Charity, incentives, and performance☆

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ABSTRACT

We propose that donating profits to charity may improve firm performance through reduced moral hazard and increased effort in incomplete contract environments. This proposition is tested and confirmed in an incomplete contract principal-agent laboratory experiment where principals' profits are donated to charity. The results show that both principals and agents have higher earnings in treatments where principals are working on behalf of a charity. Only in the charity treatments do agents respond positively to the effort levels suggested by the principals, and do higher requested levels of effort result in higher principal earnings.

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1. Introduction

Advocates of Corporate Social Responsibility (CSR) argue that being a good corporate citizen, e.g. by donations to charity, can also make financial sense, and indeed there is some evidence that CSR is correlated with better financial performance (see e.g. Margolis Elfenbein, and Walsh, 2007; Edmans, 2012). However, the exact mechanism through which CSR and donations to charity may improve financial performance is not well understood. Kitzmueller and Shimshak (2012) point out that donations to charity, and CSR in general, could increase performance due to interactions with both the product market and the labor market. In the labor market having a reputation for being a good corporate citizen could (1) aid in recruitment and screening of new employees (e.g. Greening and Turban, 2000) and (2) reduce moral hazard in incomplete contract environments (Bowles, Gintis, and Osborne, 2001). On the latter point, Benabou and Tirole (2010) point out that in

environments where firms can renege on implicit contracts and promises with their labor force, and where employees can shirk at non-contractible parts of their jobs, having a reputation for being socially responsible may increase trust, lessen moral hazard, and increase performance.

Krueger and Mas' (2004) results corroborate these arguments. They analyze the reduced quality of produced tires at Bridgestone/ Firestone following labor strife. In July 1994 Bridgestone/ Firestone announced that they would deviate from the industry wide tradition by moving from an eight- to a 12-hour shift. They would also cut pay for new hires by 30%. The company was breaking implicit contracts with the employees and the conflict was not resolved until December 1996. Krueger and Mas (2004) document significantly higher defect rates for tires manufactured during the dispute.

This paper uses experiments to test the hypothesis that donations to charity reduce moral hazard and improves performance in incomplete contracts environments. Our experimental design will address the following research questions: (i) Do agents respond differently to the contracts offered by charity principals? (ii) Do charity principals make different contract offers? (iii) Is the overall efficiency in an incomplete contract framework different when the principal donates to charity? (iv) How are any gains associated with a charity principal distributed among the agent and the principal?

Our experimental setup closely follows Fehr, Klein, and Schmidt (2007). The principal makes a take it or leave it offer to the agent. The principal decides whether the contract either consists of (i) a fixed wage independent of effort, (ii) a fixed wage, a bonus, and an

expected effort level, or (iii) a fixed wage, a required effort level and a fine that is levied with a certain probability if the agent shirks, i.e. does not put in sufficient effort.

In some of our experimental treatments we let the principals' earnings go to charity, in our case the Swedish Red Cross. However, this introduced both a charity component and the fact that the subject making decisions as principal no longer had a personal profit motive. To distinguish these two effects, four treatments were run: (i) a pure charity treatment where the principal's earnings went to the Red Cross, (ii) an added charity treatment where the principal's profits were both paid out to the subject and donated to the Red Cross, (iii) a non-charity non-self-interested principal treatment where the principal's earnings were paid out to another subject participating in the experiment, and (iv) a baseline purely self-interested principal treatment where the principal's earnings were paid out directly to the subject acting as principal.

Our results show that efficiency is highest in the pure charity treatment. Furthermore, both the principals and the agents are better off when the principals are working on behalf of a charity. The two-by-two design lets us distinguish between the effect of charity per se (the two charity treatments) and the effect of having a non-self-interested principal (the pure charity treatment and the treatment where the principal's earnings were paid out to another subject participating in the experiment). The increase in earnings for the principal is mainly due to the charity aspect, whereas the increase in earnings for the agent is mainly due to a non-self-interested principal.

One mechanism through which donations to charity could increase performance is through higher trust levels. With incomplete contracts employers need to have some trust that their employees actually put in effort, and employees need to have some trust that their employers will actually reciprocate and reward their effort (see e.g. La Porta et al., 1997). An employer that shows a lack of trust could demotivate employees, who respond to this lack of trust by shirking. However, our results do not suggest that that the efficiency improvements associated with charity are driven by higher trust (-worthiness). The results of two Trust Games we ran at the beginning and end of the experiment do not reveal any higher trustworthiness of agents in the Charity treatments. Furthermore, if trust per se was the main mechanism we would expect to see higher fixed salaries and more non-incentivized "trust contracts" instead of incentivized bonus contracts in the charity treatment. We do not observe such differences for the contracts in the charity treatments.

Another potential mechanism through which donations to charity could increase performance is through increased reciprocity and (indirect) guilt-aversion (see e.g. Rabin, 1993; Fehr Gächter, and Kirchsteiger, 1997; Charness and Dufwenberg, 2006). Miettinen (2011) shows in a theoretical model that guilt may affect the optimal contract when the agent feels bad when not reaching the target level set in the contract. Better performance can then be implemented with lower risk and the solution is closer to first-best. Furthermore, some of the higher payoff to the principal is shared with the agent, i.e. both the principal and the agent are better off. And we indeed find that it is only in the charity treatments that the communication of higher effort expectations actually leads to higher effort and higher earnings. One interpretation of this result is that when an agent is indirectly working for a charity, there is a bigger psychological cost, i.e. more guilt, to "letting down" the principal.

Another interpretation is that the agents simply have a pure preference for donating to charity (Gregg et al., 2011). For charity-motivated agents the principal's expectations work as a fundraising solicitation (Yoruk, 2009; Edwards and List, 2013).

We think our results have two main implications. First, they provide additional evidence that donations to charity may improve firms' financial performance. Second, the results suggest that one mechanism by which donations to charity may improve performance is through more efficient contracting in incomplete contract environments typical within firms.

The rest of the paper is organized as follows. The next section presents our experimental setup. The results are presented in Section 3 and Section 4 concludes.

2. The experiment

2.1. Setup of the experiment

We closely follow the setup of Fehr, Klein, and Schmidt (2007). Where we differ from their paper is first that, in order to increase the number of observations, we let subjects play both the role of principal and agent, and randomly pay out only one of these roles. Second we allow principals to choose from offering either trust contracts, bonus contracts or fine contracts, whereas in the original paper principals could typically only choose among two of these contract types in any given treatment. Finally we computerized the experiment with z-Tree (Fishbacher, 2007) in order to speed up the experiment.

The experiment lasts ten rounds. Each round a principal is matched with a random, anonymous and unique agent. The principal makes a wage offer to the agent, who can then either accept or reject the offer. If the agent rejects both the principal and the agent earn zero. The offer can be of three types:

(i) A Trust Offer consisting of a fixed wage and a suggested level of effort. The principal pays the fixed wage independent of effort level chosen by the agent.

(ii) A Bonus Offer consisting of a fixed wage, a suggested level of effort and a promised bonus. The agent selects her level of effort and this is observed by the principal. Only after the principal observes the actual effort exerted by the agent, does the principal decide on the actual size of the bonus to be paid.

(iii) A Fine Offer, consisting of a fixed wage, an expected level of effort and a fine that is levied with 33% probability in case the agent shirks, and provides less effort than stipulated in the contract.

After observing the details of the offer, the agent decides on effort level (e). The earnings of the agent consist of the tokens paid by the principal (thus fixed wage plus perhaps a bonus minus perhaps a fine) minus the cost of effort given by Table 1.

The profit for the principal (p(e)) consists of the production from the effort by the agent (see Table 2), minus the wages and bonuses paid to the agent plus perhaps fines paid by the agent.

Note that the equilibrium level of effort is zero for both trust and bonus offers. Positive incentive-compatible effort can only be maintained with the fine offer. For details we refer to the discussion in Fehr, Klein, and Schmidt (2007).

Table 1
Cost of effort in tokens to the agent.

e	1	2	3	4	5	6	7	8	9	10
c(e)	0	1	2	4	6	8	10	13	16	20

Table 2
Gross profit of effort for the principal.

e	1	2	3	4	5	6	7	8	9	10
p(e)	10	20	30	40	50	60	70	80	90	100