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

Tim Liu[†] Christos Makridis[‡] Paige Ouimet[†] Elena Simintzi[*]

December 14, 2017

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 subsequently test three non-mutually exclusive hypotheses explaining the cross-section of non-wage benefits: (i) tax advantages, (ii) attracting and retaining specific employee groups, and (iii) mitigating the disutility of work. We find empirical evidence in support of all three hypotheses. Moreover, firms with higher rated benefits exhibit larger ex-post equity returns, suggesting that differences in non-cash types of compensation are not fully priced by the market.

Affiliations: [†]Kenan-Flagler Business School, University of North Carolina; [‡]Department of Economics, Department of Management Science & Engineering, Stanford University; [*]Sauder School of Business, University of British Columbia.

E-mails: timjliu@kenan-flagler.unc.edu, cmakridi@stanford.edu, paige_ouimet@unc.edu, elena.simintzi@sauder.ubc.ca.

Acknowledgments: We would like to thank Andrew Chamberlain and Glassdoor for their help with the data.

1 Introduction

How employees are compensated by firms — and the implications for shareholder value — has become an increasingly important topic, especially in light of the dramatic rise in income inequality across individuals (Kopczuk et al. (2010)), and across firms (Mueller et al. (2017a), Mueller et al. (2017b), and Song et al. (2015)). A related literature also investigates the role of compensation in attracting, retaining, and motivating employees (Holzer et al. (1991), Cappelli and Chauvin (1991), Ouimet and Simintzi (2017)). These literatures have traditionally focused on wages, ignoring other non-wage forms of compensation provided by firms, mostly due to the lack of data on non-wage amenities.[1] However, non-wage benefits—that is, any form of compensation or perk offered to employees in addition to their monetary compensation—contributes, on average, 30% of total employee compensation, up dramatically from 5% in 1966 (Woodbury (1983)).[2]

Non-wage benefits are costly to provide, but not unanimously valued, suggesting 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 attempt to answer this question by identifying key motivations behind a firm's decision to offer non-wage benefits in lieu of greater cash compensation. We discuss three key potential channels. First, firms may provide non-wage benefits to maximize post-tax compensation, especially for employees in high tax brackets. Second, non-wage benefits may be used by firms to attract, retain, and incentivize specific groups of employees, groups which might otherwise be underrepresented. Third, non-wage benefits may be used to raise employee engagement and encourage employees to allocate more time at work. Our paper provides the first comprehensive descriptive evidence on the cross-section of non-wage benefits, which we view as a first-step towards a richer understanding of the impact of these benefits on employee and firm outcomes.

To explore these mechanisms, we rely on a unique dataset provided by Glassdoor, which provides comprehensive coverage of the different types of non-wage benefits offered by firms. 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

[1] Notable exceptions include Pierce (2001) and Gittleman and Pierce (2015) who show that accounting for non-wage benefits raises the cross-sectional dispersion in employee compensation inequality.

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

information on worker characteristics, including wage and job title, as well as employee ratings of the firm, top management, and benefits provided.

The first part of our paper introduces the new micro-data and dispersion in different types of 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. Not surprisingly, benefits mandated by law, such as health insurance at larger firms, are available at the majority of firms. However, there exists significant variation in benefits offered and employees' perceptions of those benefits across firms.

The second part of our paper explores three possible reasons behind the provision of non-wage benefits. Motivated by Woodbury (1983) and Vella (1993), we begin by testing taxes as a potential rationale. While employees pay income taxes on wage income, most non-wage benefits are not taxed, meaning that they can have greater incentive effects. Consistent with this hypothesis, we find a positive correlation between a firm's average employee marginal tax rate and the employee rating of tax-advantaged benefits: a 10% increase in the marginal tax rate is associated with a 0.22 percentage point (0.17 standard deviation) increase in the benefit rating.

We subsequently turn towards an alternative explanation for the provision of these benefits based on an intent to attract and retain specific types of employees. In our analysis, we focus on women, a group of employees under-represented in certain firms and industries. 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), and Matsa and Miller (2013)). As such, firms in industries with low female representation may target a more balanced gender distribution by actively seeking more female workers. We focus on maternity benefits as, by definition, those benefits are directed towards female employees. As predicted, we find a negative correlation between the percent of college-educated female labor force at the industry-level and firm-level maternity benefit ratings. 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. These findings are consistent with our intuition that firms in industries with low female participation will offer better quality benefits to attract female employees.

We consider a final explanation for the provision of non-wage benefits based on how they can raise

employee engagement. Put simply, when individuals enjoy the work they do more, they allocate more time to it. This is likely to be most valuable in industries with high marginal products of labor as well as high average hours worked. Oyer (2008) shows that under the assumption that the cost of effort is convex in hours worked by the employee, non-wage benefits can increase worker allocation of effort and time towards work, thereby increasing firm value. Alternatively, the firm can provide benefits which minimize the cost of effort by making a marginal hour of work more enjoyable and achieve similar benefits. Using benefits, which either reduce worker household effort or increase work satisfaction, we find a positive association between the ratings of these benefits and hours worked. A 10% increase in hours worked is associated with a 0.08 (0.06 standard deviations) increase in benefit rating.

Having documented these rationales for providing non-wage benefits, we conclude by asking whether non-wage benefits are beneficial to firm value. We thus study the relation between non-wage benefits and equity returns. We form a hedge portfolio that is long in firms that offer high quality non-wage benefits and short in firms that offer low-quality benefits. Using the four-factor Carhart (1997) model, we find that the benefits' hedge portfolio yields a positive and significant monthly alpha of 0.66%, albeit this magnitude is attenuated once we value-weight the portfolio returns, suggesting that non-wage benefits are more important for smaller firms. An important concern is that the quality of non-wage benefits may be correlated with other firm characteristics that have been previously shown to affect stock returns. To address this concern, we estimate Fama-MacBeth regressions allowing us to include a wide array of control variables. Including these control variables gives monthly alphas that range between 0.60% and 0.64% that are also statistically significant. Importantly, these results are significant after controlling for lagged employees' wages which are also shown to be positively correlated with stock returns. These results are consistent with the notion that differences in non-wage benefits are not fully priced by the market, especially for smaller firms. Similarly, Edmans (2011) finds that the market does not fully capture intangibles, while Mueller et al. (2017a) find that the market does not fully price differences in firms' pay inequality. In our case, the scope for mispricing is especially large given that ratings of non-wage benefits are not publicly available, which may explain the relatively strong abnormal return.

Our paper is most closely related with two main strands of literature. The first is a literature in personnel economics on the provision of non-wage incentives, which includes stock options and equity (Oyer (2004); Oyer and Schaefer (2005)) and benefits (Oyer (2008)). While Oyer (2008) is the closest

study to ours, we differ in two fundamental ways. First, we can observe the individual's firm, which allows us to merge financial firm characteristics to control for cross-sectional differences. These controls matter for disentangling different plausible explanations for the provision of benefits. Second, we have information on benefits and their relative quality. Given that there is so little variation in the extensive margin of some benefits (e.g., healthcare insurance), variation in the quality is required to disentangle different theories. Our paper also provides empirical evidence behind the theoretical argument in Marino and Zabojnik (2008) about complementarities between perks and effort and is complementary to other analyses that estimate the willingness to pay for non-pecuniary job characteristics (Eriksson and Kristensen (2014); Makridis (2017)).[3]

The second literature is a literature in finance on the relationship between incentive pay and either employee productivity or firm outcomes. Hochberg and Lindsey (2010) examine the impact of granting options to non-executive employees on firm productivity, and Kim and Ouimet (2014) examine the impact of broad-based employee stock option plans on firm productivity. The provision of these non-wage factors may also affect turnover rates within the firm (Aldatmaz et al. (2017); Makridis (2017)). Ultimately, however, the decision to provide non-wage benefits comes down to the costs and benefits a firm faces. Woodbury (1983) was perhaps the first to estimate a simple elasticity between wage and non-wage benefits, focusing on the potential role of tax considerations. One rationale is that these benefits may raise job satisfaction (e.g., through a complementarity with effort), which in turn reduces the likelihood of turnover.[4]

2 Background on Non-Wage Benefits

Many historians attribute the birth of non-wage compensation at U.S. firms to the National War Labor Board. Established in 1942, its role was to arbitrate labor-management disputes and more generally, prevent any work stoppages which might impact the war effort. As part of this effort, the National War Labor Board set broad regulations on wages and wage increases. In the presence of

[3]There has been some analysis of the willingness to pay for benefits, but these have generally been coarse sets of observable benefits. For example, Gruber and Lettau (2004) estimate the cost of offering health insurance for companies.

[4]See Makridis (2017) for the association between job satisfaction and different measures of organizational practices; see Bloom et al. (2011) for evidence on family-friendly workplace practices; see Edmans (2011) for evidence on equity and job satisfaction.

limits on wages, companies increased offering of non-wage benefits as a means to attract employees in the tight labor market during WWII.

Tax treatment also played a historically important role in promoting non-wage benefits. Some non-wage benefits, such as complying health plans, are not subject to federal income tax. In addition, non-discriminatory employee benefits can be tax-deductible to the firm if certain conditions are met. However, taxes alone cannot explain the use of non-wage benefits. Such benefits are taxed at ordinary employee income tax rates in other countries, such as in the UK, and yet, these benefits remain popular.

Finally, some non-wage benefits are mandated. For example, provisions in the ACA require certain employers with a minimum number of employees to provide health care coverage to their full-time employees or face penalties. However, while regulations set minimum coverage requirements, there exists significant variation in the quality of plans offered by employers with substantial variety in coverage and employee co-payments. Moreover, other benefits such as paid time off, including sick or vacation days, are at the discretion of the employer.

3 Data and Measurement

3.1 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 login 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. Glassdoor makes part of those data publicly available through their website, but the public version 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 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. 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 and 1,334 publicly listed firms matched to Compustat. On average, we observe 728 unique ratings of benefits per firm-year for the Compustat matched sample and observe under 2% of a firm's total employees.[5]

Table 1 presents summary statistics of the individual employees in our Compustat matched sample. The majority of these employees have a bachelor's degree or higher level of educational attainment. Less than 15% of the full sample does not hold a bachelor's degree. This is higher than the share of college attainment for the average worker in the U.S., which is 25% in 2016, or the share of advanced degrees (MSc, JD, MD, PhD), which is 15%.[6] 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 the sample of all Glassdoor firms and the Compustat-matched sample.

Respondents on the Glassdoor website are also asked to report their satisfaction with different

[5]Employment in Compustat covers firm employment globally, so this statistic underestimates the percent of U.S. employees observed in our sample.

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

aspects of the firm on a one to five ranking scale. Survey respondents rate the firm as a whole, senior management, culture, work-life balance, career opportunities, and compensation and benefits. We report summary statistics of those ratings by employee characteristic in Table 2. On average, employees give a 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.[7]

In addition, survey respondents are asked to report the availability of non-wage amenities as well as their satisfaction with these non-wage amenities—information that is key to our analysis. 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 classify those benefits in seven broad benefit groups: Health and casualty insurance, retirement, non-salary compensation, training and education, leave and vacation, flexibility, and perks.[8] 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, whereas Panel B reports the same statistics for all firms in the Compustat database. Our sample firms tend to be much larger in nearly every dimension, such as revenue, assets, and employees. For example, 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 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.

[7]Internet Appendix Table IA1 shows these summary statistics using instead the set of Compustat matched firms.

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

Our sample spans all industries in Compustat: Internet Appendix Table IA3 examines the similarities between the industry distribution in the full and Compustat-matched samples.

Given the survey data are self-reported, we compare our sample to nationally representative data collected by the US Census Bureau and the Bureau of Labor Statistics to quantify any deviations from a nationally representative sample. 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 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 much more balanced with the main differences observed in the agriculture/ mining/construction and services sectors where our dataset is under and over represented, respectively.

3.2 NBER Taxsim

We obtain tax data by deploying NBER's Taxsim program to calculate marginal tax rates using wages from Glassdoor. To prepare a tax return, Taxsim calculates an individual's tax liability given inputs on income, filing status, number of dependents, capital gains, government benefits, itemized deductions, tax year, and other miscellaneous items. Due to data limitations, our inputs are income, tax year, and filing status, the minimum required inputs for Taxsim. These estimates account for income and variations in statutory tax rates across states and over time.

We assume income reported on Glassdoor is the unique source of wages for all employees in our sample. Furthermore, we assume that everyone files taxes as an individual (as opposed to household). We calculate individual marginal tax rates by summing an individual's marginal federal income, state income, and FICA tax rates. We then calculate a firm-level average marginal tax rate by averaging individual marginal tax rates across employees in a given firm-year.

3.3 Quarterly Workforce Indicators

We measure the percent of female employees at the industry level using the Quarterly Workforce Indicators (QWI) from the Census Bureau. 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 (*Pct Female College*). We focus on college educated workers under the assumption that high skill female workers are harder to attract in industries where females are traditionally under-represented, as the supply of talented females in those industries is low. On average, just under 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).

3.4 Cross-sectional Demographic Data

We use the three-year American Community Survey (ACS) between 2013 and 2015, accessed through the Integrated Public Use Microdata (IPUMS) data portal at the University of Minnesota, to collect further demographic data. Specifically, we are interested in hours worked available at the occupation level. To better match the characteristics of the individuals in the Glassdoor data, we restrict the ACS sample to full-time workers between ages 20 and 65, with over $5,000 in annual labor income, at least 20 weeks worked per year, and over $2 hourly wages.[9] We subsequently collapse hours worked to the 3-digit SOC-state level and weight using the survey sample weights. We match SOC codes to Glassdoor by matching SOC codes descriptions to job titles provided by Glassdoor. Those job titles are standardized in 156 broad categories and 2,566 more detailed groups. To minimize noise, we drop observations where there is not a unique mapping between Glassdoor's job title descriptions and the 3-digit SOC descriptions.

3.5 General Social Survey

We use General Social Survey (GSS) data from 2014 to collect additional data on hours worked by occupation group. The GSS dataset, created and maintained by the National Opinion Research Center, records data from interviews conducted from 1972 to 2014. Interviews are conducted face-to-face on

[9]We deflate nominal variables using the 2010 real personal consumption expenditure index.

a nationally representative sample of English speaking adults. The interviews cover a comprehensive set of topics, ranging from civil liberties, crime, social mobility, national policy, and, most importantly for us, work-life balance. Specifically, as a measure of disutility of work, we use the response to the following question: "how many days per month does the respondent work extra hours?" In addition to interview data, GSS collects demographic data including census OCC occupation codes. We match OCC codes to 5-digit SOC codes and link the GSS data to Glassdoor using 5-digit SOC codes.[10]

4 Patterns of Non-Wage Compensation

Table 4 documents the prevalence of non-wage benefits in publicly listed firms. "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 87% of establishments with 100 or more employees offered a defined contribution retirement plan and 94% offered health insurance. In contrast, benefits such as stock based compensation and flexible work arrangements are less common.

In Columns 3 and 4 of Table 4, we report the average and median ratings given 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 firm-level programs like stock option plans or 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 and perks, tend to rank higher. 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.[11]

[10] Unlike ACS data, we are unable to observe state of residence. As a result, we cannot collect GSS data at the 3-digit SOC-state level as we have done for the ACS data.

[11] In Internet Appendix Table IA4, we find similar patterns when we look instead at the full sample of firms in Glassdoor. We also show comparable results when we look at the distribution of specific benefits for the set of Compustat-matched firms. We find that 401K plans, dental, health, life and vision insurance, paid holidays and

In Table 5, we present some stylized facts from our data on how benefit ratings correlate with key firm characteristics. 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. One explanation for the positive relationship might be that these firms tend to have highly skilled and, hence, highly compensated employees. These employees will benefit the most from any tax advantages to non-wage compensation. Higher profitability, cash reserves or 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.

We interpret the rating of a given benefit as a proxy for the quality of the benefit. For example, differences in premiums and co-payments as well as doctor choice may drive perceptions of health insurance benefits while percent matching and vesting rules may drive perceptions of retirement plans. We test this assumption for one key benefit used in our analysis: maternity benefits. We collect information on weeks of paid maternity leave provided by firms in our sample using fairygodboss.com, a website that crowd sources information on firm policies of specific interest to women. We observe significant variation in paid maternity leave, ranging from zero to 52 weeks for our sample firms. While duration of paid maternity leave is only one aspect of overall maternity benefits, it is both an important component and easy to measure—making it ideal for validating our measure. We are able to identify the duration of paid maternity leave for 318 firms in our sample. For these firms, we find a significant correlation of 46% between average firm-level ranking on maternity benefits in Glassdoor and the weeks of paid maternity leave.

5 Drivers of Non-Wage Compensation

We next examine and provide evidence consistent with three key factors driving firms' offerings of non-wage benefits to their employees as opposed to cash wages: i) preferential tax treatment of non-wage benefits, ii) positive action, iii) offsetting disutility from work.

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.

5.1 Do Tax Benefits Explain the Use of Non-wage Benefits

We begin by examining the correlation between non-wage benefits and marginal tax rates. Theory predicts that higher marginal tax rates encourage substitution towards other amenities which are not subject to taxation (Woodbury (1983)). To illustrate this point, consider that at a 30% marginal tax rate, an extra $100 of wages results in $70 of value for the employee. However, if the firm were instead to allocate those $100 to a gym membership, the employee would receive a package worth $100, as such benefits are non-taxable. Both options incur the same monetary cost to the firm, but the non-wage benefit comes with a tax advantage to the employee.

Using Taxsim's predicted federal and state marginal tax rates, Table 6 explores the relations between employee weighted firm marginal tax rates and aggregated ratings of tax-advantaged non-wage benefits. We focus on an aggregated measure of non-wage benefit ratings since the bulk of these benefits are not subject to marginal tax rates.[12] To ease interpretation across columns, we restrict our sample to individuals who have non-missing individual covariates and work at public firms. The identifying variation is coming from the cross-section—that is, different companies with distinct geographical footprints providing different qualities or quantities of amenities. In column 1, we show a positive and statistically significant correlation between imputed mean firm-level tax rates and the rating on taxable non-wage benefits.[13]

To examine the robustness of these results, we subsequently add individual controls (education fixed effects, gender, age, and salary) to column 2. We find a positive correlation between holding a medical degree and tax advantaged benefits ratings. The effect may be driven by the fact that hospitals, with their highly professional-oriented workforce, are more likely to offer better compensation of all forms, including non-wage compensation. Furthermore, being female is positively associated with higher perceived benefit quality, while age is negatively correlated with perceived benefit quality. Either

[12]We consider the following broad benefit groups to be tax-advantaged: health & casualty insurance, retirement, training & education, and perks (except charitable gift matching). Non-salary compensation encompasses benefits such as cash or equity bonuses and are excluded because such benefits are often taxed similarly to wages. Flexibility, leave, and vacation related benefits are excluded because they pertain to reducing the hours worked or spent in the office instead of material compensation. In addition, we have excluded charitable gift matching, as all tax benefits realized by the firm can also be realized by the individual had the firm instead chosen to give the employee cash to contribute to her preferred charity.

[13]To the extent that higher marginal tax rates reduce labor supply and unobserved productivity (i.e., Prescott (2004)), and higher productivity workers demand higher benefits, then our estimate on the marginal effect of taxes will be downwards biased. The fact we find a robust association is, therefore, conservative.

benefits offered to females (older) workers are indeed better (worse), respectively, or females (older) workers perceive the quality of benefits differently from their male (younger) counterparts. Finally, reviewing the benefits of the firm where one is currently employed is positively associated with benefit ratings.

Column 3 further adds firm controls (assets, EBIT margin, and debt-to-assets). Firm profit is correlated with these ratings, suggesting that more profitable firms have the financial slack to offer more generous benefits. Column 4 also includes state fixed effects and state-level GDP growth and unemployment rate growth. While we cannot make any definitive statements of causality, our point is merely that individuals in jobs with better benefits also face higher marginal tax rates, consistent with theory.

Our results are statistically significant across specifications (p-values between 0.002 and 0.008 in the baseline regressions in columns 1 through 4). They are also economically important. In our preferred specification with the full set of controls (column 4), we find a 10% increase in the marginal tax rate corresponds to a statistically and economically significant 0.22 point (0.17 standard deviation) increase in benefit rating.[14]

Given high skill workers earn higher wages, an alternative interpretation of our results could be that firms give more benefits to more productive workers, regardless of the tax benefits. To address this concern, we include the variable "overall rating" to column 5. The overall rating is the rating assigned by the reviewer to the company overall, and should capture the worker's perception of all forms of compensation. Not surprisingly, we find a strong positive correlation between overall rating and tax-advantaged benefit quality. More importantly, we find the correlation between benefit quality and tax rates is still statistically and economically significant, with a 10% increase in tax rates corresponding to a 0.13 point (0.10 standard deviation) increase in benefit quality. In column 6, we add base pay (log transformed) to directly control for wages. The correlation between average ratings on tax advantaged benefits and taxes continues to hold.

One might be concerned that less widely available benefits such as healthcare on site are disproportionately affecting our regression. To address this issue, we collapse our data from the review level

[14]Note, we benchmark our economic magnitude against the standard deviation as opposed to the mean because, while the rankings go from 1-5 and in this context, the bulk of the sample receives ratings between 3 and 5 and so a smaller magnitude change is economically more important given the extent of the variation we observe.

to the firm-year-benefit level. We then run a weighted regression with the same sets of controls as Table 6 using observation count at the firm-year-benefit level as weights. The results of the weighted regression are reported in Table 7. We show that our prior findings still hold. In fact, our estimated correlation is slightly higher than before, with a 10% increase in tax associated with a 0.26 point (0.20 standard deviation) increase in benefit quality in the weighted version of the specification in column 4.

As a further robustness exercise to rule out any confounding effects of infrequently offered non-wage benefits, we run our analysis on the five most widely available tax-advantaged benefits, 401K plans, health insurance, dental insurance, vision insurance, and life insurance (Internet Appendix Table IA5). We find that our prior results hold. While our analysis thus far has excluded employees who identify as non-full time employees, we find that our results are also robust to including these employees (Internet Appendix Table IA6).

5.2 Retention and Selection Effects ("Positive Action")

We next examine a selection mechanism as the channel driving the offering of non-wage benefits by firms. Our intuition is that offering particular types of benefits will affect the set of employees who apply and in turn are recruited into a firm as well as retention decisions. To the extent that the company is seeking to attract these worker types, they will offer benefits packages that are specifically favored by them. One such case is hiring female workers, a group that is often under-represented in certain industries but valued by firms as evidenced by gender balance goals.

To test our hypothesis, in Table 8 we explore whether non-wage benefits are provided as a means to encourage, attract, and retain female employees in industries where female employees are traditionally under-represented. Following our tax analysis, we restrict our sample to observations at the individual level, limiting the sample to only those individuals with non-missing education, age, and gender variables and to firms with non-missing information on firm size, profit margin and leverage.

In column 1, we find a negative correlation between the percentage of college educated female employees in the given industry and the firm's maternity rating. In column 2, we show results are robust to adding individual level controls. Individual level controls are not statistically significant, with the exception of the indicator variable which reflects whether the employee is reviewing a current

job: on average, maternity ratings are higher for current employers. In column 3, we include firm level controls to mitigate concerns that there is something special to firms employing fewer women. Therefore, we control for profitability, firm size, and leverage. Larger and more profitable firms seem to be associated with higher ratings, possibly reflecting the fact they may be able to better manage women on extended maternity leave. Firms with higher leverage have lower maternity benefits, possibly reflecting financial constraints which limit the ability of the 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 also economically important: a one standard deviation decrease in the percent of female college-educated employees in a given industry increases expected maternity benefits by 0.14, which reflects 0.11 of the standard deviation in the maternity benefits rating variable.

We show these results are robust to a number of alternative specifications. First, we run our analysis on the full sample of employees, including non-full time employees (Internet Appendix Table IA7).[15] Second, we run the baseline specifications for female employees and male employees separately to account for the possibility that women may rank maternity benefits higher (Internet Appendix Table IA8). Third, we calculate firm average maternity rating and find similar results (Internet Appendix Table IA9). Fourth, we lag the female participation ratio by three years, as maternity benefits are sticky, and firms may be optimizing over historic industry ratios of female workforce participation instead of current ones (Internet Appendix Table IA10).

These results show correlations and cannot be interpreted in a causal way. A potential explanation, for example, might be that maternity benefits are sticky, and firms face consequences if they reduce 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 concern by including the percent of female employees at the firm level, as measured by respondents in our Glassdoor data, to the specification in column 4, Table 8, and report the results in column 1, Table 9. Adding firm-level female workforce participation has no economically important impact on our key coefficient of interest suggesting that this alternative interpretation is not driving our results. These results also mitigate a related concern that firms with

[15] A significant fraction of employees do not report their employment status. As such, limiting the sample to just "regular workers" likely drops a number of regular employees who chose not to report this information to Glassdoor.

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. Such a story is unlikely to be driving our results given the insignificant impact on *Pct Female College* after adding the firm-level measure of female participation.

In our regressions, we also control for potential omitted variables which, if correlated with the ratio of female college educated workers in a given industry, can explain firm-level maternity policies. One possible omitted variable could be wages. Men tend to be over-represented in high wage jobs, and firms may pay higher benefits in high wage jobs. Another possibility is that industries with skewed gender distributions in college educated workers may also have skewed gender differences in executives. As such, it may be differences in the gender of top executives which drive the results, as opposed to the selection hypothesis.

To exclude these alternative interpretations, we control for either base pay or total pay (including stock and cash bonuses, profit sharing, sales commissions and tips) and for an indicator variable which takes the value of one if the firm has a female executive, in columns 2 and 3 of Table 9. If our results are indeed driven by wages or female leadership, then we should find a significant coefficient on these variables and lose significance on the baseline coefficient. While there is a positive relation between wages and maternity benefits, this relationship is not 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 survives.[16]

To argue that the use of non-wage benefits is to meet discriminatory objectives, we also need to discuss why firms prefer to meet these goals with non-wage benefits as compared to wages. We argue that greater maternity benefits can act to retain women following childbirth, who might otherwise quit. For example, the value a woman places on additional time with her new baby may be very high, making it potentially prohibitively expensive to retain the employee just by offering higher wages. 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 *Pct Female College* and maternity benefits to lose all significance. As reported in column 4, Table 9, we find that even after controlling for the

[16]In untabulated regressions, we limit the sample to regular employees, as wages for temporary or part-time workers may add noise to the estimation. The results are similar.

average pay ratio between women and men, among the employees reporting their pay to Glassdoor, we continue to find a significant coefficient on *Pct Female College*. If anything, the results with *Female Pay Gap* suggest that wages and maternity benefits act as substitutes: firms that pay women relatively more (smaller pay gap) have, on average, less generous maternity benefits.

Finally, we show that our results are unique to benefits which women value more compared to men. To maximize sample size, we use the top four benefits with the highest number of reviews (with maternity benefits being the fifth commonly reviewed benefit).[17] We report the results in Table 10. For three of the other four benefits, we find no relationship with *Pct Female College*. However, we do find that *Pct Female College* is a significant predictor of health benefits. This is not surprising since women are traditionally greater users of health insurance and this may be another tool firms offer to attract more women in industries with traditionally fewer female participants. These results help address an omitted variables explanation which would instead argue that there is something unique about the firms in industries with highest female participation, but this difference is not specific to maternity benefits.

5.3 Disutility of work

The third channel we consider explores the notion that firms may provide non-wage benefits, instead of cash wages, in order to reduce disutility from work. Oyer (2008) shows that under the assumption that cost of effort is convex in hours worked by the employee, non-wage benefits can increase worker allocation of effort and time towards work, thereby increasing firm value. Alternatively, the firm can provide benefits which minimize the cost of effort by making a marginal hour of work more enjoyable to achieve similar benefits.

To test this mechanism, we consider benefits which either reduce worker household effort or increase work satisfaction. Specifically, we consider the following benefits: Free Lunch or Snacks, Gym Membership, Health Care On-Site, Company Car, Pet Friendly Workplace, Travel Concierge, Work from Home, Company Social Events, Employee Assistance Program, and Childcare. We examine the correlation between those benefits and the average number of hours worked at the occupation-state level.[18] We report our results in Table 11. Our unit of observation is the 3-digit SOC-state-benefit

[17] We use 401K plans, health insurance, employee discounts, and vacation days.

[18] We measure occupations at the 3-digit SOC level. We are able to match SOC codes to job titles provided

level and our regressions are weighted by number of observations in each 3-digit SOC-state-benefit level.

In our main specifications in columns 1 through 4, we find a strong positive correlation between average total hours worked (log transformed) and ratings of those benefits considered to help reduce worker household effort (e.g., free lunch) or increase employee satisfaction (e.g., pet friendly workplace). In column 1, we control for standard deviation in hours worked (log transformed), as inconsistent work hours can also impact job satisfaction. However, we find no evidence that dispersion in hours worked is correlated with the quality of disutility-mitigating benefits. In addition, we control for benefit fixed effects and year buckets, which record the percentage of observations in each year within a 3-digit SOC-state-benefit group. In column 2, we add controls for the percentage of individuals in each 3-digit SOC-state-benefit group who are female, are reviewing their current job, and fall into each education attainment bucket. We also control for the average age in each 3-digit SOC-state-benefit group. The addition of these controls increases both the magnitude and significance of our estimated correlation between mean hours worked and benefit quality. In column 3, we add controls for average log assets, EBIT margin, and debt-to-assets in each 3-digit SOC-state-benefit group. We find that larger companies and less leveraged companies tend to offer better disutility mitigating benefits. Contrary to the full universe of benefits, disutility mitigating benefits are negatively associated with profitability, reflecting the fact that benefits such as free lunches are often offered by firms in the growth phase of their company lifecycle. In column 4, we add state fixed effects and controls for state level unemployment and GDP growth. Interestingly, we find evidence that unemployment growth is positively associated with quality of disutility mitigating benefits, hinting that states with weaker labor markets are offering better benefits that reduce the cost or increase the satisfaction of work. After introducing state level controls, our estimated coefficient on average hours worked increases from 0.664 to 0.756. These results are economically important: in column 4, a 10% increase in hours worked is associated with a 0.08 point (0.06 standard deviations) increase in benefit rating.

As in previous analyses, we are concerned with the possibility that firms award better benefits to higher skilled workers, independent of hours worked. In column 5, we control for overall rating, as such a measure should capture an individual's holistic compensation package. In addition, we also directly control for wages. In both specifications, we continue to find statistically and economically

by Glassdoor.

significant correlations between hours worked and benefit quality. There is a possibility that people who prefer high quality non-wage benefits also prefer working longer hours. These individuals are likely to be concentrated in a few broad industries, and accordingly we control for 2-digit SOC fixed effects in column 6. We see that the correlation between hours worked and benefit quality increases, such that a 10% increase in hours worked is associated with a 0.18 point (0.13 standard deviations) increase in benefit rating. Furthermore, we find evidence that disutility mitigating benefits are better for occupations with less predictable hours.

To augment our analysis, we conduct the same set of regressions as in Table 11 using GSS survey data. Specifically, we use the response to the question, "how many days per month does the respondent work extra hours," as a proxy for disutility of work.[19] We report the results in Table 12. In columns 1 through 4, we find a positive but insignificant correlation between working extra days and quality of disutility mitigating benefits. However, in column 5, which shows a more robust specification that controls for overall rating and wages in addition to individual, firm, and state level characteristics, more days worked is significantly correlated with benefit rating. To address sorting where individuals who prefer both high quality benefits and longer work hours concentrate in the same broad industries, we control for 2-digit SOC fixed effects in column 6. We continue to find a statistically significant correlation between extra hours worked and benefit rating. Moreover, our results are economically meaningful. An extra weekend worked (two days, roughly 10% of a standard working month with 21-23 working days) corresponds to a 0.09 point (0.07 standard deviations) increase in benefit rating.

Finally, we show that our results are unique to benefits which reduce worker household effort or increase work satisfaction. We thus perform a placebo test where we consider instead the correlation between hours worked and ratings of all other benefits not included in the above analysis. We report the results in Internet Appendix Table IA11. For this set of benefits, we find a statistically significant relationship only in column 5, which controls for overall rating in addition to individual, firm, and state level controls. However, conditioning on wages eliminates any statistically or economically significant relationship. These results help address an omitted variables explanation, which would instead argue that there is something unique about firms with high workload occupations that is not specific to benefits associated with increasing satisfaction from spending more time at work.

[19]GSS records occupation at the 5-digit SOC level. We match mean monthly extra hours worked by 5-digit SOC to 5 digit SOC codes in Glassdoor.

6 Are Differences in Non-Wage Benefits Priced by the Market?

What are the implications of firms' different compensation policies, and in particular non-cash compensation, for shareholders? To address this question, we examine the relation between the quality of non-wage benefits and equity returns.

We form a hedge portfolio that is long in firms at the top tercile of non-wage benefit ratings and short in firms at the bottom tercile. Our stock price data are from CRSP. We compute both equal- and value-weighted portfolio returns. Portfolio weights are constructed using lagged firms' end-of-month market capitalizations. We consider all benefits that pertain to taxes, positive action, and disutility. To reflect changes in firms' compensation policies over time, we rebalance portfolios at the beginning of each month (starting in July 2015), and calculate the firm-level average benefit rating using all ratings data at the beginning of our sample up to month τ - 1. As such, a firm is classified as having high (low) non-wage benefit quality in month τ if our non-wage benefit measure in month τ - 1 lies in the top (bottom) tercile across all firms in our sample. The sample period is from July 2015 through September 2017 (27 months). Excess returns are computed by subtracting 1-month US Treasury bill rates (available from Kenneth French's website) from raw returns.

Table 13 presents results from time-series regressions of monthly excess returns following the Carhart (1997) four-factor model.[20] Columns 1-3 present results for equally-weighted portfolios, and columns 4-6 present results for the value-weighted portfolios. Factors are obtained from Kenneth French's website. The alpha associated with the non-wage benefit hedge portfolio is positive and significant in column 3. The alpha for the high non-wage benefit portfolio is insignificant and small in magnitude relative to the alpha associated with the low non-wage benefit portfolio, which is significantly negative and large in magnitude. Hence, most of the abnormal return associated with the non-wage benefit hedge portfolio is driven by the low non-wage benefit portfolio. The alpha associated with the value-weighted hedge portfolio in column 6 is instead not statistically significant and weaker in magnitude, although still positive. The weaker results in the value-weighted portfolios suggest that non-wage benefits are more important for smaller firms, or alternatively that non-wage benefits in

[20] Our results are similar if instead we estimate the market model or the Fama-French three-factor model.

large firms are better priced by the market as information is more broadly available for those firms.

A concern related to these findings is the possibility that firms' non-wage compensation policies may be correlated with firm characteristics that have been shown to affect stock returns. To explore this possibility, we now turn to Fama-MacBeth regressions allowing us to include a wide array of control variables. Table 14 reports Fama-MacBeth coefficients from monthly cross-sectional regressions of individual stock returns on a "high non-wage benefit quality" dummy and control variables. The dummy is equal to one if a firm is in the top tercile of benefit quality in month τ - 1 and 0 if it lies in the bottom tercile. Thus, the sample is restricted to firms in the top and bottom terciles. Our measure of non-wage benefit quality is the same as in Table 13. Thus, firms classified as having "high non-wage benefit quality" are the same firms that make up the high non-wage benefit quality portfolio in the time-series regressions. In these regressions, we control for size (market equity, logged), book-to-market, dividend yield, trading volume (logged), stock price (logged), all lagged, as well as compound returns from months τ-3 to τ-2 (Ret2-3), τ-6 to τ-4 (Ret4-6), and τ-12 to τ-7 (Ret7-12). These controls are standard in Fama-MacBeth regressions of this sort (e.g., Brennan et al. (1998), Gompers et al. (2003), Edmans (2011), Mueller et al. (2017a)). We further control for lagged average employees' compensation (log transformed) in columns 2 and 3 to account for the fact that higher quality non-wage benefits may be more common in firms with more generous compensation policies. Indeed, wages are also positively correlated with returns, albeit they are not statistically significant.

The Fama-MacBeth results in Table 14 are consistent with those in Table 13. In column 1, which does not include any controls, the abnormal return is very similar to what we found in column 3, Table 13. In column 2, which includes size, book-to-market, and wages as controls, the abnormal return is slightly lower. In column 3, which includes the full set of controls, the monthly abnormal return to high-inequality firms is 0.62% and significant at the 5% level. These results support the view that the explanatory power of non-wage benefit quality for equity returns cannot simply be explained because non-wage benefit ratings are correlated with firm characteristics that have been previously shown to be correlated with stock returns.

Overall, these results suggest that low non-wage benefit firms attract worse employee talent, and this is not fully priced by the market. This interpretation is consistent with Edmans (2011), who finds that the market does not fully capture intangibles. Given our data are not widely publicly available, the possibility for mispricing is especially large.

7 Conclusion

Using unique data on wage, non-wage benefits and employee ratings of these benefits from Glassdoor, a large crowdsourcing company, we describe the incidence of non-wage benefits across firms and examine potential drivers that may explain the increasing use of such benefits. We show that although non-wage benefits are a dominant form of compensation firms offer to their employees, there is significant variation of the types of benefits provided across firms. Using information on reported satisfaction as reflective of the quality of the benefit, we explore and provide support for three non-mutually exclusive channels. We show that non-wage benefits appear to help attract more female employees at firms with more industry-level unbalanced gender distributions. We further show evidence consistent with the fact that non-wage benefits may be used to reduce disutility from work, as they minimize cost of effort or else make the marginal hour of work more enjoyable. Finally, we show evidence indicating that preferential tax treatment of non-wage benefits, as opposed to wages, appears to be an important driver for the broad use of non-wage benefits as part of employees' compensation packages.

Overall, we find that firms that offer better non-wage benefits have higher equity returns, consistent with a mispricing channel. 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. We suggest three answers to the question: Why do firms use non-wage compensation? Moreover, we show that the use of non-wage compensation matters. A hedge portfolio which is long in high non-wage compensation firms and short in low non-wage compensation firms, generates positive monthly alphas, even after controlling for other firm characteristics which have been shown to predict future returns.

References

Aldatmaz, S., P. Ouimet, and E. D. Van Wesep 2017. The Option To Quit: The Effect Of Employee Stock Options On Turnover. *Journal of Financial Economics* (2).

Bloom, N., T. Kretschmer, and J. Van Reenen 2011. Are Family-Friendly Workplace Plactices a Valuable Firm Resource. *Strategic Management Journal* 32(4):343–367.

Brennan, M., T. Chordia, and A. Subrahmanyam 1998. Alternative Factor Specifications, Security Characteristics, and the Cross-Section of Expected Stock Returns. *Journal of Financial Economics* 49(3):345–373.

Cappelli, P., and K. Chauvin 1991. An Interplant Test of the Efficiency Wage Hypothesis. *Quarterly Journal of Economics* 106(3):769–787.

Carhart, M. M. 1997. On Persistence in Mutual Fund Performance. *Journal of Finance* 52(1):57–82.

Chamberlain, A., N. Klein, I. Marinescu, and M. Smart 2017. Can We Trust Online Employer Reviews? *Working Paper*.

Dezso, C., and D. R. Ross 2012. Does Female Representation in Top Management Improve Firm Performance? A Panel Data Investigation. *Strategic Management Journal* 33(9):1072–1089.

Edmans, A. 2011. Does the Stock Market Fully Value Intangibles? Employee Satisfaction and Equqity Prices. *Jorunal of Financial Economics* 101(3):621–640.

Eriksson, T., and N. Kristensen 2014. Wages or Fringes: Some Evidence on Trade-offs and Sorting. *Journal of Labor Economics* 32(4):899–928.

Fama, E. F., and K. R. French 1993. Common Risk Factors in the Returns on Stocks and Bonds. *Journal of Financial Economics* 33(1):3–56.

Gittleman, M., and B. Pierce 2015. Pay for Performance and Compensation Inequality: Evidence from the ECEC. *Industrial Labor Relations Review* 68(1):28–52.

Gompers, P., J. Ishii, and A. Metrick 2003. Corporate Governance and Equity Prices. *Quarterly Journal of Economics* 118(1):107–156.

Gruber, J., and M. Lettau 2004. How Elastic is the Firm's Demand for Health Insurance? *Journal of Public Economics* 84(7-8):1273–1293.

Hillman, A. J., C. Shropshire, and A. A. Cannella 2007. Organizational Predictors of Women on Corporate Boards. *Academy of Management* 50(4):941–952.

Hochberg, Y. V., and L. Lindsey 2010. Incentives, Targeting, and Firm Performance: An Analysis of Non-executive Stock Options. *Review of Financial Studies* 23(11):4148–4186.

Holzer, H. J., L. F. Katz, and A. B. Krueger 1991. Job Queues and Wages. *Quarterly Journal of Economics* 106(3):739–768.

Kim, E. H., and P. Ouimet 2014. Broad-Based Employee Stock Ownership: Motives and Outcomes. *Journal of Finance* 69(3):1273–1319.

Kopczuk, W., E. Saez, and J. Song 2010. Earnings Inequality and Mobility in the United States: Evidence from Social Security Data Since 1937. *Quarterly Journal of Economics* 125(1):91–128.

Makridis, C. 2017. Does Culture Pay? Compensating Differentials, Job Satisfaction and Organizational Practices. *Working Paper.*

Marino, A. M., and J. Zabojnik 2008. Work-Related Perks, Agency Problems, and Optimal Incentive Contracts. *RAND Journal of Economics* 39(2):565–585.

Matsa, D. A., and A. R. Miller 2013. A Female Style in Corporate Leadership? Evidence from Quotas. *American Economic Journal: Applied Economics* 5(3):136–169.

Mueller, H. M., P. P. Ouimet, and E. Simintzi 2017a. Within-Firm Pay Inequality. *Review of Financial Studies* 30(10):3605–3635.

Mueller, H. M., P. P. Ouimet, and E. Simintzi 2017b. Wage Inequality and Firm Growth. *American Economic Review* 107(8):379–385.

Ouimet, P. P., and E. Simintzi 2017. Wages and Firm Performance: Evidence from the 2008 Financial Crisis. *Working Paper.*

Oyer, P. 2004. Why Do Firms Use Incentives That Have No Incentive Effects. *Journal of Finance* 59 (4):1619–1650.

Oyer, P. 2008. Salary or Benefits. *Research in Labor Economics* 28:429–467.

Oyer, P., and S. Schaefer 2005. Why Do Some Firms Give Stock Options to All Employees?: An Empirical Examination of Alternative Theories. *Journal of Financial Economics* 76(1):99–133.

Pierce, B. 2001. Compensation Inequality. *Quarterly Journal of Economics* 116(4):1493–1525.

Prescott, E. 2004. Why Do Americans Work So Much More Than Europeans? *Minneapolis Quarterly Review* 28(1):2–13.

Song, J., D. J. Price, F. Guvenen, N. Bloom, and T. von Wachter 2015. Firming Up Inequality. *NBER Working Paper* # 21199.

Vella, F. 1993. Nonwage Benefits in a Simultaneous Model of Wages and Hours: Labor Supply Functions of Young Females. *Journal of Labor Economics* 11(4):704–723.

Woodbury, S. A. 1983. Substitution between Wage and Nonwage Benefits. *The American Economic Review* 73(1):166–182.

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.

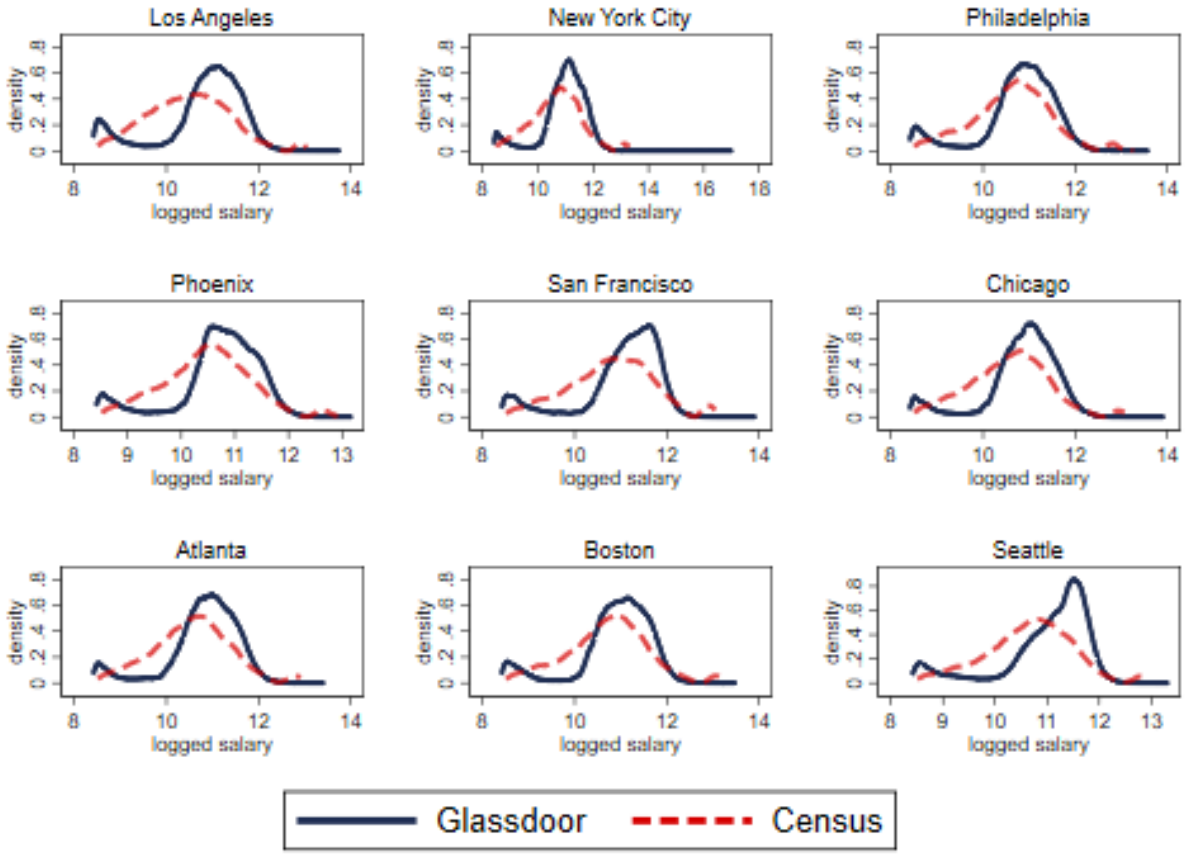


Figure 2

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.

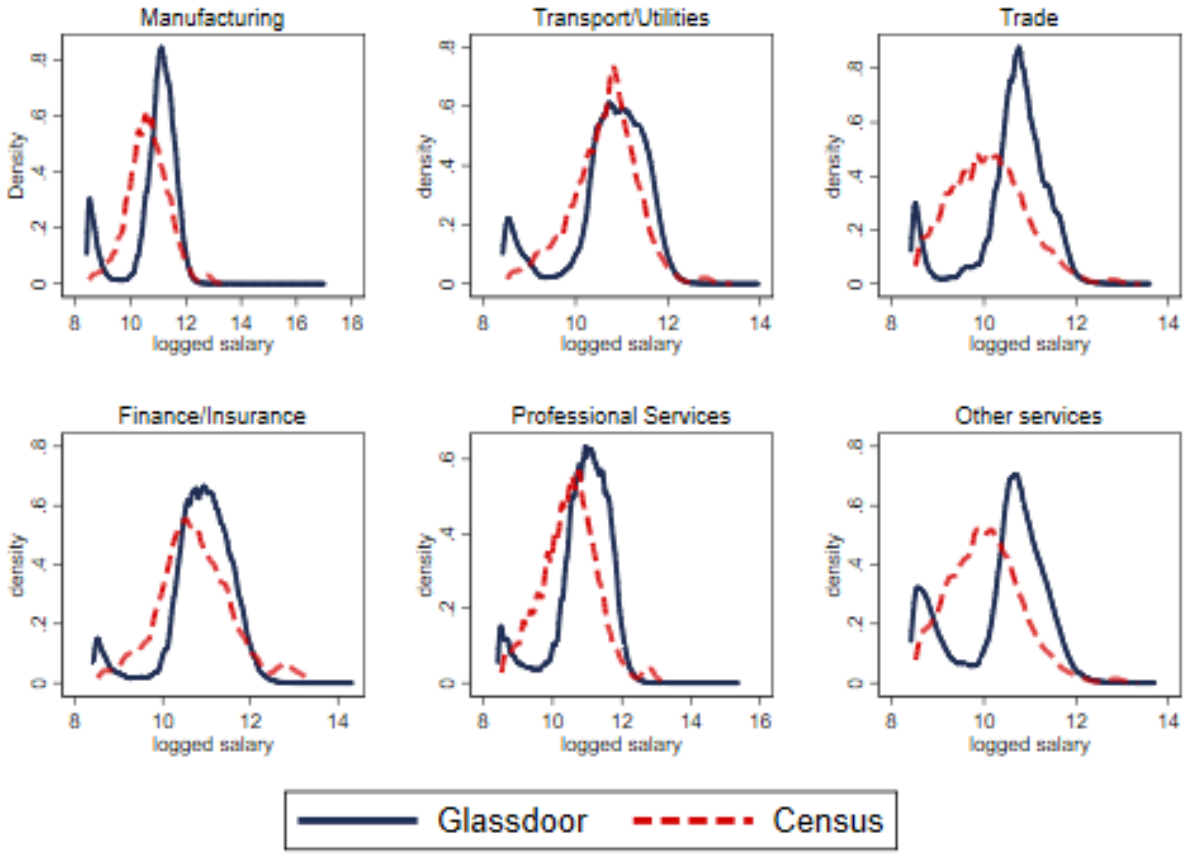
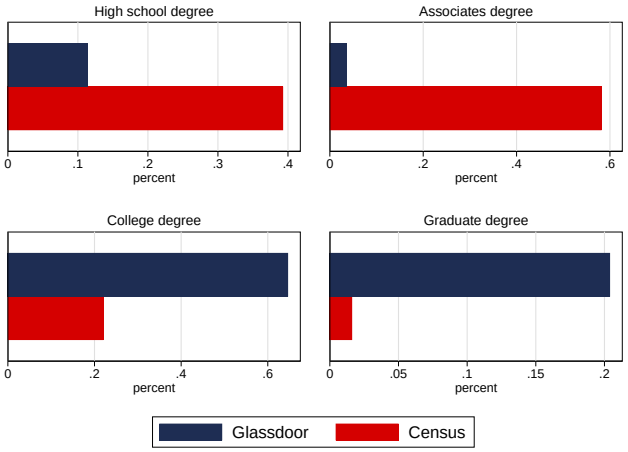


Figure 3

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

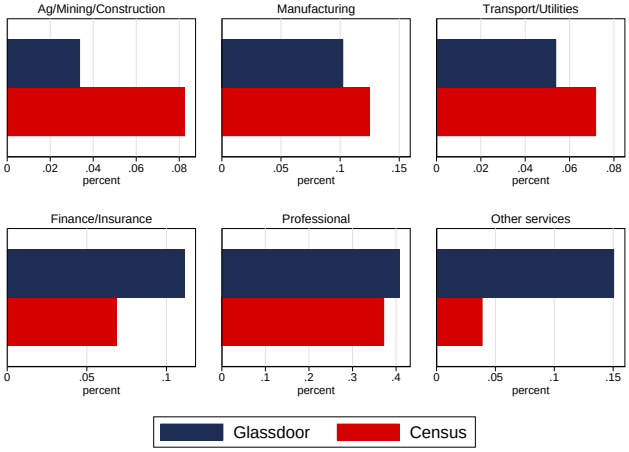


Table 1

A gender is shown as "Other" if an individual replies "Prefer Not To State" or "Unknown". An employment status is shown as "Other" if an individual replies "Seasonal", "Apprentice", or "Trainee".

	Full Sample		Matched Compustat Sample	
	Count	Pct	Count	Pct
Education				
High School	133778	11.3	54661	12.8
Associates	42908	3.6	16136	3.8
Bachelors	759724	64.4	273662	64.3
Masters	201836	17.1	64516	15.2
MBA	27959	2.4	12646	3.0
JD	3637	0.3	1010	0.2
MD	887	0.1	243	0.1
PhD	9486	0.8	2715	0.6
Age Group				
Under 25	248620	20.7	98701	22.8
25 Through 29	271918	22.7	95864	22.1
30 Through 39	334701	27.9	118044	27.2
40 Through 49	202122	16.8	71948	16.6
50 Through 59	110783	9.2	38441	8.9
60 and Above	31658	2.6	10262	2.4
Gender				
Male	927848	51.8	336978	53.7
Female	771935	43.1	259209	41.3
Other	91147	5.1	31456	5.0
Employment Status				
Regular	1639510	76.4	531453	73.8
Part Time	311912	14.5	133772	18.6
Contract	93341	4.4	25608	3.6
Intern	88742	4.1	27606	3.8
Freelance	11815	0.6	1815	0.3
Other	33	0.0	11	0.0
Reviewing Current Job				
No	1664020	47.8	538659	45.3
Yes	1814835	52.2	649174	54.7

Table 2

A gender is shown as "Other" if an individual replies "Prefer Not To State" or "Unknown". An employment status is shown as "Other" if an individual replies "Seasonal", "Apprentice", or "Trainee".

	Average Ratings - Full Sample					
	Overall	Career Opps	Comp & Benefits	Senior Leaders	Work-life Balance	Culture
All Individuals	3.25	3.02	3.16	2.89	3.24	3.24
Education						
High School	3.12	2.93	3.07	2.73	3.05	3.08
Associates	3.03	2.83	3.09	2.66	3.08	3.03
Bachelors	3.30	3.05	3.15	2.94	3.28	3.32
Masters	3.35	3.09	3.25	2.96	3.39	3.35
MBA	3.17	2.95	3.31	2.86	3.42	3.18
JD	3.26	2.99	3.21	2.96	3.47	3.25
MD	3.19	3.08	3.24	2.87	3.25	3.15
PhD	3.37	3.11	3.32	2.94	3.49	3.36
Age Group						
Under 25	3.53	3.22	3.10	3.22	3.47	3.58
25 Through 29	3.33	3.11	3.12	2.99	3.30	3.37
30 Through 39	3.22	3.02	3.18	2.84	3.23	3.21
40 Through 49	3.12	2.90	3.23	2.72	3.17	3.10
50 Through 59	3.03	2.80	3.18	2.63	3.07	2.99
60 and Above	3.06	2.83	3.12	2.67	3.08	3.02
Gender						
Male	3.35	3.11	3.23	2.97	3.31	3.33
Female	3.22	2.98	3.08	2.84	3.20	3.22
Other	3.04	2.85	3.04	2.71	3.13	3.10
Employment Status						
Regular	3.20	3.03	3.22	2.82	3.15	3.19
Part Time	3.36	2.91	2.79	3.00	3.39	3.38
Contract	3.34	2.99	3.08	3.02	3.39	3.28
Intern	4.08	3.72	3.55	3.92	4.03	4.13
Freelance	3.38	3.03	2.90	3.00	3.49	3.27
Other	2.88	2.41	2.46	2.59	2.96	3.00
Reviewing Current Job						
No	2.95	2.71	2.94	2.56	2.98	2.91
Yes	3.54	3.30	3.35	3.19	3.47	3.55

Table 3

All figures are medians. Observations with fiscal year before 2008 and observations with no revenue or assets are excluded. All observations that do not correspond to the latest fiscal year for a given firm as of 5/17/2017 are excluded. 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. Matched sample contains Compustat firms matched to the reviews dataset. Industry labels are as follows: Manu = Manufacturing, Log/Tel = Logistics and Telecommunications, Ret = Retail, FIRE = Finance and Real Estate, PServ = Professional Services, CServ = Consumer Services.

	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	.0773	.186	.12	.146
R&D-to-Assets	0	.0219	0	0	0	0
Debt-to-Assets	.302	.258	.213	.228	.362	.4
Cash-to-Assets	.0699	.112	.0671	.0948	.0376	.0641
3yr Avg. Revenue Growth	-.0428	-.00311	.0185	.0437	.0547	.0313
Total Employees	12.5	16	17	6.41	28	19.4
	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	.0529	.0724	.19	.106	.134
R&D-to-Assets	0	.0307	0	0	0	0
Debt-to-Assets	.195	.138	.266	.163	.224	.389
Cash-to-Assets	.0445	.159	.0514	.0768	.0989	.0648
3yr Avg. Revenue Growth	-.0186	.00858	.0135	.0309	.0732	.0316
Total Employees	.26	.447	2.34	.406	2.04	4.73

Table 4

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. 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. Average rating for a given benefit group is calculated by computing the mean rating within a firm for the given benefit group and averaging the firm level means across firms. Compustat matched refers to observations that are matched to Compustat North America. # offering and % offering denote number and percentage of firms, respectively, offering a benefit group.

	Benefit Groups - Compustat Matched				
	# Offering	% Offering	Avg Rating	Med Rating	St Dev
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

Table 5

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. 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. Correlations are between mean benefit rating for a given firm-year and firm characteristic for a given firm-year.

	Correlations between Benefit Group Rating and Financials			
	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 & Educaiton	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
	Correlations between Benefit Group Rating and Financials			
	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 & Educaiton	-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

Table 6

Regression is run at the individual level. The dependent variable is the rating of the following benefit groups: health & casualty insurance, retirement, training & education, and perks (except charitable gift matching). *Avg Marginal Tax* is the average Taxsim-calculated marginal income tax rate at the firm level. Education variables are indicators representing the highest education level attained by the respondent. *Female* and *Current Job* are indicator variables that take the value 1 if a respondent is female or is reviewing her current job, respectively. Unemployment growth and GDP growth are measured at the state level. *Overall Rating* is the rating assigned by the respondent to the company as a whole. (*** p<0.01, ** p<0.05, * p<0.10)

	Benefit Rating					
	(1)	(2)	(3)	(4)	(5)	(6)
Avg Marginal Tax	2.218***	2.408***	1.994***	2.243***	1.261**	1.221**
	[.773]	[.767]	[.756]	[.753]	[.535]	[.572]
High School		-.086	-.045	-.058	.141	.146
		[.275]	[.252]	[.259]	[.180]	[.183]
Associates		-.212	-.172	-.197	.080	.084
		[.280]	[.256]	[.263]	[.188]	[.191]
Bachelors		-.058	-.018	-.033	.166	.169
		[.272]	[.248]	[.253]	[.175]	[.177]
Masters		.031	.065	.034	.214	.215
		[.272]	[.248]	[.254]	[.176]	[.177]
MBA		-.220	-.215	-.254	.046	.046
		[.306]	[.285]	[.292]	[.217]	[.217]
MD		.848***	.922***	.800***	.984***	.980***
		[.271]	[.252]	[.288]	[.200]	[.200]
PhD		-.026	-.008	-.022	.076	.076
		[.334]	[.311]	[.315]	[.235]	[.235]
log(Age)		-.184**	-.206***	-.197***	-.041	-.048
		[.076]	[.075]	[.075]	[.065]	[.064]
Female		.122***	.129***	.130***	.142***	.143***
		[.038]	[.037]	[.037]	[.029]	[.030]
Current Job		.156***	.149***	.140***	-.085***	-.086***
		[.036]	[.037]	[.036]	[.031]	[.030]
log(Assets)			.040**	.038**	.013	.013
			[.018]	[.018]	[.013]	[.014]
EBIT Margin			.293*	.309*	.285***	.285***
			[.172]	[.177]	[.110]	[.110]
Debt/Assets			-.072	-.084	-.029	-.027
			[.122]	[.121]	[.092]	[.092]
GDP Growth				2.659	3.835	3.844
				[2.706]	[2.383]	[2.374]
Unemp Growth				-16.060	-20.559**	-20.535**
				[10.374]	[8.469]	[8.455]
Overall Rating					.469***	.469***
					[.015]	[.016]
log(Base Pay)						.008
						[.039]
Year FE & Benefit FE	Yes	Yes	Yes	Yes	Yes	Yes
State FE	No	No	No	Yes	Yes	Yes
R-squared	.03	.05	.05	.06	.24	.24
Sample Size	13243	13243	13243	13243	13243	13243
Cluster	Firm-Level	Firm-Level	Firm-Level	Firm-Level	Firm-Level	Firm-Level

Table 7

Regression is run at the firm-year-benefit level with number of observations within a firm-year-benefit as analytical weights. The dependent variable is the average rating of the following benefit groups: health & casualty insurance, retirement, training & education, and perks (except charitable gift matching). *Avg Marginal Tax* is the average Taxsim-calculated marginal income tax rate at the firm level. Education variables are indicators representing the highest education level attained by the respondent. *Female* and *Current Job* are the percentage of respondents in a firm-year-benefit cell that is female or is reviewing her current job, respectively. Unemployment growth and GDP growth are measured at the state level. *Overall Rating* is the average rating assigned by the respondents in a firm-year-benefit cell to their companies as a whole. (*** p<0.01, ** p<0.05, * p<0.10)

	Benefit Rating					
	(1)	(2)	(3)	(4)	(5)	(6)
Avg Marginal Tax	2.500***	2.822***	2.303***	2.558***	1.607***	1.673***
	[.691]	[.763]	[.705]	[.628]	[.483]	[.561]
High School		-.585***	-.015	-.748**	-.561**	-.575**
		[.132]	[.470]	[.315]	[.258]	[.259]
Associates		-.766***	-.206	-.943***	-.713***	-.728***
		[.158]	[.481]	[.319]	[.265]	[.264]
Bachelors		-.466***	.084	-.669**	-.563**	-.575**
		[.112]	[.464]	[.304]	[.252]	[.251]
Masters		-.535***	-.013	-.830***	-.692***	-.701***
		[.126]	[.466]	[.312]	[.256]	[.256]
MBA		-.650***	-.189	-.986***	-.718***	-.726***
		[.152]	[.457]	[.326]	[.264]	[.264]
JD		-.273	.000	-.774	-.450	-.460
		[.408]	[.]	[.504]	[.473]	[.464]
PhD		-.849*	-.377	-1.195**	-.871**	-.877**
		[.457]	[.623]	[.497]	[.419]	[.420]
log(Age)		-.344***	-.386***	-.420***	-.199***	-.192***
		[.114]	[.107]	[.092]	[.067]	[.068]
Female		-.010	.014	.051	.086*	.084*
		[.067]	[.063]	[.059]	[.047]	[.047]
Current Job		.204***	.166**	.152**	-.199***	-.196***
		[.077]	[.075]	[.070]	[.060]	[.059]
log(Assets)			.043***	.042***	.019*	.019*
			[.015]	[.013]	[.010]	[.010]
EBIT Margin			.434***	.394***	.343***	.343***
			[.131]	[.108]	[.075]	[.075]
Debt/Assets			-.258**	-.209**	-.089	-.091
			[.111]	[.104]	[.081]	[.081]
GDP Growth				4.583	3.437	3.444
				[2.786]	[2.368]	[2.363]
Unemp Growth				-6.037	-6.286	-6.337
				[11.977]	[10.787]	[10.773]
Overall Rating					.550***	.551***
					[.023]	[.023]
log(Base Pay)						-.012
						[.046]
Year FE & Benefit FE	Yes	Yes	Yes	Yes	Yes	Yes
State FE	No	No	No	Yes	Yes	Yes
R-squared	.11	.13	.16	.22	.40	.40
Sample Size	6397	6397	6397	6397	6397	6397
Cluster	Firm-Level	Firm-Level	Firm-Level	Firm-Level	Firm-Level	Firm-Level

Table 8

Regression is run at the individual level. The dependent variable is the rating of the maternity & paternity leave benefit. *Pct Female College* is the percentage of college educated female employees in the respondent's firm's industry. Education variables are indicators representing the highest education level attained by the respondent. *Current Job* is an indicator variable that takes the value 1 if a respondent is reviewing her current job. Unemployment growth and GDP growth are measured at the state level. (*** p<0.01, ** p<0.05, * p<0.10)

	Maternity Rating			
	(1)	(2)	(3)	(4)
Pct Female College	-.971***	-.985***	-1.153***	-1.141***
	[.351]	[.352]	[.327]	[.340]
Associates		.244	.200	.096
		[.189]	[.187]	[.194]
Bachelors		-.103	-.084	-.202
		[.219]	[.216]	[.222]
Masters		.075	-.091	-.139
		[.685]	[.671]	[.689]
MBA		.168	.101	-.008
		[.194]	[.191]	[.200]
JD		.326	.263	.125
		[.230]	[.228]	[.238]
MD		1.595***	1.902***	1.586***
		[.193]	[.206]	[.347]
PhD		-.050	-.203	-.377
		[.436]	[.432]	[.454]
Current Job		.197***	.192***	.186**
		[.073]	[.071]	[.073]
Female		.055	.094	.125*
		[.073]	[.072]	[.070]
log(Age)		.034	.033	.021
		[.147]	[.143]	[.146]
log(Assets)			.050***	.056***
			[.019]	[.018]
EBIT Margin			.252***	.212**
			[.075]	[.084]
Debt / Assets			-.819***	-.694***
			[.223]	[.219]
Year FE	Yes	Yes	Yes	Yes
State FE	No	No	No	Yes
R-squared	.01	.03	.06	.10
Sample Size	1573	1488	1488	1488
Cluster	Firm-Level	Firm-Level	Firm-Level	Firm-Level

Table 9

Regression is run at the individual level. The dependent variable is the rating of the maternity & paternity leave benefit. *Pct Female College* is the percentage of college educated female employees in the respondent's firm's industry. *Pct Female in Firm* is firm-level percentage of female employees. *Total Comp* is an individual's base pay plus tips, bonuses, and comission. *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. Education variables are indicators representing the highest education level attained by the respondent. *Current Job* is an indicator variable that takes the value 1 if a respondent is reviewing her current job. Unemployment growth and GDP growth are measured at the state level. (*** p<0.01, ** p<0.05, * p<0.10)

	Maternity Rating			
	(1)	(2)	(3)	(4)
Pct Female College	-1.198***	-.933**	-.868**	-1.047***
	[.354]	[.393]	[.388]	[.356]
Pct Female in Firm	.091			
	[.208]			
log(Base Pay)		.158*		
		[.087]		
log(Total Comp)			.183***	
			[.060]	
Female Executive		-.066	-.061	
		[.096]	[.095]	
Female Pay Gap				.319
				[.514]
Associates	.097	.110	.116	.102
	[.194]	[.243]	[.242]	[.193]
Bachelors	-.200	-.173	-.151	-.201
	[.222]	[.272]	[.270]	[.221]
Masters	-.144	-.024	-.038	-.139
	[.690]	[.924]	[.923]	[.687]
MBA	-.006	-.052	-.048	-.003
	[.200]	[.257]	[.255]	[.199]
JD	.124	.032	.018	.132
	[.238]	[.300]	[.298]	[.238]
MD	1.572***	1.432***	1.382***	1.626***
	[.350]	[.452]	[.448]	[.355]
PhD	-.375	-.246	-.247	-.372
	[.454]	[.543]	[.538]	[.454]
Current Job	.185**	.193**	.210**	.178**
	[.073]	[.092]	[.091]	[.073]
Female	.114	.138	.153*	.128*
	[.073]	[.085]	[.086]	[.070]
log(Age)	.018	-.170	-.160	.022
	[.146]	[.182]	[.175]	[.146]
log(Assets)	.056***	.065***	.064***	.054***
	[.018]	[.021]	[.021]	[.018]
EBIT Margin	.215**	.153**	.174**	.207**
	[.084]	[.075]	[.075]	[.084]
Debt/Assets	-.705***	-.734***	-.743***	-.704***
	[.219]	[.258]	[.254]	[.219]
Year FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
R-squared	.10	.11	.12	.10
Sample Size	1488	1048	1050	1487
Cluster	Firm-Level	Firm-Level	Firm-Level	Firm-Level

Table 10

Regression is run at the individual level. *Pct Female College* is the percentage of college educated female employees in the respondent's firm's industry. *Female Executive* is an indicator variable that takes the value 1 if a firm has a female executive. Education variables are indicators representing the highest education level attained by the respondent. *Female* and *Current Job* are indicator variables that take the value 1 if a respondent is female or is reviewing her current job, respectively. Unemployment growth and GDP growth are measured at the state level. (*** p<0.01, ** p<0.05, * p<0.10)

	Benefit Rating			
	401K	Health Insurance	Employee Discounts	Paid Vacation
	(1)	(2)	(3)	(4)
Pct Female College	-.382	-1.743***	-.294	-.436*
	[.243]	[.301]	[.374]	[.264]
log(Base Pay)	-.030	.068	-.014	.146**
	[.056]	[.052]	[.069]	[.057]
Female Executive	-.086	-.140*	.012	-.206***
	[.072]	[.079]	[.142]	[.071]
Associates	.036	.182*	.004	.090
	[.087]	[.103]	[.094]	[.099]
Bachelors	.033	.061	-.004	.105
	[.101]	[.115]	[.103]	[.112]
Masters	-.027	.696**	-.207	.236
	[.383]	[.300]	[.250]	[.492]
MBA	-.104	.130	.046	-.013
	[.096]	[.109]	[.111]	[.109]
JD	-.032	-.087	-.088	-.113
	[.122]	[.149]	[.177]	[.167]
MD	-.303	.044		.591***
	[.511]	[.543]		[.217]
PhD	-.071	-.139	.159	.102
	[.199]	[.210]	[.535]	[.230]
Current Job	.108***	.037	.097*	.263***
	[.039]	[.042]	[.050]	[.048]
Female	.134***	.126***	.161***	.112**
	[.039]	[.042]	[.056]	[.043]
log(Age)	-.180**	-.472***	-.162	-.124
	[.081]	[.083]	[.117]	[.093]
log(Assets)	.072***	.057***	-.023	.067***
	[.016]	[.019]	[.034]	[.018]
EBIT Margin	.445**	.329*	.753	.083
	[.198]	[.195]	[.480]	[.137]
Debt / Assets	-.008	-.354**	-.234	-.241
	[.145]	[.159]	[.257]	[.151]
Year FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
R-squared	.05	.09	.03	.06
Sample Size	3820	4528	3121	3074
Cluster	Firm-Level	Firm-Level	Firm-Level	Firm-Level

Table 11

Regression is run at the state-occupation-benefit level with state-occupation-benefit observation count as analytical weights. The dependent variable is the average rating of the following benefits: free lunch or snacks, gym membership, health care on-site, company car, pet friendly workplace, travel concierge, work from home, company social events, employee assistance program, childcare. *Avg Total Hrs* and *StDev Total Hrs* are the average and standard deviation of hours worked at the 3-digit SOC-state level. Education variables represent percent of respondents in each state-occupation-benefit who attained the education level. *Female* and *Current Job* are the percent of respondents in a state-occupation-benefit cell who are female or are reviewing their current job, respectively. Unemployment and GDP growth are measured at the state level. *Overall Rating* is the average rating assigned by the respondents in a state-occupation-benefit cell to their companies as a whole. (*** p<0.01, ** p<0.05, * p<0.10)

	Benefit Rating					
	(1)	(2)	(3)	(4)	(5)	(6)
log(Avg Total Hrs)	.453*	.633**	.664***	.756***	.656***	1.758***
	[.265]	[.242]	[.240]	[.263]	[.208]	[.388]
log(StDev Total Hrs)	-.545	-.291	-.097	-.084	.698	2.716**
	[.639]	[.581]	[.566]	[.659]	[.592]	[1.019]
High School		-.319	-.271	-.398	-.395	-.179
		[.370]	[.355]	[.374]	[.500]	[.282]
Associates		-.785*	-.785*	-.935**	-.879	-.557
		[.463]	[.436]	[.435]	[.598]	[.366]
Bachelors		-.533	-.505	-.604	-.565	-.388
		[.356]	[.339]	[.372]	[.498]	[.273]
Masters		-.463	-.437	-.579	-.598	-.420
		[.380]	[.364]	[.391]	[.519]	[.292]
MBA		-.633*	-.623*	-.788*	-.663	-.474
		[.375]	[.357]	[.448]	[.571]	[.362]
MD		-1.577**	-1.356**	-1.514**	-1.267*	-.693
		[.606]	[.579]	[.722]	[.638]	[.607]
PhD		-.509	-.497	-.597	-.512	-.297
		[.400]	[.401]	[.411]	[.497]	[.366]
log(Age)		-.105	-.117	-.118	-.116	-.080
		[.093]	[.098]	[.138]	[.113]	[.119]
Female		-.077	-.072	-.089	.031	.083
		[.095]	[.095]	[.106]	[.107]	[.114]
Current Job		-.003	-.025	-.027	-.145	-.138
		[.112]	[.113]	[.114]	[.091]	[.096]
log(Assets)			.020*	.017	-.001	-.002
			[.011]	[.014]	[.015]	[.014]
EBIT Margin			-.114**	-.089	-.057	-.077
			[.046]	[.086]	[.087]	[.076]
Debt/Assets			-.252*	-.221*	-.100	-.089
			[.131]	[.127]	[.106]	[.099]
GDP Growth				.039	5.546	2.999
				[8.612]	[9.390]	[8.478]
Unemp Growth				44.955**	25.019	32.092
				[21.134]	[34.843]	[34.403]
Overall Rating					.364***	.352***
					[.048]	[.045]
log(Base Pay)					.151*	.115
					[.081]	[.090]
Year Buckets & Benefit FE	Yes	Yes	Yes	Yes	Yes	Yes
State FE	No	No	No	Yes	Yes	Yes
2-digit SOC FE	No	No	No	No	No	Yes
R-squared	.31	.32	.33	.40	.51	.53
Sample Size	570	570	570	570	570	570
Cluster Level	SOC3	SOC3	SOC3	SOC3	SOC3	SOC3

Table 12

Regression is run at the state-occupation-benefit level with number of observations within a state-occupation-benefit as analytical weights. The dependent variable is the average rating of the following benefits: free lunch or snacks, gym membership, health care on-site, company car, pet friendly workplace, travel concierge, work from home, company social events, employee assistance program, childcare. *Days w/Extra Hrs* is the number of days per month that respondents in the GSS survey worked extra hours. Education variables represent percentage of respondents in each state-occupation-benefit that attained the education level. *Female* and *Current Job* are the percentage of respondents in a state-occupation-benefit cell that is female or is reviewing her current job, respectively. Unemployment growth and GDP growth are measured at the state level. *Overall Rating* is the average rating assigned by the respondents in a state-occupation-benefit cell to their companies as a whole. (*** p<0.01, ** p<0.05, * p<0.10)

	Benefit Rating					
	(1)	(2)	(3)	(4)	(5)	(6)
Days w/Extra Hrs	.013	.029	.028	.032	.049**	.046*
	[.029]	[.032]	[.032]	[.027]	[.019]	[.025]
High School		1.047***	1.178***	.899**	.801***	.675***
		[.295]	[.340]	[.352]	[.240]	[.235]
Associates		.019	.160	-.212	-.256	-.104
		[.437]	[.409]	[.490]	[.397]	[.416]
Bachelors		.904***	1.011***	.921***	1.104***	.943***
		[.186]	[.217]	[.304]	[.199]	[.217]
Masters		.882***	.988***	.865**	1.033***	.951***
		[.180]	[.254]	[.326]	[.159]	[.209]
MBA		.275	.405	.107	.567	.314
		[.548]	[.513]	[.599]	[.415]	[.433]
JD		.000	.109	-.026	.000	.000
		[.]	[.202]	[.218]	[.]	[.]
PhD		-.104	.000	.000	-.170	-.176
		[.155]	[.]	[.]	[.136]	[.195]
log(Age)		-.019	-.026	-.178	.212	.307
		[.220]	[.221]	[.356]	[.290]	[.253]
Female		.376*	.393**	.423**	.423***	.482***
		[.195]	[.193]	[.177]	[.148]	[.158]
Current Job		.102	.095	.052	.116	.189*
		[.156]	[.151]	[.177]	[.118]	[.099]
log(Assets)			.004	-.015	-.020	-.026
			[.029]	[.034]	[.034]	[.036]
EBIT Margin			-.171	-.036	-.123	-.158
			[.459]	[.463]	[.291]	[.293]
Debt/Assets			-.377	-.362	-.450	-.461
			[.358]	[.428]	[.386]	[.395]
GDP Growth				2.519	7.678	6.099
				[5.680]	[6.548]	[6.312]
Unemp Growth				93.677*	56.348	35.604
				[52.067]	[41.972]	[43.843]
Overall Rating					.466***	.481***
					[.057]	[.062]
log(Base Pay)					-.147	-.188*
					[.125]	[.112]
Year Buckets & Benefit FE	Yes	Yes	Yes	Yes	Yes	Yes
State FE	No	No	No	Yes	Yes	Yes
2-digit SOC FE	No	No	No	No	No	Yes
R-squared	.14	.18	.19	.32	.46	.49
Sample Size	379	379	379	379	379	379
Cluster Level	SOC5	SOC5	SOC5	SOC5	SOC5	SOC5

Table 13

The table reports monthly regressions of portfolio excess returns ($r_t - r_f$) on four factors: the Market Risk Premium (Mkt-RF), Small-Minus-Big (SMB), High-Minus-Low (HML), and Momentum (Mom). *Mkt-RF*, *SMB*, and *HML* factors are sourced from Kenneth French's website and constructed following Fama and French (1993). The *Mom* factor is also sourced from Kenneth French's website and constructed following Carhart (1997). Individual stock excess returns are winsorized at the 5% level before creation of portfolios. Portfolio weights are constructed using firms' end-of-month market capitalizations. We consider all benefits that pertain to taxes, positive action, and disutility. We rebalance portfolios at the beginning of each month (starting in July 2015), and calculate the firm-level average benefit rating using all ratings data at the beginning of our sample up to month τ - 1. As such, a firm is classified as having high (low) non-wage benefit quality in month τ if our non-wage benefit measure in month τ - 1 lies in the top (bottom) tercile across all firms in our sample. The sample period is from July 2015 through September 2017 (27 months). (*** p<0.01, ** p<0.05, * p<0.10).

	Equal Weighted			Value Weighted		
	High	Low	Hedge	High	Low	Hedge
	(1)	(2)	(3)	(4)	(5)	(6)
Mkt-RF	.895***	.908***	-.012	1.046***	.910***	.136
	[.031]	[.074]	[.087]	[.069]	[.067]	[.115]
SMB	.153	.328***	-.174*	-.214***	-.031	-.182*
	[.102]	[.060]	[.090]	[.067]	[.059]	[.103]
HML	-.071	.070	-.141*	-.041	.020	-.060
	[.045]	[.057]	[.079]	[.071]	[.045]	[.101]
Mom	-.104*	-.022	-.082	.027	.062	-.035
	[.055]	[.102]	[.115]	[.086]	[.049]	[.126]
Alpha	-.094	-.758***	.663**	-.089	-.314*	.225
	[.165]	[.174]	[.245]	[.170]	[.157]	[.253]
R-squared	.95	.94	.21	.94	.94	.19
Sample Size	27	27	27	27	27	27

Table 14

The table reports Fama-Macbeth monthly cross-sectional regressions of returns on a high non-wage benefit quality dummy (Top Tercile) and firm characteristics. Top Tercile is an indicator variable that takes the value one if a firm is in the top tercile of benefit quality in month τ-1 and 0 if it lies in the bottom tercile, where benefit quality in a given period is measured as the firm-level average benefit rating using all ratings data at the beginning of our sample up to month τ - 1. We control for size (market equity), book-to-market, dividend yield, trading volume, stock price, average employee total compensation, all lagged, as well as compound returns from months τ-3 to τ-2 (Ret2-3), τ-6 to τ-4 (Ret4-6), and τ-12 to τ-7 (Ret7-12). Returns are winsorized at the 5% level, and average employee total comp is winsorized at the 1% level. (*** p<0.01, ** p<0.05, * p<0.10)

	Returns		
	(1)	(2)	(3)
Top Tercile	.642**	.595**	.617**
	[.245]	[.240]	[.243]
log(Market Value)		.089	.313
		[.118]	[.255]
Book to Market		-.046	-.039
		[.039]	[.039]
log(Avg Total Comp)		.191	.152
		[.230]	[.214]
Dividend Yield			-3.610
			[.602]
log(Volume)			-.376
			[.237]
log(Price)			-.081
			[.241]
Ret2-3			-1.596
			[.180]
Ret4-6			1.184
			[.738]
Ret7-12			1.240
			[.010]
Constant	.104	-2.755	.835
	[.646]	[.654]	[.646]
Observations	9554	6009	5917
R-squared	.001	.002	.006
Number of Groups	27	27	27

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

A gender is shown as "Other" if an individual replies "Prefer Not To State" or "Unknown". An employment status is shown as "Other" if an individual replies "Seasonal", "Apprentice", or "Trainee".

	Average Ratings - Matched Compustat Sample					
	Overall	Career Opps	Comp & Benefits	Senior Leaders	Work-life Balance	Culture
All Comp Matched	3.23	3.05	3.21	2.82	3.18	3.21
Education						
High School	3.11	2.98	3.11	2.70	3.00	3.10
Associates	3.02	2.89	3.13	2.62	3.02	3.03
Bachelors	3.28	3.10	3.22	2.88	3.22	3.30
Masters	3.32	3.12	3.34	2.89	3.39	3.31
MBA	3.15	2.97	3.36	2.83	3.43	3.15
JD	3.19	2.98	3.25	2.85	3.50	3.19
MD	3.08	2.96	3.33	2.68	3.15	2.98
PhD	3.20	3.01	3.44	2.78	3.46	3.23
Age Group						
Under 25	3.43	3.21	3.12	3.10	3.36	3.50
25 Through 29	3.31	3.15	3.17	2.93	3.24	3.35
30 Through 39	3.23	3.08	3.25	2.79	3.19	3.21
40 Through 49	3.11	2.94	3.31	2.66	3.12	3.08
50 Through 59	3.01	2.84	3.27	2.55	2.98	2.96
60 and Above	3.03	2.87	3.18	2.58	2.98	2.97
Gender						
Male	3.31	3.13	3.28	2.89	3.26	3.29
Female	3.21	3.03	3.14	2.80	3.11	3.22
Other	3.02	2.87	3.09	2.65	3.09	3.07
Employment Status						
Regular	3.19	3.07	3.29	2.74	3.07	3.16
Part Time	3.21	2.87	2.74	2.85	3.22	3.25
Contract	3.32	3.00	3.16	2.97	3.39	3.27
Intern	4.09	3.90	3.86	3.93	4.05	4.13
Freelance	3.45	3.21	3.17	3.00	3.37	3.30
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
Yes	3.39	3.21	3.29	3.00	3.32	3.40

Table IA2 (1 of 2)

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 & Paternity 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

All figures are medians. Observations with fiscal year before 2008 and observations with no revenue or assets are excluded. All observations that do not correspond to the latest fiscal year for a given firm as of 5/17/2017 are excluded. 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. Matched sample contains Compustat firms matched to the reviews dataset. Industry labels are as follows: Manu = Manufacturing, Log/Tel = Logistics and Telecommunications, Ret = Retail, FIRE = Finance and Real Estate, PServ = Professional Services, CServ = Consumer Services.

	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-to-Assets	47	354	226	583	37	73
Debt-to-Assets	31	353	224	534	36	72
Cash-to-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
	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-to-Assets	1,697	3,855	959	4,384	232	246
Debt-to-Assets	1,426	3,842	917	3,431	230	245
Cash-to-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 (1 of 2)

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. 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. Average rating for a given benefit group is calculated by computing the mean rating within a firm for the given benefit group and averaging the firm level means across firms. Compustat matched refers to observations that are matched to Compustat North America. Full sample refers to all observations meeting the identification criteria above. # offering and % offering denote number and percentage of firms, respectively, offering a benefit group.

	Benefit Groups - Full Sample				
	# Offering	% Offering	Avg Rating	Med Rating	St Dev
Health & Casualty Insurance	6076	0.963	3.211	3.0	1.333
Retirement	8399	0.906	3.446	3.8	1.263
Non-Salary Compensation	2698	0.538	2.938	3.0	1.419
Training & Education	3896	0.792	3.186	3.0	1.357
Leave & Vacation	7227	0.940	3.346	3.3	1.318
Flexibility	3298	0.482	3.782	4.0	1.243
Perks	4930	0.844	3.563	4.0	1.311

Table IA4 (2 of 2)

	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

Regression is run at the individual level. The dependent variable is the rating of the following benefits: health insurance, dental insurance, vision insurance, life insurance, and 410K plan. *Avg Marginal Tax* is the average Taxsim-calculated marginal income tax rate at the firm level. Education variables are indicators representing the highest education level attained by the respondent. *Female* and *Current Job* are indicator variables that take the value 1 if a respondent is female or is reviewing her current job, respectively. Unemployment growth and GDP growth are measured at the state level. *Overall Rating* is the rating assigned by the respondent to the company as a whole. (*** p<0.01, ** p<0.05, * p<0.10)

	Benefit Rating					
	(1)	(2)	(3)	(4)	(5)	(6)
Avg Marginal Tax	3.017***	3.112***	2.709***	2.811***	2.004***	2.069***
	[.863]	[.866]	[.819]	[.803]	[.604]	[.611]
High School		-.868***	-.985***	-.946***	-.875***	.040
		[.078]	[.094]	[.151]	[.120]	[.220]
Associates		-.980***	-1.090***	-1.039***	-.873***	.041
		[.094]	[.103]	[.148]	[.122]	[.225]
Bachelors		-.814***	-.925***	-.888***	-.815***	.104
		[.061]	[.079]	[.139]	[.111]	[.212]
Masters		-.800***	-.920***	-.894***	-.822***	.103
		[.064]	[.083]	[.143]	[.111]	[.209]
MBA		-.895***	-1.053***	-1.036***	-.928***	-.000
		[.124]	[.138]	[.164]	[.139]	[.237]
JD		-.728**	-.904***	-.868***	-.931***	.000
		[.327]	[.297]	[.322]	[.227]	[.]
PhD		-.886***	-1.042***	-.998***	-.992***	-.062
		[.203]	[.208]	[.249]	[.207]	[.261]
log(Age)		-.221***	-.242***	-.244***	-.096	-.085
		[.081]	[.080]	[.080]	[.067]	[.068]
Female		.042	.054	.060*	.089***	.085***
		[.037]	[.035]	[.035]	[.030]	[.030]
Current Job		.105***	.098**	.092**	-.130***	-.130***
		[.039]	[.040]	[.039]	[.035]	[.035]
log(Assets)			.081***	.078***	.053***	.053***
			[.017]	[.017]	[.013]	[.013]
EBIT Margin			.180	.184	.223*	.203*
			[.158]	[.159]	[.122]	[.114]
Debt/Assets			-.127	-.100	-.020	-.021
			[.138]	[.135]	[.107]	[.109]
GDP Growth				1.438	2.267	1.985
				[2.758]	[2.556]	[2.556]
Unemp Growth				-13.578	-17.892*	-18.306*
				[10.415]	[9.641]	[9.648]
Overall Rating					.446***	.446***
					[.017]	[.017]
log(Base Pay)						-.021
						[.042]
Year FE & Benefit FE	Yes	Yes	Yes	Yes	Yes	Yes
State FE	No	No	No	Yes	Yes	Yes
R-squared	.03	.03	.05	.06	.24	.24
Sample Size	7214	7214	7214	7214	7214	7197
Cluster	Firm-Level	Firm-Level	Firm-Level	Firm-Level	Firm-Level	Firm-Level

Table IA6

Regression is run at the individual level and includes non-full time employees. The dependent variable is the rating of the following benefit groups: health & casualty insurance, retirement, training & education, and perks (except charitable gift matching). *Avg Marginal Tax* is the average Taxsim-calculated firm level marginal income tax rate. Education variables are indicators representing the highest education level attained by the respondent. *Female* and *Current Job* are indicator variables that take the value 1 if a respondent is female or is reviewing her current job, respectively. Unemployment growth and GDP growth are measured at the state level. *Overall Rating* is the rating assigned by the respondent to the company as a whole. (*** p<0.01, ** p<0.05, * p<0.10)

	Benefit Rating					
	(1)	(2)	(3)	(4)	(5)	(6)
Avg Marginal Tax	2.588***	2.814***	2.372***	2.637***	1.444***	1.316**
	[.741]	[.730]	[.735]	[.742]	[.511]	[.546]
High School		-.537	-.598	-.548	-.314	-.294
		[.465]	[.449]	[.404]	[.600]	[.597]
Associates		-.589	-.654	-.614	-.336	-.317
		[.470]	[.454]	[.409]	[.605]	[.602]
Bachelors		-.504	-.570	-.523	-.290	-.272
		[.463]	[.447]	[.400]	[.599]	[.595]
Masters		-.420	-.492	-.458	-.245	-.235
		[.463]	[.447]	[.401]	[.599]	[.595]
MBA		-.649	-.754	-.734*	-.395	-.388
		[.484]	[.473]	[.423]	[.611]	[.607]
JD		-.447	-.548	-.482	-.484	-.476
		[.530]	[.507]	[.473]	[.623]	[.618]
PhD		-.821	-.908*	-.839*	-.586	-.580
		[.515]	[.501]	[.447]	[.619]	[.615]
log(Age)		-.174**	-.191***	-.184***	-.020	-.037
		[.069]	[.068]	[.067]	[.059]	[.059]
Female		.102***	.109***	.110***	.133***	.136***
		[.038]	[.036]	[.035]	[.028]	[.029]
Current Job		.173***	.169***	.158***	-.059**	-.062**
		[.033]	[.034]	[.034]	[.029]	[.029]
log(Assets)			.035*	.031*	.010	.009
			[.019]	[.019]	[.014]	[.014]
EBIT Margin			.346*	.357*	.309**	.308**
			[.187]	[.192]	[.120]	[.120]
Debt/Assets			-.151	-.164	-.080	-.075
			[.112]	[.111]	[.085]	[.085]
GDP Growth				1.393	3.042	3.068
				[2.513]	[2.170]	[2.156]
Unemp Growth				-13.899	-17.955**	-17.891**
				[8.911]	[7.398]	[7.397]
Overall Rating					.477***	.476***
					[.014]	[.015]
log(Base Pay)						.023
						[.038]
Year FE & Benefit FE	Yes	Yes	Yes	Yes	Yes	Yes
State FE	No	No	No	Yes	Yes	Yes
R-squared	.04	.05	.06	.07	.25	.25
Sample Size	15550	15550	15550	15550	15550	15550
Cluster	Firm-Level	Firm-Level	Firm-Level	Firm-Level	Firm-Level	Firm-Level

Table IA7

Regression is run at the individual level and includes non-full time emloyees. The dependent variable is the rating of the maternity & paternity leave benefit. *Pct Female College* is the percentage of college educated female employees in the respondent's firm's industry. *Female* and *Current Job* are indicator variables that take the value 1 if a respondent is female or is reviewing her current job, respectively. Unemployment growth and GDP growth are measured at the state level. (*** p<0.01, ** p<0.05, * p<0.10)

	Maternity Rating			
	(1)	(2)	(3)	(4)
Pct Female College	-1.068***	-1.070***	-1.206***	-1.168***
	[.337]	[.336]	[.313]	[.326]
Associates		.202	.150	.033
		[.184]	[.184]	[.189]
Bachelors		-.126	-.116	-.232
		[.211]	[.209]	[.217]
Masters		.037	-.136	-.198
		[.688]	[.674]	[.690]
MBA		.133	.061	-.056
		[.189]	[.188]	[.195]
JD		.283	.213	.075
		[.226]	[.225]	[.234]
MD		1.554***	1.835***	1.581***
		[.189]	[.203]	[.345]
PhD		-.097	-.253	-.424
		[.433]	[.429]	[.447]
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]
Year FE	Yes	Yes	Yes	Yes
State FE	No	No	No	Yes
R-squared	.01	.03	.06	.09
Sample Size	1658	1569	1569	1569
Cluster	Firm-Level	Firm-Level	Firm-Level	Firm-Level

Table IA8 (1 of 2)

Regression is run at the individual level and includes only female employees. The dependent variable is the rating of the maternity & paternity leave benefit. *Pct Female College* is the percentage of college educated female employees in the respondent's firm's industry. *Female* and *Current Job* are indicator variables that take the value 1 if a respondent is female or is reviewing her current job, respectively. Unemployment growth and GDP growth are measured at the state level. (*** p<0.01, ** p<0.05, * p<0.10)

	Maternity Rating - Female Employees			
	(1)	(2)	(3)	(4)
Pct Female College	-1.079**	-1.073**	-1.228***	-1.353***
	[.437]	[.442]	[.412]	[.419]
Associates		.092	.109	-.164
		[.276]	[.282]	[.241]
Bachelors		-.325	-.269	-.643**
		[.321]	[.323]	[.283]
Masters		.982***	.900**	.554
		[.379]	[.429]	[.510]
MBA		-.019	-.015	-.353
		[.286]	[.290]	[.256]
JD		.107	.136	-.243
		[.423]	[.412]	[.414]
PhD		-.390	-.539	-.947
		[.898]	[.915]	[.909]
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]
Year FE	Yes	Yes	Yes	Yes
State FE	No	No	No	Yes
R-squared	.02	.04	.07	.17
Sample Size	713	680	680	680
Cluster	Firm-Level	Firm-Level	Firm-Level	Firm-Level

Table IA8 (2 of 2)

Regression is run at the individual level and includes only male employees. The dependent variable is the rating of the maternity & paternity leave benefit. *Pct Female College* is the percentage of college educated female employees in the respondent's firm's industry. *Female* and *Current Job* are indicator variables that take the value 1 if a respondent is female or is reviewing her current job, respectively. Unemployment growth and GDP growth are measured at the state level. (*** p<0.01, ** p<0.05, * p<0.10)

	Maternity Rating - Male Employees			
	(1)	(2)	(3)	(4)
Pct Female College	-1.135**	-1.092**	-1.204***	-1.274***
	[.468]	[.470]	[.460]	[.460]
Associates		.279	.205	.119
		[.241]	[.242]	[.251]
Bachelors		.028	.055	-.066
		[.285]	[.282]	[.294]
Masters		-1.252	-1.450	-1.506
		[.208]	[.133]	[.149]
MBA		.245	.158	.097
		[.248]	[.249]	[.258]
JD		.388	.299	.217
		[.281]	[.285]	[.287]
MD		1.698***	1.853***	1.696***
		[.253]	[.266]	[.425]
PhD		.043	-.120	-.261
		[.522]	[.508]	[.538]
Current Job		.217**	.228***	.235***
		[.087]	[.084]	[.086]
log(Age)		-.105	-.110	-.126
		[.194]	[.188]	[.195]
log(Assets)			.049*	.045*
			[.025]	[.024]
log(Employees)			.302***	.314***
			[.092]	[.104]
EBIT Margin			-.487	-.509
			[.308]	[.311]
Debt / Assets				
Year FE	Yes	Yes	Yes	Yes
State FE	No	No	No	Yes
R-squared	.01	.03	.06	.10
Sample Size	945	889	889	889
Cluster	Firm-Level	Firm-Level	Firm-Level	Firm-Level

Table IA9

Regression is run at the individual level. The dependent variable is the firm average rating of the maternity & paternity leave benefit. *Pct Female College* is the percentage of college educated female employees in the respondent's firm's industry. *Female* and *Current Job* are indicator variables that take the value 1 if a respondent is female or is reviewing her current job, respectively. Unemployment growth and GDP growth are measured at the state level. (*** p<0.01, ** p<0.05, * p<0.10)

	Maternity Rating			
	(1)	(2)	(3)	(4)
Pct Female College	-.886***	-.889***	-.894***	-.864***
	[.265]	[.269]	[.248]	[.243]
Associates		.067	.060	.050
		[.063]	[.066]	[.066]
Bachelors		-.055	-.043	-.057
		[.069]	[.071]	[.072]
Masters		-.055	-.186	-.221
		[.184]	[.165]	[.156]
MBA		.103	.076	.052
		[.069]	[.070]	[.070]
JD		.088	.021	.001
		[.093]	[.093]	[.093]
MD		.209	.252	.258
		[.287]	[.371]	[.392]
PhD		.340**	.270**	.207*
		[.145]	[.122]	[.117]
Current Job		.024	.014	.016
		[.023]	[.022]	[.021]
Female		.013	.032	.032
		[.024]	[.022]	[.022]
log(Age)		-.066	-.097**	-.091*
		[.053]	[.049]	[.049]
log(Assets)			.073***	.074***
			[.017]	[.016]
EBIT Margin			.320	.313
			[.212]	[.193]
Debt / Assets			-.431**	-.423**
			[.171]	[.169]
Year FE	Yes	Yes	Yes	Yes
State FE	No	No	No	Yes
R-squared	.03	.04	.10	.12
Sample Size	1658	1569	1569	1569
Cluster	Firm-Level	Firm-Level	Firm-Level	Firm-Level

Table IA10

Regression is run at the individual level. The dependent variable is the rating of the maternity & paternity leave benefit. *Pct Female College (3yr Lag)* is the percentage of college educated female employees in the respondent's firm's industry lagged by 3 years. *Female* and *Current Job* are indicator variables that take the value 1 if a respondent is female or is reviewing her current job, respectively. Unemployment growth and GDP growth are measured at the state level. (*** p<0.01, ** p<0.05, * p<0.10)

	Maternity Rating			
	(1)	(2)	(3)	(4)
Pct Female College (3yr Lag)	-.991***	-.995***	-1.134***	-1.082***
	[.332]	[.331]	[.308]	[.321]
Associates		.200	.148	.032
		[.185]	[.184]	[.189]
Bachelors		-.130	-.121	-.235
		[.211]	[.209]	[.218]
Masters		.035	-.137	-.198
		[.686]	[.673]	[.689]
MBA		.133	.061	-.054
		[.189]	[.188]	[.196]
JD		.283	.212	.076
		[.226]	[.225]	[.234]
MD		1.547***	1.826***	1.578***
		[.189]	[.203]	[.345]
PhD		-.093	-.250	-.420
		[.436]	[.432]	[.450]
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]
Year FE	Yes	Yes	Yes	Yes
State FE	No	No	No	Yes
R-squared	.03	.04	.10	.12
Sample Size	1658	1569	1569	1569
Cluster	Firm-Level	Firm-Level	Firm-Level	Firm-Level

Table IA11

Regression is run at the state-occupation-benefit level with state-occupation-benefit observation counts as analytical weights. The dependent variable is the average rating of all benefits except: free lunch or snacks, gym membership, health care on-site, company car, pet friendly workplace, travel concierge, work from home, company social events, employee assistance program, childcare. *Avg Total Hrs* and *StDev Total Hrs* are the average and standard deviation of hours worked at the 3-digit SOC-state level. Education variables represent percentage of respondents in each state-occupation-benefit that attained the education level. *Female* and *Current Job* are the percentage of respondents in a state-occupation-benefit cell that is female or is reviewing her current job, respectively. Unemployment growth and GDP growth are measured at the state level. *Overall Rating* is the average rating assigned by the respondents in a state-occupation-benefit cell to their companies as a whole. (*** p<0.01, ** p<0.05, * p<0.10)

	Benefit Rating					
	(1)	(2)	(3)	(4)	(5)	(6)
log(Avg Total Hrs)	.044	.097	.120	.121	.156	.122
	[.151]	[.164]	[.163]	[.172]	[.129]	[.137]
log(StDev Total Hrs)	-.892***	-.746**	-.582*	-.634**	.053	-.174
	[.280]	[.325]	[.294]	[.313]	[.274]	[.281]
High School		.074	.062	.157	.316***	.334***
		[.070]	[.083]	[.107]	[.077]	[.076]
Associates		.144	.110	.188*	.307***	.352***
		[.088]	[.094]	[.111]	[.091]	[.082]
Bachelors		.153**	.121*	.235**	.340***	.353***
		[.064]	[.067]	[.095]	[.076]	[.075]
Masters		.208**	.172*	.265**	.322***	.363***
		[.086]	[.088]	[.111]	[.085]	[.081]
MBA		.179**	.101	.207*	.381***	.366***
		[.088]	[.094]	[.111]	[.088]	[.089]
MD		.426***	.338**	.517***	.645***	.836***
		[.121]	[.137]	[.129]	[.122]	[.161]
PhD		-.233*	-.269**	-.147	.001	.051
		[.134]	[.132]	[.144]	[.127]	[.125]
log(Age)		-.060	-.058	-.060	-.028	-.029
		[.047]	[.047]	[.050]	[.041]	[.036]
Female		-.009	-.005	.003	.043	.041
		[.054]	[.052]	[.054]	[.036]	[.032]
Current Job		.147***	.133***	.117***	.063*	.074**
		[.049]	[.046]	[.043]	[.037]	[.034]
log(Assets)			.030***	.029***	.021***	.022***
			[.009]	[.009]	[.007]	[.006]
EBIT Margin			.203*	.253**	.248***	.179**
			[.104]	[.106]	[.088]	[.071]
Debt/Assets			-.368***	-.328***	-.197***	-.151**
			[.080]	[.065]	[.060]	[.061]
GDP Growth				5.127	5.605*	5.439*
				[3.595]	[2.954]	[2.920]
Unemp Growth				5.454	-4.006	-1.332
				[8.089]	[9.535]	[8.830]
Overall Rating					.414***	.406***
					[.014]	[.013]
log(Base Pay)					.072**	.107***
					[.035]	[.037]
Year Buckets & Benefit FE	Yes	Yes	Yes	Yes	Yes	Yes
State FE	No	No	No	Yes	Yes	Yes
2-digit SOC FE	No	No	No	No	No	Yes
R-squared	.16	.17	.19	.21	.38	.39
Sample Size	7635	7635	7635	7635	7635	7635
Cluster Level	SOC3	SOC3	SOC3	SOC3	SOC3	SOC3