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Corporate Social Responsibility in the work place – Experimental evidence on CSR from a gift-exchange game

by

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Abstract

We analyze the effect of investments in corporate social responsibility (CSR) on workers' motivation. In our experiment, a gift exchange game variant, CSR is captured by donating a certain share of a firm's profit to a charity. We are testing for CSR effects by varying the possible share of profits given away. Additionally, we investigate the effect of a mission match, i.e., a worker preferring the same charity the firm is actually donating to. Our results show that on average workers reciprocate investments into CSR with increased effort. A mission match does result in higher effort, but only when investment into CSR is high.

Key words: Corporate Social Responsibility, gift-exchange game, experiment, labor market, incentives, moral hazard, principal agent
JEL Classification: C73, C91, D03, J01, M14, M52

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1 Introduction

Corporate social responsibility (CSR) has been a topic of hot debate in economics, not the least since a provocative New York Times article – Friedman (1970) – that stated "the social responsibility of business is to increase its profits". Recently this debate attracted increased attention from the perspective of market efficiency. Government regulation in the spirit of Pigou (1920) often fails to adequately address the negative externalities caused by firms. As a response to this combination of market and state redistribution failure CSR is proposed, that is, private firms engage voluntarily in costly efforts to address environmental or social problems.[1] These costly CSR activities may be beneficial to firms as they can have a positive effect on the decisions of socially-/environmentally-minded individuals consuming products of the firm (see, Fisman et al. 2006, Ghosh and Shankar 2009, among others), investing in (cf. Orlitzky et al. 2003), or working for the firm (see, for instance, Turban and Greening 1997). In labor markets – the focus of our study – the argument in favor of CSR is that firms' CSR activities might attract more motivated workers which in turn may lead to an increase of profits (see, for instance, Brekke and Nyborg 2008). However, little is known about the driving factors at the individual level. Do workers react to CSR activities of a firm, possibly by increasing their effort? A common finding in recent behavioral principal agent theory (see Charness and Kuhn 2011, for an overview) is that non-monetary incentives can motivate agents. Workers may regard firms' investment into CSR as such a non-monetary motivation, especially if workers like the particular CSR acitivity, i.e., mission, of the firm. Besley and Ghatak (2005) stress the importance of such matching missions in a principal agent relationship and they theoretically show that missions can economize on the need for high monetary incentives if workers subscribe to the firm's mission. That is, by investing into CSR firms may create non-monetary incentives that reduce moral hazard, especially if the firm's and workers' missions match.

Hence, the aim of this paper is to shed more light on the individual decision making of workers in response to firms' CSR and a possible mission match. For this purpose we set up an experimental design based on the gift exchange game (a workhorse to analyze labor market settings, see Fehr et al. 1993, 1998, 2007, among others) where firms set wages and then workers select their effort level. CSR is introduced into this experimental labor market as a certain share of total revenue given to a third party, e.g., a good cause. In the experiment this CSR activity is

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[1]They may also try to directly reduce or avoid altogether negative externalities of their business activities. For general discussions of CSR, see for instance Baron (2007, 2008, 2009), Auld et al. (2008), or Bénabou and Tirole (2010).

implemented by a donation to charity.[2] In order to analyze the effect of introducing CSR on firms and workers we set up 3 treatments that differ in the extent of CSR activity the firm can choose. The first treatment (GEG) does not include any CSR activity and serves as a baseline for our experimental labor market setting. CSR is introduced in the second and third treatment in which firms can choose a share of profits given to charity (none, 10%, 20% and 30% in the CSR4 treatment; none and 10% in the CSR2 treatment). As Besley and Ghatak (2005) stress the importance of matching mission preferences of principals and agents for the motivation of agents, we elicit participants' preferences for the five charitable organizations that are offered. If the worker's effort translates into a donation to a cause that is perceived as good (matching the mission preferences of the worker) a caring worker might be influenced in a positive way and chooses a higher effort level. In addition to the mere extent of CSR activity we can thus study the role of matching mission/charity/cause preferences on the decision making of workers.

The experimental data shows that there is an effect of CSR activity on worker motivation. The effect depends not only on the introduction of CSR, but also on its extent. Moreover, matching mission preferences matter, but only in combination with a high level of CSR. It seems that firms need to be serious about their CSR activity in order to achieve a motivating effect of the mission match.

Previous studies of CSR activities have been either theoretical or empirical, based on secondary data or survey responses (see citations above). Turban and Greening (1997) combine secondary data from KLD Company Profiles[3] with survey measures on the attractiveness of companies for students. They find that organizations utilizing CSR are more attractive to employees and might have a comparative advantage in attracting applicants. Frank (2004) using survey and Nyborg and Zhang (2010) register data show that CSR is associated with lower wages. Individuals' self-selection into sectors or organizations with a similar mission as their own is analyzed by Serra et al. (2010). Using a survey and experimental measure of pro-social motivations for Ethiopian health professionals they find that these can predict the decision to work in the non-profit sector. Moreover, pro-social workers earn less in the non-profit sector than their colleagues scoring lower on the measures of pro-social motivation. An experimental exception in this line of literature is Tonin and

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[2]It shall be noted that CSR activities are manifold. We focus on donations to charity for practical reasons. Auld et al. (2008) discuss seven CSR categories, including corporate philanthrophy, which is based on charitable giving by firms. Although they categorize corporate philanthrophy as one of the "old CSR" categories, it is still a valid CSR instrument used by firms.

[3]A database developed by Kinder, Lydenberg, Domini & Co. which makes organizations' Corporate Social Performance publicly available.

Vlassopoulos (2010) who disentangle pro-social motivations within the workplace, however, not pro-social or mission motivations in a labor market. We are, to the best of our knowledge, the first analyzing effects of CSR in a laboratory experiment. Therefore, the design might serve as a useful tool to investigate individual decision making when CSR aspects play a role.

Our main result – on average workers reciprocate not only higher wages but also investments into CSR with increased effort – also contributes to the principal agent literature. It adds to the list of non-monetary incentives to motivate workers (besides awards, concern for status, and communication, see List and Rasul 2011, Charness and Kuhn 2011) that provide alternatives to the monetary incentives approach of standard contract theory. The standard neoclassical labor market model assumes rational and opportunistic workers. Workers' effort is usually non-contractible above a minimum and the moral hazard problem arises. A principle in labor economics is that (monetary) incentives matter. In contract theory a main question has been how workers respond to incentives and whether those can alleviate the moral hazard problem. Lazear (2000) theoretically and empirically shows under the assumption of heterogeneous workers that average output under a linear piece rate scheme is higher, or at least not lower, than under a flat wage regime as for some workers the increase in compensation offsets their cost of effort. In a natural field experiment Shearer (2004) tests and confirms the theoretical result. However, with performance pay a ratchet effect may occur in which workers restrict their output anticipating that firms will raise output requirements or wage cuts in response to higher output levels. Charness et al. (2011) provide experimental evidence on the ratchet effect in a multi-period principal-agent setting in the absence of labor market competition. In a fixed wage regime neoclassical theory predicts that workers will exert minimum effort to fulfill the offered contract. However, there is no uniform empirical support for it. Employers often pay higher wages and workers exert more than the minimum effort level. Based on this observation the fair wage hypothesis (Akerlof 1982, 1984) has been proposed and tested successfully in gift-exchange experiments (Fehr et al. 1993, 1998, 2007). Another strand of the literature analyzes non-monetary incentives to motivate workers. One such example are status incentive schemes in which workers receive a positional good, like an "employee of the month" title or plaque. Moldovanu et al. (2007) and Besley and Ghatak (2008) theoretically analyzed the motivational effects of status incentives on workers in an organizational context. In a recent field experiment, Kosfeld and Neckermann (2011) provide evidence on the motivational effects of status in labor relations as symbolic awards substantially increase workers performance. Similarly, results of recent laboratory experiments

stress the importance of peer pressure or social spillovers, respectively, on agents' reciprocity (Mittone and Ploner 2011, Gächter et al. forthcoming). Also cheap talk communication has been found to have a positive effect on behavior in principal-agent situations. Charness and Dufwenberg (2006) find that non-binding pre-play communication fosters trust and cooperation in a partnership experiment (a mini trust game). Brandts and Cooper (2007) find that communication (between managers and workers) about the mutual benefits of high effort outperforms the positive effect of direct financial incentives on performance. Our study complements the existing non-monetary approaches to motivate workers and presents an alternative way – honest/substantial investments into CSR – to alleviate the moral hazard in principal agent settings.

Section 2 provides the theoretical background of our labor market setting. In section 3 we describe the experimental design, all treatments, the experimental protocol, and derive behavioral predictions. Our experimental results are presented in section 4. Conclusions and discussion in section 5 round off the paper.

2   Theoretical Background

Our stylized labor market setting consists of risk-neutral principals, indexed j, and risk-neutral agents ("worker"), indexed i. In order to gain profits a principal needs an agent to interact with, i.e. a workforce. The principal's resulting profit, π, is an increasing and concave function of the effort, e, supplied by the agent at increasing costs $c(e)$, with $c'(e)$ and $c''(e) > 0$. Effort is not contractible. It is assumed that the agent has no wealth and, hence, no possibility to put in a performance bond, however, opportunity costs for accepting a wage offer of $c_0 > 0$. This implies a limited-liability constraint and the agent needs every period, irrespective of performance, at least a wage $\underline{w} \geq c_0$. Therefore, a moral hazard problem exists. It is furthermore assumed that each principal has sufficient wealth v and wage offers are restricted to $w \leq v$ such that a principal cannot make losses and loss aversion is ruled out. Agents are assumed to be identical in their ability to work for any principal and both, the principal and agent, can obtain an outside option of zero.

The interaction is sequential and one principal is matched with one agent at a time. A principal proposes a wage w which the matched agent accepts or rejects. If the agent rejects the offer both, the principal and agent, receive their outside option of zero. Otherwise the agent selects an effort $e \in (0, 1]$. The chosen effort results in the principal's profit function of $\pi(e, w)$, with $\frac{\partial \pi(e,w)}{\partial e} > 0$, $\frac{\partial^2 \pi(e,w)}{\partial e} \geq 0$ and $\frac{\partial \pi(e,w)}{\partial w} > 0$. Conditional on accepting the wage offer, the agents payoff is given by

$y_i(w_j, c(e_i))$, with $\frac{\partial y_i(w_j, e_i)}{\partial w_j} > 0$ and $\frac{\partial y_i(w_j, e_i)}{\partial e_i} < 0$. The solution for self-interested agents payoff maximization problem is to accept any wage offer $w_j \geq c_0$ and exert the minimum level of effort $e_i = \underline{e} > 0$ possible. Rational principals will anticipate the agents rational effort choice and offer the lowest possible wage which the agent is likely to accepted, i.e., $w_j = \underline{w}$.

However, it has been previously shown that not all agents behave self-interested and differ in their inclination to reciprocate wages (cf. Fehr et al. 1993, 1998, 2007). Agents may derive, for example, some non-pecuniary benefit from reciprocating wages, e.g., for behavior consistent with a working norm (cf. Akerlof 1982, 1984) or reciprocating kind behavior (cf. Rabin 1993, Dufwenberg and Kirchsteiger 2004). Individual differences are captured by $\rho_i(w) \in [0, \max\{c'(e)\}]$, with $\rho_i'(w) \geq 0$. If $\rho_i(w) = 0$ agents behave fully self-interested. Thus, agent i's individual utility function including non-pecuniary benefits of reciprocating wages and faced with a wage offer by principal j is described by $U_i^A(w_j, c(e_i), e_i(\rho_i(w_j)))$. Assuming additive separability in all aspects of the utility function and $\frac{\partial U_i^A(\cdot)}{\partial e_i(\rho_i(w_j))} \geq 0$, the agents maximization problem can be described as:

$$\max_{e_i} \quad U_i^A(e_i) = e_i(\rho_i(w)) + w - c(e_i) - c_0 \tag{1}$$

and results in the following first order condition:

$$\rho_i(w_j) = c'(e_i). \tag{2}$$

Hence, if at least some agents reciprocate wage offers, i.e., $\rho_i(w) > 0$, average effort levels are above the minimum and increase in wages. A principal expecting some reciprocation might well be better off with respect to profits by increasing the wage offer above the minimum as long as $\frac{\partial \pi_j(\cdot)}{\partial w_j} \geq 0$. Under the functional form of $\pi_j = (v - w_j)e_i(\rho_i(w_j))$, which is also used in the later described experiment, the resulting FOC of the profit maximization problem leads to a wage offer of:

$$v - \frac{e_i(\rho_i(w_j))}{\frac{\partial e_i(\rho_i(w_j))}{\partial w_j}} = w. \tag{3}$$

Equation (3) shows that a principal expecting some reciprocation might be better off with respect to profits by increasing the wage offer above the minimum and should optimally do so as long as the inequality $v - \frac{e_i(\rho_i(w_j))}{\frac{\partial e_i(\rho_i(w_j))}{\partial w_j}} > \underline{w}$ holds, otherwise the optimal wage offer corresponds to the minimum wage.

The introduction of CSR does not change the basic structure of the interaction. CSR is captured by spending (i.e., donating) a certain share $\beta \in [0, 1]$ of the principal's profit for a CSR activity. CSR does not affect the agent's payoff, yet the

agent's effort decision not only determines the principal's profit, but, indirectly, the total amount spent for CSR. The principal has to simultaneously decide on a wage w and β, the level of CSR activity.

Similar to differentiating agents according to their inclination to reciprocate wages, we assume that principals and agents differ with respect to their valuation of supporting a "good" cause, i.e., the level of CSR activity (β). Moreover, in line with Besley and Ghatak (2005), CSR activities differ in terms of their mission, e.g., supporting different causes. Some principals and agents may value a particular mission over and above their monetary income they receive from the work relationship and the valuation of CSR in general. In our basic model principals can choose a particular mission from an exogenously given set of k available missions. There are $(k+1)$-types of principals and agents, labelled $p \in \{0, \dots, k\}$ and $a \in \{0, \dots, k\}$, respectively. This reflects the particular mission preference. Principals and agents of type 0 have entirely monetary incentives, whereas all types ($p > 0$ and $a > 0$) may have some non-pecuniary component or valuation of the mission, i.e., supporting a good cause. Therefore, the introduction of CSR does not change anything for type 0 principals and agents, however, for all others. The utility for agents of type 0 depends positively on money and negatively on effort. All other agents' utility additionally depends positively on the level of β, which adds to the utility they receive by reciprocating wages. Moreover, if the agent's mission (e.g. preferred cause) and the principal's mission match, agents are even more motivated and receive additional utility $\gamma > 0$ from exerting effort (cf. Besley and Ghatak 2005). Therefore, the agents utility function also depends on the particular principal type they are matched with and can be summarized as follows:

$$
U_{ia}^A = \begin{cases} e_{ia}(\rho_i(w_j)) + w_j - c(e_i) - c_0 & \text{if} \quad a = 0 \quad \text{and/or} \quad p = 0 \\ e_{ia}(f_{ia}(\beta_p) + \rho_i(w_j)) + w_j - c(e_i) - c_0 & \forall \quad a \in \{1, \dots, k\}, p \in \{1, \dots, k\}, a \neq p \\ e_{ia}((f_{ia}(\beta_p) + \gamma) + \rho_i(w_j)) + w_j - c(e_i) - c_0 & \forall \quad a \in \{1, \dots, k\}, p \in \{1, \dots, k\}, a = p. \end{cases}
$$

$$(4)$$

The function $f_i(\beta_p)$ captures the agents' reaction to the principals' chosen CSR activity and is increasing in β, i.e., $f_i'(\beta) > 0$, but not bound to zero, meaning that $f_i(0)$ can well be negative. Maximizing the agent's utility with respect to effort leads to the following first order conditions:

$$
\frac{\partial U_{ia}^A}{\partial e_{ia}} = \begin{cases} \rho_i(w_j) - c'(e_i) = 0 & \text{if} \quad a = 0 \quad \text{and/or} \quad p = 0 \\ (f_{ia}(\beta_p) + \rho_i(w_j)) - c'(e_i) = 0 & \forall \quad a \in \{1, \dots, k\}, p \in \{1, \dots, k\}, a \neq p \\ ((f_{ia}(\beta_p) + \gamma) + \rho_i(w_j)) - c'(e_i) = 0 & \forall \quad a \in \{1, \dots, k\}, p \in \{1, \dots, k\}, a = p. \end{cases}
$$

$$(5)$$

Equation (5) shows that if the agent and principal care for a mission in general, but their missions do not match, the agent's effort is equal or higher than in the case without any CSR activity if $f_{ia}(\beta_p) \geq 0$. It additionally shows that a mission match increases the agents' effort even more such that the effort is higher than in the case without a match.

As mentioned above the agent's individual reaction function to the principal's chosen CSR activity, $f_i(\beta)$, might not be bound to zero. Moreover, it might not be individually fixed and varies between different scenarios an agent might face. Let us consider two scenarios which only differ in the possibilities for the principal to engage in CSR activities, i.e., the set of β values the principal can choose from. Scenario I captures a situation where no CSR is possible, i.e., the one without CSR described at the beginning of this section. An example of this scenario can be the merely for profit oriented sector in which no agent expects any CSR activity and therefore the agent's reaction function $f_i(\beta)$ does not exist or is simply set to zero. The other scenario II is the one described above in which principals can choose the level of CSR activity. If agents know the principal's possibilities to engage in CSR and they care for supporting a good cause, a low level of CSR activity or the actual decision not to engage in CSR might be punished by exerting less effort. In such a situation $f_i(\beta)$ is, although increasing in β, negative for at least some low levels of β. Then, assuming the same agents in scenario I and II, the agents average chosen effort level for $\beta = 0$ will be lower in scenario II than scenario I.

Similar to agents, principals exhibiting other-regarding concerns might be interested in contributing to a good cause, captured in $\theta_p(\beta_p)$ with $\theta'_p(\beta_p) > 0$. Besides offering higher wages – which, however, can be driven by reciprocal expectations – choosing higher levels of CSR will satisfy other-regarding concerns. Additionally, expecting that agents reciprocate higher levels of CSR, principals can choose their CSR level strategically. If a positive correlation between the level of CSR and effort exists and is large enough, principals might even increase net profits. Incorporating principals' other-regarding concerns can be captured in the following utility function:

$$U_{jp}^P = \begin{cases} (v - w_j)e_i & \text{if} \quad p = 0 \quad \text{and} \quad a = 0 \\ (1 - \beta_p)(v - w_j)e_i(f_i(\beta_p)) & \text{if} \quad p = 0, a \in \{1, \ldots, k\} \\ (1 - \beta_p)(v - w_j)e_i + \theta_p(\beta_p) & \forall \quad p \in \{1, \ldots, k\} \quad \text{and} \quad a = 0 \\ (1 - \beta_p)(v - w_j)e_i(f_i(\beta_p)) + \theta_p(\beta_p) & \forall \quad p \in \{1, \ldots, k\} \quad \text{and} a \in \{1, \ldots, k\}. \end{cases}$$

$$(6)$$

It can be seen that principals of type $p \in \{1, \ldots, k\}$ will choose a positive β as long as $\theta(\beta) > \beta(v - w)e$. Moreover, a principal of any type $p \in \{0, \ldots, k\}$ can strategically increase profits if the paired agent is of type $a \in \{1, \ldots, n\}$ and $e_i(f_i(\beta)) > \beta$.

3 Experimental Design

In order to capture firms' CSR activities we extend the basic gift exchange game to a three player version and are thus able to compare our results to previously run two player gift exchange experiments. In the following we describe the basic setting and our treatments in some details.

3.1 General Setting

In the original game each firm interacts with one worker at a time. A firm proposes a wage w, then its matched worker selects an effort level $e \in [0, 1]$. Choosing an effort level $e = 0$ connotes a rejection of the offer and both, the firm and the worker, earn nothing. Otherwise, the chosen effort e results in the firms' profit function described by:

$$\pi = (v - w)e,$$

where v is an exogenously given redemption value. Wage offers are restricted to $w \leq v$ to rule out any form of loss aversion by firms. Since effort is costly, a worker's payoff is described by:

$$y = w - c(e) - c_0,$$

where $c(e)$ represents increasing costs of effort according to table 1 and c_0 depicts the worker's opportunity costs of accepting a wage offer. The chosen effort scheme is more fine grained than in Fehr et al. (1998), to capture possible smaller changes in response to the offered wage and chosen CSR activity, described below.

Table 1: The agent's effort cost function

e	0	0.1	0.15	0.2	0.25	0.3	0.35	0.4	0.45	0.5
$c(e)$	0	0	0.5	1	1.5	2	3	4	5	6

e	0.55	0.6	0.65	0.7	0.75	0.8	0.85	0.9	0.95	1
$c(e)$	7	8	9	10	11	12	13.5	15	16.5	18

The introduction of CSR does not change the basic structure of the game. CSR is captured by giving a certain share β of the firm's profit to a third receiving

party. The receiving party is inactive and has no choice to make throughout the game. Firms have to simultaneously decide on a wage w and β, the level of its CSR activity. Then workers decide on their effort. This modification results in the following payoffs for the three player gift exchange game:

- Principal: $\pi = (1 - \beta)(v - w)e$

- Agent: $y = w - c(e) - c_0$

- Recipient: $d = \beta(v - w)e$.

3.2   Treatments

In all treatments n firms and n workers trade for n periods. Each period a firm is paired in a perfect stranger fashion with a different worker to rule out any reputation effects within a pair. The variables v and c_0 were fixed throughout all treatments and periods at $v = 120$ and $c_0 = 20$, respectively. Moreover, wage offers are restricted to $w \in \{20, 30, \ldots, 120\}$ and the firms choice set of possible levels of CSR (β) serves as the treatment variable. Everything concerning the game and actual parameters is common knowledge.

The first treatment (GEG) is based on the two player bilateral gift exchange game without a third CSR receiving party. It is similar to the BGE treatment of Fehr et al. (1998), however, with a modified effort scheme (see table 1 above). After each period subjects get information on the wage, effort and the resulting payoff. The initial experiment run in Linz in 1993 is quite old and behavior might differ today and in another place.[4] Results of GEG will serve as a robustness check of the original study as well as a baseline for behavior in the CSR treatments.

Instead of having a third inactive player in the laboratory, the share of the firms profit is given to charity. All participants are asked to state their preferred charity (they could choose from Amnesty International, Greenpeace, Caritas, Doctors without Borders and Unicef) they would donate to before and after information on the actual game. Moreover, they can state that they do not care to which charity they donate as a sixth option.[5] This procedure gives a clean preference for a charity (first question) and a possible strategic choice after they know the rules of the

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[4]The actual experiment was run in 2010/11 in Jena.

[5]The question before and after participants know the game slightly differ. Before they are asked to which charity they would like to donate 10 Euro. After knowing the game they are asked to which charity they want to donate money from the experiment. If the sixth option is chosen a random draw at the end of the experiment determined one of the five charities, which is clearly described in the instructions.

game (second question). For firms' donations only the second choice is relevant and fixed throughout the course of the experiment. Besides keeping instructions and the game as similar as possible between firms and workers, asking all participants for a preference on the charities gives us the possibility to analyze the effect of a mission preference match, i.e., the firm and the worker prefer the same charity.

A third CSR receiving party is introduced in $CSR4$ as described above. In every period firms offer workers a wage $w \in \{20, 30, \ldots, 120\}$ and denote their CSR level $\beta \in \{0, 0.1, 0.2, 0.3\}$ simultaneously. Workers get information on the offered wage w and decide for all possible levels of β on one screen, i.e., in the strategy method (Selten 1967). After each period subjects are informed about the chosen wage, effort level and payoff. Only firms are informed about their chosen CSR level.[6]

Going from GEG to $CSR4$ is the most realistic, however, changes two aspects at the same time. $CSR4$ introduces not only CSR, but also various degrees of it. Thus, we are able to detect whether introducing CSR has an effect only in a situation in which different levels are possible. For workers, which in general value CSR, the reaction to $\beta < \overline{\beta}$ is ambiguous. Although choosing $0 < \beta < \overline{\beta}$ shows the firm's intention to engage in CSR, a worker might have preferences over the actual level as well. Hence, workers may sanction firms setting β below their preferred level by choosing an effort lower or equal to the situation with $\beta = 0$ or no β as in GEG. Similarly, subjects might see the CSR activity as categorial instead of increasing and only take the highest β seriously. To control for such effects and, moreover, simply looking at the plain effect of introducing the possibility for firms to donate a share of profits, we implemented an additional treatment: $CSR2$. $CSR2$ is the same as $CSR4$, but the choice on β is limited to $\beta \in \{0, 0.1\}$, providing an on/off-decision only.

In all we set up three treatments, which are summarized in table 2.

3.3   Behavioral Predictions

Since effort is not enforceable above the minimum of $\underline{e} = 0.1$, accepted labor contracts are incomplete. Consequently, assuming individuals to be self-interested, a worker accepting a wage offer will always choose the minimum effort level, regardless of any CSR activity. As wages are restricted to $20 \leq w \leq 120$ a worker is at most indifferent between accepting and rejecting an offer. Assuming that a worker ac-

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[6]Only firms know the actually chosen β to minimize educational effects by workers, e.g., choosing a very low effort after being matched with a number of firms choosing a low level of CSR. Workers can actually calculate the β from their payoff, if they have discriminated in their choice between the four levels of β. However, it is not directly visible and therefore needs some effort to figure out.

Table 2: Treatments

GEG	CSR$_4$	CSR$_2$
Baseline	Strategy method	Strategy method
$\beta = 0$	$\beta \in \{0, 0.1, 0.2, 0.3\}$	$\beta \in \{0, 0.1\}$
	no feedback on β for workers	no feedback on β for workers

cepts when being indifferent, there will be no rejected wage offers, i.e., $e = 0$ choices. Firms anticipating that will consequently offer the lowest possible wage and never engage in any CSR activity. Hence, there will be no $w > 20$ and no $\beta > 0$.

However, a robust finding in previous gift-exchange games is that on average firms do not behave self-interested (cf. Fehr et al. 1993, 1998, 2007). They offer significantly higher wages than the minimum. Similarly, workers on average do not behave in a purely selfish way. They rather reciprocate higher wages with higher effort instead of choosing the minimum. We expect to find a similar pattern in our experiment.

> *Prediction 1: Wage offers will be above the minimum of $w = 20$, and there will be a positive correlation between wage and effort.*

A positive reaction of the worker to the introduction of CSR indicates their interest in supporting a good cause. However, they might not only have a preference for supporting a good cause as such but they may also care about the level of support. Analogously to reciprocating higher wages, workers might reciprocate higher levels of CSR (β).

> *Prediction 2: There will be a positive correlation between the level of CSR and effort.*

Firms exhibiting other-regarding concerns might be interested in contributing to a good cause. Beside offering higher wages – which, however, can be driven by reciprocal expectations – choosing higher levels of CSR will satisfy other-regarding concerns. Additionally, expecting that workers reciprocate higher levels of CSR, firms can choose their CSR level strategically. If a positive correlation between the level of CSR and effort exists and is large enough, firms might even increase net profits.

> *Prediction 3: On average firms will choose a positive level of CSR.*

As pointed out by Besley and Ghatak (2005) workers are more motivated when their mission and the firm's mission match. In our setting missions are expressed by the different charities. Hence, if both, the worker and the firm, choose the same charity their missions match. We expect that workers will make higher effort decisions when the missions match than when there is no mission match between firm and worker.

> *Prediction 4: A mission match between the firm and the worker will lead to higher effort decisions compared to a mismatch.*

CSR activity is not an option in our baseline treatment. In contrast, firms must select a CSR level in treatments CSR2/CSR4 and workers must choose their effort for every possible CSR level. When a firm decides not to invest in CSR, workers' effort choices may be affected by such clear intentions against CSR. Workers may not only exert less effort for $\beta = 0$ than for $\beta > 0$, but they may also exert less effort if $\beta = 0$ is chosen by the firm in an environment where it is known that CSR investment is possible. Hence, a de facto equal CSR level would result in lower effort when the firm could have invested in CSR but decided not to compared to a situation where there is no alternative.

> *Prediction 5: Average effort will be higher in the GEG treatment than in the CSR treatments when $\beta = 0$.*

Finally, we test whether subjects might regard the CSR activity as categorial instead of increasing. Only the highest β level may then be taken seriously. Our treatment variation aims to shed light on this aspect. In $CSR4$ $\beta \in \{0, 0.1, 0.2, 0.3\}$, while in $CSR2$ there is only a binary choice, $\beta \in \{0, 0.1\}$, and the highest possible CSR level is 0.1 compared to 0.3 in $CSR4$.

> *Prediction 6: Effort decisions for $\beta = 0.1$ will be higher in $CSR2$ than in $CSR4$.*

3.4 Experimental Protocol

We ran 6 separate sessions, two for each of the three treatments. In total 180 participants were recruited among students from various disciplines at the local university using the ORSEE software (Greiner 2004). The experiment was programmed and conducted with the software z-Tree (Fischbacher 2007).

After entering the computer laboratory of the Max Planck Institute in Jena participants received written instructions[7] which described both roles. They are

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[7]See the Appendix for translated materials of the CSR4 treatment.

informed about their role when the actual experiment starts, hence, all information is common knowledge. Participants questions concerning the experiment were answered privately. Once all questions have been answered participants had to answer a few control questions. The experiment only started when all participants had answered all control questions correctly.

In each session 30 participants were subdivided in two equally large groups – workers and firms – playing the game for 15 periods with randomly matched partners of the other group. Participants knew that they are not matched with a participant twice.

Sessions lasted on average 90 minutes, including reading instructions, answering control questions and payment. Average earnings were €10 with minimum €3.9 and maximum €21.3, including €2.5 show-up fee.

In sessions with treatments including CSR, donations were made online directly after the payment. In order to make donations credible, we asked in each session 2 participants to monitor the transaction after the experiment. All volunteering participants got an additional €2.5.

4   Results

In line with previous gift-exchange experiments we find strong evidence against general self-interest among workers and firms. Average effort levels are higher than the Nash equilibrium (NE) based on pure self-interest would predict, and also wages are on average significantly higher than the NE level of $w = 20$. Like in previous gift-exchange experiments we find, on the aggregate level, a significant correlation in all treatments between the chosen effort level of the worker and the offered wage. There seems to be a clear tendency to reciprocate among workers. Similarly confirming previous results firms offer the minimum wage only in very few contracts (3.1%), see figure 1 for the distribution of wages. They seem to anticipate that workers reciprocate on average. Finally, some contracts (3.9%) got rejected by workers (none when $\beta > .1$). The average wage offer of rejected contracts is 29.44.

Result 1:   Not all wages are at the minimum; wage and effort are positively correlated.

The new feature of our gift-exchange design is the level of CSR, how much a firm will donate to a charity. We ran two CSR treatments. In CSR2 firms had a binary choice, that is $\beta \in \{0, 0.1\}$, in CSR4 the range was extended to $\beta \in \{0, 0.1, 0.2, 0.3\}$. From the worker's perspective increasing effort has a strictly negative effect on the
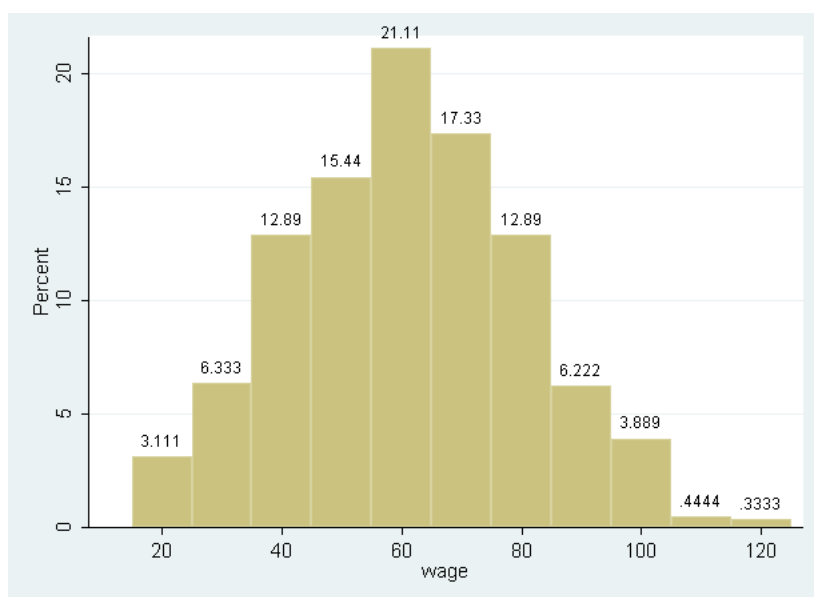
Figure 1: Distribution of firms' wage offers

own material payoff, while the firm benefits due to the increased revenue and the charity receives a donation. Does a positive CSR level nevertheless have any effect on worker's effort? Table 3 shows descriptive statistics of the exerted effort for the four CSR levels, split by treatment. In both treatments workers exert more effort, the more a firm spends on CSR. The increases in effort from one β level to the next are all highly significant (Wilcoxon signed-rank test, $p < .01$). Besides a tendency to reciprocate low/high wages with low/high effort, workers appear to appreciate the CSR activity of a firm by increasing their effort.

Result 2: The level of CSR and workers' effort are positively correlated.

Table 3: Exerted effort and the level of CSR activity

	CSR4		CSR2	
	mean	st. deviation	mean	st. deviation
$\beta = 0$	.193	.009	.229	.011
$\beta = 0.1$	.242	.01	.272	.012
$\beta = 0.2$	.270	.01		
$\beta = 0.3$	.317	.011		

Table 4 contains an overview of the firms' β choices. Many contracts are offered without CSR, but also for roughly half of all contracts the level of CSR activity was greater than zero. It seems that on average firms anticipate that a positive CSR level may be beneficial to them.

Result 3: A substantial amount of wage offers includes a positive level of CSR.

Table 4: Firms' chosen level of CSR activity

	CSR4	CSR2
$\beta = 0$	0.44	.57
$\beta = 0.1$	.35	.43
$\beta = 0.2$	.14	
$\beta = 0.3$	.07	

We allowed the CSR activity to be somewhat heterogenous by letting participants select a favorite charity from five organizations. Whenever a worker had to choose her effort, the preferred organization of the firm (the one the firm will donate to) was announced to the worker. Since Besley and Ghatak (2005) stress the importance of matching mission preferences for the motivation of agents we now analyze, whether a match – a worker prefers the same organization as the firm she just meets – leads to any differences in behavior.

In our experiment participants were asked twice about their preferred charity. Participants were first asked about their charity preference before they read the instructions. We asked a second time after they had read the instructions, but before it was decided whether they play as firm or worker. This second choice was used to determine to which charity one donates in case of being a firm. Thus, there is some scope for a strategic adjustment of the charity selection in order to impress workers, while the first choice is 'innocent'. Hence, we use workers' choices when they were asked before having read the instructions and firms' choices afterwards to determine a match. Figure 2 shows which organizations participants selected (in the first question).

Overall, a match occurred 239 times in the 900 meetings between a firm and a worker in the CSR treatments. Figure 3 shows the frequencies of a charity preference match between firm and worker split by sessions.

Table 5 presents average effort levels in treatment CSR4 for the four β levels and whether a mission match occurred or not. When the firm decided to donate at levels $\beta = 0.1$ or $\beta = 0.2$, the exerted effort is significantly higher in case of a match (Wilcoxon rank-sum test, $p < .05$). When the firm actually donates substantially to the charity that the worker prefers, it seems that the mission match has a distinctly positive effect on the effort decision of the worker. For $\beta = 0.3$ the difference in effort whether a match occurred or not is statistically significant at the 1%-level.[8] A panel

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[8]In treatment CSR2 effort levels for $\beta = 0$ are .22/.26 without/with match, and for $\beta = 0.1$
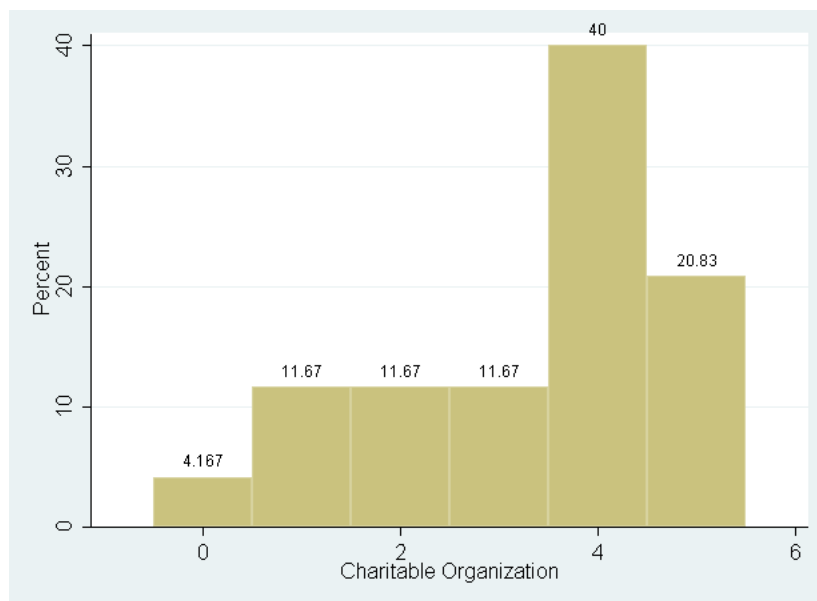
Figure 2: Preferred charities: No preference (0), Amnesty International (1), Greenpeace (2), Caritas (3), Doctors without Borders (4) and Unicef (5)

regression that takes individual heterogeneity into account confirms the relevance of a mission match for high levels of CSR activity. Effort at $\beta = 0.3$ is the dependent variable, while the offered wage and a dummy for the occurrence of a mission match are independent variables. The match dummy is significant at the 5%-level. Mission match dummies are not significantly different from zero for $\beta < 0.3$. It seems that matching mission preferences do in fact matter, but only in combination with a high level of CSR. Thus, prediction 4 finds only partial support in our experiment.

Result 4: A mission match leads to higher effort, given the CSR level is high.

Table 5: Exerted effort, level of CSR activity, and mission match in CSR4

	no match ($n = 332$)		match ($n = 118$)	
	mean	st. deviation	mean	st. deviation
$\beta = 0$	.187	.011	.212	.018
$\beta = 0.1$	.235	.012	.263	.019
$\beta = 0.2$	.261	.012	.3	.019
$\beta = 0.3$	.3	.013	.367	.023

Do participants anticipate the effect of matched mission preferences? Do they understand that donating to charity is perceived as good by many workers? Clearly,

they are .26/.3 without/with match. The differences are not statistically significant.

it requires a discrepancy between one's own charity preference and the charity preference one believes the others have. In such a case deviating from one's own charity preference could make sense. In CSR4 2 out of 60 participants changed their preferred charity, in CSR2 9 out of 60 made a change.[9] It could well be that some participants regarded the pick of a charity as strategically relevant after learning the rules of the game and hence they made a change, but we only find few cases.
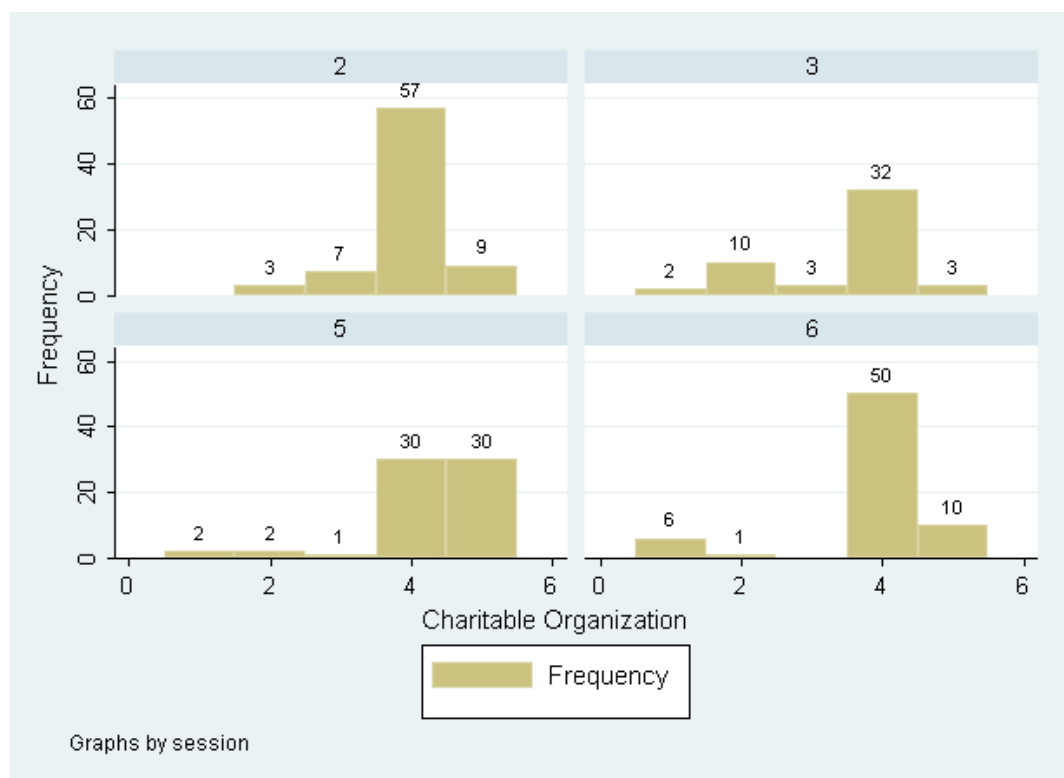

Figure 3: Frequencies of a match of charity preferences between firm and worker (Amnesty International (1), Greenpeace (2), Caritas (3), Doctors without Borders (4) and Unicef (5))

Figure 4 shows the average effort over periods when the CSR level is zero, split by the treatments GEG, CSR2, and CSR4. There is a significant difference between effort levels in the baseline when there is no mention of CSR (mean of .35, standard deviation .012), and effort levels for $\beta = 0$ in CSR2 (.229, .011, Wilcoxon rank-sum test, $p < .01$) and CSR4 (.193, .009, $p < .01$). We use a panel regression that considers individual heterogeneity with effort at $\beta = 0$ as the dependent variable and the offered wage and a dummy for the GEG treatment as independent variables. The GEG dummy is significant at the 1%-level confirming that the introduction of

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[9]Out of the 11 switchers 5 turn out to be firms, 6 workers. Overall, 5 had not picked a charity when we first asked, 3 had chosen Amnesty International, and 3 Caritas.

the CSR setting and firms intentionally selecting no CSR investment has a negative effect on workers' effort choices.

When workers are aware that firms could invest in CSR, workers seem to punish firms if they nevertheless choose a low CSR level.

Result 5: Average effort in the GEG treatment is significantly higher than in the CSR treatments when $\beta = 0$.

In order to test for differences between treatments CSR2 and CSR4 we again use panel regressions with effort at $\beta = 0/\beta = 0.1$ as the dependent variable and the offered wage and a dummy for treatment CSR2 as independent variables. For both $\beta = 0$ and $\beta = 0.1$ the CSR2 treatment dummy is not significant.

Contrary to prediction 6 subjects do not seem to regard the CSR activity as categorial. For $\beta = 0.1$, the highest CSR level in $CSR2$ but the lowest positive level in $CSR4$, average effort is not statistically different.

Figure 4: Average effort over periods when $\beta = 0$

Having established a positive effect of the existence and extent of CSR on the effort of workers in our experimental labor market, we now investigate the *effectiveness of CSR* as an instrument for firms. For this we check whether the increased effort and in turn higher revenue outweighs the firm's investment into CSR. Table 6 provides the increase in effort in comparison to the choice for $\beta = 0$ and the corresponding cost for the respective CSR levels. Independent of CSR level and treatment it appears that investing in CSR leads to an increase of average workers' effort, but these gains cannot offset the actual costs.

Firms investing in CSR should learn over the sequence of play that CSR results in costs instead of gains. Hence, if *firms* use the CSR instrument strategically we

Table 6: Average gains and costs of CSR activity

	CSR4		CSR2	
	gain	cost	gain	cost
$\beta = 0$	0	0	0	0
$\beta = 0.1$	.048	.1	.043	.1
$\beta = 0.2$	.076	.2		
$\beta = 0.3$	.124	.3		

should see a decline in the use of it over periods. Figure 5 shows that this is not the case, firms' investment in CSR is similar over the periods. Instead of a strategic use this points to a general preference to support a good cause, although it is not beneficial with regards to monetary payoffs.
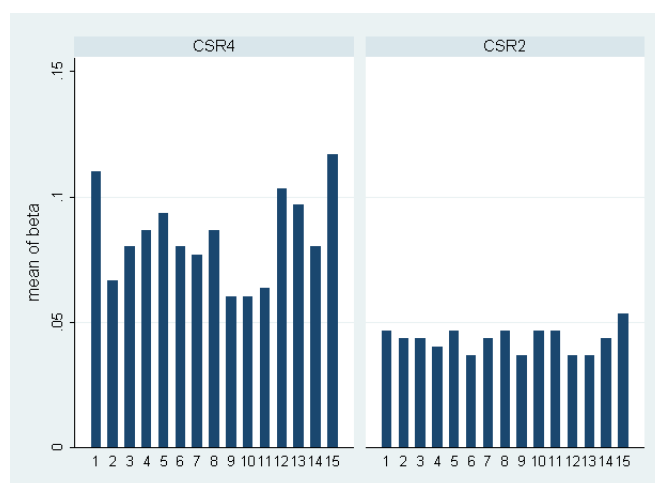

Figure 5: Mean choice of the CSR level over periods in CSR4 and CSR2

Figure 6 shows the average wage over periods in the treatments GEG (mean over all periods: 63.13, standard deviation: .77), CSR2 (63.58, .98), and CSR4 (58.2, .84). There does not appear to be a time trend in the wages offered. There is a significant difference between wages offered in CSR4 and wages in the baseline (Wilcoxon rank-sum test, $p < .01$) and CSR2 ($p < .01$). However, this difference is not caused by firms who decided to invest in CSR (60.71, 1.09), but by firms who chose $\beta = 0$ (55, 1.27). In CSR2 there is no difference between firms who chose $\beta = 0.1$ (63.76, 1.41) and firms who chose $\beta = 0$ (63.44, 1.37). Apparently, firms who invest in CSR do not try to compensate for these expenses by offering lower wages to workers.

As illustrated in table 6, effort increases never make up more than 50% of the costs of the CSR investment. Hence, in our setting the use of CSR does not seem to
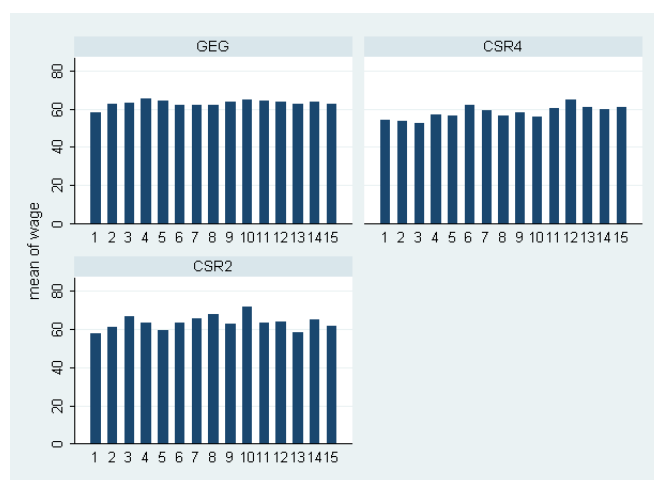
Figure 6: Average wages over periods and treatments

pay off for firms. However, this value must be regarded as a lower bound measure. Due to the focus of our study on the labor market and the reaction of workers, we do not take into account effects of CSR activity on consumers and investors. These may be positive enough to justify the investment costs of CSR, and in turn CSR activity would be profitable for companies. Of course, from a *social welfare perspective* CSR activity is already beneficial, if the CSR investment has an efficiency factor that compensates for the gap between profit increase through higher effort and costs. In our case the efficiency factor of the CSR investment would have to be higher than .5 to make CSR activity socially efficient. According to Charity Navigator (http://www.charitynavigator.org/) 9 out of 10 evaluated charities spend at least 65% of their total functional expenses on programs and services.

Finally, we look at the *individual level* of our data. It turns out that a substantial fraction of workers does actually behave in a very selfish way. 11 out of 60 (only treatments $CSR2$ and $CSR4$) workers put in the minimum effort independent of the offered wage or the CSR level. Continuing our categorization of workers 38 out of 60 respond to higher wages by increasing their effort (holding β constant). 26 of the 38 wage-reciprocating workers also respond to the firm's CSR level by increasing their effort, while 12 only reciprocate wages. For 11 workers the effort decision is independent of the offered wage, but instead they respond to the CSR level. While some workers simply put in the minimum effort (neither responding to a wage increase nor an investment in CSR), a substantial amount of workers reciprocate not only wages, but also CSR activities. See figure 7 (a) for the wage-effort profiles of workers in one session of treatment $CSR4$. The wage/β combinations selected by firms over all periods are shown in figure 7 (b).

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(a) Wage-effort profiles of workers by CSR level
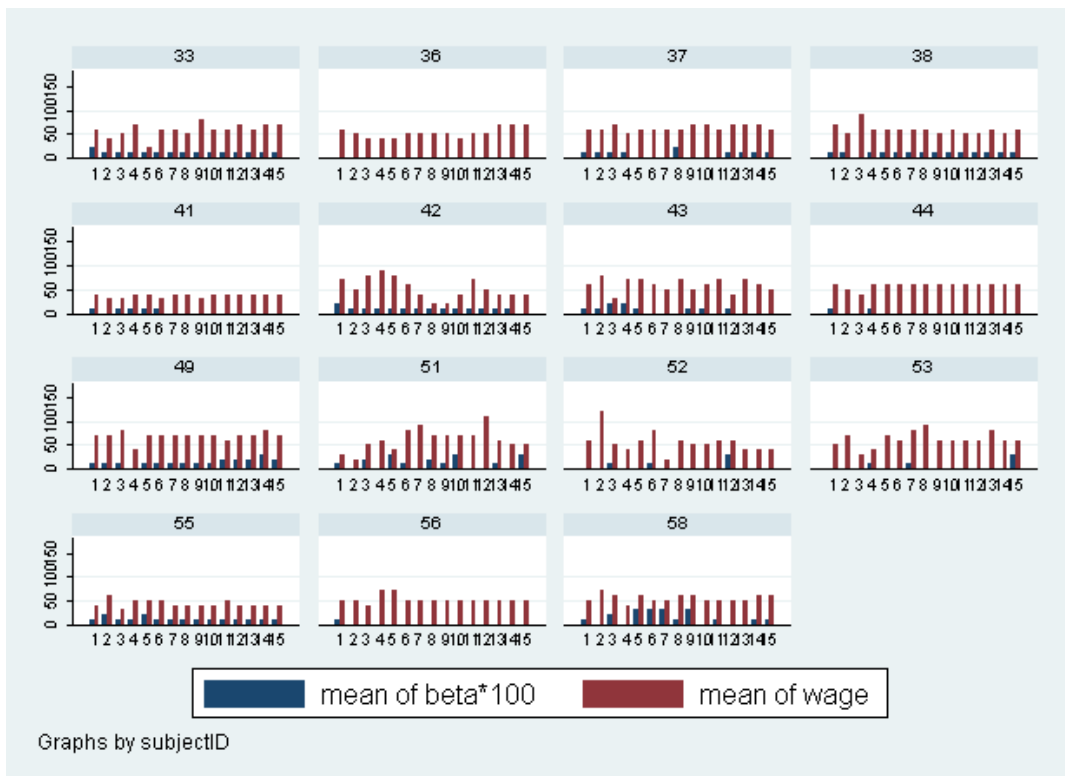
(b) Wage/β choices of firms over periods

Figure 7: Individual level data (from one CSR4 session)

5 Discussion

What is the effect of investments in corporate social responsibility (CSR) on workers' motivation? The empirical analysis of CSR in the workplace has so far been mainly based on secondary data. However, knowing individual responses to such programs is important to increase the effectiveness of CSR activities which are generally regarded as a promising way to compensate occurring negative externalities. For this purpose we have introduced CSR into an experimental labor market and our design provides a tool to analyze the effects of CSR not only in the aggregate but also on the individual level. Investments into CSR are captured by donating a share of the firms' profit to a self chosen charity. Therefore, we have extended the standard bilateral gift exchange game to a three player version in which the third player is the CSR investment receiving party. Our treatments varied the possible shares given to charity from none (the bilateral gift exchange game) to two (0% or 10%) and four (0%, 10%, 20% or 30%). As all players are asked to state their preferred charity, we have been able to measure if preferences between the firm and the worker match.

Our results from the treatment without CSR are similar to previous two player gift exchange experiments. Firms and workers behave far from being driven by pure self-interest, as wages and effort levels are on average higher than what the Nash Equilibrium would predict. There is also a significant correlation between wage offers and chosen effort.

The introduction of a third CSR receiving party leads a substantial fraction of workers (26 out of 60) to reciprocate not only wages, but also CSR activities, i.e., choosing more effort the higher the level of CSR is. Moreover, we find evidence that workers react positively to a mission preference match as suggested by the work of Besley and Ghatak (2005). If the firm and the worker prefer the same charity, workers exert overall more effort. However, this is mainly driven by situations in which firms choose high CSR levels. This finding suggests that the effect of a match is not simply represented by the same preferred charity but also includes a preference for the actual extent of the mission, e.g., the share of profits given to charity.

On average workers choose less effort in treatments with possible CSR investments ($CSR2$ and $CSR4$) when firms do not make use of it, than in a situation in which CSR is not possible and not even mentioned (treatment GEG). This may be an indication of workers' preference for CSR. In an environment where it is known that CSR investment is possible, workers' expectations about the CSR level are raised. No investment into CSR would disappoint them and they punish firms' behavior. Such a reaction to behavior below expectations would be closely related to the reference dependent preference theory by Köszegi and Rabin (2006). Another

reason for the observed difference between the baseline and the CSR treatments, might be the use of the strategy method. Workers have to decide on more options when faced with the possible CSR investments taken by firms. The bigger action space in our CSR treatments might lead to more balanced decisions. In combination with the disappointment effect if the CSR level is rather low and expectations are not fulfilled, workers' effort decisions could be shifted downwards for low CSR levels, but not shifted upwards as a high CSR level is either taken for granted or a positive surprise is treated differently than a disappointment.

Caution should be exercised when generalizing our conclusions. Since we have analyzed CSR in a market with an equal portion of workers and firms it might not adequately capture existing labor markets. Labor markets usually contain the possibility of unemployment, i.e., an excess labor supply. On the other hand, firms are heavily competing for the best workers on the market, which can be captured in an excess demand for labor. It would be interesting to analyze effects of CSR on markets with excess supply or excess demand of labor. Since we find significant heterogeneity among firms and workers with respect to CSR use and response, a market that allows for sorting might lead to separating equilibria. These aspects are not within the scope of this study and therefore remain for future research. Moreover, labor contracts are not necessarily limited to short-term contracts only. We have analyzed a situation in which contracts are negotiated anonymously on a round by round basis, which rules out reputation effects between firms and workers. A lot of real world contracts are longer than just a period, though. It is not known so far how investments into CSR translate into a long-term working relationship, which promises to be another interesting aspect for future research.

With respect to the effectiveness of the CSR activity used in this study, it is worth noting that the experiment's measure of roughly 50% is a lower bound. Firms' social-image concerns are only partly considered in our experiment. The interaction with workers is just one channel through which CSR activities can be effective. Previous studies have shown that CSR can be beneficial, if these have positive effects on the decisions of consumers (cf. Ghosh and Shankar 2009) or investors (cf. Orlitzky et al. 2003), respectively. Lastly, since there is also a recipient of the investment into CSR who may benefit substantially, CSR as an instrument might well lead to socially efficient outcomes.

In sum, our results show that on average workers react positively to CSR and reciprocate higher CSR levels with higher effort. Having a mission which matches the mission of a worker motivates these workers to increase their effort. Yet, only when the level of support is high. This suggests that if firms have a mission, they

should be serious about it in order to adequately motivate workers.

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Appendix

Instructions

Welcome and thanks for participating in this experiment! In this experiment you can earn a certain amount of money, which depends on your and the other participants' decisions in the experiment. **It is therefore important that you read the following instructions carefully.**

Please note that these instructions are meant for you only and that you are not allowed to exchange any information with the other participants. Similarly, during the entire experiment it is not allowed to talk to the other participants. If you have any questions or concerns, please raise your hand. We will answer your questions individually. Please do not ask your question(s) aloud. It is very important that you follow these rules, since otherwise we have to stop the experiment. Please also turn off your mobile phones now.

General procedure

The experiment lasts about 75 minutes. Each decision will be explained again briefly on the screen. While you make decisions, the other participants also make decisions which may influence your payoff. During the experiment you can earn money. Your payoff will be calculated in ECU (Experimental Currency Units) and 1 ECU = 0.10 EURO. At the end of today's experiment your earnings will be converted into EURO and you are paid in cash. In addition, you will receive 2.50 Euro as a show-up payment. Your payoff from the experiment depends on your decisions and the decisions of the other participants. However, only 3 of the 15 rounds will be chosen randomly and you will be paid according to the payoff from these rounds only.

After you have filled in a questionnaire the experiment will end and you will receive your payoff.

Again the procedure as an overview:

- Reading of the instructions, test questions (online)

- Decision situations

- Questionnaire

- Payoff and end of the experiment

Details of the procedure

The experiment consists of 15 rounds. In each round two participants interact: a company and an employee.

Procedure of one round:

1. The company sets a wage and a donation factor.

2. Next, the employee decides whether he/she accepts this offer or not.

3. In case he/she accepts the offer, he/she then decides on the effort level.

The profit of the company depends on

- the effort level,

- the paid wages,

- and the donation factor.

The income of the employee depends on

- the received wage and

- the cost of effort.

You will be informed whether you act in the role of the company or in the role of the employee over the course of the experiment. The allocation of each role is executed randomly and with equal probabilities. You will stay in the allocated role for the whole experiment. Hence, it is very important that you **familiarize yourself with both roles.**

In each round you are **randomly and anonymously** matched with another participant of the experiment, that you have not interacted with before. The company's chosen wage applies only to the employee assigned to this company in this round. Likewise, the employee's decisions (accepting or rejecting the offer and choosing an effort level following acceptance) only apply to the company that was assigned to this employee in this round. At the end of each round the company will be informed about the employee's choices. There will be no information regarding the decisions from previous rounds.

How you earn money during the experiment

Earnings as employee:

- If an employee rejects the offered wage, he/she will earn nothing. A rejection is expressed by entering 0 as the effort level.

- In case of acceptance of the offered wage the employee receives the offered amount. However, the fixed travel expenses (20 ECU) and the cost of effort will be deducted from this wage first.

- The effort level can be chosen on a scale from 0.1 to 1 in intervals of 0.05 and leads to costs according to the following table:

e	0	0.1	0.15	0.2	0.25	0.3	0.35	0.4	0.45	0.5
$c(e)$	0	0	0.5	1	1.5	2	3	4	5	6
e	0.55	0.6	0.65	0.7	0.75	0.8	0.85	0.9	0.95	1
$c(e)$	7	8	9	10	11	12	13.5	15	16.5	18

- A value of 0.1 corresponds to very low effort, a value of 0.2 is a slightly higher effort level and a value of 1 represents the maximum effort level.

- The higher the chosen effort the more profitable the outcome for the company.

- The earnings of the employee are calculated according to the following formula:

  Earnings of the employee = wage – cost of effort – 20 ECU

- During the experiment the company can donate part of its profit. This share can be 0.0, 0.1, 0.2 or 0.3. The effort level will be asked for each possible level of the donation b, which the company can choose. For the earnings only the actually chosen share of donation will be relevant.

- After each round you will receive information about the offered wage, the rendered effort level and your earnings from this particular round.

Earnings as company:

- In each round each company receives a starting capital of 120 ECU. This can be used for wage payments. In order to do so the company chooses a wage between 20 and 120 ECU in intervals of 10 ECU. If, for example, the company offers a wage of 120 ECU, it will have no remaining ECU left. If, for example, it offers a wage of 20 ECU, it will have 100 ECU left.

- In case the offered wage of a company is rejected, the company earns nothing. This means, the starting capital remains unused and expires.

- In case the offered wage of a company is accepted, the remaining ECU of this company will be multiplied by the chosen effort of its employee. This corresponds to the profit of the company.

- Additionally, the company decides on a donation share b, which will be paid from the profit of the company to an organization that will be chosen at the beginning of the experiment. In doing so the company can set 0.0, 0.1, 0.2 or 0.3 as a value for b. The choice of the employee will be asked for all four possible values of b afterwards. That is, the employee will be informed about the offered wage and the organization being donated to and will then make a decision on the effort level for all possible b.

> Profit of the company = (120 ECU – wage) * effort
> Earnings of the company = (1-b) * (120 ECU – wage) * effort

- After each round you will receive information about the offered wages, the chosen donation share, the rendered effort, the profit, the donated amount and your earnings from this particular round.

Your payoff from the experiment (3 out of 15 rounds)

Your earnings from one round are calculated as presented above. For companies the donated amount, according to the donation share to the chosen organization, will be deducted from the profit. The received contributions will be donated online under the supervision of two participants after the experiment.

For your payoff from the experiment only the earnings from three out of the 15 rounds are relevant. These rounds are chosen randomly at the end of the experiment. The according payoff will be paid to you in cash directly after the end of the experiment, that is, after you completed the final questionnaire.