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Discussion Paper No. 24-15

October 9, 2024

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Abstract

Working for a firm engaged in Corporate Social Responsibility (CSR) appeals to potential workers by boosting their self-image and sense of purpose. We propose an additional mechanism: CSR signals a firm's future treatment of workers. Our model links CSR engagement with a firm's propensity to support workers during unforeseen times of need. Under this assumption, a potential future need of the worker leads to more firms engaging in CSR and to a higher workers' willingness to accept lower wages. Our experiment manipulates potential future needs across treatments. While the aggregate analysis does not support our theory, exploratory analysis reveals that male workers respond as predicted, whereas female workers do not. Consistently, in a risky environment, male employers increase their CSR engagement, which raises the acceptance rate among male workers. These results do not hold for female employers and workers.

Keywords: CSR, signaling, labor market, experiment.
JEL Codes: C91, D83, D91, J33, J62, M14

*Acknowledgments: We acknowledge financial support from the French National Research Agency (JOBSUSTAIN Grant, ANR-19-CE26-0017). This research has been conducted in the framework of the LABEX CORTEX (ANR-11-LABX-0042) of the Université de Lyon, within the Programme Investissements d'Avenir (ANR-11-IDEX-007) operated by the French National Research Agency (ANR). Dadon thanks the Chateaubriand fellowship and the National Insurance Institute of Israel for financial assistance. Zultan acknowledges financial assistance from the Israeli Science Foundation, grant No. 397/21.

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1 Introduction

Corporate Social Responsibility (CSR) encompasses an extensive range of voluntary social activities carried out by firms to increase social welfare.[1] Typical CSR activities include ethical governance (ethically oriented business and investment strategies), environmental (setting lower air pollution targets or avoiding animal abuse), and societal activities (charitable donations or participation in community development and probono programs). Engaging in CSR affects many actors, including consumers (e.g., Sen and Bhattacharya; Becker-Olsen, Cudmore, and Hill; Eichholtz, Kok, and Quigley), investors (e.g., Martin and Moser; Gibson Brandon, Krueger, and Mitali), lenders (e.g., Cheng, Ioannou, and Serafeim; Barigozzi and Tedeschi), and workers (e.g., Hedblom, Hickman, and List; Cassar; Kajackaite and Sliwka; Burbano) (see Kitzmueller and Shimshack for a synthetic survey of the economic analysis of CSR). In this paper, we focus on one mechanism that could contribute to the effect of CSR on the labor market.

Several studies have shown that engaging in CSR increases the attractiveness of companies in the labor market. Turban and Greening were the first to document correlations between CSR and management students' evaluations of the attractiveness of firms as employers. Greening and Turban confirmed this finding in a vignette study manipulating the description of fictitious firms. Several studies followed, showing the attractiveness of CSR-engaged companies for talents in various sectors (e.g., Story, Castanheira, and Hartig; Klimkiewicz and Oltra; Waples and Brachle).[2] In a large-scale natural field experiment, Hedblom, Hickman, and List also found that socially oriented tasks attract more—and more productive—job applicants. What can explain this attractiveness?

The leading explanation in the literature is that companies engaging in CSR inform potential employees about their environmental and social values, which may increase employees' self-image in such firms. Economic studies suggest that workers are attracted to socially oriented jobs because they provide an intrinsic sense of purpose

[1] There is no unified definition of CSR. UNIDO defines it as "a management concept whereby companies integrate social and environmental concerns in their business operations and interactions with their stakeholders" (https://www.unido.org/our-focus-advancing-economic-competitiveness-competitive-trade-capacities-and-corporate-responsibility-corporate-social-responsibility-market-integration/what-csr) (consulted on October 08, 2024). The European Commission defines CSR as "the responsibility of enterprises for their impact on society" (`https://single-market-economy.ec.europa.eu/industry/sustainability/corporate-sustainability-and-responsibility_en`, consulted on October 08, 2024). For Kitzmueller and Shimshack, CSR is "corporate social or environmental behavior that goes beyond the legal or regulatory requirements of the relevant market(s) and/or economy(s)." (p.53). Christensen, Hail, and Leuz define it as "corporate activities and policies that assess, manage, and govern a firm's responsibilities for and its impact on society and the environment" (p.1181).

[2] For reviews of CSR in the human resource management literature, see Voegtlin and Greenwood and Boehncke.

(Cassar and Meier). In that sense, CSR may be particularly attractive to job seekers who prioritize ethical principles in their prospective employers and have a higher self-image, pride, and prestige when working in such companies (see, e.g., Bode, Singh, and Rogan).

In this paper, we propose an additional explanation rooted in the relations between employers and employees. Our explanation is based on signaling, independent of job seekers' social preferences or image concerns, and from a preference-based matching process.[3] We suggest that employers use CSR to signal how they will treat employees in the future, especially in time of adversity. This perspective on future support in times of need is absent from existing field and laboratory economic studies. We identify the proposed mechanism by exogenously manipulating the likelihood that the employee will later require help from the employer. This manipulation is orthogonal to considerations of self-image and sense of purpose but is crucial to our proposed signaling mechanism.

In uncertain environments, employees often depend on their employers' goodwill in unforeseeable, and therefore non-contractible, ways. This dependence assumes that workers have imperfect information about the support a company provides to its employees before being recruited. The rationale follows signaling theory (Spence). We assume firms vary in their willingness to support workers, and this willingness corresponds to their engagement in CSR activities. CSR enables pro-social firms to signal their supportive type, distinguishing themselves from profit-oriented firms. This creates a link between the treatment of employees and pro-social activities that do not directly benefit employees.[4] Our key assumptions in this study are that i) there is a positive correlation between the cost of CSR to the firm and the cost it incurs when helping its employees under unexpected circumstances, and ii) workers are more attracted to firms engaging in CSR because they interpret this as a signal of potential support in times of adversity. This signaling mechanism implies that workers are more likely to accept such offers, even sans pro-social orientation or a sense of mission.

If job seekers prioritize corporate social responsibility when accepting a job over traditional job benefits such as salary, CSR may lead to lower wages (see evidence of this in, *e.g.*, Nyborg and Zhang, using Norwegian register data). Using a natural field experiment with an online labor marketplace, Burbano found that information

[3] In the management literature, drawing on social identity theory, Turban and Greening, Greening and Turban, and Backhaus, Stone, and Heiner discuss signaling by companies of their values and norms as a potential mechanism. Jones, Willness, and Madey tested this channel by asking potential workers about their perceptions of how firms treat employees and using these ratings as mediators. The perceived sense of mission and prestige came out as strong mediators of the relationship between CSR and organizational attractiveness, with mixed results for the expected treatment of employees. In contrast, Burbano found more evidence in favor of a mechanism of signaling employee treatment.

[4] As an analogy, a company offering extended maternity leave to female workers may emphasize this to prospective male workers who are not eligible for this benefit to signal that they are also likely to receive favorable treatment if they encounter an unforeseeable personal crisis.

on employer's CSR reduced significantly and substantially prospective job seekers' reservation wages, especially among more qualified workers. Additionally, laboratory experiments have shown that when piece-rate compensation is low, workers are more likely to accept additional work when said compensation goes to a charity instead of themselves (Charness, Cobo-Reyes, and Sanchez), and prefer that the earnings from their work go to a charity (Imas). We also anticipate that when CSR functions as a signal for future support of employees in need when facing uncertainty, employers who engage in such activities will tend to offer lower wages in the labor market, and, all else equal, more workers will accept such wage offers.

While our study focuses primarily on the extensive margin, it also provides information on the intensive margin of labor. Previous laboratory experiments have shown that CSR positively influences workers' productivity through a sense of mission. Workers exert more effort when their employer donates a share of the profits to a charity (Cassar; Kajackaite and Sliwka; Koppel and Regner). In contrast with our experiment, the donation in these studies was contingent on the worker's performance, lending a sense of purpose to the work. Using a field experiment, Burbano showed that CSR increased employees' willingness to provide extra effort, and Tonin and Vlassopoulos found that the increase in productivity was similar regardless of whether it was a lump-sum or conditional on performance. Controlling for the selection effect of CSR, Hedblom, Hickman, and List found that employees informed of the company's CSR engagement worked faster and took fewer breaks without any detrimental effect on the quality of work. These general positive effects do not exclude potential drawbacks. In List and Momeni, a fixed donation by the company led workers to neglect their job duties, which the authors attributed to moral licensing. Cassar and Meier manipulated whether the donation was contingent on the worker extending their effort. Productivity decreased if workers perceived CSR engagement as a strategic choice aimed at motivating them rather than an intrinsic preference of the employer.[5] In our study, we anticipated an overall positive effect of CSR on workers' output, driven at least in part by the expectation that performance can influence the employer's decision to support their workers.

We tested our assumptions and the signaling mechanism in a laboratory experiment with several aims. First, the experiment examines the relationship between engaging in CSR and assisting individuals in simplified labor relations. While there are clear limitations to the parallels we can draw between the experimental setup and natural settings, the experiment can provide evidence of how people perceive this relationship. Second, the experiment tests the theoretical implications of these assumptions

[5] A similar effect has been found in studies investigating consumer evaluation of CSR. If the CSR activity contradicts the firm's core goals (e.g., tobacco companies donating to cancer organizations), it hurts consumer evaluation (Sen and Bhattacharya; Becker-Olsen, Cudmore, and Hill; Yoon, Gürhan-Canli, and Schwarz; Skarmeas and Leonidou).

regarding offered and accepted wages. Specifically, we tested whether the introduction of uncertainty, via an exogenous shock to the worker's earnings, led employers to be more likely to engage in CSR (*i.e.*, donate to charities) and whether workers became more sensitive to such engagement when considering job offers.

The laboratory experiment avoids the typical issues that arise in the field. In natural settings, firms may engage in CSR activities to motivate employees or positively affect customer evaluations. By manipulating the risk of a shock exogenously, we were able to isolate the effect of CSR in terms of signaling the employer's future support and avoid the endogeneity problem arising from workers' potential needs being tied to their characteristics. Unlike in natural settings where exogenous events, such as the COVID-19 pandemic, may affect both firms and workers in uncontrolled ways, a laboratory experiment allows us to manipulate an individual negative shock independently of participants' characteristics and without impacting the employers.

Following the experimental literature, we employed a gift-exchange setup (Fehr, Kirchsteiger, and Riedl; Fehr et al.) and modeled CSR as a donation to charities (e.g., Koppel and Regner; Cassar; List and Momeni; Cassar and Meier). In our incomplete contract environment, an employer and a worker interacted using a stranger-matching protocol. During each of the 18 periods of the game, the employer chose whether to donate to charities (representing CSR actions) and offered a piece-rate wage to the worker. After observing the wage offer and whether the employer donated, the worker decided whether to accept or reject the offer. Workers who accepted the offer performed a task for the employer, while those who rejected it worked as independent agents and were not eligible for the employer's help in the event that a negative shock destroyed all their earnings for the period.

We manipulated the shock probability between treatments: there was no risk of shock in the Baseline condition, whereas the probability of a shock was 25% in the Shock treatment. This probability was common knowledge. The actual occurrence of a shock in each period of the Shock treatment was idiosyncratic and independent between periods and workers. At the end of each period, employers who had hired a worker could then decide whether to fully compensate their worker's loss of earnings if a shock occurs by paying a small amount of money.

As pre-registered, we analyzed our data on the full sample of participants. Our main findings fail to support our two main assumptions. Employers who donated in the Shock treatment were not more likely to help their workers in the event of a shock. Given that the model key *assumption* did not hold in the experiment, it is perhaps not surprising that the data also did not support other hypotheses based on the theoretical *conclusions*. Specifically, workers in the shock treatment were not significantly more likely to accept a wage offer when a donation was made. We also found that wages offered by employers were lower in the Shock treatment than in the Baseline, but there

was no substitution effect between wages and donations.

Further exploratory analysis revealed that our initial null results concealed stark gender differences among both employers and workers. Contrary to the general findings, male—but not female—employers who donated were also more inclined to help their workers in the event of a shock. Given that the core assumption held true for male employers, testing the resulting hypotheses on the male participants may be more fitting. Indeed, male employers were more likely to donate in the Shock treatment than in the Baseline condition. On the workers' side, male workers were more likely to accept the offer from an employer who donated to charities in the Shock treatment than in the Baseline. These results suggest that male employers used donations to signal their willingness to help potential workers, and male workers interpreted these donations as a signal of future assistance in case of need.

In contrast, female employers who donated were *less* likely to provide help to their workers, possibly due to moral licensing (cf. List and Momeni). They were also not more likely to donate in the Shock treatment than in the Baseline. When deciding whether to accept or reject a wage offer, female workers did not respond more to employers' donations in the Shock treatment than in the Baseline.

These gender differences on both sides of the market highlight a gender-based divergence in how both employers and workers perceive and act on CSR actions. If replicated in the field, these findings suggest that it might benefit companies to adjust their communication strategies regarding CSR. In particular, job postings should emphasize more directly and explicitly the personal assistance that the company may provide during difficult times, mainly when targeting male employees.

The remainder of the paper is as follows. Section 2 develops a theoretical model underpinning our main hypotheses. Section 3 introduces the experimental design and procedures. Section 4 presents our hypotheses. Section 5 develops our results and finally, section 6 discusses these results and concludes.

2 Theoretical analysis

2.1 Baseline model

The game involves one risk-neutral employer and one risk-neutral worker. The timeline is as follows: The employer chooses a wage w to offer the worker. The worker observes the wage offer and chooses whether to accept or reject it. If the worker accepts, she receives the wage, and the employer receives the worker's output, normalized to be 1.[6] Otherwise, the worker receives a private outside option $\tau \sim U[\underline{\tau}, \bar{\tau}]$, where $0 \leq \underline{\tau} \leq \bar{\tau} \leq 1$. With probability s, there is an exogenous shock and the worker loses their earnings,

[6]To focus on the main intuitions from the model, we assume here that the worker's output does not depend on the wage offer.

be it from the wages or the outside option. The worker will thus accept the offer if and only if $w \geq \tau$, regardless of s.[7] The employer's utility is $u_m = 1 - w$ if the worker accepts and zero otherwise.

Plugging in the worker's optimal strategy to obtain the employer's expected utility gives

$$\begin{aligned}\mathbb{E}(u_m) &= (1-w)Pr(w > \tau) \\ &= (1-w)\min\left(\frac{w-\underline{\tau}}{\bar{\tau}-\underline{\tau}}, 1\right),\end{aligned}$$

which is maximized at

$$w^* = \begin{cases} \dfrac{1+\underline{\tau}}{2} & \text{if } \bar{\tau} \geq \dfrac{1+\underline{\tau}}{2} \\ \bar{\tau} & \text{otherwise.} \end{cases} \tag{1}$$

2.2 Donations and types

We add two ingredients to the basic setup. First, the employer can donate to charity. Second, the employer can protect the worker against the exogenous shock at a personal cost. The worker does not know whether the employer will protect them when deciding whether to accept the offer but observes whether the employer chose to donate. We introduce *pro-social* employers who are intrinsically motivated to help the worker and to donate to the charity. The other employers are *selfish* employers, who never help the worker, and incur a cost c from donating. The prior probability for being pro-social is $\pi \in (0,1)$. Let σ denote the probability that a selfish employer donates. The posterior probability that an employer who donates is pro-social is given by $\pi' = \frac{\pi}{\pi+(1-\pi)\sigma}$.

The prospects of the employer protecting the worker increase the attractiveness of any given wage offer compared to the outside option (which cannot be protected). Not donating reveals that the employer is selfish and, therefore, will not protect the worker. In this case, the worker's earnings are as likely to be lost to the shock regardless of whether they were obtained through employment or through the outside offer. Consequently, the worker's acceptance threshold and the employer's optimal wage offer remain like in the baseline model.

If the employer donates, the outside offer becomes less attractive by a factor F that depends on the probability that the employer is pro-social (i.e., will help the worker) π' and is given by

$$F = \frac{1-s}{1-s+\pi'} < 1. \tag{2}$$

[7] We assume for simplicity that the worker accepts the offer if indifferent.

That is, we can interpret the effect of the exogenous shock as if the support of the outside option shrinks from $[\underline{\tau}, \bar{\tau}]$ to $[\underline{\tau}F, \bar{\tau}F]$. We develop the testable implications of this model in three propositions.

Proposition 1. *If there is a positive probability of a shock, workers accept lower wages in equilibrium from an employer who donates compared to an employer who does not donate.*

Proof. If the employer does not donate, the shrinking factor is 1. Consequently, the worker accepts any wage $w \geq \tau$, as in the baseline model. If the employer donates, the shrinkage factor is given by (2), and the worker will accept an offer w iff

$$w \geq \tau F = \tau \frac{(1-s)}{(1-s+s\pi')} \tag{3}$$

Thus, the minimal wage offer that a worker accepts from an employer who donates is τF, which is strictly smaller than the minimal accepted offer without a shock τ for any probability of shock $s > 0$. □

Proposition 2. *Employers who donate offer lower wages in equilibrium than employers who do not donate.*

Proof. From Equation (3), the optimal wage assuming donation maximizes the employer's expected payoff:[8]

$$\mathbb{E}(u_m(w,d)) = (1-w)\min\left[\frac{\frac{w}{F} - \underline{\tau}}{\bar{\tau} - \underline{\tau}}, 1\right] - c.$$

Thus,

$$w^* = \begin{cases} \dfrac{1+\underline{\tau}F}{2} & \text{if } \bar{\tau} \geq \dfrac{1+\underline{\tau}F}{2} \\ \bar{\tau}F & \text{otherwise.} \end{cases} \tag{4}$$

Note that $\frac{1+\underline{\tau}F}{2} < \frac{1+\underline{\tau}}{2}$ for $s > 0$. The comparison of (1) and (4) can therefore be considered in three different regions of $\bar{\tau}$.

1. If $\bar{\tau} \leq \frac{1+\underline{\tau}F}{2}$, then an employer who does not donate offers $w = \bar{\tau}$, whereas an employer who donates offers $\bar{\tau}F$. In both cases, the worker always accepts the offer.

2. If $\frac{1+\underline{\tau}F}{2} \leq \bar{\tau} \leq \frac{1+\underline{\tau}}{2}$, then an employer who donates offers $\frac{1+\underline{\tau}F}{2}$, which is always accepted, while an employer who does not donate continues to offer $\bar{\tau}$.

[8] The cost of donation is a sunk cost and does not affect the optimal wage. Hence the optimal wage will be the same for pro-social employers.

3. If $\bar{\tau} \geq \frac{1+\underline{\tau}}{2}$, then an employer who donates offers $\frac{1+\underline{\tau}F}{2}$, while an employer who does not donate offers $\frac{1+\underline{\tau}}{2}$.

In all three cases, the wage offer of an employer who donates is strictly lower than the wage offer made by an employer who does not donate. Note that for the internal-solutions third case, the wage difference depends on $\underline{\tau}$ and goes to zero as $\underline{\tau} \to 0$. □

Lemma 1. *The equilibrium probability of acceptance is weakly higher with donation.*

Proof. The probability of acceptance without donation is, as in the baseline model,

$$Pr_{d=0}(w \geq \tau) = \frac{w^0 - \underline{\tau}}{\bar{\tau} - \underline{\tau}}, \tag{5}$$

while the probability of acceptance with donation is

$$Pr_{d=1}(w \geq \tau) = \frac{w^1 - \underline{\tau}F}{F(\bar{\tau} - \underline{\tau})}, \tag{6}$$

where w^0 and w^1 are given by (1) and (4), respectively.

Consider the three cases outlined in the proof to Proposition 2. In the first case, the worker accepts the wage offer regardless of the donation. In the second case, the worker accepts the wage offer of an employer who donates with certainty, but rejects the offer made by an employer who does not donate with positive probability. In the third case, substitute w^0 and w^1 in (5) and (6) to obtain

$$Pr(w^0 \geq \tau) = \frac{1 - \underline{\tau}}{2(\bar{\tau} - \underline{\tau})} < \frac{1 - \underline{\tau}F}{2F(\bar{\tau} - \underline{\tau})} = Pr(w^1 \geq \tau F). \qquad \square$$

Proposition 3. *Employers are more likely to donate if there is a positive probability for a shock for sufficiently low values of c, the cost of donating.*

Proof. By assumption, pro-social employers always donate, whereas selfish employers do not donate in the baseline model where $s = 0$. It remains to be shown that selfish employers donate with positive probability when $s > 0$. From Proposition 2 and Lemma 1, a donation increases the employer's benefits from potential employment, as it allows the employer to offer a lower wage while still increasing the probability of acceptance. It follows that when $c \to 0$, all employers donate, whereas when c is arbitrarily large, no selfish employer donates. From continuity, for sufficiently small values of c, there is an equilibrium probability of donation $\sigma > 0$. □

3 Experimental design and procedures

With this theoretical framework, we designed an experiment that included three parts. We start by describing part 1, which constitutes the core of the experiment. In this

part, we implemented a between-subject design with a Baseline and a Shock treatment. Figure 1 displays the period timeline in part 1.

Part 1: Baseline condition. Part 1 included 18 periods. At the beginning of part 1, participants were randomly assigned to the roles of employer or worker. Roles remained fixed throughout the part. We randomly rematched the participants at the beginning of each period to employer-worker pairs within matching groups.[9]

Each period of part 1 consisted of two stages: a job matching stage and a work stage. In the first stage, at the beginning of each period, the employer chose the contract to offer to a worker. The contract had two elements: a piece-rate wage, ranging from 1 to 19 points,[10] and information on whether the employer had received a "social badge". Employers received a social badge if at the beginning of the period they chose to make a fixed donation of 10 points, shared equally among three charitable organizations.[11] The social badge featured the logos of the three charities. The employer was informed that if they donated, the amount of the donation would be deducted from their initial endowment of 60 points, regardless of whether their job offer was accepted or not by the worker.

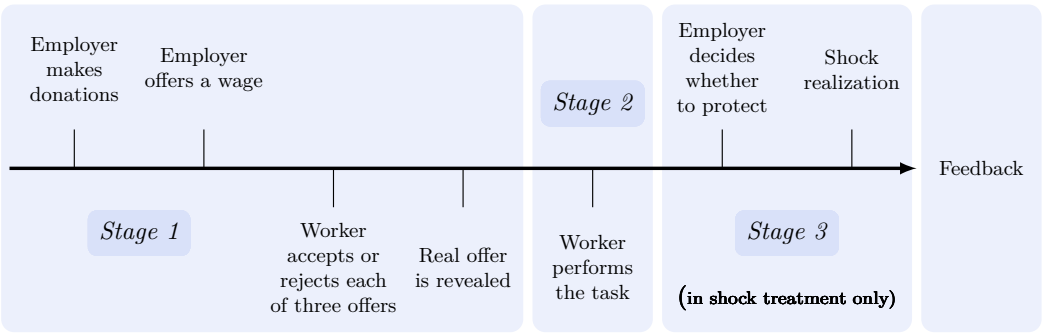

Figure 1: Timeline of a period in part 1

Next, the worker reviewed the employer's offer, which included the wage and the social badge (if the employer donated). The worker then chose to either accept the offer or opt for an outside option. If the worker accepted the offer, their compensation was the piece-rate wage multiplied by the number of units produced, while the

[9] To increase the number of independent observations, in most sessions we formed two matching groups of 10 or 12 subjects each, depending on the show-up in the session. Because of no show-up, sessions 7 and 10 included a single matching group of 18 subjects.

[10] Ten points equaled 0.4 Euro in the game.

[11] The three charity organizations were: AFM – Telethon, The Red Cross, and World Wild Fund of Nature (WWF). All three charities are highly familiar and popular in France. We used three charities instead of a single one to avoid the possibility of a donation not being made due to a subject's reluctance to support a specific organization.

employer received a fixed 20 points per unit produced. If the worker rejected the offer, they received the outside option while the employer's payoff remained unaffected by the worker's output. The outside option was a piece-rate integer randomly drawn between 3 and 7 points. The worker knew the exact number, but the employer only knew the range, preventing the employer from simply exceeding the outside option by one point. Regardless of their choice, the worker also received a base payoff of 30 points.

To elicit responses from the workers for a broader set of contracts varying in both wages and donations in an incentive-compatible way and without resorting to deception, we employed the method suggested by Bardsley. In each period, the worker observed three different contracts: the actual job offer made by the employer and two fictitious, computer-generated ones.[12] The worker had to decide for each of the three offers whether to accept or reject it in favor of the outside option for the period. Workers were aware that only one offer, the actual offer made by the employer, was payoff-relevant, but were not informed of which one was the actual one. After the worker made their choice, the computer revealed the actual job offer and informed both parties whether the worker accepted it or not.

Stage 2 consisted of the work stage. In this stage, workers engaged in a real effort task for 40 seconds, regardless of whether they had accepted the employer's offer or were working independently. We used the slider task from Gill and Prowse. The work screen displayed 48 sliders that the worker had to place in the exact center of a bar using only the mouse (see a screenshot in the instructions in Appendix A.1). The worker's output for the period was the number of sliders accurately centered at the end of the work period. This output determined the period payoffs as explained above. To avoid boredom during the work stage, the employers could click on a dot that moved randomly on the screen with each click (as described in Zultan, Gerstenberg, and Lagnado; Dadon and Zultan; Corgnet, Hernán-González, and Schniter). At the end of the work stage, the employer and the worker learned their earnings for the period, based on the worker's output.

Starting from the second period, the participants observed a history table at the beginning of each period. This table displayed the contract offered by the real employer and whether the worker accepted it for each preceding period. Two of the 18 periods were randomly selected at the end of the experiment, and the payoffs from these two periods were added together to constitute the participant's earnings for this part.

The Shock treatment. In the Shock treatment, the key and only difference from the Baseline condition is the introduction of a third stage after the work stage. In the third stage, there was a 25% commonly known probability that the worker could lose

[12] Each worker received wage offers of 3 and 8, each once with and one without a donation. The rest of the fictitious offers included a donation with probability 0.5 and a wage offer drawn from a uniform distribution over the integers [2,12].

all earnings (except for the initial 30-point endowment) for the period at its conclusion. This random draw was determined independently for each period.

The employer whose job offer had been accepted by the worker had the option to sacrifice 10 points to fully compensate their worker for this loss of earnings in the event a shock occurred. Employers made this commitment after learning the worker's output but before knowing whether a shock occurred, allowing decisions to be elicited irrespective of the shock's realization. The occurrence of the shock was disclosed only at the end of the period. Of course, if no shock occurred, no points were deducted from the employer's payoff.

If a shock occurred, employed workers learned whether their employer opted to protect them and subsequently received their protected earnings if applicable. In contrast, independent workers (who rejected the employer's offer) facing a shock could not benefit from any compensation and they lost all their earnings from the work stage of that period except for the 30-point initial endowment. If no shock occurred, employed workers remained unaware of whether their employer had chosen to safeguard them in the event of a shock. In this treatment, the history table also included whether a shock occurred in each preceding period and, if so, whether the employer protected the worker (only in case the worker accepted the employer's offer).

Parts 2 and 3: Elicitation of pro-sociality and risk attitudes. In part 2, we assessed participants' pro-sociality by using the Social Value Orientation task (SVO; Murphy, Ackermann, and Handgraaf, see Appendix A.2). Participants made six allocation decisions between themselves and an anonymous participant, with one decision randomly chosen for payment. The participant's payoff in this task was the amount they allocated to themselves in this selected decision, plus the amount allocated to them by the other participant they were matched with.

We elicited risk attitudes in part 3, using the Gneezy and Potters method (see Appendix A.3). Participants decided how much of a 100-point endowment to invest in a risky asset with a 50% chance of success.[13] A successful investment earned a 150% return on the invested amount, whereas an unsuccessful one resulted in the loss of the investment. Participants retained any points not invested.

Finally, in a post-experimental questionnaire, we elicited the participants' socio-demographic characteristics, including age, gender, education, average grade at the final high school exams, and field of study.[14] We also invited participants to answer a few questions about the motivation behind their own choices and the choice of participants in the other role in part 1 (see Appendix A.4 for details).

[13] In parts 2 and 3, ten points equaled 0.1 Euro.

[14] The socio-demographic questionnaire was not included in the first five sessions by mistake. Therefore, these sessions are excluded from any regression that includes demographic variables.

Procedures. We pre-registered the hypotheses, planned analysis, and the number of subjects on AsPredicted.org (pre-registration No 98594). All sessions were conducted at GATE-Lab, Lyon, France. The experiment was programmed using z-Tree (Fischbacher) and lasted for approximately 90 minutes. We ran a total of 14 sessions (seven per treatment) between May and October 2022. Overall, the experiment included 254 participants (118 in the Baseline and 138 in the Shock treatment), recruited from the local engineering, business, and medical schools, using Hroot (Bock, Baetge, and Nicklisch). Table B1 in Appendix B shows that most individual characteristics of the participants did not significantly differ between the Baseline condition and the Shock treatment. Only the gender composition of the samples is marginally significantly different; therefore, we added controls for socio-demographic characteristics in all regressions.

Upon arrival in the lab, participants drew a tag from an opaque bag assigning them to a computer terminal. We distributed a printed version of the experimental instructions for part 1 and read them aloud (see Appendix A.1). Participants could ask questions privately by pressing a designated button on their desk. The experiment started after all participants confirmed they had read and understood the instructions and answered the control questions correctly.

Final payoffs ranged from 10 Euro to 23 Euro, with an average of 16.3 Euro per participant, including a 5-Euro show-up fee. In addition, a donation of 43 Euro was split equally among the three charitable organizations. This amount represented the total of all the donations made across all 14 sessions. We specifically mentioned in the instructions that the ethical rules of GATE-Lab prohibit experimenters from deceiving participants, and, therefore, all promised donations would actually be sent to the three charities. We also offered participants the option to receive a copy of the receipt confirming that we had sent the money to the charities. None of the participants chose to do so.

4 Hypotheses

The primary purpose of our study is to test whether employers use CSR to signal to potential workers that they are socially oriented, thereby increasing the probability of hiring workers in a risky environment. Our first hypothesis tests the assumption lying at the basis of our theoretical analysis:

Hypothesis 1. *Employers who donate to charities are more likely to help workers who experience a shock.*

Our main hypotheses are based on Propositions 1–3:[15]

[15]We reordered and slightly rephrased the pre-registered hypotheses to fit the terminology used in the paper.

Hypothesis 2. *In the Shock treatment, the employer's decision to donate to charities increases the probability of workers accepting a job offer more than in the Baseline condition, controlling for the difference between the wage offered and the worker's outside option.*

Hypothesis 3. *Offered wages are lower in the Shock treatment than in the Baseline condition.*

Hypothesis 4. *Employers are more likely to donate to charities when there is a positive probability of a shock (i.e., in the Shock treatment) than when workers are not at risk (i.e., in the Baseline condition).*

Finally, we go beyond the theoretical model to conjecture that workers increase their productivity in response to their employer having donated to charities. This can be due to indirect reciprocity in both treatments. However, even selfish employees may increase their productivity in this situation in the Shock treatment if they expect that the employer is more likely to compensate a more productive worker for their loss in case of a shock.[16]

Hypothesis 5. *The employer's decision to donate to charities positively affects the worker's productivity.*

5 Results

We begin this section by analyzing the signaling role of donations to charities. On the employer side, we test the assumption that employers who donate are more likely to help the worker (Hypothesis 1) and the implication that they are more likely to donate in the Shock treatment (Hypothesis 4). On the worker side, we test whether workers are more likely to accept an offer from an employer who donated compared to one who did not (Hypothesis 2). We complement these analyses by examining the wages offered by employers in the different treatments and how donations affected workers' productivity, as stated in Hypotheses 3 and 5, respectively.

To conduct our analyses, we use both descriptive statistics and econometric analyses.[17] The upper part of Table 1 displays descriptive statistics on the wages offered by the (human) employers and the share of employers donating in each treatment. It also reports the share of employers (among those whose job offer was accepted) who sacrificed to help the workers who would lose their earnings in the Shock treatment. Focusing on the worker side, the lower part of the Table presents the mean accepted

[16]Note that since workers are paid on a piece-rate basis, all workers, regardless of their social orientation, have an incentive to exert effort in the task.

[17]Our pre-registration included, in addition to the regressions reported in this section, non-parametric tests testing the same hypotheses.

Table 1: Descriptive statistics

Variable			Obs	Mean	SD	Min	Max
Offered wage	Baseline	All	1,062	8.80	2.51	1	19
		Males	450	8.39	1.72	1	15
		Females	396	9.85	3.12	1	19
	Shock	All	1,224	8.15	1.98	1	19
		Males	450	8.06	1.95	3	19
		Females	342	8.39	2.09	1	17
Donation	Baseline	All	1,062	0.34	0.47	0	1
		Males	450	0.28	0.45	0	1
		Females	396	0.28	0.45	0	1
	Shock	All	1,224	0.42	0.49	0	1
		Males	450	0.51	0.50	0	1
		Females	342	0.25	0.44	0	1
Help	Shock	All	1,039	0.53	0.50	0	1
		Males	392	0.63	0.48	0	1
		Females	281	0.30	0.46	0	1
Accepted wage	Baseline	All	907	9.04	2.47	4	19
		Males	375	8.61	1.68	5	19
		Females	341	10.09	3.07	5	19
	Shock	All	1,039	8.40	1.87	4	19
		Males	392	8.22	1.93	5	19
		Females	281	8.71	1.96	5	17
Output	Baseline	All	907	6.64	2.36	0	14
		Males	375	6.50	2.49	0	13
		Females	341	6.64	2.39	0	14
	Shock	All	1,039	6.97	2.36	0	14
		Males	392	6.74	2.19	0	15
		Females	281	6.95	2.21	0	14

Notes: These statistics only include the wage offers from the human employers, not those generated by the computer program. The total numbers are larger than the sum of data for males and females because in some sessions gender was not recorded.

wage and the average output in the task for those who accepted a job offer. Statistics are reported for the full sample of participants and separately by gender.[18]

5.1 Donation decisions

Donations and helping behavior. We first test Hypothesis 1, reflecting our assumption that employers who donate to charities are more likely to help workers in case they lose their earnings in the Shock treatment. Overall, employers chose to help the worker in 53% of the periods in which their job offer was accepted (63% for male employers and only 30% for female employers, see Table 1). The corresponding per-

[18]We did not pre-register any data analysis split by gender because we had no conjecture about the presence of gender effects in our settings. However, the exploratory data analysis revealed strong gender differences on both the employer and worker sides. Therefore, in this section, we also report an exploratory analysis of gender differences in the behavior of employers and workers.

centage is 65% in periods in which the employers donated (76% for male employers and 15% for female employers) and 43% when the employers did not donate (49% for male employers and 35% for female employers). The correlation between the share of periods in which an employer chose to donate and the share of periods in which an employer chose to help the worker (conditional on a shock occurring) is positive and statistically significant ($r(49) = .44$, $p = .001$), in line with Hypothesis 1.

However, our exploratory analysis revealed that this correlation is gender specific. It is positive and significant for male employers ($r(13) = .55$, $p < .001$), while negative and non-significant for female employers ($r(20) = -.16$, $p = .581$). This suggests that our assumption holds for males but not for females.

Tables 2 and 3 report logistic regressions on the probability of helping the worker in the Shock treatment, with robust standard errors clustered on matching groups. These regressions examine whether the decision to donate is associated with the decision to help, controlling for the offered wage, the period, and, when specified, socio-demographic characteristics (gender, employment status, education, and school). In Models (3) and (4) in Table 2, and in Models (3), (4), (7), and (8) in Table 3, we include an interaction term between the donation and the wage offered by the employer. We did not include the SVO measure, as its influence on the decision to donate has already been controlled for. Table 2 includes the regressions for the entire sample of employers whose job offers have been accepted, while Table 3 presents regressions for each gender separately.

Model (1) in Table 2 shows that the probability of helping the worker is significantly higher when the employer donates to charities. However, this relationship loses significance once we control for socio-demographic characteristics (in Models (2) and (4)), possibly due to the reduction in the number of observations.The interaction term with the offered wage does not affect the helping decision (Models (3) and (4)).

The exploratory analysis by gender reported in Table 3 reveals a strong association between donations and helping for male employers (Models (5) to (8)). The (negative) effect of the wage on the decision to help only appears when a higher wage interacts with the donation: male employers are less willing to help when they donated and offered higher wages (see Models (7) and (8)).

In contrast, Models (1) to (4) show that female employers are less likely to help workers when they donate, with varying significance levels across models. Model (4) suggests that, in contrast to males, the combination of a donation and higher wages cancels out the negative effect of the donation on the likelihood of helping. Thus, female employers who donate are generally less likely to help, except for a fraction who behave generously by also donating and offering higher wages.

Table 2: Determinants of the employers' decision to help in the Shock treatment – Full sample

Dep. variable: Decision to help	(1) All	(2) All	(3) All	(4) All
Donation	1.006**	1.063*	1.731*	2.051
	(0.400)	(0.631)	(0.895)	(1.389)
Wage	0.034	0.054	0.069*	0.100
	(0.032)	(0.079)	(0.038)	(0.106)
Donation × Wage	–	–	−0.087	−0.120
			(0.103)	(0.154)
Output	0.394***	0.246***	0.393***	0.246***
	(0.072)	(0.037)	(0.073)	(0.037)
Period	-0.027*	-0.045	-0.027*	-0.045
	(0.016)	(0.028)	(0.016)	(0.028)
Constant	−2.067***	5.493***	−2.369***	5.069***
	(0.594)	(2.787)	(0.575)	(2.908)
Socio-demographics	No	Yes	No	Yes
N	1039	657	1039	657

Notes: The table reports logistic regressions with robust standard errors clustered on matching groups. The dependent variable is the employer's decision to help the worker in case of a shock. In Model (2) and (4), the socio-demographics include gender, employment status, education, and school. Sessions 1–5 are excluded from the analysis when socio-demographic control variables are included. The data only includes employers with accepted offers. * ($p < .10$), ** ($p < .05$), *** ($p < .01$).

Table 3: Determinants of the employers' decision to help in the Shock treatment – By gender

Dep. variable: Decision to help	(1) Females	(2) Females	(3) Females	(4) Females	(5) Males	(6) Males	(7) Males	(8) Males
Donation	−1.259**	−0.682	−5.755*	−8.395***	1.712***	2.504***	5.599**	4.659***
	(0.570)	(0.813)	(3.268)	(2.319)	(0.384)	(0.544)	(2.377)	(1.191)
Wage	−0.094	0.219	−0.189***	0.045	0.097	0.007	0.325	0.119
	(0.104)	(0.160)	(0.065)	(0.192)	(0.068)	(0.110)	(0.250)	(0.132)
Donation X Wage	–	–	0.508	0.839***	–	–	−0.471	−0.27**
			(0.350)	(0.258)			(0.295)	(0.129)
Output	0.251***	0.367***	0.253***	0.373***	0.450	0.741	0.446	0.728
	(0.068)	(0.106)	(0.083)	(0.114)	(0.069)	(0.130)	(0.077)	(0.137)
Period	−0.12***	−0.16***	−0.12***	−0.17***	0.013	0.006	0.015	0.006
	(0.041)	(0.049)	(0.036)	(0.046)	(0.039)	(0.047)	(0.039)	(0.049)
Constant	−0.380	17.889**	0.403	20.334***	−4.151***	12.743***	−6.111***	10.876***
	(1.398)	(7.177)	(1.135)	(7.795)	(0.760)	(4.182)	(2.118)	(3.828)
Socio-demographics	No	Yes	No	Yes	No	Yes	No	Yes
N	281	265	281	265	392	374	392	374

Notes: The table reports logistic regressions with robust standard errors clustered on matching groups. The dependent variable is the employer's decision to help the worker in case of shock. When controlled for, the socio-demographics include employment status, education, and school. Sessions 1–5 are excluded from the analysis when socio-demographic control variables are included. The data only includes employers with accepted offers. * ($p < .10$), ** ($p < .05$), *** ($p < .01$).

Overall, this analysis does not find evidence for Hypothesis 1 for the full sample and the female sample but supports it for male employers. This leads to the following

result:

Result 1. *Overall, employers who donate to charities are not more likely to help a worker harmed by the occurrence of a shock. This results from the combination of a positive correlation between helping behavior and donations for male employers and possibly a negative correlation for female employers.*

Donations and shocks. The main implication of our signaling model, stated in Hypothesis 4 is that employers should be more likely to donate to the charities in the Shock treatment than in the Baseline treatment. Given that we found that the theoretical assumption hold for males but not for females, it may be reasonable to restrict the theoretical prediction to male employers. As in the previous section, we report here the analyses for the full sample as well as separate analyses by gender.

Table 1 shows that the average fraction of the time employers donated is higher by approximately 8.5 percentage points in the Shock treatment (42%) compared to the Baseline (34%). Figure 2 shows that the share of employers donating is higher in the Shock treatment than the Baseline in all periods except for the first one, and it is relatively stable over time after the first six periods.

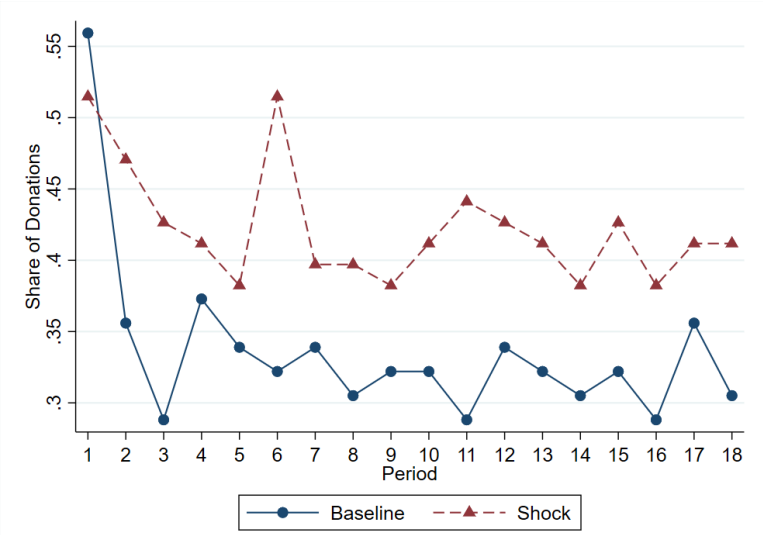

Figure 2: Evolution of the share of donations over time

Table 4 reports mixed-effects logistic regressions on the probability of donating, with individual random effects and robust standard errors clustered on matching groups. The regressions control for the current acceptance rate of previous offers (and therefore exclude period 1), the period, the employer's SVO score, and, where indicated, the usual socio-demographic characteristics. In Model (1), all the obser-

vations are included, while all other models only include the sessions in which the socio-demographics were recorded.

Table 4: Determinants of the employers' donation decision

Dep. variable:	(1)	(2)	(3)	(4)	(5)	(6)
Decision to donate	All	All	Females	Females	Males	Males
Shock treatment	0.850	1.206	0.104	−0.803	3.729***	3.693**
	(0.782)	(0.911)	(1.015)	(0.972)	(1.414)	(1.677)
Acceptance rate	1.136	1.083	2.020**	1.707	−0.655	−0.764
	(1.008)	(1.055)	(0.957)	(1.095)	(2.163)	(2.215)
SVO angle	0.170***	0.154***	0.108**	0.096*	0.218***	0.197***
	(0.027)	(0.033)	(0.051)	(0.055)	(0.066)	(0.049)
Period	−0.032	−0.038	−0.040	−0.040	−0.050	−0.050
	(0.030)	(0.033)	(0.038)	(0.038)	(0.046)	(0.047)
Wage	−0.110	−0.126*	0.018	0.015	−0.320**	−0.320**
	(0.072)	(0.070)	(0.055)	(0.048)	(0.156)	(0.154)
Constant	−4.869**	−12.768*	−5.860**	−11.227*	−4.033*	−12.202
	(0.072)	(0.070)	(0.055)	(0.048)	(0.156)	(0.154)
Socio-demographics	No	Yes	No	Yes	No	Yes
N	2159	1547	697	697	850	850

Notes: The table reports mixed-effects logistic regressions with random effects for individuals and robust standard errors clustered on matching groups. The dependent variable is the employer's decision to donate. In Model (2) the socio-demographics include gender, employment status, education, and school. Sessions 1–5 are excluded from the analysis when socio-demographic control variables are included and thus also from models by gender. * ($p < .10$), ** ($p < .05$), *** ($p < .01$).

Overall, the estimates in Models (1) and (2) show that the Shock treatment had no significant effect on the probability of donating to charities even when we exclude the first period. Only pro-sociality, as captured by the SVO angle, is significantly associated with the decision to donate. However, the exploratory analysis presented in Models (3) to (6) reveals different treatment effects for males and females. The probability of a male employer donating in the Shock treatment is significantly higher than in the Baseline, whereas the treatment effect is insignificant for female employers. We can reject that this is driven by females donating more in general. Indeed, the average female employer donates in 43.0% of the periods in the Baseline treatment compared to 43.3% for males ($t(45) = 0.086$, $p = .932$).

This analysis leads to the following result that rejects Hypothesis 4 for the whole population but supports it for male employers.

Result 2. *Overall, employers do not donate more to charities in the Shock treatment compared to the Baseline. However, when analyzed separately, male employers are more likely to donate in the Shock treatment than in the Baseline, whereas no such effect is observed for female employers.*

5.2 Acceptance decisions

Overall, workers accept 68% of the offers in the Baseline as well as in the Shock treatment. We investigate in this section whether the workers' acceptance decision depends on the interpretation of the donations as a signal of future help.[19]

Table 5 reports mixed-effects logistic regressions on the probability of workers accepting an offer, with individual random effects and robust standard errors clustered on matching groups. The dependent variable is the worker's decision to accept or reject an offer. The regressions examine whether the donation made by the employer, being in the Shock treatment, and their interaction affect the likelihood of accepting an offer. We add controls for the difference between the offered wage and the worker's outside option,[20] the order of arrival of the offer in the period (1 to 3), whether the offer emanates from the actual employer (vs. a computer-generated offer),[21] period, and, depending on the model, the usual socio-demographic characteristics of the worker. In Models (1) and (2), all observations are included. For our exploratory analysis, Models (3) and (4) only include female workers, while Models (5) and (6) only include male workers.

Model (1), which includes the full data, shows a positive and significant effect of the donation on the workers' probability of accepting an offer ($p = .025$). The effect is only significant at the 10% level ($p = .068$) when socio-demographic controls are added in Model (2), possibly due to the reduced sample size. No effect is identified for the treatment or the interaction between the donation and the treatment.

The workers' response depends on their expectations of the employers. Recall that our core assumption—a positive correlation between donations and helping the worker—only holds for male employers in our data. It is, thus, plausible that only male workers hold corresponding expectations and respond to donations as a signal of the employer's type that is informative of future actions. We therefore report in Models (3) and (4) separate regressions by gender. The results show that female workers are more likely to accept an offer in the Shock treatment ($p = .046$ and $p = .037$ for Models (3) and (4), respectively) or when the employer donates to charities ($p = .007$ and $p = .008$ for Models (3) and (4), respectively). However, the interaction term is

[19] Workers could progressively learn about the behavior of employers in the market from the history table presented to them at the beginning of each period. This history table is informative as the correlation between donating to charities and observed help is positive and statistically significant ($r(265) = .19, p = .002$). The correlation is at the single observation level, as workers are unable to cluster periods by employer.

[20] Not surprisingly, Table 5 shows that this difference has a highly significant and positive effect in all regressions.

[21] Recall that the workers received two computer-generated offer in addition to the real offer made by the employer. Surprisingly, all regressions show that workers were more likely to accept real offers than computer-generated ones. Since the order of offers was random each period, workers should not be able to distinguish between them. However, it is possible the real offers seemed more realistic, leading to a higher acceptance rate.

not significant. This implies that female workers respond to the social behavior of the employer and prefer having the option of receiving help in case of a negative shock rather than rejecting an offer and working independently without protection. They do not interpret a donation as a signal for future assistance since there is no additional effect of donations in the Shock treatment compared to the Baseline.

Table 5: Determinants of the workers' decision to accept an offer

Dep. variable:	(1)	(2)	(3)	(4)	(5)	(6)
Accepting an offer	All	All	Females	Females	Males	Males
Shock treatment	0.174	0.516	1.017**	1.156*	0.119	0.109
	(0.293)	(0.353)	(0.451)	(0.628)	(0.375)	(0.390)
Donation	0.487**	0.455*	0.827***	0.825***	−0.200	−0.204
	(0.223)	(0.264)	(0.307)	(0.306)	(0.273)	(0.270)
Donation ×	0.059	0.052	−0.297	−0.310	0.706**	0.710**
Shock treatment	(0.288)	(0.305)	(0.356)	(0.355)	(0.320)	(0.317)
Wage difference	0.786***	0.727***	0.627***	0.629***	0.944***	0.944***
with outside option	(0.103)	(0.098)	(0.139)	(0.138)	(0.123)	(0.123)
Wage difference ×	0.148	0.178	0.149	0.147	0.051	0.052
Shock treatment	(0.112)	(0.110)	(0.190)	(0.188)	(0.177)	(0.176)
Real offer	0.759***	0.674***	0.821***	0.815***	0.527***	0.525***
	(0.111)	(0.119)	(0.168)	(0.169)	(0.151)	(0.150)
Second offer	−0.021	−0.024	−0.125	−0.130	0.097	0.099
	(0.093)	(0.116)	(0.223)	(0.225)	(0.113)	(0.112)
Third offer	−0.066	−0.043	−0.185	−0.189	0.104	0.106
	(0.104)	(0.118)	(0.147)	(0.149)	(0.201)	(0.202)
Period	0.015	0.016	−0.007	−0.006	0.043*	0.043*
	(0.014)	(0.017)	(0.017)	(0.017)	(0.023)	(0.023)
Constant	−0.839**	−2.27***	−0.84***	−3.545**	−1.45***	−1.335
	(0.346)	(0.542)	(0.318)	(1.590)	(0.295)	(0.853)
Socio-demographics	No	Yes	No	Yes	No	Yes
N	6858	4914	2214	2214	2700	2700

Notes: The table reports mixed-effects logistic regressions with random effects for individuals and robust standard errors clustered on matching groups. The dependent variable is the worker's decision to accept a job offer. In Model (2) the socio-demographics include gender, employment status, education, and school. Sessions 1–5 are excluded from the analysis when socio-demographic control variables are included and from models by gender. * $p < .10$, ** $p < .05$, *** $p < .01$.

Models (5) and (6) reveal a contrasting pattern for male workers: there is no significant effect of the treatment or the donation alone on the probability of accepting an offer, but the interaction term is positive and statistically significant ($p = .042$ and $p = .040$ for Models (5) and (6), respectively). Taken separately, we find that donations to charities increase the likelihood that male workers will accept an offer in

the Shock treatment ($z = 2.81$, $p = .005$) but not in the Baseline ($z = -0.69$, $p = .487$). This result, consistent with a signaling interpretation, supports Hypothesis 2 for male workers but not for the full sample. This analysis is summarized in Result 3:

Result 3. *Overall, workers are not more likely to accept an offer from an employer who donated to charities in the Shock treatment compared to the Baseline. However, when analyzed separately, male workers are more sensitive to donations in the Shock treatment compared to the Baseline, whereas no such effect is observed for female workers.*

Anticipating the final discussion, the first three results reject the use of CSR as a signal in the full sample but our exploratory analysis reveals an asymmetric effect depending on the participants' gender. Results 1 and 2 indicate that male employers use donations to signal their social values and willingness to assist their workers if needed, and Result 3 shows that male workers interpret them as such. In contrast, female employers do not use donations as a signal, nor do the female workers interpret them as such. This consistent behavior within genders but opposite findings between genders may explain why CSR as a signal is not significant at the entire sample level.

5.3 Effects of donations on wages and productivity

In this section, we test Hypotheses 3 and 5, which predict a negative effect of the treatment on wage offers, driven by the anticipation of future compensation for the possible worker's loss, and a positive relationship between donations and workers' productivity.

Wage offers. The mean piece-rate wage offered by the employers was 8.80 in the Baseline condition and 8.15 in the Shock treatment (see Table 1). Table 6 reports mixed-effects regressions with individual random effects and robust standard errors clustered on matching groups. The dependent variable is the wage offered by the employer in a given period. The explanatory variables include a dummy for the Shock treatment compared to the Baseline condition, a dummy for whether the employer donated to charities, and an interaction term between the Shock treatment and the donation. These regressions control for period, and, depending on the model, the usual socio-demographic characteristics of the employer. Models (1) and (2) include all observations. For our exploratory analysis, Models (3) and (4) include only female employers, while Models (5) and (6) include only male employers.

Table 6: Determinants of the wages offered by employers

Dep. variable:	(1)	(2)	(3)	(4)	(5)	(6)
Wage offer	All	All	Females	Females	Males	Males
Shock	-0.862^{**}	-0.773^{**}	-1.626^{**}	-0.839	-0.429	-0.713
treatment	(0.361)	(0.392)	(0.664)	(0.601)	(0.470)	(0.535)
Donation	-0.479	-0.441	0.020	0.020	-1.094^{*}	-1.082^{*}
	(0.351)	(0.410)	(0.439)	(0.417)	(0.610)	(0.617)
Donation × Shock	0.591	0.522	0.679	0.701	0.686	0.677
treatment	(0.434)	(0.563)	(0.891)	(0.892)	(0.623)	(0.617)
Period	-0.027^{*}	-0.034^{*}	-0.049	-0.049	-0.020	-0.020
	(0.014)	(0.018)	(0.031)	(0.032)	(0.020)	(0.020)
Constant	9.219^{***}	7.642^{***}	10.312^{***}	5.377^{**}	8.883^{***}	7.100^{***}
	(0.318)	(1.935)	(0.623)	(2.705)	(0.443)	(1.938)
Socio-demographics	No	Yes	No	Yes	No	Yes
N	2286	1638	738	738	900	900

Notes: The table reports mixed-effects regressions with random effects for individuals and robust standard errors clustered on matching groups. The dependent variable is the wage offered by the employer in a given period. When controlled for, the socio-demographics include gender, employment status, education, and school. Sessions 1–5 are excluded from the analysis when socio-demographic control variables are included and, thus, also from models by gender. * $p < .10$, ** $p < .05$.

Models (1) and (2) in Table 6 indicate that, on average, employers offered wages approximately 0.8 points lower in the Shock treatment compared to the Baseline condition ($p < .05$ in both Model (1) and Model (2)). This finding aligns with Hypothesis 3, suggesting that employers anticipated workers' preference for being employed over independent work when their earnings were at risk, potentially due to the possibility of receiving assistance and, therefore, offered lower wages. This finding is, however, not robust when we consider genders separately.

Furthermore, while the theoretical model does not predict a treatment difference in wages for employers who do not donate, the regression results indicate that the wage difference—to the extent that it exists—comes from the employers who did not donate. This suggests that there was no substitution between wages and donations. This analysis is summarized in the following result:

Result 4. *Wages offered by employers are lower in the Shock treatment compared to the Baseline, but there is no significant substitution effect between wages and donations.*

Thus, the relation between donations and wages deviates from the theoretical predictions. However, the analysis does not predict differential wages across treatments or employer types if the lower bound of the outside option $\underline{\tau}$ goes to zero. In the experiment, the lower bound is 3 ECU, a small number compared to 20 ECU, the production value for the employer, which may explain the lack of positive result.

Productivity. We finally turn to the workers' productivity to test Hypothesis 5. The average output of those who accepted a job offer was 6.64 in the Baseline and 6.97 in the Shock treatment. Table 7 reports mixed-effects regressions on workers' outputs with individual random effects and robust standard errors clustered on matching groups. The dependent variable is the output produced by a worker who has accepted a wage offer in a given period. The explanatory variables include a dummy for the Shock treatment vs. the Baseline condition, a dummy for whether the employer whose offer has been accepted donated to charities and the difference between the accepted wage and the outside option. We added three interaction terms: one between the Shock treatment and the donation, another between the Shock treatment and the difference between the wage and the outside option, and a third one crossing the treatment with the donation and the difference between the wage and the outside option. These regressions control for period, and, depending on the model, the usual socio-demographic characteristics of the worker. Models (1) and (2) include the full sample. For our exploratory analysis, Models (3) and (4) include only female workers, while Models (5) and (6) include only male workers.

Overall, Table 7 shows that wages have little to no effect on workers' productivity, likely because the piece-rate scheme already provides sufficient incentive to maximize their efforts. The marginal effect of the donation in Model (1) is not significant ($p = .333$ and $p = .649$ in the Baseline and Shock treatment, respectively). This result does not support Hypothesis 5.

The exploratory analysis reveals interesting patterns for male workers, though, while no variables significantly determine female workers' productivity. For male workers, a higher wage above the outside option increased output when the employer donated to charities, suggesting that the employers' generosity motivated the workers' effort. However, this effect disappears when these variables interact with the Shock treatment. In the Shock treatment what matters is whether the employer donated to charities, which positively affects output regardless of the wage offered. If the employer donated, even a lower wage could induce effort, possibly due to the worker's hope that increased effort might lead to receiving help from the employer in case of a shock, which is more in line with Hypothesis 5. We state our last result as follows:

Result 5. *Employers' donations do not increase workers' productivity overall. However, there is some evidence that male workers tend to increase effort in response to donations in the Shock treatment, regardless of the wage offered, possibly in the hope of increasing their chances of receiving help from the employer if needed. No such effect is observed for female workers.*

Table 7: Determinants of workers' outputs

Dep. variable: Output	(1) All	(2) All	(3) Females	(4) Females	(5) Males	(6) Males
Wage difference with outside option (WD)	0.024**	0.020	0.045	0.047	−0.006	−0.008
	(0.011)	(0.012)	(0.030)	(0.031)	(0.021)	(0.023)
Donation	−0.049	−0.082	0.236	0.230	−0.611*	−0.608*
	(0.132)	(0.172)	(0.234)	(0.242)	(0.362)	(0.368)
Donation × WD	−0.009	0.012	−0.078	−0.078	0.122**	0.122**
	(0.035)	(0.036)	(0.061)	(0.064)	(0.047)	(0.050)
Shock treatment	0.577	−0.035	−0.067	−0.301	0.209	0.149
	(0.371)	(0.412)	(0.685)	(0.727)	(0.425)	(0.466)
Shock treatment × WD	−0.070**	−0.055	−0.006	−0.009	−0.053	−0.050
	(0.033)	(0.035)	(0.051)	(0.052)	(0.034)	(0.035)
Shock treatment × Donation	−0.037	0.143	−0.399	−0.392	0.819**	0.824**
	(0.203)	(0.266)	(0.477)	(0.483)	(0.389)	(0.396)
Shock treatment × Donation × WD	0.020	−0.042	0.067	0.065	−0.173***	−0.174***
	(0.050)	(0.051)	(0.085)	(0.088)	(0.065)	(0.067)
Period	0.113***	0.116***	0.110***	0.110***	0.119***	0.120***
	(0.007)	(0.008)	(0.010)	(0.011)	(0.011)	(0.011)
Constant	5.476***	4.616***	4.815***	1.972	6.095***	6.669***
	(0.301)	(1.018)	(0.495)	(3.013)	(0.443)	(0.677)
Socio-demographics	No	Yes	No	Yes	No	Yes
N	1946	1389	634	634	755	755

Notes: The table reports mixed-effects regressions with random effects for individuals and robust standard errors clustered on matching groups. The dependent variable is the output produced by the worker who accepted the employer's offer in a given period. "WD" for the wage difference between the wage offer and the outside option. When controlled for, the socio-demographics include gender, employment status, education, and school. Sessions 1–5 are excluded from the analysis when socio-demographic variables are included and also from models by gender. * $p < .10$, ** $p < .05$, *** $p < .01$.

6 Discussion and conclusion

The literature on Corporate Social Responsibility has established that CSR is important to workers, stemming from their sense of mission or social preferences (Koppel and Regner; Kajackaite and Sliwka; Cassar). Companies that actively invest in CSR policies signal their dedication to tackling major global issues such as climate change, inequality, and poverty. Employees often appreciate this engagement from a moral standpoint. However, they may also appreciate such engagement because it may signal that these companies will be supportive not only of great causes but also of their employees when personal challenges arise.

Our study experimentally investigated two pivotal questions in a labor market context: (i) Are employers who try to attract workers willing to sacrifice monetary resources for CSR to signal their pro-social orientation and willingness to support employees in times of hardship (in our experiment, when the occurrence of a shock deprives them of all their earnings)? (ii) Do workers interpret this CSR engagement

as a reliable signal of the company's future support, thus valuing it highly? In an unpredictable world where individuals frequently face unforeseen circumstances, workers are inclined to seek employment with firms that are likely to assist in crises. When such support is not explicitly guaranteed through contracts, a firm's engagement in CSR may serve as a signal of its social values, thereby being more attractive to job applicants.

In our experiment, we used donations to charities as a proxy for CSR. These voluntary donations by the employers were made visible to potential workers before they decided whether to accept wage offers from these employers. By making CSR efforts transparent, we could directly observe whether employers were more likely to donate when there was a positive probability of a shock affecting the workers and whether CSR engagement increased the likelihood of workers accepting a wage offer when they were at risk of losing their earnings.

When considering the dataset as a whole, our results challenge the reasoning presented above. Employers were not more likely to donate to charities in the Shock treatment compared to the Baseline, nor were those who donated more inclined to help a worker affected by a shock. Additionally, workers did not show a greater willingness to accept wage offers from employers who donated to charities in the Shock treatment compared to the Baseline. These findings suggest that the anticipated signaling effect of CSR on both employer behavior and worker perceptions may not be as straightforward as we previously thought.

However, our exploratory analysis revealed a surprising gender effect, suggesting that one should not hastily reject our signaling hypothesis. Indeed, the results support our pre-registered hypotheses for male employers and workers but not for females. Male employers were more likely to donate to charities in the Shock treatment than in the Baseline, and these donations were predictive of the employers' willingness to help a worker harmed by a shock. Consistently, male workers were more likely to accept offers from employers who donated in the Shock treatment compared to the Baseline. Moreover, they increased their effort in response to donations in the Shock treatment, regardless of the wage accepted. In stark contrast, female employers were not more likely to donate in the Shock treatment than in the Baseline, and those who donated were less likely to support their workers in need. Similarly, female workers were not more prone to accept an offer from an employer who donated in the Shock treatment compared to the Baseline, and their productivity did not respond to employers' donations.

Thus, while our overall dataset does not support the initial hypotheses, the significant gender effects indicate that CSR signaling can still play a crucial role, particularly among male employers and workers. Male workers interpreted employers' donations as a signal for future assistance, demonstrating a clear link between donations to charities

and expected personal support in times of need. In contrast, female workers appeared to consider the generosity of the employer towards charities and the possibility of personal assistance in the event of a shock separately. Given that both activities are costly, female employers chose which of the activities to engage in, resulting in a negative correlation between donation and helping the workers. Female workers did not expect to receive more help from donors. Instead, they reciprocated the kind behavior of donors by accepting their offers, irrespective of the probability of a shock occurring.

We also found that wages were lower when there was a risk of a negative shock compared to the Baseline. This suggests that employers exploited the fact that workers might prioritize relative security and thus accept lower wages. However, there was no evidence of a substitution effect between wages and donations. Furthermore, we found no overall effect of CSR on workers' productivity. This finding is not in line with the existing literature but can be attributed to several factors: workers were paid a piece rate, providing a consistent incentive to maintain high performance; the task duration was short, leaving little room for increasing performance; and the slider task (Gill and Prowse) has challenges in showing performance responses (Araujo et al.).

We acknowledge several limitations of our study. First, for workers to learn whether an employer who donates to charities would also help them in times of need, they had to experience a shock after accepting an offer. This learning process was complicated by the random rematching after each period, preventing employers from building an individual reputation. Moreover, male and female employers utilized CSR differently, and since workers were unaware of the employer's gender, they did not encounter a consistent pattern of behavior over time. A second limitation is that we did not elicit the prior beliefs and how these beliefs were updated over time. Future research could extend our study by eliciting beliefs and measuring how manipulating the risk of a shock influences both employers' and workers' beliefs and behaviors. A third limitation is that we only tested two probabilities of a shock occurring (0 and 25%). An interesting extension would be to explore how varying levels of risk affect employers' investment in CSR and workers' valuation of it. Finally, future research would usefully investigate what could explain the gender differences we identified.

In conclusion, this study expands our understanding of how CSR can be used as a recruitment tool by firms. Our findings add to the current literature by suggesting that CSR can attract potential candidates not only through a sense of mission but also by signaling how the firm will treat its employees in the future. The significant and unexpected gender differences we identified underscore the various ways in which different groups perceive and respond to CSR efforts. This highlights the importance of understanding these dynamics to effectively leverage CSR as a strategic tool for employee engagement and support.

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Appendix

A Experimental Instructions

A.1 Experimental instructions for part 1 of the Shock treatment (translated from French)

Note that the instructions for the Baseline condition did not include the third stage but were otherwise similar to the instructions for the Shock treatment (except that we mentioned only two stages at the beginning of the description of each period.

Welcome to this experiment in decision-making. Please turn off your phone and put it away. You are not allowed to communicate with other participants during the entire session, or you will be disqualified from the session and earnings. If you have any questions, please raise your hand or press the red button on the side of your desk. We will come and answer your questions in private.

You have already earned 5 Euros for showing up on time and during this session, you can earn additional money, depending on your decisions and the decisions of other participants in this session. Please read these instructions carefully.

This session consists of three parts and a final questionnaire. You have received instructions for the first part. You will receive instructions for each new part at the end of the previous part.

During the session, we will not count in Euros but in points. The points earned will be converted into Euros at the end of the session, at the following rates:

For the first part:

$$10 \text{ points} = 0.4 \text{ Euros}$$

For the second and third parts:

$$10 \text{ points} = 0.1 \text{ Euros}$$

You will be paid in cash in a separate room and in private at the end of the session. Nobody else other than you and the person proceeding to the payments will be informed of your earnings.

All the decisions you make during the session are anonymous: at no time will you enter your name into the computer and even after the experiment is over, identities will not be revealed.

Description of part 1

The first part consists of 18 periods. At the end of the session, the computer program will randomly draw two periods and the payment you will receive for this part will be the sum of your payoffs from these periods.

Some of the decisions participants make in the experiment will generate donations to charity organizations. The total amount of donations made from the experiment will be divided equally between the following three organizations:

- AFM-Telethon
- The Red Cross
- The World Wild Fund of Nature (WWF)

More information on each organization can be found at the end of the instructions. The experimenters commit on honor to transfer the total amount of the donations to the three charities at the end of the experiment. Note that the ethical rules of GATE-Lab do not allow the deception of participants by the experimenters. Therefore, all promised donations for the selected periods at the end of the session will actually be sent to the three charities. If you want more information about the transfers, please contact an experimenter after the session. You can also give your email address if you are willing to receive a copy of the receipt attesting that we have actually sent the money to the charities at the end of the experiment.

In this part, the participants will be randomly assigned into roles of workers and employers. These roles will be fixed during the whole part. Workers and employers will be paired randomly at the beginning of each period, and none of the participants will know whom he or she is paired with.

All the participants start each period with an initial endowment. The employers' initial endowment is higher than the workers' by 30 points. Employers can use these extra points for social activities, as described later.

Description of each period

Each period consists of three stages, as explained below.

Stage 1: Job offers

At the beginning of each period, the employer makes a job offer to the worker. The worker is informed of the two components of the offer:

- A wage rate for each unit of performance of the worker and paid to the worker at the end of the period. This rate can be any integer between 1 and 19, and it will be multiplied by the output of the worker (as explained below) to determine the total wage that the employer will pay to the worker.
- Whether the employer has been awarded a social badge. The badge is a combined symbol of the three charity organizations listed above and is given only to employers who chose to donate 10 points to these organizations. The donation will be made regardless of whether the worker accepts or rejects the offer.

The worker receives three independent job offers, displayed in random order. The worker has to make a decision for each of the three offers, that is, decide whether to accept it and work for the employer or reject it and work as an independent worker. It is possible to accept 0, 1, 2, or 3 offers.

Only one of the three offers is the offer made by the actual employer, and the other two offers are generated by the computer program. After the worker makes decisions for all three

offers, the computer program reveals to the worker which one is the actual offer of the employer. Only the actual offer is relevant for the next stages. The employer is not informed of any job offer that he or she did not make himself or herself.

There is **no need to guess which offer is the actual one**. Please respond to each offer as if it were the actual offer.

A worker who accepted the actual job offer works for the employer, and his or her output in the task determines both the employer's and the worker's payoffs, as explained later. A worker who rejected the actual offer works independently, and his or her output in the task determines only his or her payoff.

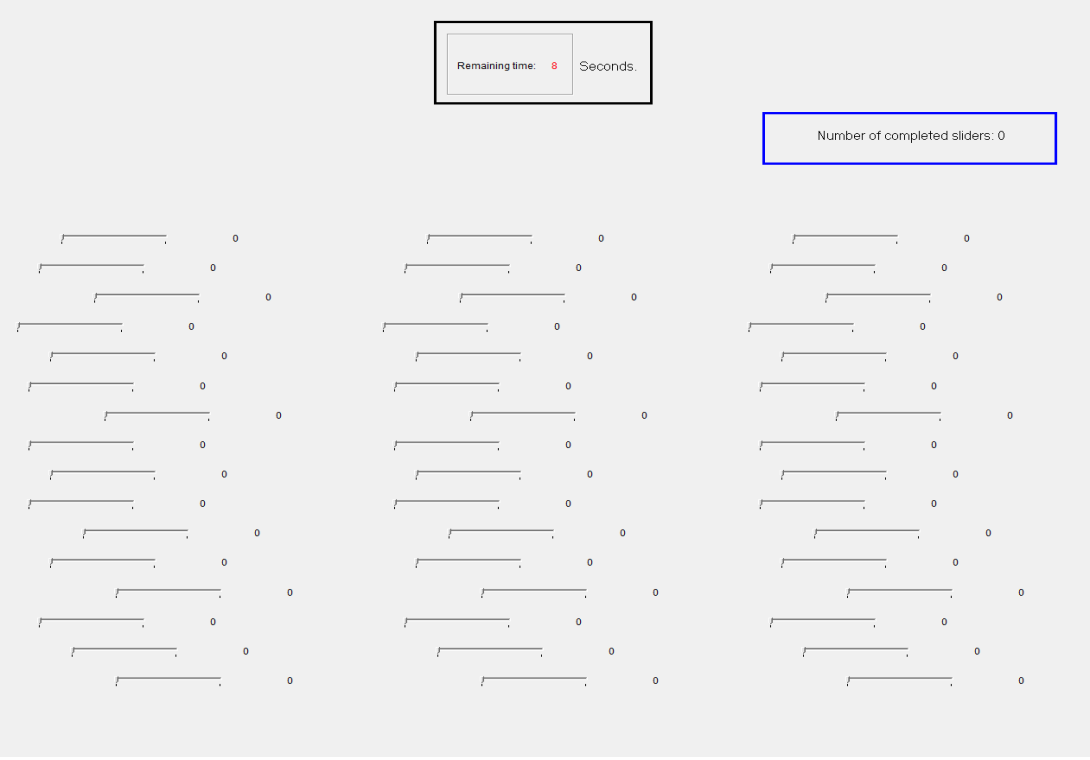
Stage 2: The task

Nature of the task

The worker is prompted to perform a task. This task is the same whether the worker has accepted the employer's offer or is working independently. The working time in each period is 40 seconds.

During this time, the worker's screen represents 48 sliders, as shown in the screenshot below. On each slider, a cursor is initially positioned at the number 0 and can be moved up to the number 100. Each slider has a number to its right indicating its cursor's current position. The worker can move the cursor by clicking on it and moving the mouse. The use of keyboard keys is not allowed.

Example of task screen



The worker's task is to position as many cursors as possible at the number 50 in 40 seconds.

The screen continuously displays the number of completed sliders, that is, the current number of cursors positioned exactly at 50. The number of cursors positioned at 50 at the end of the 40 seconds determines the output of the worker in that period.

- For workers who **accepted the employer's job offer** in Stage 1, each cursor positioned at 50 is multiplied by the accepted **wage rate** to determine the workers' payoff. Each cursor positioned at 50 also generates a payoff of **20 points** for **the employer**.
- For workers who **rejected the employer's job offer** in Stage 1 and chose to work independently, each cursor positioned at 50 generates **an independent payment rate** for **the worker**, and does not generate any points for the employer.

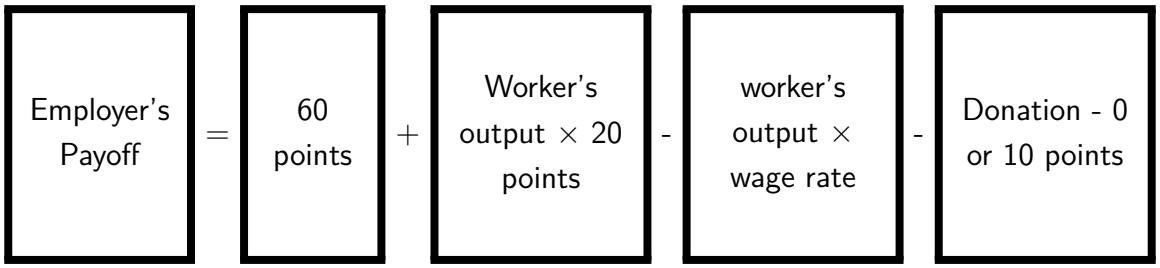
Before deciding whether to accept or reject a job offer, the workers will learn their payment rate as independent workers for this period. The independent payment rate will be picked at random for each worker at each period and will be between 3 and 7. It will not be observed by the employer.

While the worker performs his or her task, the employer has to wait. While waiting, the employer can click on a blue ball that will appear at random locations on the screen. Clicking on the ball does not generate any points.

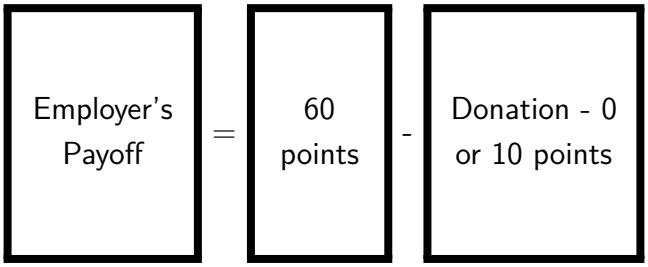
Once the 40 seconds have elapsed, both the employer and worker are informed of their total payoffs from the period. The employer whose job offer has been accepted is also informed of the number of cursors the worker correctly positioned at 50.

Payoffs in Stage 2

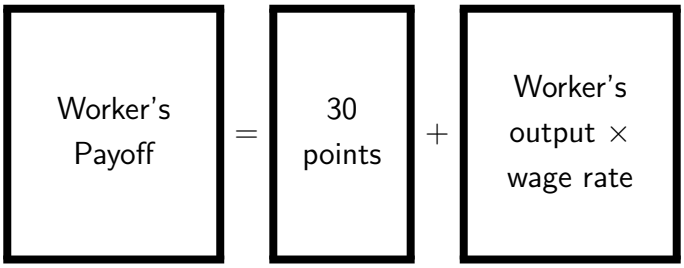
An employer whose job offer has been accepted by the worker receives his or her initial endowment of 60 points, plus the worker's output multiplied by 20 points, minus the wage paid to the worker (worker's output multiplied by the wage rate), minus the donation to the charities if any.



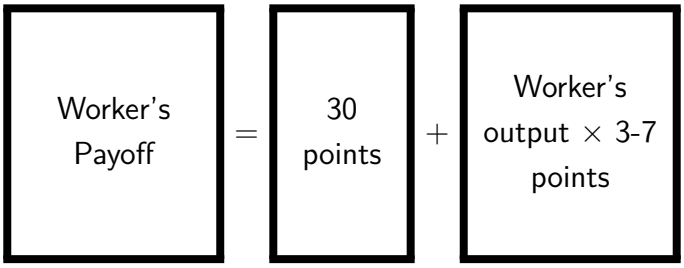
An employer whose job offer has not been accepted by the worker receives his or her initial endowment of 60 points, minus the donation to the charities if any.



An employed worker receives his or her initial endowment of 30 points, plus his or her output multiplied by the wage rate chosen by the employer.



An independent worker receives his or her initial endowment of 30 points, plus his or her output multiplied by a number of points between 3 and 7, depending on a random draw in the period.



Stage 3: Occurrence of a shock

Once stage 2 is completed and everyone observed their payoffs from the period, the worker may suffer a personal shock. This shock destroys the worker's payoff for the period, except for his or her initial endowment of 30 points. The shock affects neither the employer's payoff nor the donations. The worker and the employer are informed if a shock occurs. Two cases have to be distinguished:

- If a shock happens to a worker who accepted the employer's job offer: the employer can pay 10 points (deducted from his or her own payoff) to fully compensate the worker against the monetary consequences of the shock, thereby preventing any loss.
- If a shock happens to an independent worker, this worker cannot benefit from the compensation by an employer and this worker loses his or her payoff from the work stage except for his or her initial endowment of 30 points.

An employer whose offer has been accepted by the worker will have to decide whether to help the worker or not in case a shock occurs, before knowing if the shock occurred or not. An employer who chooses to help will pay the 10 points only if the shock occurs. If a shock does not occur, nothing will be deducted from the employer's payoff. The worker will be informed of the employer's decision only in the case a shock occurs.

At the beginning of the part, both employers and workers learn the probability that a shock will occur in each of the following 18 periods. The probability of a shock does not change across periods and each period is independent.

End of the period

At the end of the period, the participants learn their final payoffs from that period.

Start of a new period

Starting from the second period and at the beginning of each period, all the participants will observe a history table. The table displays the information from previous actual offers (wage rate and donation), whether the workers accepted the offers and information about the shock and employers' decision to help when a shock occurred.

Practice

At the beginning of the part, you will be required to answer some questions about the instructions to check your understanding of the instructions. Next, you will be able to practice the slider task for 40 seconds, regardless of your role. The purpose of this practice is to let you get familiar with the task. Your performance at this practice will not affect your payoffs.

Summary of the instructions for part 1

- You are randomly assigned to the role of worker or employer. This role is fixed for the whole part.
- At the beginning of each period you are matched with a participant with a different role than yours. **At the beginning of each period, you are randomly rematched with a different participant**.
- The employer makes a job offer to the worker that includes a wage rate and specifies if he or she has donated to the charities. If the employer donates, he or she will be awarded a social badge visible to the employee.
- The worker receives three job offers and has to accept or reject each of them. Then, the actual offer of the employer is revealed.
- The employer will have to make the proposed donation to the charities even if his or her job offer has been rejected by the worker.
- The worker works on the slider task for 40 seconds.
- In each period, a negative personal shock can destroy the payoffs from the period of the worker, except for his or her initial endowment of 30 points.
- The employer decides whether to spend 10 points to fully compensate the worker against the monetary consequences of a possible shock if it occurs. If the shock does not occur, no points will be deducted from the employer's payoff.
- A worker who has rejected the employer's job offer and is affected by a shock cannot benefit from any compensation.

Please read again these instructions. If you have any questions, please raise your hand or press the red button. We will come and answer your questions in private.

Information about the charities

AFM - Telethon :

AFM-Telethon is an association of patients and their families that collects funds for medical research on genetics and gene therapy and fights for the recognition of rare diseases as a public health issue. Here is an excerpt from their website outlining its activity: "AFM-Telethon, created in 1958 by a handful of parents taking up arms against the ignorance and powerlessness of medicine and science in the face of the neuromuscular diseases affecting their children, has a single goal: to find treatments to cure rare diseases. 65 years after it was founded, the organization remains an association led by a board of directors consisting of patients and their families. Thanks to donations made during the Telethon, it has become a major player in biomedical research into rare diseases in France and abroad. "

The Red Cross

The international committee of the red cross (ICRC) established in 1863, operates worldwide, helping people affected by conflict and armed violence and promoting the laws that protect victims of war. An independent and neutral organization, its mandate stems essentially from the Geneva Conventions of 1949. The ICRC is funded mainly by voluntary donations from governments and from National Red Cross and Red Crescent Societies. Here is an excerpt from Wikipedia outlining its activity: The International Red Cross and Red Crescent Movement is an international humanitarian movement with approximately 97 million volunteers, members and staff worldwide, which was founded to protect human life and health, to ensure respect for all human beings, and to prevent and alleviate human suffering.

World Wild Fund of Nature:

The World Wide Fund of Nature (WWF) works to help local communities conserve the natural resources they depend upon, transform markets and policies toward sustainability, and protect and restore species and their habitats. Here is an excerpt from Wikipedia outlining its activity: The WWF is an international non-governmental organization that works in the field of wilderness preservation and the reduction of human impact on the environment. WWF is the world's largest conservation organization, with over five million supporters worldwide, working in more than 100 countries and supporting around 3,000 conservation and environmental projects. WWF aims to "stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature."

A.2 Instructions for the SVO questionnaire in part 2 (translated from French and displayed on screen)

In this task, you have been randomly matched with another person, whom we will refer to as "the other". This other person is someone you do not know and will remain mutually anonymous. All of your choices are completely confidential.

You will be making a series of decisions about allocating resources between you and this other person.

For each of the following questions, please indicate the distribution you prefer most by marking the respective position along the midline. You can only make one mark for each question. Your decisions will yield money for both yourself and the other person.

There are no right or wrong answers, this is all about personal preferences.

At the end of the experiment, the computer will randomly choose one distribution for each participant. Your payoff in this part will be the amount you allocated to yourself in your chosen distribution, plus the amount the other person allocated to you in his chosen distribution.

A.3 Instructions for the Risk attitude task in part 3 (translated from French and displayed on screen)

You receive 100 points and must choose how many of these points (between 0 and 100, inclusive) you wish to invest in a risky option. You keep the points you don't invest.
There is a 50% chance that the investment in the risky option will be a success.

- If the investment is a success, you earn 2.5 times the amount invested.
- If the investment is not a success, you lose the amount invested.

A.4 Post-experimental questionnaire (displayed on screen)

Questions for the employers:

Please indicate the reasons why you have chosen to donate to charities. For each possible reason, please respond by clicking one of the buttons from "strongly disagree" (1) to "strongly agree" (7).

- I cared about the charity organizations.
- I wanted to tell my friends later.
- The worker was more likely to accept my offer.
- I felt obligated because it was offered by the experimenter.

In your opinion, to what extent did the following parameters influence workers' decisions to accept or reject an offer?

- The wage rate
- The donation
- The probability of a shock

Questions for the workers:

What reasons do you think employers had for choosing the amount of their donations? For each possible reason, please respond by clicking one of the buttons from "strongly disagree" (1) to "strongly agree" (7).

- They cared about the charity organizations.
- They wanted to tell their friends later.
- They thought it was more likely that the worker would accept their offer.
- They felt obligated because it was offered by the experimenter.

To what extent did the following parameters influence your decision to accept or decline an offer?

- The wage rate
- The donation
- The probability of a shock

B Appendix Table

Table B1: Participants' background characteristics

	Baseline	Shock treatment	*p-value*
Mean age (years)	21.0	21.5	.651
Female (%)	52.1%	37.5%	.054
Education			.186
Bac+2	18	22	
Bac+3	36	36	
Bac+4	19	6	
Bac+5	17	18	
Bac+6 or above	3	5	
Other	1	1	
School			.681
EC Lyon (eng.)	38	42	
EM Lyon (bus.)	45	37	
ISOSTEO (med.)	0	1	
ITECH (eng.)	6	4	
Other	5	4	
SVO angle	18.6	18.1	.854
Risk attitude (% invested)	59.5	63.8	.294

Notes: The SVO angle is based on the test administered in part 2. Risk attitude is measured as the percentage of endowment invested in part 3. The reported *p-values* are from Mann-Whitney rank-sum tests (age, SVO angle and risk attitude), Fisher's exact test (female), and χ^2 tests (education and school.