratings dispersion, while 401K plans exhibited the lowest ratings dispersion.

with higher cash wages.

Consistent with these arguments, we find that maternity benefits are one of the most important determinants of overall work satisfaction. In Figure 4, we plot the distribution of maternity benefit rankings for those firms in the Fortune 100 Best Companies to Work For list, which is Edmans (2011)'s proxy for high employee satisfaction, against all other firms not on the Fortune 100 list. We show that the firms in the Fortune 100 have disproportionately better maternity benefits, with around 50% of Fortune 100 firms in the top quintile of maternity ranking. Moreover, Table 6 shows that maternity benefits explain more variation in overall firm rating and firm culture rating than all other benefits, with the exception of health insurance. However, health insurance is likely more equally valued across all employees as compared to maternity benefits, reducing its usefulness as a *targeted* recruiting and retention mechanism. We predict this strategy of using greater maternity benefits to attract and retain more women will be especially valuable when the supply of high quality women is low. We first consider the supply of qualified female candidates within the firm's industry and then look at the supply of qualified female candidates within the firm's geography.

4.1 Results: Female labor supply by sector

In Table 7, we explore whether maternity benefits are provided as a means to attract and retain talented female employees in industries where female employees are traditionally underrepresented.[14] In these male-dominated industries, search frictions for identifying and hiring female talent are likely to be substantial given the lower supply of female talent. Moreover, there is significant variation in the distribution of high skilled female talent across industries. While women account for slightly more than half of all college-educated workers, they account for

[14]For example, the aviation sector is specifically looking for female labor in this traditionally male dominated sector in response, at least in part, to "scrutiny because of the low numbers of women employed as senior executives or airline pilots" (Reuters, 2018). In another example from a male-dominated industry, Google extended its maternity leave in an effort to improve retention of female talent. An internal study found that after extending paid maternity leave to 18 weeks from 12 weeks, "returning mothers left Google at half the rate they were previously" (New York Times, 2015). Similarly in a 2017 report, Boston Consulting Group found that better maternity benefits increases employee retention, attracts better talent and improves productivity and engagement (Wall Street Journal, 2018).

less than 25% in some industries, including shipbuilding and automotive maintenance.[15] This difference in gender distribution by industry is consistent with the findings of occupational sex segregation in the gender pay gap literature. Cultural norms, the need to balance work and household responsibilities and differences in preferences have been shown to be determinants of this segregation (see Blau and Kahn (2017) for a discussion). In this study, we take the distribution of female talent across industries as given from the perspective of an individual firm, and then explore how firms respond to differences in the female labor supply.

In Column 1, using a specification with year fixed effects and no further controls, we find a negative correlation between the percentage of college educated female employees in a given industry and the firm's maternity rating. In Column 2, we add individual level controls to control for differences in ratings by employee characteristics. Specifically, we control for the highest level of education attained by the employee (e.g. Bachelors, Masters, PhD), gender, age, and for whether the employee is evaluating a current or previous job. Individual level controls are mostly statistically insignificant. One exception is the indicator which reflects whether the employee is reviewing a current job. On average, maternity ratings are higher for current employers, a pattern documented across almost all ratings in our data. Our results are robust to these added controls.

Turning towards Column 3, we include firm level controls. We control for firm size (*log(Assets)*), profitability (*EBIT Margin*), and leverage (*Debt / Assets*). Firm size is positively associated with maternity ratings, possibly reflecting the fact that larger firms may be able to better manage women on extended maternity leave. Firms with higher profits or lower leverage tend to have higher maternity benefits, possibly reflecting financial constraints which limit the ability of some firm to provide generous benefits. In Column 4, we add state fixed effects to control for time-invariant state characteristics and again find robust results. Our results are economically important: a one standard deviation decrease in the percent of female college-educated employees in a given industry increases expected maternity benefit rating by 0.14, which reflects 0.11 of the standard deviation in the maternity benefits rating variable.

[15]The full distribution of the variable, % Female College (Ind), can be seen in Table IA5.

These results are robust to alternative specifications. In Table 7, we limit the sample to regular full-time employees. However, our results are also robust to including part-time employees, as shown in Internet Appendix Table IA6. Second, firms may be optimizing over past, as opposed to current, female participation ratios. In Internet Appendix Table IA7, we lag the female participation ratio by three years and show our results are qualitatively similar.

These results show correlations and, by themselves, cannot demonstrate causality. For example, one alternative explanation of these results assumes that maternity policies are sticky—that it is extremely unpopular among employees if firms reduce these benefits. Without the flexibility to modify downwards the generosity of maternity plans, firms may instead adjust the number of employees benefiting from the maternity program by intentionally hiring fewer women. We examine this alternative interpretation by including the percent of all female employees at the industry level, irrespective of their level of education, to the baseline specification in Table 7, and report the results in Column 1, Table 8. Adding this control does not reduce our key coefficient of interest, *% Female College (Ind)*. Instead, after adding the control for total female participation, the coefficient on *% Female College (Ind)* is now significantly larger (comparing Column 4 of Table 7 to Column 1 of Table 8) suggesting firms use maternity benefits to specifically target high skill female employees. These results also address the related concern that firms with few female employees may offer generous maternity benefits as a way to improve their public image while knowing they will not bear large costs due to the small rate of female employment.

We also address concerns that omitted variables correlated with the ratio of female college educated workers in a given industry may have a direct impact on firm-level maternity policies. We show that our results are not only robust, but also that the magnitude of our key coefficient of interest is minimally impacted by the addition of further controls to our specifications. While these results cannot unequivocally show causality, they do add to the weight of evidence consistent with causality. We start by looking at wages. If high skilled employees receive greater amounts of compensation in all forms, firms may give better benefits to employees in high wage jobs. Another important variable to control for is the gender of top executives. Tate and Yang

(2015) show that firms with women in leadership positions have more female-friendly cultures. This is of particular concern to us as industries with skewed gender distributions in college educated workers may also have skewed gender differences in executives.

To exclude these alternative interpretations, we control for either base pay or total pay (total pay includes stock and cash bonuses, profit sharing, sales commissions, and tips) and for an indicator that takes the value of one if the firm has a female executive among the top five positions in the firm. The results are reported in Columns 2 and 3 of Table 8. If our results are indeed driven by industry wages or female leadership, then we should find a significant coefficient on these variables and lose significance on the industry gender distribution coefficient. While there is a positive relation between base pay and maternity benefits, this relationship is only weakly significant. There is also no significant relationship between female executives and maternity benefit ratings. Most importantly, the negative and significant relationship with the percent of female college-educated employees remains strongly statistically and economically significant.

So far, we have not addressed the question why firms prefer to attract female talent with offering non-wage benefits as compared to paying higher wages. We argue that greater maternity benefits can act to retain women following childbirth, who might otherwise quit. Bertrand et al. (2010) show, in a sample of MBAs, that mothers actively choose jobs that are family friendly. They argue that the patterns of decreased female labor supply reflect women choices given family constraints and the inflexibility of work schedules in many corporate jobs. Similarly, Herr and Wolfram (2012) show that non-family-friendly work environment can "push" women out of the labor force at motherhood.[16] Moreover, providing differential wages based on gender could expose the firm to litigation risk, while offering maternity benefits is not subject to such risk.

To confirm this intuition, we add a control for the relative pay of women compared to men, *Female Pay Gap*. If pay is sufficient alone to address any unwanted skewness in the firm's gender ratio, then adding this control may cause the relationship between *% Female College*

[16]See also Kleven et al. (2018); Goldin (2014); Adda et al. (2017).

(Ind) and maternity benefits to lose all significance. As reported in Column 4, Table 8, we find that even after controlling for the average pay ratio between women and men, among the employees reporting their pay to Glassdoor, we continue to find a significant coefficient on *% Female College (Ind)*. These results also show that the costs of providing maternity benefits do not appear to be shifted to wages. This is in contrast to Gruber (1994) who finds that firms shift costs associated with greater health insurance mandates to the wages of those employees most likely to consume these benefits. The use of additive benefits is consistent with our interpretation of firms using paid maternity leave to attract and retain more women.

4.2 Results: Female labor supply by geography

Our intuition that firms use maternity benefits to attract female talent in industries where it is scarce can be extended to geographies. Firms operating in states with a limited supply of female talent can similarly offer better maternity benefits to hire and retain women. In Table 9, we start by replicating the key specifications used in the earlier regressions linking female participation and maternity benefits, but now measuring female participation as the percentage of college educated females at the state level. We use the geography of the respondents on Glassdoor, effectively assuming that the geographic distribution of respondents by firm reflects the firms's geographic footprint. Consistent with earlier results, we see that firms operating in states with fewer college educated female workers offer higher quality maternity benefits. The negative correlations hold in a univariate setting in Column 1, when controlling for individual characteristics in Column 2, and after adding firm characteristics in Column 3.[17] In the most robust specification in Column 3, a one standard deviation decrease in the percentage of college educated females corresponds to a 0.09 rating point (0.08 standard deviation) increase in maternity benefit quality.

Using a state level measure of female college share also allows us to consider an instrumental variables specification. We instrument for *% Female College (State)* with two variables: 1) the percentage of a state's prewar population that fought in World War II (*WWII Mobilization*

[17]Given the limited time series within states, we do not analyze a model with state fixed effects.

Rate) and 2) the female percentage of a state's 1950 population (*% Female 1950*).

We predict *WWII Mobilization Rate* to be negatively associated with current female college attainment. Goldin and Olivetti (2013) show that states with greater mobilization of men in WWII experienced higher post-war female labor force participation, with effects persisting into the 1960s. Acemoglu et al. (2004) find similar results, but also show that post-war female labor was a substitute for non-college educated men, suggesting that new female entrants in the work force were unlikely to have a college degree. As work opportunities for non-college educated females increased, so did the opportunity costs of college education.[18] Jaworski (2014) also shows that WWII mobilization resulted in lower post-war education attainment for women. Given that intergenerational college attainment is highly correlated (Black and Devereux (2011)), we expect that mobilization during WWII reduces female college attainment today.

While we can instrument for *% Female College* with only *WWII Mobilization Rate*, it suffers from a weak instrument problem. For this reason, we include *% Female (1950)* as a second instrument. *% Female (1950)* is the percentage of a state's total population that was female in 1950. We expect that *% Female (1950)* to be naturally positively correlated with *% Female College (State)*. More females historically is correlated with more females today, which is then mechanically associated with a larger female percentage of the current college population.

Moreover, we argue that WWII mobilization rates and 1950 female population satisfy the exclusion restriction with respect to current maternity benefit quality. We discuss the drivers of WWII mobilization rates in more detail in Section 2.4. The primary threat to identification is if mobilization rates are linked to historic and persistent economic factors. For example, since farmers were less likely to serve in the War, these rates may, at least partially, reflect historic industrial divisions. However, given the large gap in years between this event and our sample period, as well as the low employment share of the agricultural sector, we suspect that there is little, if any, link to current economic conditions. Moreover, to the extent that historic demographics impact maternity benefits today, it is likely because midcentury female

[18]For example, Betts and McFarland (1995), Dellas and Sakellaris (2003), and Schmidt (2018) show that recessions decrease the opportunity costs of college education, inducing greater college enrollment.

labor composition affects today's female labor composition. In this sense, we argue that WWII mobilization rates and the 1950 share of females affect contemporaneous maternity benefits only through their effect on the contemporaneous share of college-educated females.

Columns 4 and 5 of Table 9 display the first and second stage of our IV regressions. As expected, WWII mobilization rate and 1950 female population are negatively and positively associated with current state-level female college composition, respectively. Importantly, both instruments load at the 1% significance level with a first stage F-stat of 63.31. In the second stage regression, reported in Column 5, the instrumented coefficient on college educated female percentage is negative and significant. The magnitude of the effect is increased in the IV specification, relative to the OLS estimate, suggesting the presence of endogeneity in the OLS biasing the effect downwards. This is not surprising if areas with lower female college workforce participation are areas with social norms discouraging working women. If true, we would expect to find lower support for maternity benefits and fewer women pursuing college degrees given the payoff from such degrees is lower.

Using state-level variation in the share of female college educated workers also allows us to test an important prediction of our argument. If firms indeed use maternity benefits to specifically retain and recruit *college* educated female workers, then higher proportions of non-college female workers constitute higher costs of maternity benefits as a retention and recruiting tool, as maternity benefits tend to be uniformly provided across all female workers in a firm. We predict maternity benefits to be less sensitive to female college composition for firms with many non-college educated females. We test this hypothesis in Table 10. We define an indicator variable *Female College Share High* that takes the value 1 if a firm is above the median ratio of college educated females to total females. We see that for firms with fewer college educated females (Column 1), the negative association between maternity benefits and *% Female College (State)* is insignificant. This stands in contrast with the result in Column 2, which shows that correlation between maternity benefits and *% Female College (State)* is strongly negative for firms with relatively more college educated females. Finally in Column 3, we interact *% Female College (State)* with *Female College Share High* and show that the coefficient on the interacted

term is negative and statistically significant. Overall, these results are consistent with the notion that firms use maternity benefits as a recruiting tool targeted towards college educated females.

Finally, in Internet Appendix Table IA8, we show that our results hold when measuring female college composition at the industry-state level. We define *% Female College (Ind × State)* as the ratio of college educated females to all college educated employees in a respondent's industry-state cell. We show a negative relationship between *% Female College (Ind × State)* and maternity benefit quality that persists when controlling for year fixed effects (Column 1), individual level characteristics (Column 2), firm level characteristics (Column 3), state fixed effects (Column 4), and state x year fixed effects (Column 5).

4.3 Ratings versus actual benefits

We interpret the rating of a given benefit as a proxy for the quality of the benefit. The quality of maternity benefits is more informative than the actual benefit provided as women entitled to maternity benefits often choose not to use them if they think, for example, that taking time off might negatively affect their career outcomes (Zagorsky (2017)). However, we validate that maternity ratings capture differences in the quality of actual benefits offered rather than just differences in women perceptions on these benefits.

First, we run the baseline specifications for female employees and male employees separately to account for the possibility that women may rank maternity benefits higher. In Internet Appendix Table IA9, we find no substantial differences depending on whether the rating belongs to a male or a female employee, consistent with the fact that the ratings capture the quality of the benefit, rather than individuals' perceptions of the benefit quality.

Second, we show that ratings significantly correlate with actual maternity firm policies measured with the number of weeks of paid leave offered. While duration of paid maternity leave is only one aspect of overall maternity benefits, it is both an important component and easy to measure. As such, we use crowdsourced data from Fairygodboss, and we are able to

identify the duration of paid maternity leave for 507 (Compustat-matched) firms in our sample. Figure 5 presents the results. We find a correlation of 56% between average firm-level ranking on maternity benefits in Glassdoor and the weeks of paid maternity leave, statistically significant at the 1% level. In contrast, there is no correlation between the weeks of unpaid maternity leave and the benefit ratings, further confirming that these ratings capture differences in the quality of the actual benefits offered (Figure 6).

Using the information on actual benefits we observe from Fairygodboss, we also directly test our hypothesis that industries where women are under-represented offer better maternity policies. In untabulated results, we confirm there is a negative correlation between the percent of female college educated workers in the industry and the number of weeks of paid leave. We find no significance when we look instead at the number of weeks of unpaid leave. The results are weaker relatively to our baseline analysis, likely due to the small sample size and due to the fact that actual policies may not get implemented in practice if, for example, women do not actually take maternity leave if the culture of the firm does not encourage it.

4.4 Do better maternity policies attract more women?

So far, we have shown that maternity policies are used to target female employees in industries where women are under-represented. In this section, we provide suggestive evidence that these hiring strategies result in firms with a more balanced gender distribution.

Table 11 presents the results. We show that, controlling for the level of college-educated female industry participation, better quality maternity benefits are positively correlated with the percent of college-educated female respondents in the firm. A one standard deviation increase in maternity benefit quality corresponds to a 0.04 standard deviation increase in the percentage of females in a given firm. In Column 2, we exclude all reviews that relate to maternity benefits to account for the possibility that there might be some mechanical effect between rating maternity benefits (which might be done more often by women) and the percent of female respondents in the firm. The estimated coefficients remain virtually unchanged.

To the extent that the percent of respondents reflects the gender distribution of employees within a firm, these results capture a positive correlation between the quality of maternity benefits and the percent of female employees in the firm. We confirm our assumption, using data from external sources (Fortune list of The 100 Best Companies to Work For, Great Places to Work, and Working Mother) that we are able to match to a small subset of our sample firms. We validate that the percent of Glassdoor female respondents is highly correlated with the percent of female employees at the firm-level (correlation of 66% significant at 1%).

5 Are Differences in Maternity Benefits Priced by the Market?

Our prior analysis suggests that offering maternity benefits results in an increase in the supply of female talent available to firms, a mechanism which can be particularly valuable to firms when supply of female talent is scarce. Recently, state legislatures have responded to the need to facilitate female participation in the labor force (Blau and Kahn (2017); Rossin-Slater (2018)), by mandating maternity benefits funded by a new tax. We turn next to understanding the value implications of subsidizing maternity benefits for firms that already voluntarily use them as a tool to compete for female talent.

The states of New York State and Washington and the district of Washington D.C. passed legislation during our sample period that mandated maternity benefits to all employees in the state, funded by a new tax.[19] Women who were covered under these plans would receive payment, based on wages and program caps, for a window following the birth or adoption of a new child. On one hand, these plans shift some of the cost of providing maternity benefits from the firm to the state, which could lead to positive valuation impacts. On the other hand, these programs made a minimum level of maternity benefits available at all firms in the state.

[19]These laws provided maternity and paternity benefits but have been utilized primarily by women, as such, we describe them as maternity benefits for tractability. For example, Harrington et al. (2014) find that 76% of fathers returned to work after only one week of leave, suggesting significant under utilization of paternity benefits.

If firms with generous maternity benefits were doing so in anticipation of value gains, such as from greater diversity, then actions which reduce the relative generosity of such plans may lead to lower firm value.

We test our hypotheses in Table 12, using 3-day returns around the announcement of the laws' passage through the first chamber of the jurisdiction's legislature.[20] We measure returns using a market model, in Columns 1-3, or using a market adjusted model, in Columns 4-6. We continue to estimate our results at the individual-firm level, but limit the sample to individuals working in one of the three impacted geographies who provided ratings of ex-ante maternity benefits. For ease of interpretation, we define *Maternity High* to be one, if the maternity rating is above the sample median, and 0 otherwise. Our results are robust to using a continuous measure instead.

In Column 1 (4), we present univariate results and report a negative but insignificant average announcement return for firms offering generous maternity ratings ex-ante. In Column 2 (5) we add firm-level controls and find a negative and significant coefficient. These changes are economically significant. On average, firms with generous maternity benefits realized a loss of 40 basis points upon announcement of these new programs. This result is consistent with the argument that mandating maternity benefits to everyone may be value reducing for those firms that were generously providing these benefits as a means to attract female talent. In other words, mandating maternity benefits for everyone reduces their effectiveness as sorting mechanism to attract female talent. This intuition should matter more for firms in industries where female talent is scarce. Thus, in Column 3 (6), we interact *Maternity High* and a dummy variable which takes the value of one, if the share of female college educated workers in the industry is in the top tercile of the distribution, 0 if in the bottom tercile. We report a positive coefficient on the interaction term, suggesting that the treatment effect is moderated

[20]We use the passing date from the first chamber (senate for NY and WA, while DC is unicameral), as we assume that the bill is almost certainly to pass through the rest of the legislature and the executive branch subsequently. Only the New York State senate was Republican controlled at the time of passing. Given that government-sponsored paid family leave is heavily supported by Democrats, the bill passing through the senate almost guarantees passage through the rest of the Democratic controlled government. In WA and DC, both the legislature and governorship are Democratic controlled. For greater details regarding government-sponsored paid family leave laws, please refer to the Internet Appendix.

in industries where talented female are in greater supply. These results are consistent with the argument that maternity benefits positively impact firm value at those firms which voluntarily opted to provide generous benefits.

To further cement the link between maternity benefit and value, we conduct a placebo test by matching states affected by paid family leave policy changes to unaffected states. In Panel A of Table IA10, we begin by simply matching affected states to the closest state in terms of 2016 population (NY=>FL, WA => AZ, and DC=> VT). We then run the same analysis as in Table 12, but with returns around policy changes from companies in placebo states. We find no significant relationship between maternity benefits and returns around policy change dates, holding true in both the high and low female college participation industries. However, we see a material reduction in sample size under this matching scheme, likely driven by the fact that more firms operate in NY, WA, and DC than in FL, AZ, and VT. To make sure that our null results are not the product of low sample size, in Table IA10, Panel B, we run a second placebo test by matching affected states to the three largest states in terms of population (NY=>CA, WA=>TX, DC=>FL). The sample size is now larger than that of our non-placebo results, and we continue to find an insignificant relationship between returns and maternity benefits.

6 Conclusion

Using unique data on non-wage benefits which includes employee ratings of these benefits as well as wages and other employee characteristics, we describe the incidence of non-wage benefits across firms. We propose employee sorting as an explanation that can drive the use of some benefits. In particular, our evidence suggests that the provision of greater maternity benefits appears to be used by firms to hire and retain female talent. We find that firms in industries or geographies with lower supply of college-educated women are more likely to use these benefits to attract female talent and achieve a more gender balanced workforce. As opposed to cash, offering maternity benefits has the benefit that they are disproportionately valued by women, they may signal a female-friendly corporate culture, and they may be viewed among male

employees as a fairer practice to favor women.

We also document a drop in stock prices upon announcement of state government programs which provide maternity benefits. These government programs decrease the relative generosity of plans at firms which offered plans ex-ante, as women now can receive a minimum set of maternity benefits from all firms. These results are consistent with arguments by investors, policy makers and CEOs that (gender) diversity can be associated with positive firm outcomes. Given the limited research on the topic, paired with the increasing importance of non-monetary types of compensation for firms, we believe our results can provide significant insight. Further research is warranted on understanding the design of firms' optimal compensation policies.

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Figure 1

Comparison of Earnings Distributions by Metro Area

Sources: American Community Survey (ACS) and proprietary individual data from Glassdoor. The figure plots the distribution of logged earnings between 2008 and 2016 by metro area deflated using the personal consumption expenditures index (2009 base year). The sample is restricted to individuals with over $5,000 in annual salary.

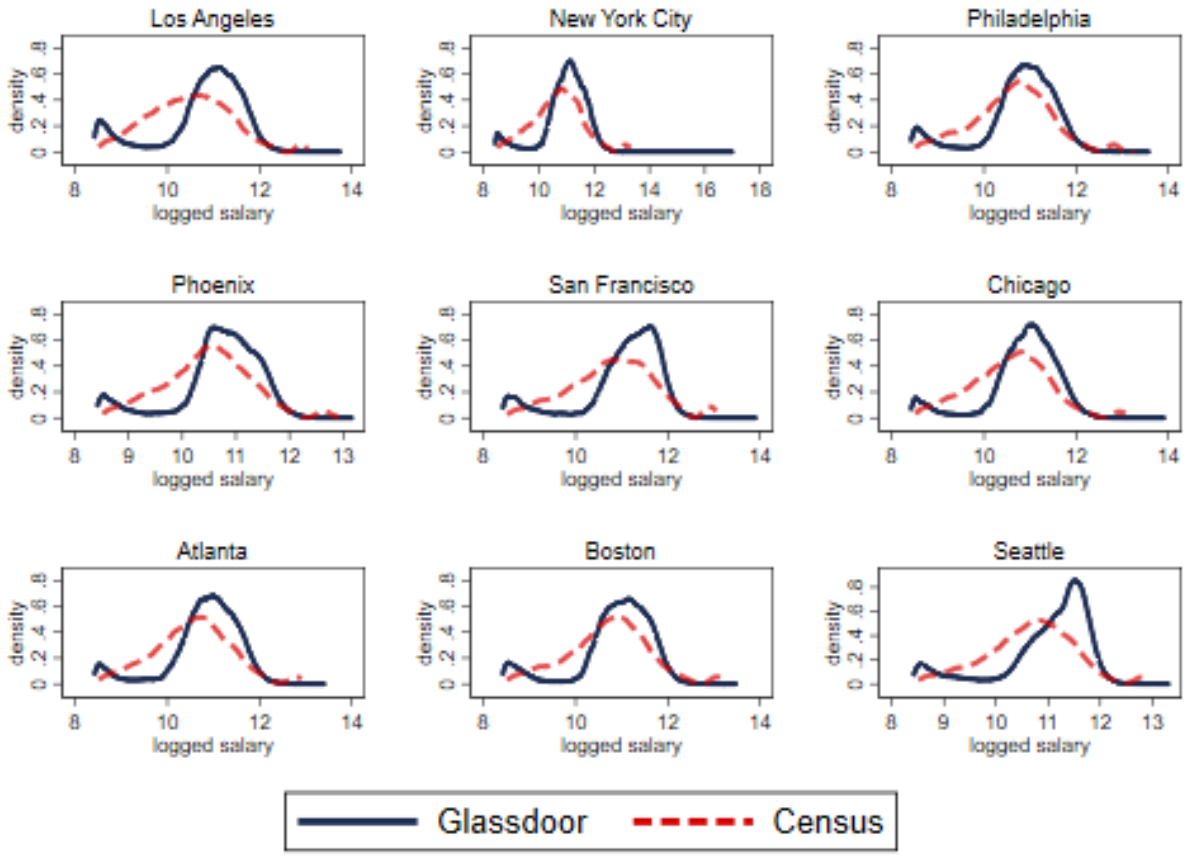


Figure 2

Comparison of Earnings Distributions by Industry

Sources: American Community Survey (ACS) and proprietary individual data. The figure plots the distribution of logged earnings between 2008 and 2016 by major industry deflated using the personal consumption expenditures index (2009 base year). The sample is restricted to individuals with over $5,000 in annual salary.

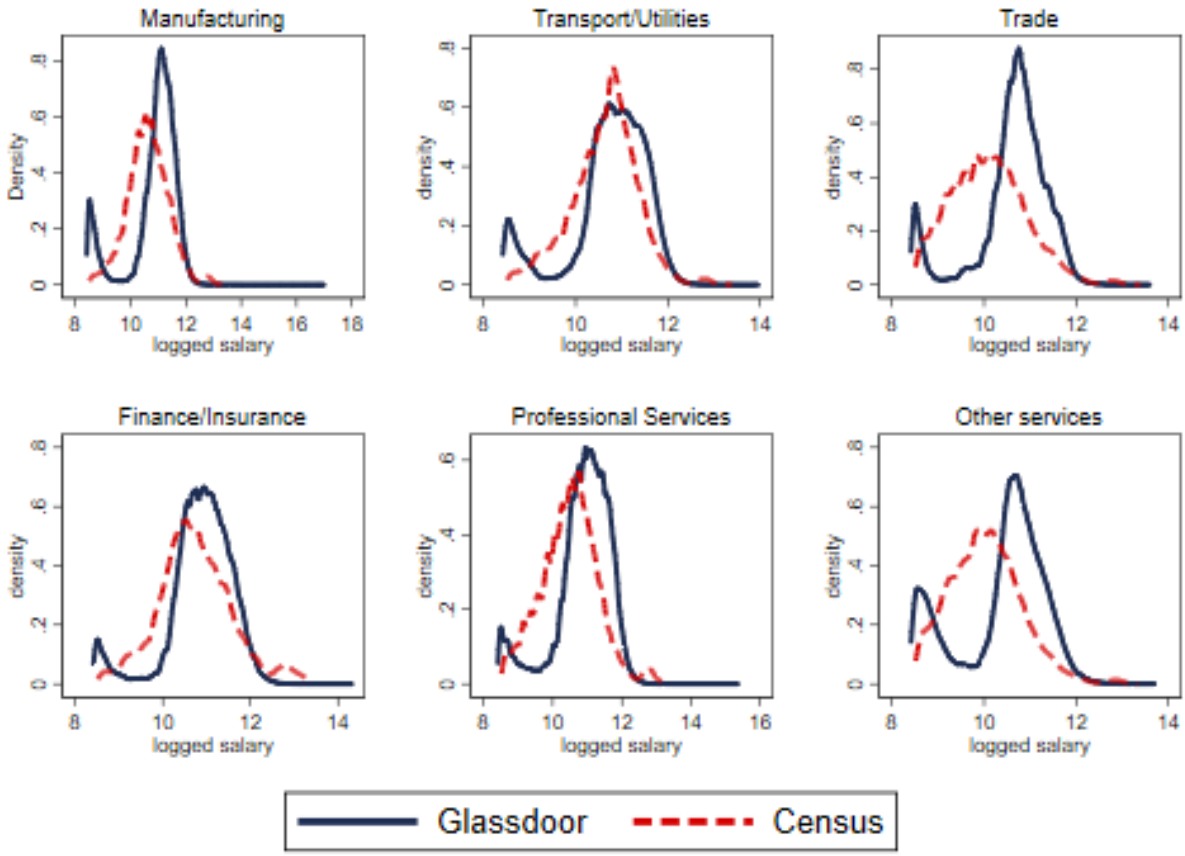


Figure 3

Comparison of Education and Industry Employment

Sources: American Community Survey (ACS) and proprietary individual data. Panel A plots the share of workers with less than 13 years of school (high school), an associates degree, a college degree, and a graduate or PhD degree. Panel B plots the share of workers employed in different industries. The sample is restricted to full-time workers.

(a) By Education

(b) By Industry

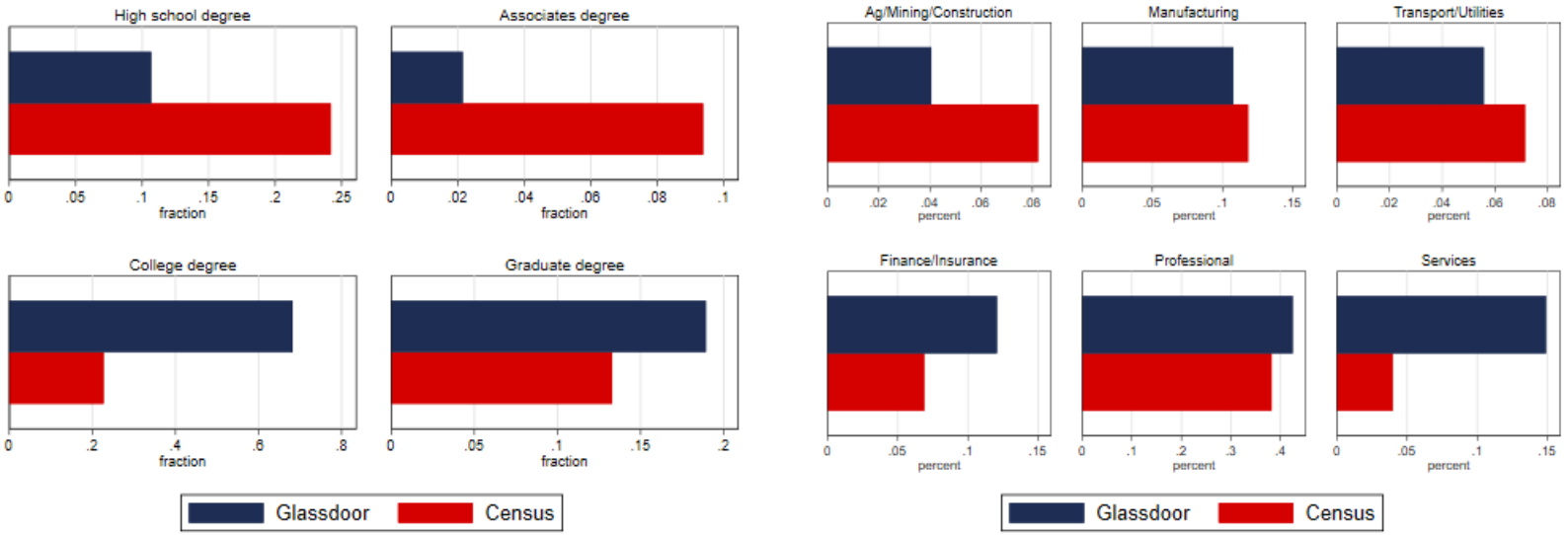


Figure 4

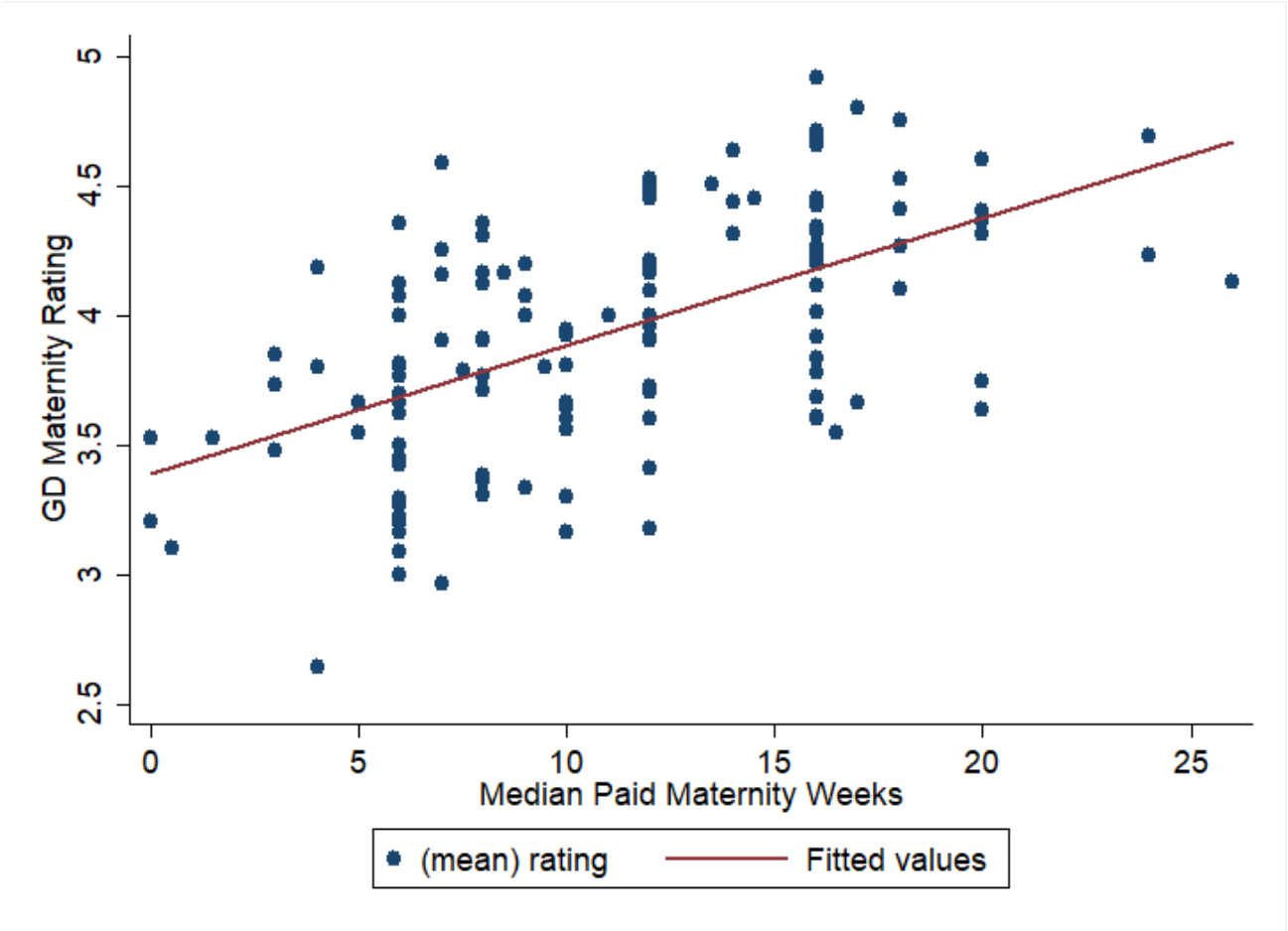
Maternity Leave Quality for Firms in the Fortune 100

We exclude all firms with fewer than 50 reviews per firm-year. The horizontal axis represents average maternity benefit ratings. The vertical axis represents density. The green series plots the distribution of rankings for firms in the Fortune 100 Best Companies to Work For List, which is Edmans (2011)'s proxy for high employee satisfaction firms. The red series plots all other firms in our sample.

Figure 5

Correlation Between Weeks of Paid Maternity Leave and GD Ratings

Correlation of firm average maternity rating with weeks of paid maternity leave. Firm average maternity ratings are from Glassdoor. Weeks of paid maternity leave are from Fairygodboss. To mitigate noise, we exclude all firms with fewer than 10 maternity leave reviews on Glassdoor.

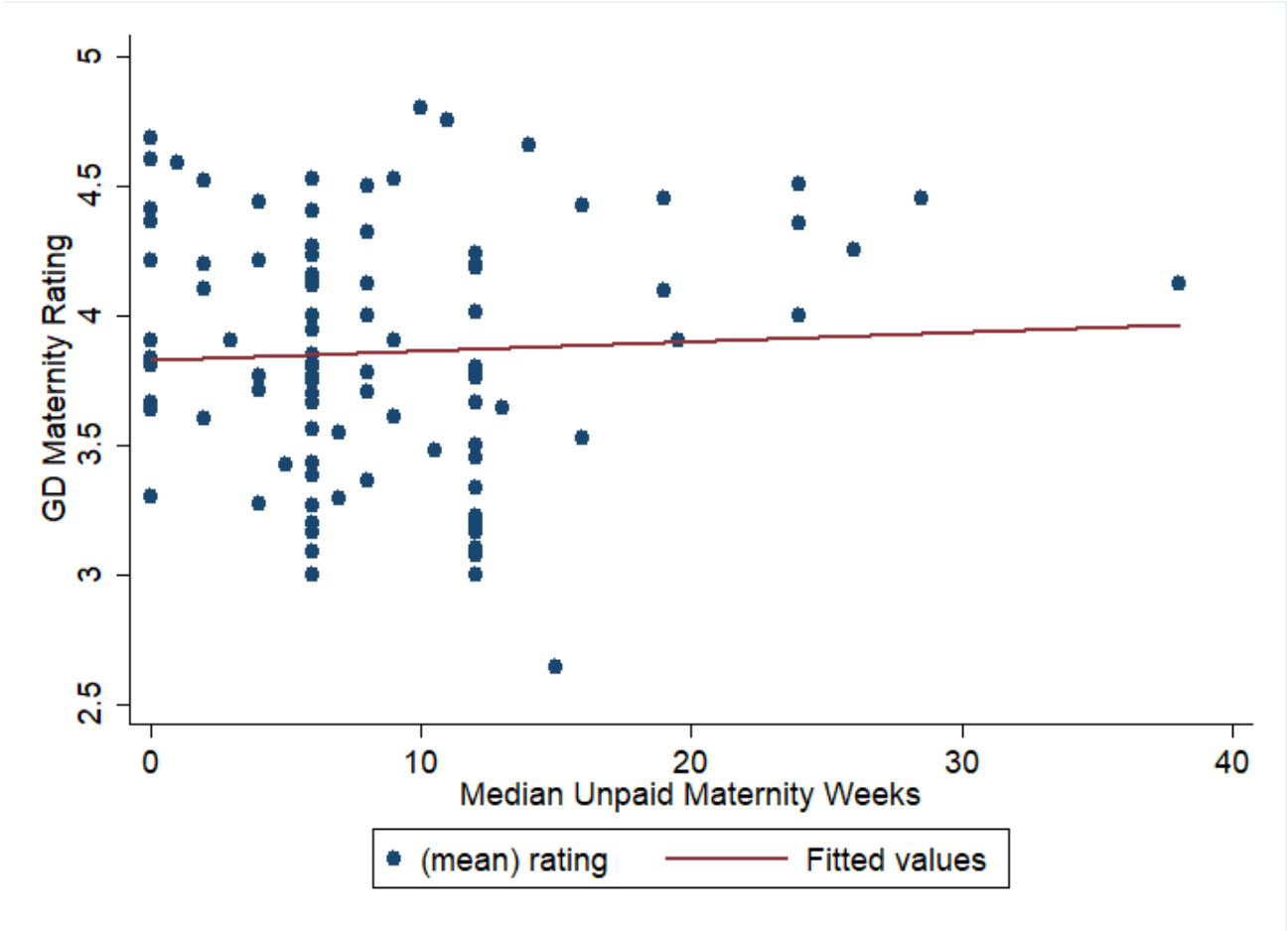


Correlation = 55.6%, significant at p<0.01.

Figure 6

Correlation Between Weeks of Unpaid Maternity Leave and GD Ratings

Correlation of firm average maternity rating with weeks of unpaid maternity leave. Firm average maternity ratings are from Glassdoor. Weeks of unpaid maternity leave are from Fairygodboss. To mitigate noise, we exclude all firms with fewer than 10 maternity leave reviews on Glassdoor.



Correlation = 5.1%, p-value = 0.580.

Table 1
Summary of Glassdoor Respondents

This table provides summary statistics of the individuals completing Glassdoor reviews of their employer over 2008 to 2016. In Columns 1 and 2, we include all individuals in the full sample. In Columns 3 and 4, we limit the sample to individuals reviewing firms which are matched to Compustat "GlassDoor-Compustat Matched Sample". In Columns 5 and 6, we include only those individuals who are employed at firms with maternity leave. We group employment status of "Seasonal," "Apprentice," and "Trainee" into the category "Other." Groups may not sum to 100%, as respondents may omit certain questions.

	Full Sample		Matched Compustat Sample		Has Maternity Leave	
	Count	Pct	Count	Pct	Count	Pct
Education						
High School	133,778	11.3	54,661	12.8	58,757	10.2
Associates	42,908	3.6	16,136	3.8	19,599	3.4
Bachelors	759,724	64.4	273,662	64.3	360,734	62.8
Masters	201,836	17.1	64,516	15.2	109,320	19.0
MBA	27,959	2.4	12,646	3.0	18,024	3.1
JD	3,637	0.3	1,010	0.2	1,840	0.3
MD	887	0.1	243	0.1	495	0.1
PhD	9,486	0.8	2,715	0.6	5,573	1.0
Age Group						
Under 25	248,620	20.7	98,701	22.8	105,009	18.1
25 Through 29	271,918	22.7	95,864	22.1	131,746	22.7
30 Through 39	334,701	27.9	118,044	27.2	171,654	29.6
40 Through 49	202,122	16.8	71,948	16.6	103,717	17.9
50 Through 59	110,783	9.2	38,441	8.9	53,810	9.3
60 and Above	31,658	2.6	10,262	2.4	14,668	2.5
Gender						
Male	927,848	51.8	336,978	53.7	461,905	54.3
Female	771,935	43.1	259,209	41.3	346,588	40.7
Employment Status						
Regular	1,639,510	76.4	531,453	73.8	802,431	79.9
Part Time	311,912	14.5	133,772	18.6	114,731	11.4
Contract	93,341	4.4	25,608	3.6	37,582	3.7
Intern	88,742	4.1	27,606	3.8	45,138	4.5
Freelance	11,815	0.6	1,815	0.3	4,290	0.4
Other	33	0.0	11	0.0	10	0.0
Reviewing Current Job						
No	1,664,020	47.8	538,659	45.3	712,845	43.5
Yes	1,814,835	52.2	649,174	54.7	924,652	56.5

Table 2
Summary of Reviews by Individual Characteristics

This table provides summary statistics of individual reviews of firm characteristics and maternity ratings using the full sample of individuals completing Glassdoor reviews of their employer over 2008 to 2016. In the first row, we report mean values across the sample. In the following rows, we report mean values by employee characteristic. We group employment status of "Seasonal," "Apprentice," and "Trainee" into the category "Other."

	Overall	Career Opps	Comp & Benefits	Senior Leaders	Worklife Balance	Culture	Mat Leave
All Individuals	3.25	3.02	3.16	2.89	3.24	3.24	3.69
Education							
High School	3.12	2.93	3.07	2.73	3.05	3.08	3.55
Associates	3.03	2.83	3.09	2.66	3.08	3.03	3.57
Bachelors	3.30	3.05	3.15	2.94	3.28	3.32	3.71
Masters	3.35	3.09	3.25	2.96	3.39	3.35	3.70
MBA	3.17	2.95	3.31	2.86	3.42	3.18	3.74
JD	3.26	2.99	3.21	2.96	3.47	3.25	3.47
MD	3.19	3.08	3.24	2.87	3.25	3.15	3.43
PhD	3.37	3.11	3.32	2.94	3.49	3.36	3.47
Age Group							
Under 25	3.53	3.22	3.10	3.22	3.47	3.58	3.66
25 Through 29	3.33	3.11	3.12	2.99	3.30	3.37	3.71
30 Through 39	3.22	3.02	3.18	2.84	3.23	3.21	3.68
40 Through 49	3.12	2.90	3.23	2.72	3.17	3.10	3.72
50 Through 59	3.03	2.80	3.18	2.63	3.07	2.99	3.65
60 and Above	3.06	2.83	3.12	2.67	3.08	3.02	3.72
Gender							
Male	3.35	3.11	3.23	2.97	3.31	3.33	3.79
Female	3.22	2.98	3.08	2.84	3.20	3.22	3.59
Employment Status							
Regular	3.20	3.03	3.22	2.82	3.15	3.19	3.69
Part Time	3.36	2.91	2.79	3.00	3.39	3.38	3.41
Contract	3.34	2.99	3.08	3.02	3.39	3.28	3.41
Intern	4.08	3.72	3.55	3.92	4.03	4.13	4.03
Freelance	3.38	3.03	2.90	3.00	3.49	3.27	3.79
Other	2.88	2.41	2.46	2.59	2.96	3.00	–
Current Job							
No	2.95	2.71	2.94	2.56	2.98	2.91	3.51
Yes	3.54	3.30	3.35	3.19	3.47	3.55	3.82

Table 3
Firms in the Glassdoor Universe

This table summarizes firm characteristics for firms in our Glassdoor-Compustat matched sample as well as in a comparison Compustat group. Panel A includes all firms in the matched Glassdoor-Compustat sample. Panel B includes all firms in the Glassdoor-Compustat sample which also provide maternity benefits. Panel C includes all firms in Compustat. Medians are reported. Data starts in 2008 and all firm observations with either no revenue or no assets are excluded. The sample ends in 2017. Firm characteristics are summarized by broad industry group. We use the following industry groups: Manu = Manufacturing, Log/Tel = Logistics and Telecommunications, Ret = Retail, FIRE = Finance and Real Estate, PServ = Professional Services, CServ = Consumer Services. R&D is assumed to be zero if missing. *3yr Avg. Revenue Growth* corresponds to a 3 year cumulative average growth rate. Units for total employees are shown in thousands; all other figures are shown in millions of USD. All figures are normalized to 1/1/2017 dollars using the CPI.

	Panel A: Reviews-Compustat Matched Sample					
	Manu	Log/Tel	Ret	FIRE	PServ	CServ
Total Revenue	10,361	6,066	4,979	2,021	1,877	1,327
Total Assets	21,127	8,971	2,687	3,853	2,135	1,363
EBITDA Margin	.146	.172	.077	.186	.120	.146
R&D / Assets	0	.022	0	0	0	0
Debt / Assets	.302	.258	.213	.228	.362	.400
Cash / Assets	.070	.11	.067	.095	.038	.064
3yr Avg. Revenue Growth (%)	-4.28	-.31	1.85	4.37	5.47	3.13
Total Employees	12.5	16.0	17.0	6.4	28.0	19.4
	Panel B: Firms with Maternity Benefits					
	Manu	Log/Tel	Ret	FIRE	PServ	CServ
Total Revenue	11,073	7,036	7,439	2,353	2,135	3,316
Total Assets	28,835	9,945	5,166	4,803	2,372	4,674
EBITDA Margin	.199	.174	.082	.202	.120	.145
R&D / Assets	0	.024	0	0	0	0
Debt / Assets	.308	.263	.273	.221	.389	.342
Cash / Assets	.073	.12	.067	.103	.065	.089
3yr Avg. Revenue Growth (%)	-3.47	-.74	1.65	4.49	3.87	2.37
Total Employees	11.5	18.0	23.2	6.7	31.2	44.5
	Panel C: All Compustat Firms					
	Manu	Log/Tel	Ret	FIRE	PServ	CServ
Total Revenue	124	110	945	118	203	381
Total Assets	390	160	878	618	212	431
EBITDA Margin	.103	.053	.072	.190	.106	.134
R&D / Assets	0	.031	0	0	0	0
Debt / Assets	.195	.138	.266	.163	.224	.389
Cash / Assets	.045	.159	.051	.077	.099	.065
3yr Avg. Revenue Growth (%)	-1.86	.86	1.35	3.09	7.32	3.16
Total Employees	.3	.5	2.3	.4	2.0	4.7

Table 4
Summary of Benefit Group Offerings

The table summarizes the frequency and distribution of ratings for non-wage benefit categories. This table uses the Glassdoor-Compustat sample and data from years 2014 - 2016. In Column 1, we report the number of firms offering any specific benefit within the given benefit category. A firm is identified as having a "benefit" if 1) more than 50% of respondents in that firm reply "yes" to having the benefit, and 2) there are 5 or more respondents in total for the given firm benefit. In Column 2, we report the percent of firms offering at least one specific benefit within the given benefit category. In Columns 3 (4), we report the mean (median) rating for the benefits in this category. Mean (median) rating for a given benefit group is calculated by computing the mean rating within a firm for the given benefit group and taking the firm level means (medians) across firms. In Column 5, we report the mean within-firm standard deviation in benefits.

	# Offering	% Offering	Avg Rating	Med Rating	St Dev
	(1)	(2)	(3)	(4)	(5)
Health & Casualty Insurance	1516	0.976	3.308	3.4	1.019
Retirement	1547	0.951	3.507	3.7	0.948
Non-Salary Compensation	1152	0.750	3.033	3.0	1.202
Training & Education	1362	0.899	3.053	3.0	1.136
Leave & Vacation	1549	0.972	3.504	3.6	1.008
Flexibility	801	0.513	3.632	3.9	1.067
Perks	1470	0.957	3.417	3.5	1.097
Maternity Leave	1241	0.751	3.566	3.7	0.955

Table 5
Firm Characteristics and Benefit Quality

The table reports correlations between firm characteristics and ratings of non-wage benefit categories. This table uses the Glassdoor-Compustat sample and data from years 2014 - 2016. A firm is identified as having a "benefit group" if the firm has at least one of the benefits that fall in that benefit group. A firm is identified as having a "benefit" if 1) more than 50% of respondents in that firm reply "yes" to having the benefit, and 2) there are 5 or more respondents in total for the given firm benefit. Correlations significant at the 5% level are bolded.

	Ln(Revenue)	Ln(Assets)	EBITDA Mar	R&D/Assets
Health & Casualty Insurance	**0.076**	**0.127**	**0.064**	**0.118**
Retirement	**0.144**	**0.186**	**0.114**	-0.027
Non-Salary Compensation	**0.070**	**0.098**	0.009	**0.113**
Training & Education	**0.073**	**0.102**	0.022	**0.103**
Leave & Vacation	**0.079**	**0.137**	**0.086**	**0.109**
Flexibility	-0.033	-0.006	-0.004	**0.111**
Perks	0.006	0.018	**0.033**	**0.058**
Maternity Leave	**0.090**	**0.119**	**0.073**	**0.084**
	Debt/Assets	Cash/Assets	3yr Rev CAGR	Ln(Employees)
Health & Casualty Insurance	**-0.065**	**0.099**	0.003	**-0.029**
Retirement	**-0.052**	-0.013	**-0.072**	0.009
Non-Salary Compensation	-0.043	**0.063**	0.044	0.011
Training & Education	-0.045	**0.069**	0.008	0.004
Leave & Vacation	**-0.071**	**0.088**	-0.006	**-0.026**
Flexibility	-0.046	**0.093**	0.033	**-0.085**
Perks	**-0.058**	**0.099**	**0.077**	-0.026
Maternity Leave	**-0.100**	**0.087**	-0.001	-0.008

Table 6
Variance Decomposition of Firm Rating and Culture Rating

The table reports an analysis of covariance between ratings of non-wage benefit categories and overall company ratings. This table uses the Glassdoor-Compustat sample and data from years 2014 - 2016. Each cell represents fraction of total Type III sum of squared errors explained by a given covariate.

	Company Ratings	
	Overall	Culture
Maternity	0.285	0.285
Health Insurance	0.330	0.299
401K	0.134	0.107
Sick Leave	0.141	0.098
Paid Holiday	0.110	0.212

Table 7
Industry Female College Composition and Maternity Benefit Quality

This table reports individual level regressions of maternity leave rating on college female composition in a given industry and controls. This table uses the Glassdoor-Compustat sample and data from years 2014 - 2016. Only regular employees are included in the regression, where regular employees are defined as full time employees who are not contract workers. *% Female College (Ind)* is the ratio of college educated female employees to all college educated employees in the respondent's firm's industry, where industry is defined at the 4-digit NAICS level. *Current Job* is an indicator variable that takes the value 1 if a respondent is reviewing her current job. *log(Age)* is the natural logarithm of the respondent's age. Education variables are indicator variables measuring the highest level of education attained by the respondent. Standard errors are clustered at the firm level. (*** p<0.01, ** p<0.05, * p<0.10)

	Maternity Rating			
	(1)	(2)	(3)	(4)
% Female College (Ind)	-.977***	-.985***	-1.152***	-1.141***
	[.351]	[.351]	[.327]	[.340]
Associates		.242	.198	.095
		[.189]	[.187]	[.194]
Bachelors		-.106	-.086	-.204
		[.219]	[.215]	[.221]
Masters		.073	-.095	-.142
		[.684]	[.671]	[.689]
MBA		.168	.100	-.009
		[.194]	[.191]	[.200]
JD		.312	.244	.108
		[.229]	[.227]	[.237]
MD		1.595***	1.904***	1.587***
		[.193]	[.206]	[.347]
PhD		-.052	-.205	-.380
		[.435]	[.431]	[.453]
Current Job		.205***	.200***	.192***
		[.073]	[.071]	[.073]
Female		.058	.096	.127*
		[.073]	[.072]	[.070]
log(Age)		.054	.051	.039
		[.147]	[.142]	[.145]
log(Assets)			.050***	.056***
			[.019]	[.018]
EBIT Margin			.252***	.212**
			[.075]	[.084]
Debt / Assets			-.827***	-.700***
			[.223]	[.219]
Year FE	Yes	Yes	Yes	Yes
State FE	No	No	No	Yes
R-squared	.01	.03	.06	.10
Observations	1578	1493	1493	1493

Table 8
Alternative Explanations

Individual level regressions of maternity leave rating on college female composition in a given industry and controls. This table uses the Glassdoor-Compustat sample and data from years 2014 - 2016. Only regular employees are included in the regression, where regular employees are defined as full time employees who are not contract workers. *% Female College (Ind)* is the ratio of college educated female employees to all college educated employees in the respondent's firm's industry, where industry is defined at the 4-digit NAICS level. *% Female in Industry* is the female percentage of all employees in a given industry. *Total Pay* is an individual's *Base Pay* plus tips, bonuses, and commission. *Female Executive* is an indicator variable that takes the value 1 if a firm has a female executive. *Female Pay Gap* is the relative pay of women compared to men. *Current Job* is an indicator variable that takes the value 1 if a respondent is reviewing her current job. *log(Age)* is the natural logarithm of the respondent's age. Dummy variables for the highest education level attained by the respondent are included but not reported to conserve space. Standard errors are clustered at the firm level. (*** p<0.01, ** p<0.05, * p<0.10)

	Maternity Rating			
	(1)	(2)	(3)	(4)
% Female College (Ind)	-4.086***	-.933**	-.868**	-1.047***
	[1.391]	[.393]	[.388]	[.356]
% Female in Industry	2.695**			
	[1.221]			
log(Base Pay)		.158*		
		[.087]		
log(Total Pay)			.183***	
			[.060]	
Female Executive		-.066	-.061	
		[.096]	[.095]	
Female Pay Gap				.319
				[.514]
Current Job	.187**	.193**	.210**	.178**
	[.073]	[.092]	[.091]	[.073]
Female	.133*	.138	.153*	.128*
	[.070]	[.085]	[.086]	[.070]
log(Age)	.019	-.170	-.160	.022
	[.145]	[.182]	[.175]	[.146]
log(Assets)	.053***	.065***	.064***	.054***
	[.019]	[.021]	[.021]	[.018]
EBIT Margin	.185**	.153**	.174**	.207**
	[.00]	[.075]	[.075]	[.084]
Debt/Assets	-.614***	-.734***	-.743***	-.704***
	[.705]	[.258]	[.254]	[.219]
Education Dummies	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
R-squared	.10	.11	.12	.10
Observations	1488	1048	1050	1487

Table 9
State Female College Composition and Maternity Benefit Quality

Individual level regressions of maternity leave rating on college female composition in a given state and controls. This table uses the Glassdoor-Compustat sample and data from years 2014 - 2016. Only regular employees are included in the regression, where regular employees are defined as full time employees who are not contract workers. *% Female College (State)* is the ratio of college educated female employees to all college educated employees in the respondent's firm's state. *Female* and *Current Job* are indicator variables that take the value 1 if a respondent is female or is reviewing her current job, respectively. *log(Age)* is the natural logarithm of the respondent's age. *% Female (1950)* is the percentage of females in a given state in 1950. *WWII Mobilization Rate* is fraction of men between ages 18 and 44 who either enlisted or were drafted during WWII. Columns 1-3 are OLS regressions. Columns 4 and 5 are the first and second stage of an IV regression where *% Female (1950)* and *WWII Mobilization Rate* serve as instruments for *% Female College (State)*. Dummy variables for the highest education level attained by the respondent are included but not reported to conserve space. Standard errors are clustered at the firm level. (*** p<0.01, ** p<0.05, * p<0.10)

	Maternity Rating				
				IV	
	OLS			First	Second
	(1)	(2)	(3)	(4)	(5)
% Female College (State)	-7.508***	-7.111***	-6.563***		-12.39**
	[2.363]	[2.338]	[2.209]		[5.666]
Current Job		.200***	.200***	0000	.193***
		[.070]	[.068]	[.001]	[.069]
Female		.035	.074	.002**	.097
		[.071]	[.068]	[.001]	[.068]
log(Age)		.115	.124	0000	.122
		[.144]	[.139]	[.001]	[.141]
log(Assets)			.040**	0000	.044**
			[.019]	[0000]	[.019]
EBIT Margin			.700**	.002	.688**
			[.326]	[.004]	[.323]
Debt / Assets			-.733***	.006***	-.689***
			[.222]	[.002]	[.219]
% Female (1950)				.633***	
				[.068]	
WWII Mobilization Rate				-.123***	
				[.017]	
Education Dummies	No	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
R-squared	.01	.03	.05	.21	.05
Observations	1684	1593	1593	1593	1593
First Stage F-stat				63.31	

Table 10
Recruiting Using Maternity Benefits by Female Education

Individual level regressions of maternity leave rating on college female composition in a given industry and controls. This table uses the Glassdoor-Compustat sample and data from years 2014 - 2016. Only regular employees are included in the regression, where regular employees are defined as full time employees who are not contract workers. *% Female College (State)* is the ratio of college educated female employees to all college educated employees in the respondent's firm's state. *Female College Share High* is an indicator variable that takes the value 1 if a firm is above the median ratio of college educated females to total females. *Female* and *Current Job* are indicator variables that take the value 1 if a respondent is female or is reviewing her current job, respectively. *log(Age)* is the natural logarithm of the respondent's age. Dummy variables for the highest education level attained by the respondent are included but not reported to conserve space. Standard errors are clustered at the firm level. (*** p<0.01, ** p<0.05, * p<0.10)

	Maternity Rating		
	Female College Share High		
	==0	==1	Pooled
	(1)	(2)	(3)
% Female College (State)	-4.070	-10.00***	-3.020
	[3.241]	[2.924]	[3.227]
% Female College (State)*Female College Share High			-7.519*
			[3.326]
Female College Share High			3.776*
			[2.154]
Current Job	.230**	.159*	.194***
	[.096]	[.095]	[.068]
Female	.163*	-.044	.083
	[.094]	[.097]	[.068]
log(Age)	.257	.010	.147
	[.180]	[.221]	[.141]
log(Assets)	.035	.051*	.041**
	[.026]	[.028]	[.019]
EBIT Margin	1.245***	.242	.683**
	[.455]	[.450]	[.322]
Debt / Assets	-.962***	-.618*	-.780***
	[.281]	[.355]	[.224]
Education Dummies	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
R-squared	.06	.08	.05
Observations	790	789	1579

Table 11
Do Better Maternity Benefits Attract More Female Employees?

Individual level regressions of college female worker composition on maternity ratings, industry college female composition, and controls. This table uses the Glassdoor-Compustat sample and data from years 2014 - 2016. Only regular employees are included in the regression, where regular employees are defined as full time employees who are not contract workers. In Column 1, *% Female Respondents* is calculated as the ratio of female college educated respondents to all college educated respondents within a firm-year. In Column 2, *% Female Respondents* is calculated in the same way, but excluding all observations reviewing maternity benefits. *% Female College (Ind)* is the ratio of college educated female employees to all college educated employees in the respondent's firm's industry, where industry is defined at the 4-digit NAICS level. *Female* and *Current Job* are indicator variables that take the value 1 if a respondent is female or is reviewing her current job, respectively. *log(Age)* is the natural logarithm of the respondent's age. Dummy variables for the highest education level attained by the respondent are included but not reported to conserve space. Standard errors are clustered at the firm level. (*** p<0.01, ** p<0.05, * p<0.10)

	% Female Respondents	% Female Respondents Excluding Maternity
	(1)	(2)
Maternity Benefit Rating	.009**	.009**
	[.004]	[.004]
% Female College (Ind)	.634***	.636***
	[.059]	[.059]
Current Job	-.007	-.007
	[.010]	[.010]
Female	.037***	.036***
	[.010]	[.010]
log(Age)	.034	.031
	[.021]	[.021]
log(Assets)	-.002	-.003
	[.004]	[.004]
EBIT Margin	-.011	-.013
	[.021]	[.020]
Debt / Assets	.124***	.126***
	[.044]	[.043]
Education Dummies	Yes	Yes
Year FE	Yes	Yes
State FE	Yes	Yes
R-squared	.26	.26
Observations	1487	1487

Table 12
Returns around Government-Sponsored Paid Family Leave Policy Changes

Individual level regressions of announcement returns around government-sponsored paid family leave policy changes on maternity ratings and controls. Announcement returns are cumulative abnormal returns (CARs) from one day before to one day after the policy change. We consider a policy change to take place if a government-sponsored paid family leave policy is passed by the first chamber of a jurisdiction's legislature, where the jurisdictions in consideration are New York State, Washington State, and Washington DC. We consider a firm to be affected by a policy change if it has employees in a state with a policy change. CARs are calculated by either subtracting the return on the value-weighted CRSP (Market Model) or market beta*return on the value-weighted CRSP (Market Adjusted Model). Only regular employees are included in the regression, where regular employees are defined as full time employees who are not contract workers. *Maternity High* is an indicator variable that takes the value one if a maternity rating is above the median maternity rating. *High % Female College (Ind)* is an indicator variable that takes the value one (zero) if a firm's industry is in the top (bottom) tercile of college educated female employees to all college educated employees. Industry is defined by 4-digit NAICS. *% Female (Firm)* is the percentage of a firm's employees that are female. Standard errors are clustered at the firm level. (*** p<0.01, ** p<0.05, * p<0.10)

	CAR (-1, +1)					
	Market Model			Market Adj. Model		
	(1)	(2)	(3)	(4)	(5)	(6)
Maternity High	-.003	-.004**	-.007**	-.003	-.004**	-.006**
	[.002]	[.002]	[.003]	[.002]	[.002]	[.003]
High % Female College (Ind)			.007			.004
			[.007]			[.006]
High % Female College (Ind)			.009**			.008**
× Maternity High			[.003]			[.003]
% Female (Firm)		.020*	.011		.017	.010
		[.011]	[.012]		[.010]	[.012]
log(Total Employees)		-.005***	-.006**		-.005***	-.006**
		[.002]	[.002]		[.002]	[.002]
log(Assets)		.003**	.003		.003**	.003*
		[.001]	[.002]		[.001]	[.002]
EBIT Margin		-.003	-.024		.003	-.017
		[.018]	[.015]		[.018]	[.017]
Debt / Assets		.005	-.013		.003	-.019
		[.009]	[.013]		[.009]	[.013]
R-squared	.004	.124	.368	.003	.116	.234
Observations	785	681	368	785	681	368

Is Cash Still King: Why Firms Offer Non-Wage Compensation and the Implications for Shareholder Value

Tim Liu, Christos Makridis, Paige Ouimet, Elena Simintzi

INTERNET APPENDIX

Table IA1
Summary of Reviews by Individual Characteristics for Compustat-Matched Firms

This table provides summary statistics of individual reviews of firm characteristics and maternity ratings using the Compustat-Glassdoor matched sample of individuals from 2008 to 2016. In the first row, we report mean values across the sample. In the following rows, we report mean values by employee characteristic. We group employment status of "Seasonal," "Apprentice," and "Trainee" into the category "Other."

	Average Ratings - Matched Compustat Sample						
	Overall	Career Opps	Comp & Benefits	Senior Leaders	Worklife Balance	Culture	Mat Leave
All Comp Matched	3.23	3.05	3.21	2.82	3.18	3.21	3.80
Education							
High School	3.11	2.98	3.11	2.70	3.00	3.10	3.60
Associates	3.02	2.89	3.13	2.62	3.02	3.03	3.70
Bachelors	3.28	3.10	3.22	2.88	3.22	3.30	3.83
Masters	3.32	3.12	3.34	2.89	3.39	3.31	3.77
MBA	3.15	2.97	3.36	2.83	3.43	3.15	3.94
JD	3.19	2.98	3.25	2.85	3.50	3.19	3.71
MD	3.08	2.96	3.33	2.68	3.15	2.98	3.50
PhD	3.20	3.01	3.44	2.78	3.46	3.23	3.59
Age Group							
Under 25	3.43	3.21	3.12	3.10	3.36	3.50	3.80
25 Through 29	3.31	3.15	3.17	2.93	3.24	3.35	3.87
30 Through 39	3.23	3.08	3.25	2.79	3.19	3.21	3.77
40 Through 49	3.11	2.94	3.31	2.66	3.12	3.08	3.83
50 Through 59	3.01	2.84	3.27	2.55	2.98	2.96	3.80
60 and Above	3.03	2.87	3.18	2.58	2.98	2.97	3.53
Gender							
Male	3.31	3.13	3.28	2.89	3.26	3.29	3.83
Female	3.21	3.03	3.14	2.80	3.11	3.22	3.79
Other	3.02	2.87	3.09	2.65	3.09	3.07	3.80
Employment Status							
Regular	3.19	3.07	3.29	2.74	3.07	3.16	3.78
Part Time	3.21	2.87	2.74	2.85	3.22	3.25	3.33
Contract	3.32	3.00	3.16	2.97	3.39	3.27	3.59
Intern	4.09	3.90	3.86	3.93	4.05	4.13	4.23
Freelance	3.45	3.21	3.17	3.00	3.37	3.30	3.00
Other	2.27	2.22	2.00	2.00	2.78	2.78	–
Reviewing Current Job							
No	3.03	2.86	3.10	2.59	3.00	2.99	3.70
Yes	3.39	3.21	3.29	3.00	3.32	3.40	3.88

Table IA2 (1 of 2)
Mapping of Benefits to Benefit Groups

Benefit Group	Benefit
Health and Casualty Insurance	Accidental Death and Dismemberment
	Dental Insurance
	Disability Insurance
	Fertility Assistance
	Flexible Spending Account (FSA)
	Health Insurance
	Health Savings Account (HSA)
	Life Insurance
	Mental Health Care
	Occupation Accident Insurance
	Supplemental Life Insurance
	Supplemental Workers' Compensation
	Vision Insurance
Retirement	401K Plan
	Pension Plan
	Retiree Health & Medical
	Retirement Plan
Non-Salary Compensation	Employee Stock Purchase Plan
	Equity Incentive Plan
	Performance Bonus
	Stock Options
Training and Education	Apprenticeship Program
	Job Training
	Professional Development
	Tuition Assistance

Table IA2 (2 of 2)

Benefit Group	Benefit
Leave and Vacation	Bereavement Leave
	Family Medical Leave
	Maternity Leave
	Military Leave
	Paid Holidays
	Sabbatical
	Sick Days
	Unpaid Extended Leave
	Vacation & Paid Time Off
	Volunteer Time Off
Flexibility	Reduced or Flexible Hours
	Work From Home
Perks	Adoption Assistance
	Charitable Gift Matching
	Childcare
	Commuter Checks & Assistance
	Company Car
	Company Social Events
	Dependent Care
	Diversity Program
	Employee Assistance Program
	Employee Discount
	Free Lunch or Snacks
	Gym Membership
	Health Care On-Site
	Legal Assistance
	Mobile Phone Discount
	Pet Friendly Workplace
	Travel Concierge

Table IA3
Sample Size by Industry

This table summarizes firm counts for firms in the Glassdoor sample. Panel A includes all firms in the matched Glassdoor-Compustat sample. Panel B includes all firms in the Glassdoor-Compustat sample which also provide maternity benefits. Panel C includes all firms in Compustat. Data starts in 2008 and all firm observations with either no revenue or no assets are excluded. The sample ends in 2017. Firm counts are summarized by broad industry group. We use the following industry groups: Manu = Manufacturing, Log/Tel = Logistics and Telecommunications, Ret = Retail, FIRE = Finance and Real Estate, PServ = Professional Services, CServ = Consumer Services. R&D is assumed to be zero if missing. *3yr Avg. Revenue Growth* corresponds to a 3 year cumulative average growth rate.

	Panel A: Reviews-Compustat Matched Sample					
	Manu	Log/Tel	Ret	FIRE	PServ	CServ
Total Revenue	47	354	226	583	37	73
Total Assets	47	354	226	583	37	73
EBITDA Margin	47	352	225	562	37	73
R&D / Assets	47	354	226	583	37	73
Debt / Assets	31	353	224	534	36	72
Cash / Assets	47	354	226	583	37	73
3yr Avg. Revenue Growth	45	347	218	555	35	72
Total Employees	46	345	217	552	37	72
	Panel B: Firms with Maternity Benefits					
	Manu	Log/Tel	Ret	FIRE	PServ	CServ
Total Revenue	34	309	135	478	25	23
Total Assets	34	309	135	478	25	23
EBITDA Margin	34	307	134	463	25	23
R&D / Assets	34	309	135	478	25	23
Debt / Assets	21	309	134	434	24	23
Cash / Assets	34	309	135	478	25	23
3yr Avg. Revenue Growth	33	304	129	454	23	22
Total Employees	33	301	127	452	25	22
	Panel C: All Compustat Firms					
	Manu	Log/Tel	Ret	FIRE	PServ	CServ
Total Revenue	1,697	3,855	959	4,384	232	246
Total Assets	1,697	3,855	959	4,384	232	246
EBITDA Margin	1,690	3,806	954	4,042	228	244
R&D / Assets	1,697	3,855	959	4,384	232	246
Debt / Assets	1,426	3,842	917	3,431	230	245
Cash / Assets	1,697	3,855	959	4,383	232	246
3yr Avg. Revenue Growth	1,322	3,201	832	3,722	199	215
Total Employees	1,346	3,441	846	3,610	210	211

Table IA4
Summary of Benefit Group Offerings (All Firms and by Benefit)

The table summarizes the frequency and distribution of ratings for non-wage benefit categories. Panel A uses the full sample and defines benefit categories by benefit groups. Panel B uses the Compustat-Glassdoor sample and defines benefit categories by benefits. Data is from years 2014 - 2016. In Column 1, we report the number of firms offering any specific benefit within the given benefit category. A firm is identified as having a "benefit" if 1) more than 50% of respondents in that firm reply "yes" to having the benefit, and 2) there are 5 or more respondents in total for the given firm benefit. In Column 2, we report the percent of firms offering at least one specific benefit within the given benefit category. In Columns 3 (4), we report the mean (median) rating for the benefits in this category. Mean (median) rating for a given benefit category is calculated by computing the mean rating within a firm for the given benefit group and taking the firm level means (medians) across firms. In Column 5, we report the mean within-firm standard deviation in benefits.

Panel A

	Benefit Groups - Full Sample				
	% Offering	% Offering	Avg Rating	Med Rating	St Dev
Health & Casualty Insurance	66157	0.970	3.253	3.0	1.291
Retirement	30275	0.915	3.434	3.7	1.273
Non-Salary Compensation	10661	0.552	2.945	3.0	1.417
Training & Education	15314	0.812	3.179	3.0	1.366
Leave & Vacation	58337	0.958	3.334	3.3	1.317
Flexibility	6087	0.481	3.751	4.0	1.258
Perks	76097	0.885	3.483	3.9	1.310
Maternity Leave	7622	0.660	3.569	4.0	1.213

Panel B

	Benefits - Compustat Matched				
	# Offering	% Offering	Avg Rating	Med Rating	St Dev
401K Plan	1561	0.947	3.585	3.7	0.811
Accidental DD Insurance	1203	0.818	3.242	3.0	1.153
Adoption Assistance	170	0.108	3.556	4.0	1.259
Apprenticeship Program	21	0.014	3.523	4.0	1.348
Bereavement Leave	1166	0.794	3.352	3.3	1.182
Charitable Gift Matching	442	0.292	3.578	4.0	1.185
Childcare	61	0.040	3.299	4.0	1.368
Commuter Checks	208	0.136	3.451	3.4	1.181
Company Car	22	0.015	3.500	3.0	1.304
Company Social Events	933	0.654	3.167	3.0	1.263
Dental Insurance	1427	0.952	3.260	3.3	1.036
Dependent Care	130	0.084	3.401	3.5	1.182
Disability Insurance	1228	0.829	3.211	3.0	1.177
Diversity Program	392	0.248	3.561	3.8	1.117
Employee Assistance Program	1052	0.678	3.271	3.2	1.220
Employee Discount	1228	0.761	3.505	3.6	0.873
Employee Stock Purchase Plan	669	0.439	3.222	3.0	1.197
Equity Incentive	94	0.062	3.235	3.0	1.246
Family Medical Leave	1241	0.831	3.175	3.0	1.188
Fertility Assistance	11	0.007	3.553	4.0	1.428
Flexible Spending Account (FSA)	1224	0.805	3.325	3.2	1.126
Free Lunch or Snacks	210	0.137	3.861	4.0	1.083
Gym Membership	399	0.269	3.506	4.0	1.286
Health Care On Site	153	0.106	3.350	3.4	1.251
Health Insurance	1595	0.965	3.425	3.5	0.862
Health Savings Account (HSA)	1175	0.792	3.306	3.3	1.143
Job Training	1216	0.817	3.042	3.0	1.112
Legal Assistance	435	0.291	3.154	3.0	1.229
Life Insurance	1341	0.917	3.289	3.2	1.114
Maternity and Paternity Leave	1241	0.751	3.566	3.7	0.955
Mental Health Care	712	0.471	3.220	3.0	1.262
Military Leave	406	0.260	3.422	3.0	1.202
Mobile Phone Discount	930	0.645	3.135	3.0	1.269
Occupation Accident Insurance	559	0.367	3.109	3.0	1.297
Paid Holidays	1379	0.921	3.393	3.5	1.039
Pension Plan	162	0.102	3.540	4.0	1.161
Performance Bonus	960	0.639	2.841	3.0	1.220
Pet Friendly Workplace	39	0.027	3.266	3.5	1.377
Professional Development	867	0.582	3.069	3.0	1.233
Reduced or Flexible Hours	515	0.341	3.309	3.4	1.210
Retiree Health and Medical	75	0.048	3.288	3.0	1.311
Retirement Plan	1087	0.671	3.327	3.4	1.131
Sabbatical	51	0.033	3.205	3.0	1.330
Sick Days	1224	0.808	3.221	3.2	1.132
Stock Options	526	0.344	3.031	3.0	1.275
Supplemental Life Insurance	1213	0.823	3.117	3.0	1.212
Supplemental Workers Comp	142	0.092	3.029	3.0	1.301
Travel Concierge	100	0.068	3.310	3.0	1.326
Tuition Assitance	931	0.629	3.127	3.0	1.196
Unpaid Extended Leave	461	0.307	3.038	3.0	1.310
Vacation and PTO	1581	0.964	3.546	3.6	0.835
Vision Insurance	1357	0.926	3.265	3.3	1.117
Volunteer Time Off	353	0.232	3.363	3.5	1.348
Work From Home	582	0.368	3.799	4.0	0.981

Table IA5
Summary of Key Covariates

This table summarizes key covariates used in our regression analysis. *% Female College (Ind)* and *% Female College (State)* are the ratio of college educated female employees to all college educated employees in the respondent's firm's industry and state, respectively. Industry is defined at the 4-digit NAICS level. *WWII Mobilization Rate* is fraction of men between ages 18 and 44 who either enlisted or were drafted during WWII. *% Female (1950)* is the % of state's 1950 population that was female.

			Percentile		
	Mean	SD	25th	50th	75th
% Female College (Ind)	0.434	0.144	0.310	0.397	0.560
% Female College (State)	0.500	0.014	0.487	0.502	0.509
WWII Mobilization	0.479	0.031	0.460	0.478	0.500
% Female (1950)	0.502	0.008	0.499	0.500	0.507
log(Assets)	10.256	2.072	8.927	10.337	11.644
EBIT Margin	0.153	0.139	0.067	0.132	0.217
Debt / Assets	0.279	0.186	0.152	0.251	0.381

Table IA6
Maternity Rating and Female College Industry Composition (All Employees)

Individual level regressions of maternity leave rating on college female composition in a given industry and controls. This table uses the Glassdoor-Compustat sample and data from years 2014 - 2016. Non full time employees are also included in the regression. *% Female College (Ind)* is the ratio of college educated female employees to all college educated employees in the respondent's firm's industry, where industry is defined at the 4-digit NAICS level. *Female* and *Current Job* are indicator variables that take the value 1 if a respondent is female or is reviewing her current job, respectively. *log(Age)* is the natural logarithm of the respondent's age. Dummy variables for the highest education level attained by the respondent are included but not reported to conserve space. Standard errors are clustered at the firm level. (*** p<0.01, ** p<0.05, * p<0.10)

	Maternity Rating			
	(1)	(2)	(3)	(4)
% Female College (Ind)	-1.068***	-1.070***	-1.206***	-1.168***
	[.337]	[.336]	[.313]	[.326]
Current Job		.193***	.199***	.190***
		[.070]	[.068]	[.070]
Female		.057	.095	.126*
		[.071]	[.070]	[.068]
log(Age)		.036	.031	-.001
		[.140]	[.136]	[.137]
log(Assets)			.052***	.058***
			[.018]	[.018]
EBIT Margin			.237***	.200**
			[.073]	[.085]
Debt / Assets			-.741***	-.608***
			[.217]	[.218]
Education Dummies	No	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
State FE	No	No	No	Yes
R-squared	.01	.03	.06	.09
Observations	1658	1569	1569	1569

Table IA7
Maternity Rating and Lagged Female College Industry Composition

This table reports individual level regressions of maternity leave rating on lagged college female composition in a given industry and controls. This table uses the Glassdoor-Compustat sample and data from years 2014 - 2016. Only regular employees are included in the regression, where regular employees are defined as full time employees who are not contract workers. *% Female College (3yr Lag, Ind)* is the 3 year lagged ratio of college educated female employees to all college educated employees in the respondent's firm's industry, where industry is defined at the 4-digit NAICS level. *Current Job* is an indicator variable that takes the value 1 if a respondent is reviewing her current job. *log(Age)* is the natural logarithm of the respondent's age. Dummy variables for the highest education level attained by the respondent are included but not reported to conserve space. Standard errors are clustered at the firm level. (*** p<0.01, ** p<0.05, * p<0.10)

	Maternity Rating			
	(1)	(2)	(3)	(4)
% Female College (3yr Lag, Ind)	-.991***	-.995***	-1.134***	-1.082***
	[.332]	[.331]	[.308]	[.321]
Current Job		.193***	.199***	.190***
		[.070]	[.068]	[.070]
Female		.054	.092	.122*
		[.071]	[.070]	[.068]
log(Age)		.038	.033	.002
		[.141]	[.137]	[.138]
log(Assets)			.053***	.058***
			[.018]	[.018]
EBIT Margin			.236***	.199**
			[.073]	[.085]
Debt / Assets			-.732***	-.597***
			[.216]	[.217]
Education Dummies	No	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
State FE	No	No	No	Yes
R-squared	.03	.04	.10	.12
Observations	1658	1569	1569	1569

Table IA8
Maternity Rating and Industry-State Female College Composition

This table reports individual level regressions of maternity leave rating on college female composition in a given industry-state cell and controls. This table uses the Glassdoor-Compustat sample and data from years 2014 - 2016. Only regular employees are included in the regression, where regular employees are defined as full time employees who are not contract workers. *% Female College (Ind × State)* is the ratio of college educated female employees to all college educated employees in the respondent's firm's industry and state, where industry is defined at the 4-digit NAICS level. *Current Job* is an indicator variable that takes the value 1 if a respondent is reviewing her current job. *log(Age)* is the natural logarithm of the respondent's age. Dummy variables for the highest education level attained by the respondent are included but not reported to conserve space. Standard errors are clustered at the firm level. (*** p<0.01, ** p<0.05, * p<0.10)

	Maternity Rating				
	(1)	(2)	(3)	(4)	(5)
% Female College (Ind x State)	-.698**	-.774**	-.827***	-.666**	-.691**
	[.327]	[.329]	[.301]	[.327]	[.333]
Current Job		.159**	.155**	.144*	.178**
		[.079]	[.076]	[.078]	[.081]
Female		.080	.123	.146*	.143*
		[.078]	[.077]	[.076]	[.075]
log(Age)		-.071	-.064	-.077	-.088
		[.153]	[.148]	[.151]	[.153]
log(Assets)			.043*	.043*	.050**
			[.022]	[.022]	[.022]
EBIT Margin			.456	.404	.315
			[.347]	[.349]	[.356]
Debt / Assets			-.744***	-.597**	-.581**
			[.239]	[.235]	[.240]
Year FE	Yes	Yes	Yes	Yes	No
State FE	No	No	No	Yes	No
Year x State FE	No	No	No	No	Yes
R-squared	.01	.03	.05	.10	.12
Observations	1416	1337	1337	1337	1337

Table IA9
Maternity Quality Sensitivity by Respondent Gender

Individual level regressions of maternity leave rating on college female composition in a given industry and controls. This table uses the Glassdoor-Compustat sample and data from years 2014 - 2016. Only regular employees are included in the regression, where regular employees are defined as full time employees who are not contract workers. *% Female College (Ind)* is the ratio of college educated female employees to all college educated employees in the respondent's firm's industry, where industry is defined at the 4-digit NAICS level. Panel A only includes female employees, while Panel B only includes male employees. *Female* and *Current Job* are indicator variables that take the value 1 if a respondent is female or is reviewing her current job, respectively. *log(Age)* is the natural logarithm of the respondent's age. Dummy variables for the highest education level attained by the respondent are included but not reported to conserve space. Standard errors are clustered at the firm level. (*** p<0.01, ** p<0.05, * p<0.10)

Panel A				
	Maternity Rating - *Female Employees*			
	(1)	(2)	(3)	(4)
% Female College (Ind)	-1.079**	-1.073**	-1.228***	-1.353***
	[.437]	[.442]	[.412]	[.419]
Current Job		.144	.131	.054
		[.105]	[.102]	[.107]
log(Age)		.234	.212	.190
		[.195]	[.193]	[.192]
log(Assets)			.066**	.075**
			[.028]	[.029]
EBIT Margin			-.134	0000
			[.287]	[.305]
Debt / Assets			-.959***	-.751***
			[.273]	[.285]
Education Dummies	No	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
State FE	No	No	No	Yes
R-squared	.02	.04	.07	.17
Observations	713	680	680	680
Panel B				
	Maternity Rating - *Male Employees*			
	(1)	(2)	(3)	(4)
% Female College (Ind)	-1.135**	-1.092**	-1.204***	-1.274***
	[.468]	[.470]	[.460]	[.460]
Current Job		.217**	.228***	.235***
		[.087]	[.084]	[.086]
log(Age)		-.105	-.110	-.126
		[.194]	[.188]	[.195]
log(Assets)			.049*	.045*
			[.025]	[.024]
EBIT Margin			.302***	.314***
			[.092]	[.104]
Debt / Asset			-.487	-.509
			[.308]	[.311]
Education Dummies	No	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
State FE	No	No	No	Yes
R-squared	.01	.03	.06	.10
Observations	945	889	889	889

Table IA10
Returns around Policy Changes: Placebo Tests

Individual level regressions of announcement returns around government-sponsored paid family leave policy changes on maternity ratings and controls. Announcement returns are cumulative abnormal returns (CARs) from one day before to one day after the policy change. We consider a policy change to take place if a government-sponsored paid family leave policy is passed by the first chamber of a jurisdiction's legislature, where the jurisdictions passing the policy are New York State, Washington State, and Washington DC. In Panel A, we determine placebo states by matching each affected state to the closest unaffected state based on 2016 population (NY=>FL, WA=>AZ, DC=>VT). In Panel B, we determine placebo states by matching affected state to largest three unaffected states by 2016 population (NY=>CA, WA=>TX, DC=>FL). CARs are calculated by either subtracting the return on the value-weighted CRSP (Market Model) or market beta*return on the value-weighted CRSP (Market Adjusted Model). Only regular employees are included in the regression, where regular employees are defined as full time employees who are not contract workers. *Maternity High* is an indicator variable that takes the value one if a maternity rating is above the median maternity rating. *High % Female College (Ind)* is an indicator variable that takes the value one (zero) if a firm's industry is in the top (bottom) tercile of college educated female employees to all college educated employees. Industry is defined by 4-digit NAICS. *% Female (Firm)* is the percentage of a firm's employees that are female. Standard errors are clustered at the firm level. (*** p<0.01, ** p<0.05, * p<0.10)

Panel A: Matching to Unaffected States Based on Population Similarity

	CAR (-1, +1)					
	Market Model			Market Adj. Model		
	(1)	(2)	(3)	(4)	(5)	(6)
Maternity High	.001	-.002	-.002	.002	-.001	-.001
	[.003]	[.003]	[.004]	[.003]	[.003]	[.004]
High % Female College (Ind)			.013**			.010
			[.006]			[.006]
High % Female College (Ind)			-.005			-.005
× Maternity High			[.006]			[.006]
% Female (Firm)		.003	-.025		.005	-.018
		[.010]	[.017]		[.010]	[.017]
log(Total Employees)		-.003	-.004*		-.002	-.003
		[.002]	[.002]		[.002]	[.002]
log(Assets)		.002	.002		.002	.002
		[.001]	[.002]		[.001]	[.001]
EBIT Margin		-.008	-.022		-.001	-.012
		[.019]	[.023]		[.016]	[.020]
Debt / Assets		-.007	-.021		-.013	-.027
		[.012]	[.017]		[.011]	[.017]
R-squared	.000	.029	.150	.001	.036	.139
Observations	354	273	183	354	273	183

Panel B: Matching to Most Populous Unaffected States						
	CAR (-1, +1)					
	Market Model			Market Adj. Model		
	(1)	(2)	(3)	(4)	(5)	(6)
Maternity High	.001	.000	-.002	.001	.000	-.001
	[.002]	[.002]	[.003]	[.002]	[.002]	[.003]
High % Female College (Ind)			-.004			-.007
			[.005]			[.005]
High % Female College (Ind)			.007			.005
× Maternity High			[.005]			[.005]
% Female (Firm)		.018**	.024*		.015*	.026*
		[.008]	[.013]		[.008]	[.013]
log(Total Employees)		0000	-.001		-.001	-.001
		[.001]	[.002]		[.001]	[.002]
log(Assets)		.001	.002		.001	.003
		[.001]	[.002]		[.001]	[.002]
EBIT Margin		-.016	-.034*		-.009	-.026
		[.013]	[.019]		[.013]	[.017]
Debt / Assets		.002	-.006		-.001	-.010
		[.008]	[.013]		[.007]	[.012]
R-squared	.000	.032	.068	.001	.021	.063
Observations	1631	1400	772	1631	1400	772

Government-Sponsored Paid Family Leave Laws

New York State

New York's law, enacted in 2016, allows workers with a newborn or adopted child to take up to eight weeks of paid leave starting in 2018. All New York employees employed by a covered employer for 26 or more consecutive weeks are eligible for benefits. Beneficiaries will receive 50% of a workers average weekly wage (AWW), capped at 50% of the statewide AWW. Parental leave length and benefit amount increase in 2019 and 2020. Paid family leave is funded by employee contributions and adjusted annually based on actuarial principals.

Washington DC

Washington DC's law, enacted in 2017, allows workers with a newborn or adopted child to take up to eight weeks of paid leave starting in 2020. All employees spending at least 50% of their work time in Washington DC working for a covered employer are eligible. For workers earning less than 150% of the Washington DC weekly minimum wage, the benefit amount is 90% of the worker's AWW. For workers earning more than 150% of the Washington DC weekly minimum wage, the benefit amount is 90% of 150% of the weekly minimum wage, plus 50% of a worker's AWW exceeding 150% of the weekly minimum wage. The benefit amount is capped at $1,000 per week. Paid family leave is funded by a payroll tax at 0.62% of wages.

Washington State

Washington State's law, enacted in 2017, allows workers with a newborn or adopted child to take up to twelve weeks of paid leave starting in 2020. All Washington State employees having worked four out of five quarters and having been employed for at least 820 hours prior to leave application are eligible. For emloyees earning less than 50% of the statewide AWW, the weekly benefit rate is 90% of the employee's AWW. For employees earning more than 50% of the statewide AWW, the benefit amount is 90% of 50% of the employee's AWW up to 50% of the statewide AWW, plus 50% of a worker's AWW exceeding 50% of the statewide AWW. The benefit amount is capped at $1,000 per week. In the program's first year, the program is funded through a 0.4% deduction of employee's taxable wages. The rate is subject to adjustment based on fund solvency.