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This paper examines the effects of employer social responsibility on the wages workers demand through randomized field experiments in two online labor marketplaces. Workers were recruited for short-term jobs and I manipulated whether or not they received information about the employer's social responsibility. I then observed the payment workers were willing to accept for the job. In the first experiment, information about the employer's social responsibility marginally reduced prospective workers' wage requirements on average and had a significant effect on the highest performers, who were willing to give up the wage differential they would otherwise demand. In the second, prospective workers submitted 44% lower wage bids for the same job after learning about the employer's social responsibility. This paper provides causal empirical evidence of a revealed preference for social responsibility in the workplace, and of a greater preference among the highest performers. More broadly, it provides evidence that workers value purpose and meaningfulness at work, and it demonstrates that workers are willing to give up pecuniary benefits for nonpecuniary benefits. It furthermore highlights heterogeneity in worker preferences for nonpecuniary benefits by worker performance type.

Keywords: social responsibility; strategic human resources management; field experiments; sustainability; corporate environmentalism; employment contract; compensation

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Introduction

Understanding what drives and influences worker preferences and behavior is of great interest to organizational scholars, since the importance of human assets to firm value has been well proven (Campbell et al. 2012, Coff 1997, Foss and Lindenberg 2013, Huselid et al. 1997, Koch and McGrath 1996). The role that nonpecuniary incentives and inputs can play in influencing worker behavior has received increased attention in the strategic human capital, economics, and organizational behavior literatures in recent years. In particular, there is a growing body of evidence that employees are motivated by "purpose" and "mission" (e.g., Besley and Ghatak 2005, Delfgaauw and Dur 2007, Francois 2000, Le Grand 2003, Prendergast 2007). Connecting a task to a meaningful outcome (e.g., Ariely et al. 2008, Chandler and Kapelner 2013) or making the impact of a public service job more salient (e.g., Grant et al. 2007; Grant 2008a, b; Grant and Hofmann 2011) has been shown to influence work effort and willingness to accept lower wages. Though there is a compelling body of evidence that employees are motivated by purpose or meaningfulness "in working" (wherein meaningfulness or purpose is a characteristic of what workers actually do), there has been less empirical examination of employees' motivation by purpose or meaningfulness "at work" (wherein meaningfulness or purpose is a

characteristic of the context in which the job or task is performed) (Michaelson et al. 2014, Pratt and Ashforth 2003). Implications from existing studies are thus more readily applicable to mission-driven and public service organizations, but are less applicable to profit-driven organizations. One nonpecuniary input that could elicit purpose or meaningfulness "at work" in profit-driven organizations is corporate social responsibility (CSR). Yet whether and how an employer's social responsibility influences employee behavior has been relatively understudied (Bode and Singh 2014, Bode et al. 2015, Burbano 2015, Burbano et al. 2016, Carnahan et al. 2015, Flammer and Luo 2014).[1] In particular, whether (and which type of) workers prefer and are thus willing to give up some pecuniary benefits in exchange for social responsibility remains to be empirically established.

This paper uses natural field experiments (as classified by List 2006) to provide causal evidence that receiving information about an employer's social responsibility reduces prospective workers' wage requirements for a job. My research settings are the online labor marketplaces of two employers: a fictitious company hiring on Amazon Mechanical Turk (AMT; in Experiment 1) and a real start-up company hiring on Elance (in Experiment 2). In each experiment, workers were recruited online for short-term jobs. I manipulated whether or not the worker received information about the employer's

social responsibility and then observed the payments they were willing to accept. Critically, workers completed their tasks naturally, unaware of the experiment.[2] I found that receiving information about the employer's social responsibility caused workers to accept lower payments for the same job. In the first experiment, the highest-performing workers drove this; the highest performers were willing to forego the wage differential they otherwise demand, while workers on average were only marginally responsive.[3] In the second experiment, workers on average submitted 44% lower bids after learning about the employer's social responsibility, with the most qualified workers being marginally more responsive.

These findings demonstrate that purpose or meaningfulness "at work" can induce similar effects as purpose or meaningfulness "in working." They furthermore contribute to the strategy and management literature studying the effect of corporate social responsibility on employee behavior by demonstrating a causal effect of a socially responsible message on revealed (as opposed to hypothetical) wage requirements in a real labor-market setting. Studies using observational data have mainly focused on comparing wages at nonprofit firms with wages at for-profit firms (as opposed to comparing varying social responsibility among for-profit firms) and have resulted in mixed findings (e.g., Frank 1996, Leete 2001), likely because of endogeneity challenges. As it could be the case that lower-performing workers self-select into nonprofit or socially responsible firms, resulting in lower wages at these firms (Preston 1989), it is important to isolate a causal effect of worker preferences unrelated to ability to understand the implications of CSR for the firm. Studies have found that people are hypothetically willing to give up part of what they might make in the future to work for a socially responsible firm (Montgomery and Ramus 2011) or to participate in a firm's CSR activities (Bode and Singh 2014).[4] Because research has shown that responses to hypothetical questions are not always consistent with the decisions made when real choices are on the line (List and Gallet 2001)—particularly in regard to prosocial preferences and behavior (Levitt and List 2007)—it is important to study the relationship between social responsibility and employee salary requirements in settings where workers are making real decisions. Frank and Smith (2014) examined a related relationship in such a setting (Amazon Mechanical Turk), finding a willingness to accept lower wages to work for a more socially useful nongovernmental organization (NGO) than a less socially useful NGO. Unlike Frank and Smith (2014), this paper holds the mission of the employer constant (a profit-maximizing mission), and examines the effect of information about the employer's social responsibility on worker payment requirements in two distinct online labor marketplaces—Elance and Amazon Mechanical Turk (see Chatterji et al. 2015 for the importance of

replicating similar field experimental treatments in different contexts for improved robustness and generalizability). By using a field experimental approach to enable causal inferences to be made in a more stylized setting, this paper joins a nascent set of promising studies that have begun to use field experimental techniques leveraging real short-term jobs to examine the effect of prosocial missions or messages on worker outcomes such as wages (Frank and Smith 2014) and worker productivity (Burbano 2015; Tonin and Vlassopoulos 2010, 2015).

By demonstrating that higher-performing and more qualified workers are more willing to give up financial benefits in response to employer social responsibility, this paper contributes to the emerging stream of work examining heterogeneity in preferences for nonpecuniary benefits (e.g., Bode et al. 2015, Evans and Davis 2011, Saurmann and Roach 2014). Though the import of the highest-performing workers to firm performance has been well established (Carnahan et al. 2012, Nyberg 2010, Zucker et al. 2002), we are only beginning to understand whether preferences for nonpecuniary benefits vary by worker performance type (Carnahan et al. 2012, Brekke and Nyborg 2008). The highest-performing workers have been shown to be willing to take a compensation decrease to work at an entrepreneurial job (Campbell et al. 2012, Carnahan et al. 2012), suggesting that these individuals may value nonpecuniary benefits including job purpose (Carnahan et al. 2012). Likewise, more qualified scientists have been shown to have a greater willingness to pay to publish on the job than less qualified scientists (Saurmann and Roach 2014). Bode et al. (2015) found that better-performing employees were more likely to participate in a corporate social initiative. This paper provides further support that nonpecuniary benefits may be valued more highly by higher-performing workers.

I use survey data to begin to explore the mechanism driving willingness to forego wage in the first experiment, finding suggestive evidence that the mechanism was that they interpreted the socially responsible message as a signal that the employer was trustworthy and would treat the prospective worker fairly. It has been argued that a combination of signaling about what it would be like to work at a firm and feeling good about one's self image drives positive behavioral responses to employer social responsibility (Greening and Turban 2000, Turban and Greening 1996). Among prospective employees in the online labor marketplace context, I find more evidence in support of the former than the latter argument. In contrast to the view that it is altruistic, prosocial individuals who are responsive to social responsibility (Evans and Davis 2011), a mechanism of signaling about employee treatment implies that even purely self-interested, non-prosocially oriented individuals prefer socially responsible employers—everybody prefers to be treated better.

Last, this paper serves as an example of how online labor marketplaces can be leveraged as settings for randomized experiments to study inputs to worker outcomes, with potential for similar methodology to be applied to other questions relevant to management and strategy literature. Since small-, medium-, and even large-sized companies are increasingly outsourcing job functions and using online labor marketplaces (Needleman 2009), online labor marketplaces have been identified as a promising yet underused setting for management research (Aguinis and Lawal 2012). Prior research has used online labor marketplaces as alternatives to lab experiments where participants are told they are participating in a research study, but they have been underutilized as settings in which to implement natural field experiments (where participants are unaware they are taking part in a study). Only very recently have researchers begun to tap their potential as field experimental settings to study inputs to worker motivation and output—none to date have used Elance, and few have used Amazon Mechanical Turk (Burbano 2015, Chandler and Kapelner 2013, Frank and Smith 2014, Horton and Chilton 2010). Furthermore, the management of online workers, independent contractors, and other non-in-house workers is becoming increasingly important to the firm (Chesbrough and Teece 2012, Gibson and Cohen 2003, Kirkman et al. 2004), making online labor marketplaces increasingly relevant.

Literature and Theory

Social Responsibility Information and Prospective Workers' Expected Utility

There are two main reasons outlined in the literature that information about an employer's social responsibility could favorably influence prospective workers' expected utility for working with that employer.[5] Both stem from the premise that prospective workers have imperfect information about what it would be like to work with a prospective employer, as well as imperfect information about a prospective employer's qualities. It has been noted that various informational signals influence a prospective worker's perceptions about an employer (Fombrun and Shanley 1990), and that information about social responsibility is one that can favorably influence perception (Barnett 2007, Barnett and Salomon 2012, Minor and Morgan 2011, Waddock and Graves 1997).

First, prospective workers could interpret a socially responsible message as a signal that the employer is trustworthy (Godfrey et al. 2009) and likely treats its employees fairly (Greening and Turban 2000, Turban and Greening 1996). The argument is that if an employer treats the broader community well, it is more likely to treat its employees well (Greening and Turban 2000, Turban and Greening 1996). The expectation that a prospective worker will be treated fairly and that the employer will not shirk in its conventional production choices increases expected job satisfaction and expected utility to be gained by working with that employer (Spector 1997).

Second, prospective workers could interpret a socially responsible message as increasing the likelihood that the work context in which he or she will be working will be more meaningful or purposeful. This could result in increased expected utility for a worker (Henderson and Van Den Steen 2015) through improved self-image or identity (Akerlof and Kraton 2000, Ashforth and Mael 1989, Dutton and Dukerich 1991). Both the behavioral economics (for a survey, see Meier 2007) and social psychology (for summaries, see Dovidlo et al. 2006, Fetchenhauer et al. 2010) literatures on prosocial behavior have established that individuals garner utility from behaving prosocially themselves. Lab and field experiments in economics, organizational behavior, and psychology have provided empirical support demonstrating that increasing the salience of the prosocial impact of meaningful work (such as public service work) increases work effort and performance on the job (e.g., Chandler and Kapelner 2013; Grant et al. 2007; Grant 2008a, b; Grant and Hofmann 2011). Such studies have demonstrated the effects of "meaningfulness in working," wherein meaningfulness is a characteristic of what workers actually do (Michaelson et al. 2014, drawing from Pratt and Ashforth 2003). The theoretical literature suggests that "meaningfulness at work," wherein meaningfulness is a characteristic of the context in which the job or task is performed, should also be valued by employees, though there has been relatively little empirical examination of this to date (Michaelson et al. 2014, drawing from Pratt and Ashforth 2003).[6]

Social Responsibility Information and Prospective Workers' Wage Requirements

Receiving information about a prospective employer's social responsibility should thus result in higher expected utility to be gained from working for that employer. With all else equal, if prospective employees anticipate higher utility, they should prefer to work for a socially responsible employer. If they prefer to work for such an employer, they should be "willing to pay" for this preference in their readiness to accept lower wages. For example, research has shown that employers can extract a wage differential by catering to scientists' preferences for science in the workplace (Saurmann and Roach 2014, Stern 2004). A willingness to accept lower wages is an important worker outcome because it indicates a revealed work preference and is linked to firm value (Larkin et al. 2012).

Relatedly, it has been established that individuals are willing to pay more for products tied to charitable donations (e.g., Elfenbein et al. 2012, Elfenbein and

McManus 2010) because they value this quality of the product. Just as socially responsible messaging about a product can increase prospective consumers' willingness to pay, we would expect that socially responsible messaging about an employer would decrease the cost at which prospective workers would be willing to supply their labor.

High-Performing Workers and Social Responsibility Information

Workers with different preferences have been shown to be attracted to jobs of different characteristics (Agarwal and Ohyama 2013, Jovanovic 1979, Saurmann and Roach 2014, Stuart and Ding 2006). Indeed, individuals vary in their preferences for social responsibility in the workplace (Bode et al. 2015, Burbano 2015). Bode et al. (2015) show that higher-performing employees are more likely to participate in a social responsibility initiative in a management consulting firm. The highest-performing workers have also been shown to be willing to give up some compensation to work in more purpose-oriented jobs such as entrepreneurial jobs (Carnahan et al. 2012). These studies suggest that higher-performing workers may be more responsive to manifestations of purpose in the workplace. By this argument, higher-performing workers should also be more willing to forego compensation to work for a socially responsible employer.

Empirical Setting

The experimental settings used to analyze the relationship between socially responsible messaging and worker payment requirements are two online labor marketplaces, Amazon Mechanical Turk and Elance. The use of online labor marketplaces such as these by entrepreneurial organizations and even established firms has been skyrocketing in recent years (Gartside et al. 2013). According to a 2013 Accenture study, freelancers, contractors, and temporary workers make up an estimated 20%–30% of the U.S. workforce, up from 6% in 1989, and companies spend an estimated $300 billion per year on contingent labor. The study identified online independent contracting as a rapidly growing market, with eight times the number of workers registered on Elance and ODesk (the two largest sites[7]) alone in 2013 compared to the number of workers registered on such sites in the entire decade leading up to 2013. Online labor marketplaces as empirical settings for management research are thus becoming increasingly relevant.

On AMT, requesters post jobs and workers choose which jobs to complete for a payment set by the employer. AMT jobs, called HITs (an acronym for human intelligence tasks), are typically simple enough to take only a few minutes. They include such tasks as image interpretation, audio transcription, and survey completion. More complicated tasks are broken down into smaller HITs. Pay can be as low as $0.01 and rarely exceeds $1.00. The average effective wage of an AMT worker is $4.80 per hour (Mason and Suri 2012). Studies have confirmed that U.S. AMT workers are characteristic of the U.S. work population (Berinsky et al. 2012) and act in accordance with behavior in other studies (Horton et al. 2011, Paolacci et al. 2010).

On Elance, employers post jobs, freelancers submit proposals (including bids for those jobs), and employers select from submitted proposals to hire workers.[8] Typical job values are in the hundreds of dollars. Elance jobs include such categories as information technology and programming, design and multimedia, administrative support, and even engineering and manufacturing. The average hourly wage for U.S. freelancers on Elance is $28, which translates into an annual income of $56,000 (Eha 2013). There are over 500,000 businesses posting jobs on Elance and over 2.3 million registered Elance workers. According to Elance's Online Employment Report, in 2013 alone, 441,000 new businesses joined Elance, 1,214,000 new jobs were posted, 1,153,000 new freelancers joined, and freelancers earned $285,000,000.

Both Elance and AMT offer natural labor-market contexts in which to study worker–hirer interactions. Each has pros and cons from a research setting perspective, making it useful to examine relationships in both settings. On AMT, it is easy to attract and hire many workers for a single job, whereas on Elance it is harder to do so, resulting in smaller sample sizes. On AMT, the researcher can exert higher control over the experiment, since all instructions are automated online, and there is no portal for ongoing communication between requester and worker. On Elance, there is a portal for such communication. Compared to AMT HITs, Elance jobs are more complex, require more time, and command higher pay.

Field Experiment 1 (AMT)

Design

Acting as a firm, I advertised a HIT on AMT for the completion of a short survey to determine eligibility for an image-interpretation job.[9] The posting indicated that workers would be paid $0.25 to complete the eligibility questions and survey, which were estimated to take three to five minutes, and that, if deemed eligible, workers would have a chance to complete a one-minute image-interpretation job for up to $0.30. The survey HIT and the image-interpretation job were designed to resemble other HITs encountered on AMT in terms of nature, pay, and difficulty. Once workers were hired, they were taken to an external survey site for the remainder of the study. There, they were asked a few questions to determine their eligibility for the task (although, by design, all participants were deemed eligible).

To construct a proxy for information about employer's social responsibility "treatment," workers were then randomly assigned to one of five conditions: a control group

Figure 1   Message Received, by Condition

Control group	Treatment groups			
(1)	General phil. message without input (2)	General phil. message with input (3)	Tied-to-job phil. message with input (4)	Tied-to-job phil. message without input (5)
We are processing your answers to determine whether you are eligible for the image interpretation task. Click on "continue" after the button appears at the bottom right of this page. This should take approximately 15 seconds. Thank you for your patience.				
	In the meantime, we'd like to tell you about one of our philanthropic programs. *Charitable Giving Program* We have a longstanding tradition of giving back to the communities where our workers live and work.			
		We like to involve our workers in our philanthropic work whenever possible, and seek to support charities that reflect our workers' personal causes and interests.		
	In 2011, we donated 1% of our profit to 5 charities.		With this goal, we will donate $0.10 to a charity when you finish this HIT.	
	In 2012, we will continue to identify nonprofit organizations that contribute to the well-being of our broader community. The recipients of our 2011 donations were:	Based on votes from our employees. Please select the nonprofit charity below that you would most like to receive a donation in 2012. 2012 donation funds will be distributed according to the percent of employee votes for each organization.	Please select the nonprofit charity below to receive this donation.	One of the below five charities, selected at random, will receive the donation.
	The American Red Cross enables communities to prepare for and respond to natural disasters. The Boys and Girls Clubs of America enables young people to reach their potential. The Cancer Research Institute supports and coordinates lab and clinical efforts towards the treatment, control and prevention of cancer. The Global Hunger Project works towards the sustainable end of hunger and poverty. The Greenpeace Fund increases public awareness and understanding of environmental issues.			

or one of four philanthropy treatment groups. Each group received a different message. (See Figure 1 for the message corresponding to each condition.) Similarly to the randomization design of other experiments, the treatment groups in this study received additional charitable giving information. This information randomization process (wherein the treatment group receives more information than the control group) follows a randomization design comparable to the second field experiment outlined in Chatterji et al. (2015), and draws in particular from Tonin and Vlassopoulos (2015), who use a similar information randomization design to test the effects of charitable giving messages on worker productivity.[10] Relevant to the information randomization design, I ran a separate supplementary experiment to test whether attitudes toward the employer vary if the worker receives

generic information about the company (when it was founded, what its activities are, etc.), as opposed to receiving no information about the company. In this supplementary experiment, I randomly assigned workers on AMT to three groups: one received no additional information (the control message), one received additional generic company information (where the length and format of the generic company information was similar to that of the charitable giving information), and one received additional charitable giving information. I then asked workers to answer seven-point Likert-scale questions (adapted from product attitude scales used in consumer behavior studies) to measure their attitudes towards the employer. There was no difference in mean attitudinal responses between the no-information and generic-company-information groups ($p > 0.10$ for all

questions), but there was a difference between both of these groups' mean responses and those of the charitable giving information group ($p < 0.10$ for all questions).[11] The results from this supplementary experiment suggest that receiving no information and receiving additional generic company information elicit equivalent attitudes toward the employer in this setting.

In the main experiment, the wording of the four philanthropy treatment groups differed to test whether participation in the charitable giving program varied the effect on lowest acceptable wage. Studies have shown that the degree of employee participation in CSR activities such as corporate volunteerism can influence the magnitude of the effect on employee behavior (e.g., Brockner et al. 2013). I considered two types of participation: the first linked the charitable giving amount to completion of the worker's job (compared to a generic message about the employer's charitable giving); the second solicited the worker's input through selection of or voting for the charities to receive the donation (compared to simply being informed of the charities to receive the donation). The charitable giving language was similar to that used by firms in emails or printed reports informing employees about corporate charitable giving and was vetted with CSR professionals to increase realism.

To construct a proxy for the lowest acceptable wage, workers were asked to indicate—in one-cent increments between $0.00 and $0.30—what payments they would accept for completing a one-minute image-interpretation task. They were informed that a payment in that range would be offered and only those workers who indicated they would accept that amount would be prompted to complete the image-interpretation job and be paid a bonus payment for doing so. The method used to elicit reservation wage was based on the Becker et al. (1964) method, commonly utilized in experimental economics to ensure incentive compatibility in responses about willingness to pay; that is, by only allowing those workers who had already indicated that they would be willing to accept the amount that was subsequently offered to complete the image-interpretation task and be paid for doing so, I ensured that workers had the incentive to report their true wage preferences.

After a wage was randomly selected and those whose reservation wage was too high were informed that they did not qualify, those whose reservation wage was low enough completed the image-interpretation job.[12] All workers were then surveyed to gather information on demographic and other characteristics. Workers were paid at the end of the job.

Sample
Five hundred workers living in the United States, with HIT approval ratings of 95% or higher, were recruited on AMT for this field experiment.[13] Sixty-six observations were dropped because of (a) repeat IP addresses, suggesting that a worker may have participated in the experiment more than once, (b) irrational responses to the reservation wage question (for example, acceptance of a wage of 11 cents but not 12 cents), or (c) other indications that the worker was not paying attention to the job and clicked through the responses as quickly as possible (for example, answering that their age is 0 or above 100). Only 11 individuals who did not complete the HIT exited after the random assignment of conditions, and there was no statistically significant difference between the control and treatment groups in likelihood of exiting.[14] This suggests that selection bias due to attrition is minimal. The resulting sample size is 434 workers.

Table 1 presents summary statistics for workers in the sample: demographic characteristics, AMT experience characteristics, and charitable characteristics—all self-reported. Most workers reported that they complete jobs on AMT for the purpose of earning money (67%), suggesting that, despite the small amounts, payment received for AMT jobs is indeed important to workers.

There were no statistically significant differences ($p > 0.10$) between the mean demographic, AMT experience, and charitable characteristics for the treatment and control groups, suggesting that randomization was successful and that selection bias due to observables is minimal.

Measures
Dependent Variable. Reservation wage is a continuous variable measured as the lowest wage each worker indicated that he or she would accept for completion of the one-minute image-interpretation task.

Independent Variable. Phil message is a dummy coded 1 if the worker received any type of information about the corporate philanthropy program and 0 otherwise. *PhilGenWithout* is a dummy coded 1 if the worker received a general philanthropy message that did not solicit input. *PhilGenWith* is a dummy coded 1 if the worker received a general philanthropy message that did solicit input. *PhilTiedWithout* is a dummy coded 1 if the worker received a tied-to-the-job philanthropy message that did not solicit input. *PhilTiedWith* is a dummy coded 1 if the worker received a tied-to-the-job philanthropy message that did solicit input.

Control and Mediating Variables. These variables are constructed from survey answers collected at the end of the job. AMT HIT approval rating indicates the proportion of a worker's previous approved HITs and, since employers can screen workers based on these ratings, is an important and actionable worker performance measure on AMT. Higher-performing workers could demand higher wages, making it important to control for prior worker performance. Furthermore, the responses of higher-performing workers, who have been

Table 1   AMT Worker Characteristics: Summary Statistics, by Condition (Randomization Balance)

	Control	Philanthropy message (treatment)	p-value of null that difference of means equals 0
Demographic characteristics			
Female (Y = 1, N = 0)	0.48	0.44	0.50
	(0.50)	(0.50)	
Age	30.42	29.95	0.70
	(10.54)	(10.57)	
College degree (Y = 1, N = 0)	0.46	0.51	0.32
	(0.50)	(0.50)	
Income (<$30K = 1, $30–60K = 2, >$60K = 3)	1.80	1.88	0.42
	(0.82)	(0.82)	
White (Y = 1, N = 0)	0.82	0.80	0.76
	(0.39)	(0.40)	
Black (Y = 1, N = 0)	0.07	0.08	0.54
	(0.24)	(0.28)	
Hispanic (Y = 1, N = 0)	0.04	0.05	0.80
	(0.21)	(0.22)	
Asian (Y = 1, N = 0)	0.13	0.12	0.84
	(0.34)	(0.33)	
Pacific islander (Y = 1, N = 0)	0.00	0.01	0.30
	(0.00)	(0.11)	
Democrat (Y = 1, N = 0)	0.48	0.44	0.47
	(0.50)	(0.50)	
Republican (Y = 1, N = 0)	0.17	0.12	0.12
	(0.40)	(0.32)	
Independent (Y = 1, N = 0)	0.27	0.33	0.30
	(0.45)	(0.47)	
AMT experience characteristics			
HITs per week in the last month	2.25	2.32	0.58
(< 10 = 1, 10–49 = 2, 50–100 = 3, >100 = 4)	(0.95)	(1.04)	
HIT approval rate (between 95 and 100)	98.63	98.51	0.92
	(1.46)	(1.28)	
HIT approval rate of 100 (Y = 1, N = 0)	0.29	0.26	0.91
	(0.49)	(0.48)	
Primary reason for completing HITs on AMT (Y = 1, N = 0)			
"The money I earn on MTurk is my primary source of income."	0.13	0.13	0.96
	(0.34)	(0.34)	
"The money I earn on MTurk is not my primary source of income, but is the main reason I complete HITs on MTurk."	0.55	0.54	0.74
	(0.50)	(0.50)	
"It is a productive use of my free time."	0.28	0.29	0.85
	(0.45)	(0.46)	
"It is fun."	0.03	0.04	0.63
	(0.18)	(0.21)	
Charitable characteristics			
Donated to charity or nonprofit in 2011 (Y = 1, N = 0)	0.52	0.53	0.94
	(0.50)	(0.50)	
Volunteered with charity or nonprofit in 2011 (Y = 1, N = 0)	0.39	0.41	0.72
	(0.49)	(0.49)	
Donated to and volunteered with charity or nonprofit in 2011 (Y = 1, N = 0)	0.28	0.26	0.72
	(0.45)	(0.44)	

Notes. Means are reported with standard deviations in parentheses in the second and third columns. In the fourth column, independent sample *t*-test results are reported. For control, $N = 92$, and for the CSR treatment, $N = 342$, except for HIT approval rate, for which $N = 79$ for control, and $N = 299$ for the CSR treatment.

shown to contribute more value to the firm (Carnahan et al. 2012) are of particular interest to managers. *Perfect HIT approval rating* is operationalized as a dummy variable equal to 1 if the worker had a HIT approval rating of 100 (the highest possible rating) and 0 otherwise (if the worker had a HIT approval rating between 95

and 99). *Volunteer and donate* is a dummy variable equal to 1 if the worker volunteered with and donated to charity in the previous year and 0 otherwise. It can be considered a rough proxy for prosocial inclination, which could be correlated with wage requirements. Other demographic control variables (including gender, age, level of

Figure 2 (Color online) Kernel Densities of AMT Reservation Wage, by Condition
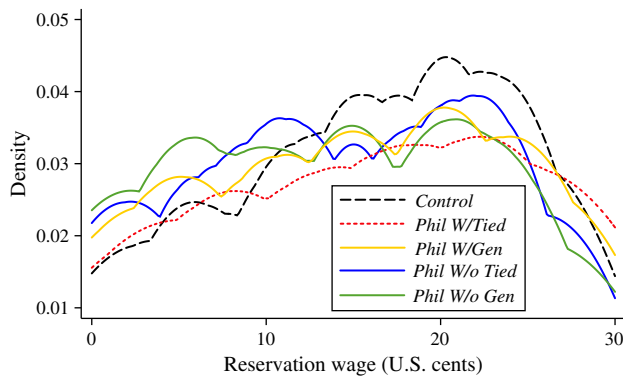
education, income, and race) and AMT experience control variables (including HITs per week in the last month) are also included in the analysis.

Results

Figure 2 presents the kernel density estimations of reservation wage (U.S. cents) for the control and the four philanthropy treatment conditions.[15]

Table 2 reports mean reservation wage and likelihood of answering the optional questions for the entire AMT sample by condition. The mean reservation wage for the entire sample was $0.144. As Columns (2) and (3) illustrate, the mean reservation wage for the control group was marginally significantly higher than that of the philanthropy message treatment group ($0.158 versus $0.140, $t(164) = -1.88$, $p < 0.10$; an 11% difference). The mean reservation wages for workers receiving the different philanthropy messages are reported in Columns (4)—(7). The general philanthropy message without input and the tied-to-the-job philanthropy message with input resulted in the lowest relative reservation wages, though mean reservation wages for the different philanthropy message groups were statistically equivalent (whether the message was general or tied to the job, and whether or not it solicited input).[16] Thus, in addition to exploring their differential effects, I combined these four philanthropy conditions in the following analysis.

The results of ordinary least squares (OLS) regressions are reported in Table 3. Model 1 shows that receiving a philanthropy message resulted in a marginally significantly lower average reservation wage ($\beta = -\$0.018$, $p < 0.10$). This represents a decrease of about 12% compared to the control. In Model 2, demographic and other

worker characteristics were included in an alternate specification as a robustness check.[17] Workers with perfect HIT approval ratings had higher reservation wages ($\beta = \$0.023$, $p < 0.05$), in line with the intuitive argument that higher-performing workers would demand higher payment for a job than their lower-performing counterparts. Workers who volunteered and donated in the past year had lower reservation wages ($\beta = -\$0.018$, $p < 0.10$). This is in line with the intuitive argument that individuals who are more giving with their time and money to prosocial causes may be more giving of their time and money in general. Coefficients on other demographic control variables were not statistically significant ($p > 0.10$). With the inclusion of controls, a philanthropy message resulted in a marginally lower average reservation wage ($\beta = -\$0.017$, $p < 0.10$).

Model 3 allows *Perfect HIT approval rating* to interact with treatment and demonstrates that the wage premium normally demanded by the highest performers ($\beta = -\$0.069$, $p < 0.01$) is qualified by a large negative interaction between *Perfect HIT approval rating* and *Philanthropy message* ($\beta = -\$0.061$, $p < 0.01$). Thus, receiving information about the company's corporate philanthropy program led the highest performers to forego most of the wage premium that they otherwise require.[18]

Model 4 presents an alternate specification of Model 2, where the effects of each of the philanthropy treatment groups (as dummy variables) are presented. Receiving a tied-to-the-job philanthropy message that solicited worker input decreased reservation wage compared to the control ($\beta = -\$0.026$, $p < 0.10$).[19] This suggests that employees were, on average, most responsive to messaging about philanthropy programs that elicited their participation and were more closely linked to their job. This directional finding is consistent with other research suggesting that employee participation in CSR programs can positively influence organizational commitment to the employer (Brockner et al. 2013) employer–company identification (Kim et al. 2010), and employee retention (Bode et al. 2015).

Model 5 suggests that the highest performers were most responsive to a different type of message—one that did not elicit their participation. In Model 5, *Perfect HIT approval rating* is interacted with each of the different philanthropy treatment groups. It demonstrates that the highest performers were more responsive

Table 2 Mean Reservation Wage, by Condition

	Entire sample (1)	Control (2)	*Phil message* (3)	*PhilGenWithout* (4)	*PhilGenWith* (5)	*PhilTiedWithout* (6)	*PhilTiedWith* (7)
Reservation wage	14.4	15.8	14.0	13.3	14.9	14.2	13.5
	(8.8)	(8.1)	(8.9)	(8.8)	(8.9)	(8.8)	(9.2)
N	434	92	342	87	74	87	94

Notes. Means are reported with standard deviations in parentheses. Reservation wage is reported in U.S. cents.

Table 3   Results of OLS Regressions Predicting Reservation Wage

	Model 1	Model 2	Model 3	Model 4	Model 5
Phil message	−1.83*	−1.70*	0.45		
	(0.97)	(1.02)	(1.27)		
Perfect HIT approval rating		2.31**	6.93***	2.34**	6.97***
		(1.00)	(1.61)	(1.01)	(1.63)
Volunteer and donate		−1.80*	−1.82*	−1.72	−1.90*
		(1.05)	(1.03)	(1.05)	(1.04)
(*Phil message*) × (*Perfect HIT*)			−6.08***		
			(1.99)		
PhilGenWithout				−2.09	0.51
				(1.37)	(1.62)
PhilGenWith				−0.34	0.87
				(1.38)	(1.63)
PhilTiedWithout				−1.55	1.59
				(1.38)	(1.79)
PhilTiedWith				−2.57*	−0.84
				(1.33)	(1.63)
(*PhilGenWithout*) × (*Perfect HIT*)					−8.42***
					(2.95)
(*PhilGenWith*) × (*Perfect HIT*)					−2.13
					(3.11)
(*PhilTiedWithout*) × (*Perfect HIT*)					−8.51***
					(2.62)
(*PhilTiedWith*) × (*Perfect HIT*)					−4.55
					(2.81)
Constant	15.83***	15.61***	13.82***	15.56***	13.74***
	(0.85)	(1.13)	(1.26)	(1.13)	(1.27)
Worker demographics	No	Yes	Yes	Yes	Yes
N	434	378	378	378	378

Notes. Estimated coefficients of OLS regressions are reported, with robust standard errors in parentheses. The dependent variable is the reservation wage in U.S. cents.

*Significant at 10%; **significant at 5%; ***significant at 1%.

than lower performers to the philanthropy messages that did not solicit input (interaction coefficient with *PhilGenWithout* is $\beta = -\$0.084$, $p < 0.01$; interaction with *PhilTiedWithout* is $\beta = -\$0.085$, $p < 0.01$), but not to the philanthropy messages that did solicit input ($p < 0.10$ for interaction coefficients with *PhilGenWith* and *PhilTiedWith*).

The results from Models 2 and 5 give some insight into a possible mechanism explaining the relationship between receiving a socially responsible message and reservation wage. An intuitive explanation is that because the highest performers care more about their performance rating and AMT reputation than others do (since employers can screen workers to hire only those with perfect prior performance scores), these workers are more willing to pay to work for an employer that is likely to treat them fairly and generously, and they take the fact that the employer has a corporate philanthropy program as a signal of that. Indeed, existing CSR literature suggests that prospective employees interpret a firm's CSR activities as a signal that a firm is trustworthy and cares about the community (Godfrey et al. 2009) and infer from this that the firm likely treats its

employees well (Greening and Turban 2000, Turban and Greening 1996). The fact that, in Model 5, the highest performers differentially responded to the charitable giving messages that did not solicit input, but not to those that did solicit input, suggests that they gain utility from simply learning about the charitable giving program (as opposed to participating in it), providing intuitive support for this mechanism.

Exploring Mechanisms

To further explore whether a signaling-about-employee-treatment mechanism could be driving the main result, I analyzed self-reported survey data collected from the philanthropy treatment groups at the end of the experiment. Using a five-point Likert scale with 1 being "strongly disagree" and 5 being "strongly agree," participants were asked to indicate their agreement with a series of statements. Table 4 presents summary statistics of workers' responses.

Table 5 presents OLS regression results of reservation wage on binary statement variables equal to 1 if the individual "agreed" or "strongly agreed" with the corresponding statement in Table 4 (indicated by the

Table 4   Survey Responses Regarding Perception About CSR Message: Summary Statistics

	Mean Likert response	Standard deviation	% strongly agreed or agreed
(1) "The charitable giving program was a signal to me that this employer is trustworthy"	3.27	1.01	0.46
(2) "The charitable giving program was a signal to me that this employer is not greedy"	3.44	0.96	0.55
(3) "The charitable giving program was a signal to me that the employer will pay the bonus amount promised in exchange for the image interpretation task"	3.28	0.99	0.45
(4) Index that charitable giving program was a signal about the employer's likely treatment of employees (average of above responses)	3.33	0.86	0.49
(5) "Learning about the charitable giving program made me feel good while working with this employer"	3.52	0.99	0.59
(6) "The charitable giving program indicated to me that this employer has excess profits"	2.80	0.99	0.24
(7) "I have been wanting to donate to charity—working with this employer is a way for me to do this"	3.02	1.09	0.35

Notes. $N = 342$. The sample is comprised of individuals in the CSR treatment group. Likert responses reflect a five-point scale, with 1 being "strongly disagree" and 5 being "strongly agree."

number in parentheses) and 0 otherwise. It provides some suggestive insight into the mechanisms likely driving the main result, though it is important to note that the analyses presented show correlations, not causal relationships. Models 1–3 show that agreement that the charitable giving program was a signal that the employer is trustworthy was highly correlated with reservation wage ($\beta = -\$0.031$, $p < 0.01$), as was agreement that the charitable giving program was a signal that the employer is not greedy ($\beta = -\$0.028$, $p < 0.01$) and will pay the promised bonus amount ($\beta = -\$0.020$, $p < 0.05$). Model 4 shows that, of the signals about employer treatment of employees, interpretation that the charitable giving program was a signal of employer trustworthiness was most correlated with reservation wage ($\beta = -\$0.021$, $p > 0.10$). Model 5 shows that interpretation of the charitable giving program as a signal that the employer likely treats its employees well was highly correlated with reservation wage ($\beta = -\$0.039$, $p < 0.01$), in line with a signaling-about-employee-treatment mechanism explaining the relationship between CSR and reservation wage. Model 6 demonstrates that this correlation holds ($\beta = -\$0.028$, $p < 0.05$), even when including other perceptions in the regression.

It is important to note that interpretation of the results presented in Table 5 is limited by the wording and comprehensiveness of the survey questions. To the extent that other potential mechanisms were not captured by the survey questions, or the wording of the survey questions did not effectively embody potential mechanisms of interest, I can only cautiously interpret analyses using the survey responses. Future experimental work in which employee-treatment perceptions or other perceptions are directly manipulated would complement these suggestive findings.

Field Experiment 2 (Elance)

Field Experiment 1 provided evidence of a willingness to forego payment in response to learning about a charitable giving program in the AMT setting. Because of the nature of the AMT setting, I was able to act as a fictitious company, gather a relatively large sample, and exert high control over the randomization process (since all instructions are automated online and there is no communication between employer and worker during a job). In Field Experiment 2, I use a different online labor marketplace—Elance—to test the main effect of a socially responsible message on willingness to forego payment. On Elance, typical jobs take days or weeks to complete, as opposed to taking a few minutes as on AMT, and payment amounts are in the tens or hundreds of dollars, rather than cents. I use a different proxy for willingness to forego payment in this setting (revealed bid amount), which is a more "natural" proxy than reservation wage operationalized using the Becker et al. (1964) method in the AMT experiment. Also, I collaborated with a real start-up company, rather than acting as one myself, and randomly assigned the socially responsible language the company was interested in testing. This brings increased realism to the second experiment. A trade-off of the Elance setting, however, is that it is uncommon to attract or hire hundreds of workers for the same job (which is common on AMT), resulting in a smaller sample size. Because the experiment was conducted in collaboration with a real organization that did not want to submit the recruits to extra survey questions, I was also limited in gathering demographic information and other worker characteristics. Nonetheless, the increased external generalizability of the Elance setting and realism of collaborating with a real start-up organization make for a useful robustness test of the main finding from the AMT experiment.

Table 5   Exploring Mechanisms: Results of OLS Regressions Predicting Reservation Wage

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Signal employer trustworthy (1)	−3.10***			−2.14*		
	(0.95)			(1.24)		
Signal employer not greedy (2)		−2.80***		−1.43		
		(0.96)		(1.21)		
Signal employer will pay bonus (3)			−2.01**	−0.24		
			(0.96)	(1.11)		
Signal employer treats employees well (4)					−3.87***	−2.84**
					(1.16)	(1.44)
Makes me feel good (5)						−1.09
						(1.23)
Indicates employer has excess profit (6)						1.37
						(1.09)
Way for me to donate (7)						−0.92
						(1.11)
Constant	15.42***	15.54***	14.90***	15.88***	15.88***	16.01***
	(0.65)	(0.73)	(0.67)	(0.77)	(0.76)	(0.87)
N	342	342	342	342	342	342

Notes. Estimated coefficients of OLS regressions are reported, with robust standard errors in parentheses. Sample is comprised of individuals in the CSR treatment group.
  *Significant at 10%; **significant at 5%; ***significant at 1%.

Design

This study was implemented in collaboration with a real start-up company.[20] The start-up advertised two jobs on Elance: "Data Entry into Excel from Website (Top 100 Mom Blogs of 2012)" and, subsequently (after the first job posting was closed), "Data Entry into Excel from Website (Directorio de Entidades . . .)."[21] Each job posting noted that the job would be posted for up to two weeks, and payment would be fixed price (as opposed to hourly).[22] In the job description, interested applicants were directed to complete a prequalification survey. Prequalification surveys or tasks are sometimes required on Elance to help hiring companies filter out applicants who submit generic proposals and to help identify the applicants best suited for a particular job. During the prequalification survey, administered on an external survey site, participants were first asked a few questions related to the start-up's line of business—that is, whether they had ever before used Amazon, Facebook, and mobile

applications. Those who answered "no" to all three questions were informed that they did not prequalify. The rest were randomly assigned to one of two conditions: (1) a CSR treatment group that received information about the company's intent to be a socially responsible company or (2) a control group that did not.[23] (See Figure 3 for the messages corresponding to each condition.) After receiving their messages, applicants were invited to continue with the application process and were then asked for information about their level of education and years of work experience. Last, they were given a prequalification code to include in their Elance proposal, which noted their bid amount. The company later chose and hired one worker for each of the two jobs.

Sample

Of the 125 people who started the prequalification survey, 17 exited before the random assignment of conditions. Of those who were randomly assigned to a control or

Figure 3   Message Received, by Condition

Control group	Treatment group
We are processing your answers to determine whether we would like to invite you to continue with the application process . . . Click on "continue" after the button appears on the bottom right of this page. This should take approximately 10 seconds.	
	Meanwhile, we would like to tell you about the goals of our company. We seek to be a company that not only provides an excellent service to our consumers, but also which has a positive impact on the *broader community* and on the *environment*. We hope that you share these goals and will support us in our efforts to be a *socially responsible company*.

Table 6   Elance Worker Characteristics: Summary Statistics, by Condition (Randomization Balance)

	Control	CSR treatment	p-value of null that difference of means equals 0
College degree	0.87 (0.34)	0.85 (0.36)	0.85
Years work experience	11.45 (8.26)	9.76 (7.97)	0.35
Female	0.69 (0.47)	0.58 (0.50)	0.30
Number of previous Elance jobs completed	7.36 (20.46)	16.40 (46.90)	0.28
Earnings per previous Elance job (USD)	94.62 (197.65)	141.85 (511.81)	0.60
Performance on previous Elance jobs (out of 5 stars)	3.53 (2.19)	3.99 (1.76)	0.44
Living in United States	0.46 (0.51)	0.26 (0.45)	0.07
Living in Asia	0.34 (0.48)	0.56 (0.56)	0.05
Living in Central or South America	0.08 (0.27)	0.02 (0.16)	0.34
Living in non-EU Europe	0.05 (0.23)	0.07 (0.26)	1.00
Living in European Union	0.03 (0.16)	0.05 (0.22)	1.00
Living in Canada	0.00 (0.00)	0.05 (0.22)	0.50

Notes. Means are reported with standard deviations in parentheses in the second and third columns. In the fourth column, chi-squared test results are reported for *College degree*, *Female*, *Living in United States*, and *Living in Asia*. Independent sample *t*-test results are reported for *Years work experience*, *Number of previous Elance jobs completed*, *Earnings per previous Elance job*, and *Performance on previous Elance jobs*. Fisher exact tests results are reported for *Living in Central or South America*, *Living in non-EU Europe*, *Living in European Union*, and *Living in Canada*. Statistical significance is robust to the use of alternate statistical tests. *Earnings per previous Elance job* includes an outlier of $3289.80. Without this outlier, mean earnings per previous job for the CSR treatment group is $63.15 (std. dev., $90.87), which remains statistically equivalent to that of the control group ($t(76) = 0.91, p = 0.37$). $N = 79$, except for *Female* ($N = 74$) and *Performance on previous Elance jobs* ($N = 45$).

treatment condition, 6 did not finish the survey. Of those who finished, 13 did not submit proposals on Elance. As there was no statistically significant difference between the control and treatment groups in either likelihood of finishing the prequalification survey or likelihood of submitting an Elance proposal, this suggests that selection bias due to attrition is minimal.[24] Four observations were dropped due to completion of the survey more than once. The resulting sample size is 79 observations.

Table 6 reports summary statistics for the sample by condition. There were no statistically significant differences between the mean characteristics listed in Table 1 for the treatment and control groups except for geographic location, suggesting that randomization was successful and that selection bias due to observables is minimal.[25] Based on self-reported data gathered during the prequalification survey, 86% of the applicants in the sample have a college degree, and applicants have, on average, 11 years of work experience. Based on a classification of names and pictures from their Elance

proposals, 69% of the applicants are women. The mean bid amount for the sample was $100.75 (std. dev. $94.35).

Measures

Dependent Variable. Bid amount is a continuous variable measured as the bid amount submitted on the Elance proposal.

Independent Variable. CSR message is a dummy variable coded 1 if the worker received information about the company's intention to be a socially responsible company and 0 otherwise.

Control Variables. Control variables were constructed from information reported by the applicants during the prequalification survey (whether the worker has a college degree and years of work experience) and from information provided by Elance for proposal submissions (all other demographic and Elance experience characteristics). *Number of Elance jobs* refers to the number of jobs completed on Elance prior to the experiment. *Years*

Figure 4 (Color online) Kernel Densities of Elance Bid Amount, by Condition
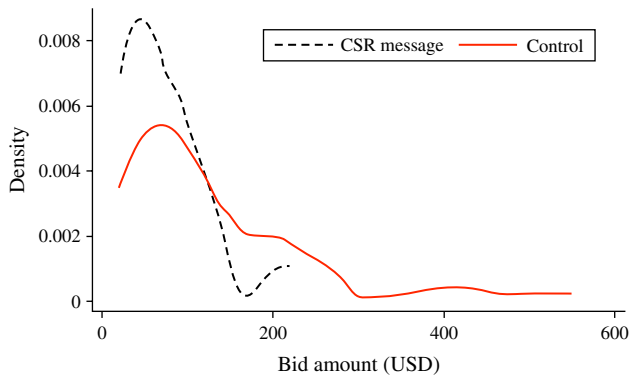
of work experience and *Earnings per job* are continuous variables. *College degree* is a dummy variable coded 1 if the worker has a college degree and 0 otherwise. *Female* is a dummy variable. Gender was assigned based on the profile name and picture of the applicant. When gender could not be determined (because the profile name was a company name or gender-neutral name and the profile picture was a logo), this variable was coded as missing (for five observations). *Living in Asia* is a dummy variable coded 1 if the worker lives in Asia and 0 otherwise. *Living in United States* is a dummy variable coded 1 if the worker lives in the United States and 0 otherwise. *Second job posting* is a dummy variable coded 1 if the worker submitted a proposal for the second of the two jobs posted and coded 0 if the worker submitted a proposal for the first job.

Results

Figure 4 presents the kernel density estimations of bid amount (USD) for the control and CSR treatment groups. The Kolmogorov–Smirnov and Wilson rank-sum (Mann–Whitney) tests confirm that the distributions of the control and treatment groups are statistically different ($p < 0.05$). The mean bid amount was significantly higher for the control group than for the CSR treatment group ($130.59 versus $73.10, $t(77) = 2.84$, $p < 0.01$), as was the median bid amount ($87.67 versus $54.79, $\chi^2(1) = 6.65$, $p < 0.05$).

OLS regression results are reported in Table 7. In Models 1 through 3, the dependent variable is the bid amount in U.S. dollars. Model 1 shows that receiving a socially responsible message resulted in a significantly lower bid amount ($\beta = -\$57.97$, $p < 0.01$).[26] This represents an economically significant decrease of approximately 44% compared to the mean bid amount of the control group. Model 2 includes control variables that could influence workers' bid amounts. Women submitted higher bids than men ($\beta = \$69.12$, $p < 0.01$). The coefficient on *College degree* is not significant, but is in the direction one would expect. Applicants with

more work experience (not specific to Elance) submitted slightly higher bids ($\beta = \$1.92$, $p < 0.10$), whereas applicants with more Elance experience (*Earnings per job* and *Number of Elance jobs*) submitted slightly lower bids ($\beta = \$-0.03$, $p < 0.10$ and $\beta = -\$0.34$, $p < 0.01$, respectively). The coefficient on *Second job posting* shows that, regardless of whether the applicant submitted a proposal for the first or second job posted, there was not a significant effect on the bid amount. This reflects the fact that the job posts were very similar. *Living in the United States* and *Living in Asia* are included due to imperfect randomization of geographic location across the control and treatment groups, but the coefficients on these variables are not significant.[27] The coefficient on *CSR* remains significant with the inclusion of these control variables ($\beta = -\$48.68$, $p < 0.05$).

Model 3 explores whether a CSR message differentially affects the bids of more qualified or higher-performing workers. It includes, as controls, those variables that were shown in Model 2 to be statistically significant predictors of bid amount and also includes the interactions of *CSR* with proxies for general worker qualifications (*College degree* and *Years of work experience*) as well as proxies for Elance-specific qualifications (*Earnings per Elance job* and *Number of Elance jobs*). None of the coefficients on these interactions were statistically significant, although workers with a college degree were notably directionally more responsive to a CSR message than those without ($\beta = -\$65.78$, $p = 0.16$).[28] This weakly complements the finding in Experiment 1 that more qualified workers (in this case, those with a college degree) demand higher payment than less qualified workers (without a college degree) when they do not receive a CSR message ($\beta = \$70.01$, $p < 0.10$), but appear willing to forego this payment differential after receiving a CSR message ($\beta = -\$65.78$, $p = 0.16$). Future experiments with larger sample sizes in this setting could be useful to further explore this relationship.

Models 4 through 6 explore the main effect of CSR message on bid amount using alternate specifications of the regression that trim potential outliers in the regression. As was shown in Figure 4, the distribution of the control group has a longer right-hand tail than that of the treatment group. This could suggest that a CSR message diminishes workers' tendency to submit very high bid amounts, or could reflect outliers in the data. Model 4 excludes from the sample the top and bottom 2% of bids, and Model 5 excludes bids more than three standard deviations from the mean. Both models include as controls worker characteristics that were predictive of bid amount in Model 2. As we would expect given the distribution, the coefficient on CSR message is smaller, but remains significant ($\beta = -\$33.30$, $p < 0.05$ in Model 4 and $\beta = -\$28.07$, $p < 0.10$ in Model 5). Model 6 shows that the effect of a CSR message on bid amount is also robust to a log transformation of the bid amount variable

Table 7   Results of OLS Regressions Predicting Elance Bid Amount (USD)

DV:	Bid in USD			Bid in USD, excluding top and bottom 2% of bids	Bid in USD, within 3 standard deviations from mean	Ln(bid)
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
CSR message	−57.97*** (21.26)	−48.68** (21.45)	9.27 (38.89)	−33.30** (15.97)	−28.07* (15.63)	−0.33* (0.17)
Female		69.12*** (22.98)	68.62*** (20.52)	46.96*** (14.62)	46.58*** (14.56)	0.59*** (0.18)
College degree		23.66 (21.07)	70.01* (37.04)			
(CSR) × (College)			−65.78 (42.92)			
Years work experience		1.92* (1.10)	2.10 (1.64)	2.04** (0.84)	2.25** (0.87)	0.02** (0.01)
(CSR) × (Yrs work)			−1.11 (1.83)			
Earnings per job (USD)		−0.03* (0.02)	−0.10* (0.06)	−0.02** (0.01)	−0.02** (0.01)	0.00 (0.00)
(CSR) × (Earnings)			0.08 (0.05)			
Number of Elance jobs		−0.34*** (0.11)	−0.60 (0.31)	−0.26*** (0.06)	−0.25*** (0.06)	−0.00** (0.00)
(CSR) × (Number jobs)			0.38 (0.32)			
Second job posting		1.13 (26.08)				
Living in United States		12.69 (31.36)				
Living in Asia		28.24 (24.15)				
Constant	131.42*** (19.67)	34.00 (32.57)	17.29 (34.35)	66.42*** (16.19)	59.04*** (15.86)	3.89*** (0.20)
N	79	74	74	70	72	74

Note. Estimated coefficients of OLS regressions are reported, with robust standard errors in parentheses.
  *Significant at 10%; **significant at 5%; ***significant at 1%.

($\beta = -0.33$, $p < 0.10$). Workers in the CSR treatment group submitted bids that were 33% lower than those of the control group.

The effects of the CSR message shown in Table 7 are relatively large when compared to the mean bid amount of $100.75. These large effect sizes are consistent with extant research that has demonstrated notably large effects of increasing the salience of a meaningful job's prosocial outcome on effort and worker performance; Grant et al. (2007) find a 142% increase in an effort measure, and Grant (2008b) a 400% increase in a performance measure. It is also possible that the effects captured in this experiment are not entirely due to workers' learning about the hiring company's socially responsible intent, since the treatment message included a short phrase about provision of an excellent service to consumers (see Figure 3). I cannot disentangle the effect of this part of the message from the socially responsible part of the message—a limitation of this piece of the study. Future studies could better separate these two possible effects.

Conclusions

Given the importance of human assets to firm value (Campbell et al. 2012, Coff 1997, Foss and Lindenberg 2013, Huselid et al. 1997, Koch and McGrath 1996), it is critical to understand worker preferences and how employer characteristics and policies influence worker behavior. This paper provides causal empirical evidence from two online labor markets that receiving information about an employer's social responsibility reduces prospective workers' wage requirements. As such, it contributes to the growing body of evidence that employees are motivated by "purpose" in the workplace and are willing to trade off pecuniary benefits for nonpecuniary benefits. It complements the extant literature that has provided evidence of the impact of purpose and the prosocial meaningfulness in working by contributing evidence of the effects of prosocial meaningfulness at work, on which there has been less empirical study (Michaelson et al. 2014). It also complements the macro studies of the effects of CSR on firm performance that have often faced endogeneity and measurement challenges, as well

as a lack of understanding of underlying mechanisms, by studying causal effects of a socially responsible message on an employee outcome that has been shown to be an antecedent of firm performance—albeit in a more stylized, less generalizable setting (for critiques of the literature and measures, see Chatterji et al. 2009, Chen and Delmas 2011, Delmas et al. 2013, Delmas and Doctori-Blass 2010, Delmas and Toffel 2008, Margolis et al. 2009, Margolis and Walsh 2001).

I provide suggestive evidence that the mechanism behind employees' willingness to forego salary in response to learning about social responsibility is that prospective employees interpret an employer's social responsibility as a signal about how the employer will treat them. The analysis used to explore this mechanism was cross-sectional in nature and drawn from survey data which could have excluded other possible mechanisms; future work can improve on this analysis to get closer to a causal relationship and investigate an exhaustive set of possible mechanisms. Though I cannot be conclusive in interpretations of this part of the analysis, my findings suggest that purely self-interested, non-prosocially oriented prospective employees can be responsive to employer social responsibility. This is in contrast to the more common view that it is altruistic, prosocially oriented individuals who care about employer social responsibility (Evans and Davis 2011), suggesting the importance of further examination into the mechanisms behind employee responses to social responsibility.

This paper's finding that higher-performing, more-qualified workers were most responsive to a socially responsible message contributes to the emergent literature examining heterogeneity in preferences for nonpecuniary benefits (e.g., Bode et al. 2015, Evans and Davis 2011, Saurmann and Roach 2014). In particular, it complements the examination of heterogeneous responses of higher performers to nonpecuniary benefits such as those afforded by the ability to publish among scientists (Saurmann and Roach 2014), by entrepreneurship (Carnahan et al. 2012), and by participating in volunteer programs (Bode et al. 2015). Future work could examine whether higher performers are more motivated than lower performers by other types of nonpecuniary benefits in the workplace.

The finding that more qualified workers were more willing to forego wage for a socially responsible employer also provides modest empirical support for the theoretical argument that lower wages in socially responsible firms could be used to screen for higher-performing workers (Brekke and Nyborg 2008). Future work could empirically observe actual self-selection or sorting of prospective workers by performance or qualification type.

A topic of investigation for future research is furthermore to examine why and under what circumstances

higher-performing or more-qualified workers are most responsive to these types of benefits. It could be that higher performers place higher value on a signal about employee-treatment type, which employer social responsibility provides, consistent with this paper's preliminary exploration into the mechanism. Higher performers might be inherently more altruistic or prosocial in nature, which drives them to be both more giving of their effort on the job and more responsive to prosocial employers. Individuals who seek to attain greater "purpose" might be willing to put forth the effort to become higher performers and simultaneously be more attracted to purpose-driven organizations. It could also be that higher performers are able to focus on "higher" needs such as "self-actualization" and are thus more likely to seek meaningfulness at work (Friedlander 1966; Maslow 1943, 1954).

Further investigation into whether increased participation in CSR programs induces differential effects would complement the findings of this paper. Analysis of different types of socially responsible messages may be a fruitful direction for future research. For example, researchers could vary the perceived sincerity in socially responsible messaging (shown to be important in Cuypers et al. 2016); researchers could vary the type of socially responsible activity about which information is shared (e.g., environmental, labor-related, etc.); and researchers could examine whether information about multiple socially responsible activities act as substitutes or complements.

The methodology used in this paper—random assignment of employer or job context conditions through natural field experiments implemented in online marketplaces—can help establish causality when studying other relationships relevant to organizational and strategic management scholars, particularly if employee outcomes are the dependent variable. As the microfoundations of strategy, which highlight the importance of understanding how firm policies affect individual behavior and, in particular, employee behavior (Foss and Lindenberg 2013), continue to gather interest in the field of strategy, such methodology will become increasingly relevant for the field. Indeed, the relevance of using field experimental approaches to study inputs to the antecedents of firm performance—worker outcomes being one—has been recognized (Chatterji et al. 2015).

A notable limitation of any field experiment is its generalizability. AMT HITs are not characteristic of typical full-time jobs. Elance jobs, albeit more typical of "regular" jobs in large firms, are nevertheless managed and completed online, which is not the common employer–employee relationship. Although these findings are not directly generalizable to firms where employees work in-house and for a longer period of time, they are particularly relevant to the strategic management of "virtual"

human assets through the use of online independent contractor sites—a type of worker and work context that is becoming increasingly important and that will likely continue to rise in relevance in the future. This paper suggests that these virtual employees respond to information about employers' social responsibility. It also suggests the relevance of future research into other manifestations of meaningfulness at work in these contexts as well as nonextrinsic and prosocial motivation among these workers more broadly.

Furthermore, the theoretical underpinnings of the relationship between CSR and employee outcomes suggest that effects could be even greater for more ordinary workers. One mechanism through which CSR would likely influence employee behavior in a more traditional employer–employee relationship—an "image" utility mechanism—was controlled for in these studies. Researchers have posited that CSR influences employee utility through perceived external prestige (Kim et al. 2010) and that individuals are motivated by public recognition and awareness of their own prosocial behavior (Ariely et al. 2009, Benabou and Tirole 2006) and, by extension, of their employer's prosocial behavior. This suggests that effects could be even greater in cases when the employee is not working anonymously, as they do in this paper's settings. Another argument that applies to longer-term employer–employee engagements relates to social responsibility as improving an individual's opinion about him or herself while working with a socially responsible employer. Social identity theory (Ashforth and Mael 1989) has established that individuals' perception of their sense of self are affected by the qualities of the groups to which they belong, including that of their employer (Dutton et al. 1994). Working full time and for a longer period of time for an employer that is prosocial could thus positively influence an individual's opinion about him or herself (Rupp et al. 2006, 2013) and increase utility. Of course, these speculative extrapolations of existing theory are not tested in this paper. There is an opportunity for future research to empirically study how the effects of receiving information about a prospective employer's social responsibility vary by the degree of integration of the employer–employee relationship. Field experimental approaches applied to in-house CSR programs—for example, implemented within established firms with long-term prospective or current employees—would additionally be a promising direction for future research.

Acknowledgments

Endnotes

[1] Literature examining the effects of social responsibility has included focus on consumers (e.g., Du et al. 2011, Elfenbein et al. 2012, McDonnell and King 2013, Servaes and Tamayo 2013), activists (e.g., Baron and Diermeier 2007, Henisz et al. 2013), and capital providers (e.g., Cheng et al. 2013).

[2] Institutional Review Board approval was obtained to conduct these experiments.

[3] The average effect was only marginally statistically significant ($p < 0.10$), while the highest performers were notably more responsive than nonhighest performers ($p < 0.01$).

[4] Though they do not observe employees' actual willingness to accept lower salaries, Bode and Singh (2014) address the potential issue of social desirability bias common in hypothetical survey responses by checking that employees' stated willingness to accept a salary cut lined up with their actual application to and participation in social impact projects.

[5] Both apply to short-term and long-term employer–employee engagements, though arguments could be made both ways as to whether the relationships should be stronger or weaker for long-term employer–employee engagements compared to short-term employer–employee engagements.

[6] Some exceptions include studies of work acknowledgement or appreciation (e.g., Ariely et al. 2008) and framing a work context as a favor (Hossain and Li 2014).

[7] Since the time of the Accenture study, the two sites have since merged.

[8] At the time of the study, Elance had not yet merged with ODesk.

[9] This experiment took place in June 2011. The fictitious name of the firm is available from the author upon request.

[10] An experimental randomization process wherein the control group receives less information than the treatment groups has also been used in other lab and field experiments, for example, on the topics of consumer behavior (Strahilevitz 1999).

[11] The detailed results are available from the author upon request.

[12] The image interpretation task (interpreting cells in an image as malignant or not based on their shape/features) was designed to be similar to that of other AMT HITs.

[13] A common cutoff in AMT job postings is 95% since employers, in an effort to ensure high-quality output, want to screen out workers who use automated programs to complete HITs.

[14] The likelihood of finishing the HIT was 0.99 for the control group and 0.97 for the CSR treatment group ($t(240) = -1.27$, $p = 0.20$).

[15]The Kolmogorov–Smirnov test suggests that the distributions of the control and treatment groups are statistically different ($p < 0.10$).

[16]For *reservation wage*, $F(1, 431) = 0.11$, $p = 0.74$ that general equals tied-to-HIT; $F(1, 431) = 0.08$, $p = 0.78$ that without input equals with input.

[17]Political affiliation was not predictive of reservation wage, nor were democrats, republicans, or independents more or less responsive to CSR treatment ($p > 0.10$).

[18]Given the fact that the sample only includes workers with HIT approval ratings of 95 or higher (a common cutoff used on Amazon Mechanical Turk), this differential response of the highest performers could be interpreted as relative to that of moderately performing workers, as opposed to low-performing workers.

[19]Coefficients on the other dummy treatment variables were not statistically significant, though the coefficient on *PhilGen-Without* was close ($\beta = -\$0.020$, $p = 0.13$).

[20]Founded in June 2012, the collaborating company is a start-up company that has won entrepreneurial competitions such as MassChallenge. It uses Elance for most of its hiring. At the time of the study, there was no information available online or elsewhere about the company's socially responsible intent or CSR programs or activities. The experiment took place in August 2013.

[21]The second job description indicated that knowledge of Spanish was not required.

[22]The proposal bid amounts were set as private so that applicants could not see the bids submitted by others. Freelancers with a premium Elance membership (which costs $10/month) can only view the average, lowest, and highest bid amounts.

[23]This randomization design, like that of Experiment 1, is similar to the information randomization design used in field experiments such as those described in Tonin and Vlassopoulos ([2015]) and Chatterji et al. ([2015]).

[24]There was no significant relationship between likelihood of finishing the entire survey and treatment condition, although, directionally, individuals who received the CSR message were more likely to finish the survey (0.92 for the control group, 0.98 for the CSR treatment group, $\chi^2(1) = 0.55$, $p = 0.46$). There was no significant relationship between likelihood of submitting a proposal and treatment condition, although, directionally, individuals who received the CSR message were more likely to submit a proposal (0.81 for the control group, 0.91 for the CSR treatment group, $\chi^2(1) = 1.99$, $p = 0.16$).

[25]These geographic controls are, thus, included in the main regressions reported in the results section.

[26]The effect of a CSR message on bid amount is robust to using Poisson—rather than OLS—regression ($\beta = -0.49$, $p < 0.01$).

[27]A regression (available from the author upon request) including *CSR * Living in the United States* and *CSR * Living in Asia* results in statistically insignificant coefficients of the interaction terms ($p > 0.10$), further confirming that imperfect randomization of geographic location does not appear to be driving the results.

[28]Other proxies for worker qualifications are, in absolute terms, much less predictive of bid amount than college degree (coefficients of $2.10 or less, with only earnings per job predicting bid amount in the control group, $\beta = \$-0.10$, $p < 0.10$), making their interaction effects with CSR (coefficients of $1.11 or less in absolute value, and not statistically significant) less practically relevant than that of college degree.

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