WORKERS' RESPONSE TO MONETARY INCENTIVES IN FOR-PROFIT AND NON-PROFIT JOBS

Billur Aksoy[1, *] **Angela C. M. de Oliveira**[2] **Catherine Eckel**[3]

Version: February 6, 2021

Abstract

When workers decide how hard to work, they consider not only extrinsic factors, such as the salary, but also the type of work and the mission of the organization. In this paper we study the relationship between monetary compensation and effort for workers in non-profit and for-profit settings using a modified gift-exchange lab experiment. In our experiment, there are workers, managers and firm owners. Managers decide how much to pay to their workers, workers then decide how much effort to provide. These decisions determine the profits created for the firm. Firm owners and managers share the profits. There are two treatments: *For-profit* and *Non-profit*. In the For-profit treatment, the firm owner is another student in the lab who does not make any decisions but passively collects their share of the profits. In the Non-profit treatment, the firm owner is a non-profit organization, a local charity popular with student subjects. At the end of this treatment, the accumulated earnings for the non-profit organization are donated online to the designated charity. While we find that managers' behaviors across the two treatments are similar, workers provide more effort and they are more responsive to higher wages in the non-profit treatment. This results in more profits being generated for the non-profit firm. We also measure pro-social motivation using a survey question, and show that socially-motivated workers exert high levels of effort in both treatments, while less socially-motivated workers choose lower effort levels in the for-profit treatment. While the theory of motivated agents incorporates a broad set of intrinsic motives, most research has focused on reciprocity only between the agent and the principal. The literature on intrinsic motivation, by contrast, has focused on the crowd-out of motivation by monetary incentives to work. We contribute to the literature by studying how intrinsic motivation interacts with monetary payments to effort choices in the workplace, particularly when the job involves "doing good." Our results show that the presence of a mission does not reduce the responsiveness of effort to increasing wages.

Keywords: worker motivation, non-profit, gift-exchange game, lab experiment.

JEL Classifications: C90, L31, J20.

Funding: This project was funded by National Science Foundation (SES-1062055 and SES-1344018). The funding source had no direct involvement in this study.

[*] Corresponding author.
[1] Department of Economics, Rensselaer Polytechnic Institute, 3404 Russell Sage Laboratory, 110 8th Street, Troy, NY 12180. Email: aksoyb3@rpi.edu
[2] 203 Stockbridge Hall, University of Massachusetts, Amherst, MA 01003. Email: acm.de.oliveira@gmail.com
[3] Department of Economics, Texas A&M University TAMU 4228, College Station, TX 77845-4228. Email: ceckel@tamu.edu

1. Introduction

One crucial aspect of a successful charitable organization is the people – the workers who often accept a lower monetary compensation in order to give their time and talents to the mission of the organization. Selecting and motivating effective workers is an important challenge for such organizations. In the United States, workers in nonprofit organizations earn less than their for-profit counterparts: Preston (1989) finds a pay gap of 18%, controlling for industry and human capital characteristics. Because of the demographic make-up of the non-profit sector, this wage differential contributes to overall racial and gender disparities in pay. One factor contributing to the wage difference could be that workers in the nonprofit sector receive nonpecuniary rewards by working for a mission they support, and the lower salary constitutes a compensating differential. Others have argued that the wage difference is a "labor donation," where workers effectively donate a portion of their effort to the firm.[1] Some have concluded that lower pay in the nonprofit sector is necessary to ensure that only intrinsically motivated workers select into the industry. Further, evidence exists to show that monetary compensation can crowd out intrinsic motivation. Therefore increasing the pay in the nonprofit sector could have a detrimental effect overall by decreasing intrinsic and mission motivation in the applicant pool, and by crowding out intrinsic motivation by existing workers (Frey and Jegen 2001). We design a lab experiment to test the relationship between compensation and worker effort in two contexts: a "for-profit" firm and a "non-profit firm." We implement the difference in organizations varying the "owner" who receives an external payment based on the worker's effort: in the for-profit treatment the owner is another subject in the experiment, while effort in the non-profit firm generates contributions to a popular charitable organization.

There is a large literature that studies worker motivation and the factors that encourage workers to exert higher levels of effort in the workplace. In general, this research is restricted to for-profit settings, and confirms that employees provide more effort for higher wage levels, other factors equal (see Lazear 2018 for a survey). A complementary literature explores non-pecuniary factors affecting motivation. As noted above, workers may also exert more effort if their work is in the service of a mission that they support. (Besley and Ghatak 2018 provide a survey of models of mission motivation; Cassar and Meier 2018 survey experimental evidence). Mission motivation becomes particularly relevant as a source of worker motivation in settings where outcomes and individual performance are difficult to measure, making it difficult to incentivize productivity directly; this is often the case for firms in the public and nonprofit sectors (Delfgaauw and Dur 2007, 2008). The selection of prosocial workers then takes precedent, because they bring their own motivation with them into the workplace, and much of the literature in this area focuses on selection. Indeed, using data from 50 countries, Dur and Zoutenbier (2014) document a strong a positive relationship between intrinsic motives of mission preferences and altruism, and employment in the public sector.

[1] Some studies show that in more profitable sectors, where for-profit and non-profit firms coexist (as in health care) non-profit workers may earn more than their for-profit counterparts, due primarily to upward pressure from the non-distribution constraint. This constraint specifies that profits cannot be distributed to shareholders. Consideration of the impact of such factors is beyond the scope of our paper. See Ruhm and Borkowski (2003) for a survey of studies of non-profit compensation.

This selection of workers means that high mission motivation goes hand-in-hand with lower wages in the field. With observational field data it is difficult to isolate the impact of incentives on effort in mission-oriented jobs because selection into the job has already occurred. Any difference found in the motivation of workers in the two sectors could be due to selection or compensation, or their interaction: It is not possible to test whether higher compensation will crowd out worker motivation in non-profit firms. We take advantage of the control available through experiments to systematically test whether and how individuals differentially respond to financial incentives in equivalent non-profit and for-profit jobs. In the lab, we can remove the selection effect by randomly allocating workers to the two types of firms.

In this paper, we are interested in understanding the nature of the relationship between the employee and employer in two specific types of firms: for-profit and non-profit. More specifically, we ask whether workers exert more effort, for a given a wage level, when they work for a non-profit firm rather than a for-profit firm. We also ask whether managers who determine the wages offer different wage levels across these two types of firms. We study these questions by using a modified gift exchange environment where the decisions made by the worker and manager generate a payment to a third party who is either another subject in the lab (which represents working for a for-profit firm) or a non-profit organization.[2] This design captures the differences in a key factor that motivates workers – the mission of the firm – and allows us to isolate the interaction between financial compensation and effort in the two settings. We study whether workers exert more effort when they are randomly assigned to an exogenously chosen mission-oriented job. Because we randomly assign workers into either a non-profit firm or a for-profit firm, self-selection into a mission is not possible, removing the inherent correlation between mission motivation and non-profit employment. In line with the prior literature, workers exert more effort for high wages in both treatments, but their response to higher payments is larger for the non-profit firm. This contradicts the claim in prior research that paying mission motivated workers higher wages will crowd out intrinsic motivation, and shows that higher wages are an effective way to motivate workers in both sectors.

To mimic the effect that selection would have had, we also collect information using survey questions on motivation. We show that subjects who report high levels of pro-societal motivation (i.e. individuals who care about making a difference in society more than personal gains) exert similar levels of effort in both treatments, while those with lower levels exert lower effort levels in the for-profit treatment. It is likely that the more pro-socially oriented workers would select into the non-profit firm, given the choice, and if so, then the pattern of effort observed would be similar to that found in observational data with higher prosocial motivation and effort levels in the nonprofit sector, masking the true differences in motives.

2. Prior research

What motivates workers? Many studies have addressed aspects of this question. While monetary incentives are clearly important, the employment relation is broader and more complex than its characterization by economists (Lazear 2018 reviews the former, while Cassar and Meier 2018

[2] See Fehr et al. (1993) for the first gift-exchange (efficiency-wage) experiment, which translates the idea of efficiency wages (Akerlof and Yellen 1990) into the lab. See also Fehr et al. (1998). For a survey of lab labor experiments including gift-exchange game that is utilized in this paper, please see Charness and Kuhn (2011).

review research on nonmonetary incentives). Standard economic analysis tends to focus on the tradeoff between leisure and work, where work is seen as unpleasant and requiring monetary compensation. But research in other fields, and a bit of introspection, lead us also to conclude that work is a primary source of meaning for individuals. If work is, in a sense, its own reward, this complicates the analysis of the employer/worker relationship. A further complication is that workers are likely to be heterogeneous in this respect. For some workers, meaning may consist of earning income so as to support self and family and therefore they are motivated primarily by financial rewards, while for others, meaning may require that the work itself contribute to social welfare, or that the workplace provide some other source of meaning, with less importance placed on financial rewards.[3] How financial incentives interact with these other motivations is an open question.

Several strands of literature are related to this question, and these are addressed in the sections below. The key issues are: the importance of pro-social motivation for selection into nonprofit or public sector jobs; the extent to which mission match increases worker motivation; and the crowding out of pro-social motivation by monetary incentives. Pro-social motivation – finding meaning in work that increases social welfare – is likely to affect workers' choice of profession. Pro-social preferences play a role in the choice of profession on the part of workers, and the selection of workers on the part of employers. Whether and to what extent workers are motivated by the mission of the organization, or other non-monetary factors, is a second key question. How important is a mission match in determining a worker's effort on behalf of the organization? Third is the question of whether financial incentives could crowd out mission motivation, or whether instead financial incentives can be seen as a complement to other sources of motivation. Finally, we note that several studies use a closely-related experimental paradigm to examine similar questions, and we defer a detailed discussion of these papers until Section 5.

2.1. Importance of pro-social preferences and intrinsic motivation for <u>selection</u>

Employment is a two-sided selection process, with firms choosing workers, and workers choosing jobs. Organizations selecting more pro-social workers, and pro-social workers preferring non-profit sector jobs, produce powerful selection effects. Indeed, Dur and Zoutenbier (2014, 2015) document significantly higher levels of altruism and mission motivation among public sector workers. However, most of the work to date on this topic focuses on the worker's choice – the relationship between a worker's social preferences and their choice of profession. Banuri and Keefer (2016b) recruit students from two schools in Indonesia that specialize in training students primarily for careers in private or public sector employment. They use variations on dictator games and show that higher levels of pro-social behavior in lab experiments predict a preference for public sector jobs. Similarly, in the US, Carpenter and

[3] For example, there may be gender differences in pro-social motivation. Tonin and Vlassopoulos (2010) report that warm glow altruism and pure altruism have been the two sources of workers' pro-social motivation considered in the literature. They disentangle these two sources by using a controlled field experiment and find heterogeneous results by gender. In their study, men do not exhibit either of these pro-social motivations. On the other hand, women exert more effort due to warm glow altruism, but there is no additional impact coming from pure altruism.

Myers (2010) find that the decision to volunteer as a firefighter is correlated with measures of altruistic preferences.[4]

These correlations raise the possibility that workers also become more pro-social as a result of working in this sector. By comparing individuals' pro-social behavior after they move between sectors, Gregg et al. (2011) shows that more pro-social individuals self-select into non-profit and public sectors. Banuri and Keefer (2016a) also find that working on the public sector shapes preferences; workers with longer tenure in a public-sector job have stronger pro-social preferences.

The decision to select into public service jobs may not always be positively related to pro-social preference, but instead may depend on the perceived integrity of the organization itself. Cowley and Smith (2014), using data from the World Values Survey, show that intrinsically motivated workers are more likely to work in the public sector. Moreover, they report variation across countries and argue that this variation could be partially explained by public corruption at those countries. Corrupt firms do not attract workers with high social preferences. Indeed, using a similar strategy to Banuri and Keefer, Banerjee et al. (2015) also study students in schools that act as feeders for private and public sector jobs in India, where the government sector has a high level of corruption. Subjects participate in a corruption-game lab experiment. Their results show that students who aspire to public-sector jobs exhibit higher levels of corrupt behavior. These studies suggest that selection may play a large role in determining worker performance in the two sectors, which is an important factor making direct comparison of worker motivation with field data problematic.

2.2. Mission match and motivation

A considerable body of research is devoted to modeling and testing the role that pro-social preferences play in worker motivation, with altruism or pro-social motives contributing to greater worker effort in settings where the firm has a pro-social mission, as in a government or non-profit organization. Besley and Ghatak (2005) developed a theory regarding mission alignment and its impacts on worker motivation. They predict that workers self-select into missions, as discussed above, and this mission match enhances their efficiency at work. They show that if the workers are matched with the right mission, they work hard even when the financial incentives are little. However, high-powered incentives are needed to get workers to exert effort in the case of a mission mis-match. There have been some studies testing the implications of this model and the findings are generally in line with the predictions (e.g. Serra et al., 2011; Carpenter and Gong, 2016; Smith, 2016; Banuri et al., 2018).

Banuri and Keefer (2016b) show that workers with stronger prosocial preferences exert more effort in pro-socially motivated tasks, with the implication that such motives enhance effort for compatible missions. Banuri et al. (2018) put mission motivation in perspective by comparing it with "task motivation:" Subjects perform tasks that are either low-motivation or high-motivation (corresponding roughly to boring and meaningful). The experiment is conducted with health

[4] A recent paper by Brown et al. (2018) investigates why people donate their time although the opportunity cost of their time is probably higher than the benefit created to the charity. They explain this by showing how people may have differential "warm glow" preferences depending on the form of the donation (cash or work).

workers in Burkina Faso, and the meaningful task is related to their expertise. These tasks are performed with and without a "mission," with tasks in the latter treatment generating a contribution to a poor school. They find that task motivation has a much larger impact on effort than mission per se. In addition, only low-motivation tasks respond to mission motivation. Other studies compare worker's behavior across for-profit and non-profit sectors. Gregg et al. (2011) find that workers in non-profit firms behave more pro-socially than workers in for-profit firms by comparing the amount of unpaid overtime labor provided across these types of firms. They find that workers in the non-profit sector are more likely to do unpaid overtime, a clear donation of labor. Presuming the selection of pro-social or mission motivated workers, this clearly suggests that those factors play an important role on worker effort.

Finally, research also shows that most workers care about positive externalities that their firms create.[5] But in this effect is likely to be strongest when working for the "right" mission (i.e. mission alignment).

2.3. Crowding out

Many prior studies examine the relationship between intrinsic motivation and incentives. This literature tends to focus on the extent to which financial compensations crowds out intrinsic motives. This phenomenon, termed by psychologists the "undermining effect," was first highlighted in economics by two studies: The first shows that introducing fines for bad behavior can have the perverse effect of increasing that behavior (Gneezy and Rustichini 2000a); and the second shows that paying intrinsically-motivated volunteer fundraisers can lower work effort unless those incentives are sufficiently high (Gneezy and Rustichini 2000b). Cerasoli et al. (2014) note that, despite the existence of several meta-analyses, the question of how these different types of motivation interact has not been fully explored. Their own meta-analysis shows that that both are important, and that their interaction depends on the nature of the task: When compensation is closely tied to (measurable) output, crowing out is stronger. They argue that monetary and non-monetary compensation should be used in partnership to motivate workers.

Crowding out can also occur in the selection process itself. It is sometimes argued that offering higher compensation to workers in the care sector, for example, could lead to the wrong kind of workers seeking those jobs, and to lower quality care (England et al. 2002; Folbre 2012). While higher monetary rewards increase the number of applicants for a position, it may also elicit applications from candidates with lower levels of commitment and intrinsic motivation (Delfgaauw and Dur 2007, 2008). By acting as a screening device, barriers to entry such as occupational licensing can reduce this problem, and at the same time reduce the pay gap (Budig et al. 2019). Banuri and Keefer (2016b) show in an experimental setting that higher payment attracts workers with less pro-social preferences to work on pro-social tasks. This confirms the idea that pro-social motivation is related to selection, and hints at the possibility that higher wages will select the "wrong" workers.

[5] In a related strand of literature, researchers have studied the impact of employers' decision to make a donation (i.e. corporate social responsibility (CSR)), thereby signaling that they "care," on workers' motivation (e.g. Koppel and Regner, 2014, 2019; Tonin and Vlassopoulos, 2015; Charness et al., 2016; Kajackaite and Sliwka, 2017, 2020; Cassar, 2019). See Kitzmueller and Shimshack (2012) for a comprehensive literature review on CSR.

2.4. Studies that use gift exchange to compare profit and nonprofit

In more closely related literature, Fehrler and Kosfeld (2014), Gerhards (2015), Cassar (2019) and Armouti-Hansen et al. (2020) study related questions in an environment very similar to our own. All use variations of the gift-exchange experimental model of labor markets introduced by Fehr et al. (1993), and modified by Charness et al. (2004). These experiments test for the presence of efficiency wages in a game the equilibrium consists of a low wage and low effort level, but both agents can earn more if wages and effort are above equilibrium levels. In this game, a Principal first decides how much to pay a worker, and the worker then chooses a costly effort level, which determines earnings. This framework has been used to explore conditions under which efficiency wages can be sustained. We return to a discussion of the similarities and differences of our work with respect to these papers after discussing our experimental design and findings.

3. Experimental Design

We modify the standard gift exchange game to mimic two types of firms: for-profit and non-profit. Our goal is to develop experimental models that are as equivalent as possible, except for the distribution of the profit. To that end, we add a third player to the standard two-player game and vary the identity of the third player to capture this key factor.

In this modified version, subjects are randomly assigned to one of three roles: a worker, a manager, and a firm owner. First, the manager determines a wage level to be paid to the worker. Then, the worker observes the wage and decides how much effort to provide. Both the wage paid, and the effort level provided determines the earnings for all three group members. The payoff functions are as follows:

$$\pi_w = wage - c(e) \tag{1}$$

$$\pi_M = 0.40 \text{ x Profit} \tag{2}$$

$$\pi_F = 0.60 \text{ x Profit} \tag{3}$$

$$\text{Profit} = 2 * (100 - wage) * e \tag{4}$$

where W, M, and F represent worker, manager and firm owner respectively; and c(e) denotes the cost of providing the effort level, e. Worker receives the wage ($wage \in \{10, 20, 30, 40, 50, 60\}$) determined by the manager and bears the cost of their chosen effort level. We use the Charness et al. (2004) cost of effort schedule which is shown in Table 1.

While the wage increases the worker's payoff, it decreases the profit. Both wage and effort determine the profit which in turn determines the earnings for the manager and the firm owner. The profit is calculated according to eq. (4) and is shared between the manager and the firm owner. The firm owner receives 60% of the profit and the manager receives the remaining 40%. In this game, the firm owner does not make any decisions: They simply collect their share of the profit.

At the beginning of the session the roles are assigned randomly and are fixed for the duration of the experiment, consistent with most of the literature. Subjects are placed in groups of three that consist of one worker, one manager and one firm owner. Although the roles are fixed, groups are re-matched randomly in each round. This design choice minimizes the impact of a specific history of play on the outcome of subsequent rounds, which can create a confound.[6] Subjects play this game for 20 rounds and are paid at the end for two randomly selected rounds. At the end of each round, we provide feedback about the wage chosen, effort provided, and the earnings.

We have two treatments: For-Profit Treatment and Non-Profit Treatment. The only difference between the two treatments is the identity of the firm owner. In the for-profit treatment, the firm owner is another subject in the lab who receives a share of the profit, whereas in the non-profit treatment, the firm owner is a non-profit organization. We chose Operation Kindness, which is the largest and oldest no-kill animal shelter in North Texas, as the non-profit organization for this experiment. We made this choice because in our prior work we observed that animal-related charitable organizations were particularly popular with student subjects. At the end of the non-profit treatment sessions, we randomly select one of the subjects to be the monitor. The monitor is paid an extra $5 to stay a little longer to make sure that earnings generated for Operation Kindness are donated to Operation Kindness on the organization's website. This is to increase subjects' trust in the experimenters that the earnings generated for the charity would indeed be donated.

4. Results

We ran a total of eleven sessions in the Economic Research Lab at Texas A&M University in February and March 2018, with a total of 251 subjects. The experiment was programmed in z-tree (Fischbacher, 2007), and the undergraduate students at Texas A&M University were recruited through ORSEE (Greiner, 2004). Subjects earned $19 on average including a $10 show-up fee.

The number of subjects in the for-profit treatment was 141, with the remaining 110 participating in the non-profit treatment. Thus, we have 47 workers and managers in the for-profit treatment; and 55 workers and managers in the non-profit treatment. Table 2 presents the key subject demographic variables. We do not find any statistically significant differences across the two treatment groups.

Similar to previous studies using the gift-exchange game (or variants of it), we do not find support for Nash equilibrium (NE) predictions. Although the managers are predicted to offer the lowest possible wage of 10, the average wage offered across both treatments is 38.65 tokens. Similarly, the workers provide significantly higher effort levels than the NE prediction of 0.1; the average across both treatments is 0.44. In what follows, we first present findings on workers'

[6] There are several studies in the public goods literature showing that "partners" matching design lead to more extreme results (more groups converging toward zero and toward full contributions) than "strangers" matching design. This can make treatment differences more difficult to detect. See, for example, Andreoni and Croson (2008).

behavior, then we present the findings on managers' behavior and finally present and discuss the impact of these observed behavior on firm profits.

4.1. Workers

As mentioned above, workers provide significantly higher effort choices, on average, than the NE prediction of 0.1. Table 3 and Figure 1 show the average effort provided across treatments and for each wage offered. In both treatments, there is a positive relationship between the wage offered and the effort provided. This reciprocal relationship that we observe is similar to the findings in the literature. When we compare the effort levels across treatments, we notice that the treatment does not have a significant impact on effort for wages lower than 40. However, workers provide significantly higher levels of effort if the wage offered is 40 or higher. These findings imply that the workers reciprocate significantly more when they work for a non-profit firm relative to a for-profit firm when the wages are sufficiently high. Otherwise, the workers' reciprocal behavioral is similar across these two types of firms.

Next, we compare at the average effort provided over time which is presented in Figure 1. We see that the behavior is fairly consistent with slight decline over time. Although there are some fluctuations, the average effort provided in the non-profit treatment is mostly above the average effort in the for-profit treatment.

The distribution of effort levels provided across treatments can be found in Figure A.1 for low wages and Figure A.2 for high wages in the appendix. Using the Epps-Singleton test[7], we compare these distributions across non-profit and for-profit treatments. We find that the distributions are not statistically significantly different if the wage offered is 10 (p-value: 0.105) or 20 (p-value: 0.311). On the other hand, the distributions of efforts are significantly different across for-profit and non-profit treatments if the managers offer 30 or more (p-value < 0.01 for all).

To check the robustness of our findings, we run a panel data random effects Tobit regression and the results are presented in Table 4. In our experiment, workers cannot provide an effort level lower than 0.1 or higher than 1. Thus, by using a Tobit model, we take this censoring into account. In both Panels A and B, the dependent variable is *Worker Effort* which is the level of effort provided by the worker. *Wage* is the wage offered by the manager to the worker in that period. *Non-Profit* is the indicator variable that takes the value of 1 for the non-profit treatment, otherwise 0. *Period* is the trend variable and *Female* is the indicator variable for females.

Looking at columns (1) and (2) in Panel A of Table 4, we see that workers are responsive to the wages offered. Workers provide significantly higher effort for higher wage levels. Additionally, we see that workers provide significantly higher effort when they are in the non-profit treatment compared to the for-profit treatment.

We also are interested in the workers' responsiveness to the wages in the non-profit treatment compared to the for-profit treatment (see Table A1 in appendix). We see a weak evidence of

[7] Findings are similar if we use the Kolmogorov-Smirnov test.

higher responsiveness to wages in the non-profit treatment however this impact is not significant in our preferred regression model (see column (3) in Table A1). Based on our findings that are presented above, we next examine this behavior separately for high and low wages, and the regression results are presented in Panel B of Table 4. Here, instead of using the actual wage offered, we construct an indicator variable which takes the value of 1 if the wage offered is high (i.e. 40, 50, or 60), and otherwise zero. Although workers in both treatments respond to the higher wages by increasing their effort level, we find that workers in the non-profit treatment are significantly more responsive to the higher wages compared to the for-profit treatment.

Finally, we explore heterogenous treatment effects by including a variable that measures the mission motivation of subjects. We measure mission motivation by assessing subjects' social orientation using the Public Service Measure (PSM) (Perry, 1996). Perry's PSM is designed to measure "an individual's predisposition to respond to motives grounded primarily or uniquely in public institutions" (Perry, 1996). Many studies have tested Perry's PSM and they found strong support (e.g. Coursey et al., 2008; Coursey and Pandey, 2007; Gan et al., 2013). We constructed the variable 'Society Oriented' by using the answers to the following item from the PSM: "Making a difference in society means more to me than personal achievements."[8] Values are between 1 (Strongly Disagree) and 5 (Strongly Agree).

As can be seen in column (3) of Panel B in Table 4, what distinguishes Society Oriented subjects is their behavior in the for-profit treatment. Caring about making a difference in society (i.e. being society oriented) does not impact behavior in the non-profit treatment (the summation of the coefficients of Society Oriented and Society Oriented*Non-Profit is not significantly different from zero), where all subjects can exhibit mission motivation. On the other hand, society-oriented individuals provide significantly higher levels of effort when they are in the for-profit treatment. Arguably, these are the individuals who would have selected into the non-profit treatment, given the choice. If they had, then comparing their effort levels in the non-profit treatment with others in the for-profit treatment would have led us to believe (erroneously) that mission motivation contributed substantially to their productivity.

4.2. Managers and Profits

In this section, we first study the managers' behavior and then compare the profits generated across two treatments. The left panel of Figure 2 shows the average wage paid across treatments. On average, managers paid workers 38 and 39 tokens in the for-profit and non-profit treatments respectively, and they are not statistically different from one another (Mann-Whitney test p-value: 0:207). The right panel of Figure 2 shows the average wage offered over time across treatments. Average wages seem fairly consistent over time and across treatments.

To check the robustness of these findings, we run a panel data random effects Tobit model regression where the dependent variable is the wage paid in each period and the findings are presented in Table 5. According to these results, wages paid across treatments are not statistically different. Although we see that managers respond positively to the effort provided in the previous round, we do not find any evidence that managers respond to the treatment. These

[8] This item is listed as PSM1 under the self-sacrifice subscale in Perry (1996).

results suggest that managers do not anticipate workers to be more responsive to wages across treatments.

Next, we compare the profits generated in the for-profit and non-profit treatments. The left panel of Figure 3 shows the average profits generated across treatments. Average profits are 44.85 and 53.67 tokens in the for-profit and non-profit treatments respectively. The right panel of Figure 3 illustrates the profits generated across different wage levels. Table 6 presents the panel data Tobit model regression where the dependent variable is the profits generated in each period. As presented in column (1) of Table 6, we find that profits are significantly higher in the non-profit treatment. Moreover, looking at column (2), we find that wages of 40 and 50 result in the highest profits generated in both treatments and the increase in profits in the non-profit treatment is higher than the one in the for-profit treatment.

5. Comparison with Related Studies

We now turn to a comparison with the studies that are closest to ours in design. These studies differ from ours in several key ways. First, several studies use a different type of contract. Our study uses an efficiency-wage setting, where the manager only employs a fixed payment. Several studies with closely-related research questions use a piece-rate contract with both a fixed and a variable component that depends on effort. The piece rate component implies that effort can be monitored, a requirement which seems unlikely to hold in many non-profit settings. A second issue is that some studies comparing for-profit and non-profit workers fail to hold constant the efficiency of the exchange, with non-profit firms generating additional payments to charitable organizations, over and above any revenues produced for the worker-manager pair. We believe this is important to make comparisons as valid as possible. A third issue is that some studies use stable worker-employer pairs, with the same pairs playing repeatedly over all rounds, while others (including ours) rematch the pairs each round. This design choice tends to make "relationship" within the team an important determinant of behavior, a potential confound we would prefer to avoid. The studies are discussed below, highlighting these factors.

Fehrler and Kosfeld (2014) conduct an experimental study addressing the same research question as ours. The design of their first experiment is similar to ours, consisting of a for-profit and a non-profit treatment, each of which generates an external payment either to a random student outside the experiment, or to a non-profit organization selected by the worker. The biggest difference between their design and ours is in the way in which workers are matched with firms. While they use a partners-matching design, with subjects playing in the same pairs across all periods of the experiment, ours is a stranger-matching design, with random rematching each period. In addition, their labor contracts are not efficiency wages, but rather include a fixed payment (set by the experimenter) and a piece rate (selected by the manager). In contrast to our results, they find no difference in the response to incentives in the two types of firms. We suggest that this difference in the matching rule is likely to be the driving force behind the differences between our findings, but other differences in the experimental design may also be responsible. In a second experiment, they introduce endogeneity where all subjects are assigned as workers and they decide whether they want to work for a profit (generate donations to another

student) or a non-profit (generate donations to an NGO) firm.[9] They find that subjects who choose to work for a non-profit firm exert more effort. As a result, they state that self-selection into the non-profit sector the key factor that could explain the empirical findings in this sector.

In another related paper, Gerhards (2015) finds that mission-match increases workers' effort. In their experiments, subjects are either matched with a mission of their preference (mission match treatment) or a randomly and exogenously-chosen mission (low mission match). Subjects exert more effort in the mission match treatment. They have another experiment which is more closely related to our paper. In this second experiment, subjects participate in the high and low mission match treatments (within-subjects design) and play multiple rounds with a perfect stranger matching rule. When the game is played repeatedly like this, they do not find any difference between the two treatments. On the contrary, in another closely related study, Cassar (2019) does not find any difference in the effort when the mission is matched compared to random mission assignment, though the presence of any mission (random or matched) does increase effort compared to the no-mission treatment. Like Fehrler and Kosfeld, her labor contracts also include a piece rate. In addition, her mission and non-mission treatments are not equivalent in that only the mission treatments generate an external payment to a third party, and therefore effort generates a larger total benefit (profit to the manager plus external payment to the nonprofit). This may be why the mission treatments lead to higher effort. She suggests that increasing the quality of the mission-match does not generate any further gains. Similar to Cassar (2019), we also find that pro-social mission results in higher effort, but only if the wage paid is high. In contrast to Cassar (2019), we find that managers offer the same wages across the two treatments, while her results show inefficiently low wages by for-profit managers. Our managers are unaffected by the mission in their choice of wages, and this results in higher profits generated in our non-profit treatment.

In Armouti-Hansen et al. (2020), the authors explore efficiency wages, as we do, in for-profit and non-profit treatments (i.e. no piece rate). Effort choices by workers are elicited using a strategy method, so that the worker indicates for each possible wage whether they would accept the offer and their selected effort level. They find that workers will accept lower offers in the non-profit treatment, and exert greater effort for a given wage level. However, like Cassar (2019) the treatments are not equivalent, in that an external payment is only generated in the non-profit treatment.

6. Closing Discussion

While significant research examines the impact of incentives on effort in for-profit settings, largely showing that employees provide more effort for higher wage levels (Lazear 2018), less direct evidence exists for mission-oriented organizations. Prior work argues that we cannot pay higher wages – or even, in some cases, living wages – in mission-oriented organizations because the incentives will reduce effort by crowding out intrinsic motivation (e.g., Frey and Jegen 2001). This relationship is difficult or impossible to test with observational data because of selection pressures that result in more pro-social workers selecting into non-profit organizations.

[9] Modifying the gift-exchange game like this takes away the reciprocity between the worker and the employer. It would be interesting to test the robustness of these findings by using a design similar to their first experiment.

We take advantage of the control available through experiments to systematically test whether and how individuals differentially respond to financial incentives in equivalent non-profit and for-profit jobs. In the lab, we can remove the selection effect by randomly allocating workers to the two types of firms. More specifically, we ask whether workers exert more effort, for a given a wage level, when they work for a non-profit firm rather than a for-profit firm.

We find a significant amount of reciprocity in both the for-profit and non-profit firms. That is, the presence of a mission does not eliminate or reduce the responsiveness of effort to increasing wages. Rather, the responsiveness to wages is identical for for-profit and non-profit firms at lower wages. At higher wages, workers in the non-profit firms actually exert *higher* levels of effort than the workers in the non-profit firms. This directly contradicts prevailing theoretical arguments that higher wages will crowd out mission motivation, intrinsic motivation or both. These results show that higher wages are an effective way to motivate workers in both sectors.

Interestingly, we also find that individuals who self-report that they care about making a difference in society provide significantly higher levels of effort than their less-society-oriented counterparts when they are in the for-profit treatment but not in the non-profit treatment. This occurs because the less-social workers work less hard without a mission motivation; the society-oriented workers are 'better' workers (providing higher effort, contingent on wage) regardless of whether they are working for a for-profit or non-profit firm. The increase in effort associated with working for the non-profit firm comes from the less-society-oriented individuals.

In addition to our focus on worker responses, we also ask whether managers in the for-profit and non-profit firms offer different wage levels. Although we see that managers respond positively to the effort provided in the previous round, we do not find any evidence that managers respond to the treatment: for-profit and non-profit managers offer similar wages. These results suggest that managers do not anticipate workers to be more responsive to wages across treatments, resulting in higher manager and firm earnings generated in the laboratory non-profit treatment.

This question and result are important for the literature on charitable giving. Individuals contribute to charities, at least in part, in order to do good for society in accordance with the nonprofit's mission. In the nonprofit realm, both additional effort and more effective effort result in additional benefits to society, raising the value of the nonprofit's actions and creating additional value for a given level of donations. Thus, understanding the impact of incentives on nonprofit workers is a key component of the charitable giving intellectual landscape.

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FIGURES

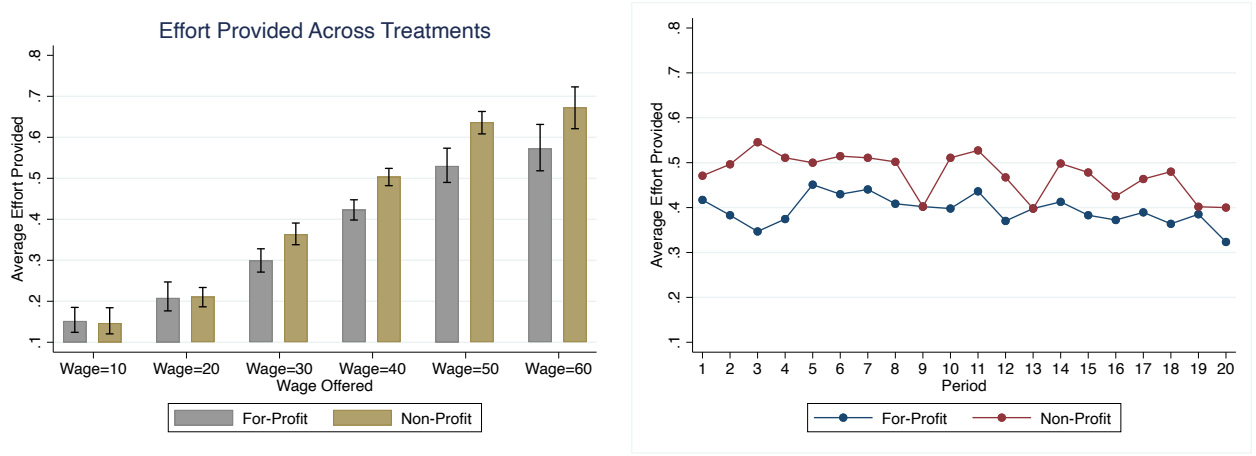


Fig 1: *Average effort provided across treatments and periods.* Vertical lines on bars are the bootstrapped 95% confidence intervals.

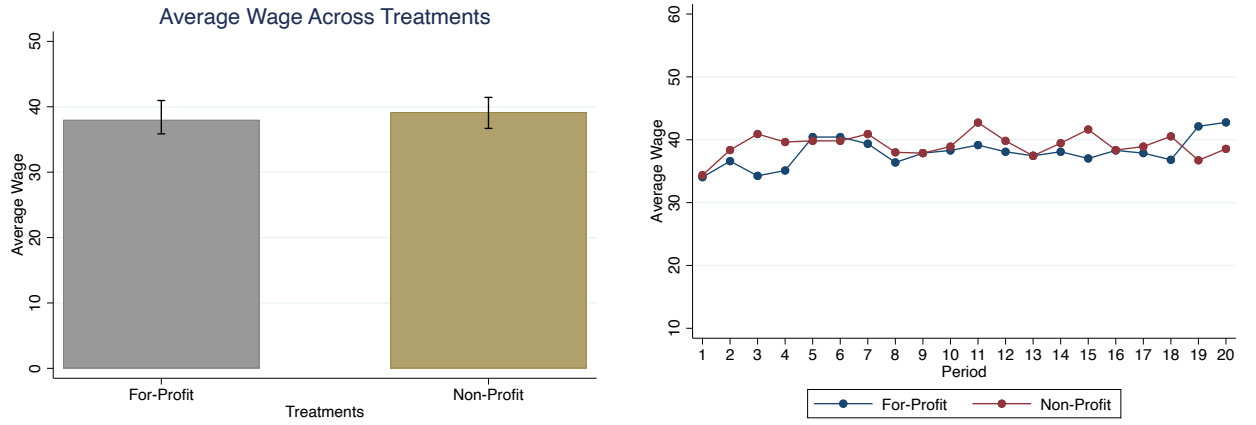


Fig 2: *Average wage paid across treatments and periods.* Vertical lines on bars are the bootstrapped 95% confidence intervals.

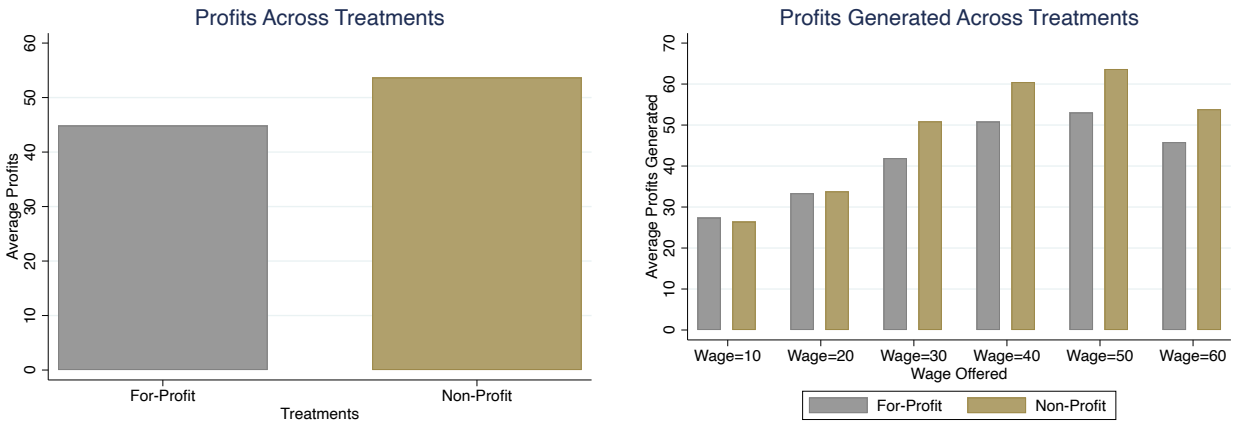


Fig 3: Average Profits Generated Across Treatments.

TABLES

Table 1: Worker's Cost of Effort Schedule

e	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
$c(e)$	0	1	2	4	6	8	10	12	15	18

Table 2: Subjects' Demographics Across Treatments

	Non-Profit	**For-Profit**	***p-values***
Female	0.53 (0.50)	0.51 (0.50)	*0.801*†
Age	20.09 (1.56)	20.22 (3.02)	*0.452*††
White	0.53 (0.50)	0.53 (0.50)	*1.000*†
Economics or Business Major	0.30 (0.46)	0.38 (0.49)	*0.183*†
College Year	2.56 (1.22)	2.33 (1.09)	*0.145*††
Relative Family Income	2.95 (1.20)	2.96 (1.00)	*0.932*††
Work While Schooling	0.37 (0.49)	0.32 (0.47)	*0.422*†
Number of Subjects	*110*	*141*	

Standard deviations are in parentheses. †Fisher's Exact Test ††Mann-Whitney test.
Relative family income variable is subjects' answer to the following survey question: Relative to other students at Texas A&M University, would you say your income is (1) much below average … (5) much above average. *Work While Schooling* is the indicator variable if the subject works while attending school.

Table 3: Average Effort Provided

Treatment	**Wage Paid**					
	10	**20**	**30**	**40**	**50**	**60**
Non-Profit	0.17 (0.02) n=41	0.21 (0.01) n=38	0.31 (0.01) n=47	0.41 (0.01) n=47	0.51 (0.01) n=43	0.59 (0.03) n=42
Profit	0.15 (0.02) n=46	0.21 (0.02) n=45	0.34 (0.01) n=53	0.49 (0.01) n=55	0.64 (0.02) n=55	0.72 (0.03) n=47
p-values†	*0.422*	*0.968*	*0.364*	*0.030*	*0.014*	*0.042*
p-values‡	*0.882*	*0.694*	*0.286*	*0.031*	*0.006*	*0.054*

The average efforts for each wage and treatment are computed by taking the average effort provided across all 20 periods by each subject. Standard deviations are in parentheses. †Bootstrapped t-test †Mann-Whitney test.

Table 4: Panel Data Random Effect Tobit Regression Results for Worker's Effort

	(1)	(2)	(3)	(4)
Panel A				
Wage	0.015***	0.015***	0.015***	
	(0.001)	(0.001)	(0.001)	
Non-Profit	0.106**	0.099*	0.473**	
	(0.050)	(0.051)	(0.185)	
Period		-0.008***	-0.008***	
		(0.001)	(0.001)	
Female		-0.085**	-0.067*	
		(0.039)	(0.038)	
Society Oriented			0.110***	
			(0.036)	
Society Oriented*Non-Profit			-0.099**	
			(0.044)	
Constant	-0.247***	-0.126**	-0.550***	
	(0.041)	(0.060)	(0.154)	
Number of Observations	*2040*	*2040*	*2040*	
Number of Groups	*102*	*102*	*102*	
Panel B				
High Wage (40-60)	0.376***	0.334***	0.344***	0.344***
	(0.021)	(0.034)	(0.029)	(0.033)
Non-Profit	0.113**	0.062	0.058	0.444**
	(0.049)	(0.060)	(0.044)	(0.205)
High Wage*Non-Profit		0.073**	0.070*	0.070*
		(0.036)	(0.043)	(0.038)
Period			-0.008***	-0.008***
			(0.002)	(0.002)
Female			-0.078*	-0.059
			(0.049)	(0.051)
Society Oriented				0.113***
				(0.042)
Society Oriented*Non-Profit				-0.102**
				(0.051)
Constant	0.086**	0.114***	0.237***	-0.198
	(0.036)	(0.035)	(0.042)	(0.172)
Number of Observations	*2040*	*2040*	*2040*	*2040*
Number of Groups	*102*	*102*	*102*	*102*

*p < 0.10, **p < 0.05, ***p < 0.01. Bootstrapped standard errors are in parentheses. Dependent variable is the amount of effort provided by the worker. Since the effort has to be between 0.1 and 1, the left censoring is set to 0.1 and the right censoring is set to 1.

Table 5: Panel Data Random Effects Tobit Regression Results for Wage

	(1)	(2)
Non-Profit	0.747	-0.447
	(2.334)	(2. 275)
Female		-1.639
		(1.983)
Period		0.135**
		(0.058)
Lagged Effort		13.818***
		(2.004)
Constant	38.682***	32.699***
	(1.810)	(2.480)
Number of Observations	*2040*	*2040*
Number of Groups	*102*	*102*

*p < 0.10, **p < 0.05, ***p < 0.01. Bootstrapped standard errors are in parentheses. Dependent variable is the wage paid by the managers. Since the wages have to be between 10 and 60, the left censoring is set to 10 and the right censoring is set to 60.

Table 6: Panel Data Random Effect Tobit Regression Results for Firm Profits

	(1)	(2)
Non-Profit	9.172***	0.324
	(3. 337)	(5.666)
Period	- 0.582 ***	-0. 602***
	(0.114)	(0. 114)
Wage 20		6.448**
		(3.243)
Wage 30		13. 604***
		(3. 485)
Wage 40		20.832***
		(4. 247)
Wage 50		23.755***
		(4.645)
Wage 60		15.863***
		(5.740)
Wage 20*Non-Profit		-1.274
		(4. 610)
Wage 30*Non-Profit		5.204
		(4.238)
Wage 40*Non-Profit		10.217*
		(5.367)
Wage 50*Non-Profit		11.586**
		(5.721)
Wage 60*Non-Profit		10.388
		(6.824)
Constant	50.389***	34.847***
	(2.495)	(3.890)
Number of Observations	*2,040*	*2,040*
Number of Groups	*102*	*102*

*p < 0.10, **p < 0.05, ***p < 0.01. Bootstrapped standard errors are in parentheses. The dependent variable is the profits generated in each round. Minimum possible profit of 8 occurs when the manager pays the highest wage of 60 and the worker provides the lowest effort of 0.1. Maximum possible profit of 180 occurs when the manager pays the lowest wage of 10 and the worker provides the highest effort of 1. Thus, the left censoring is set to 8 and the right censoring is set to 180.

APPENDIX

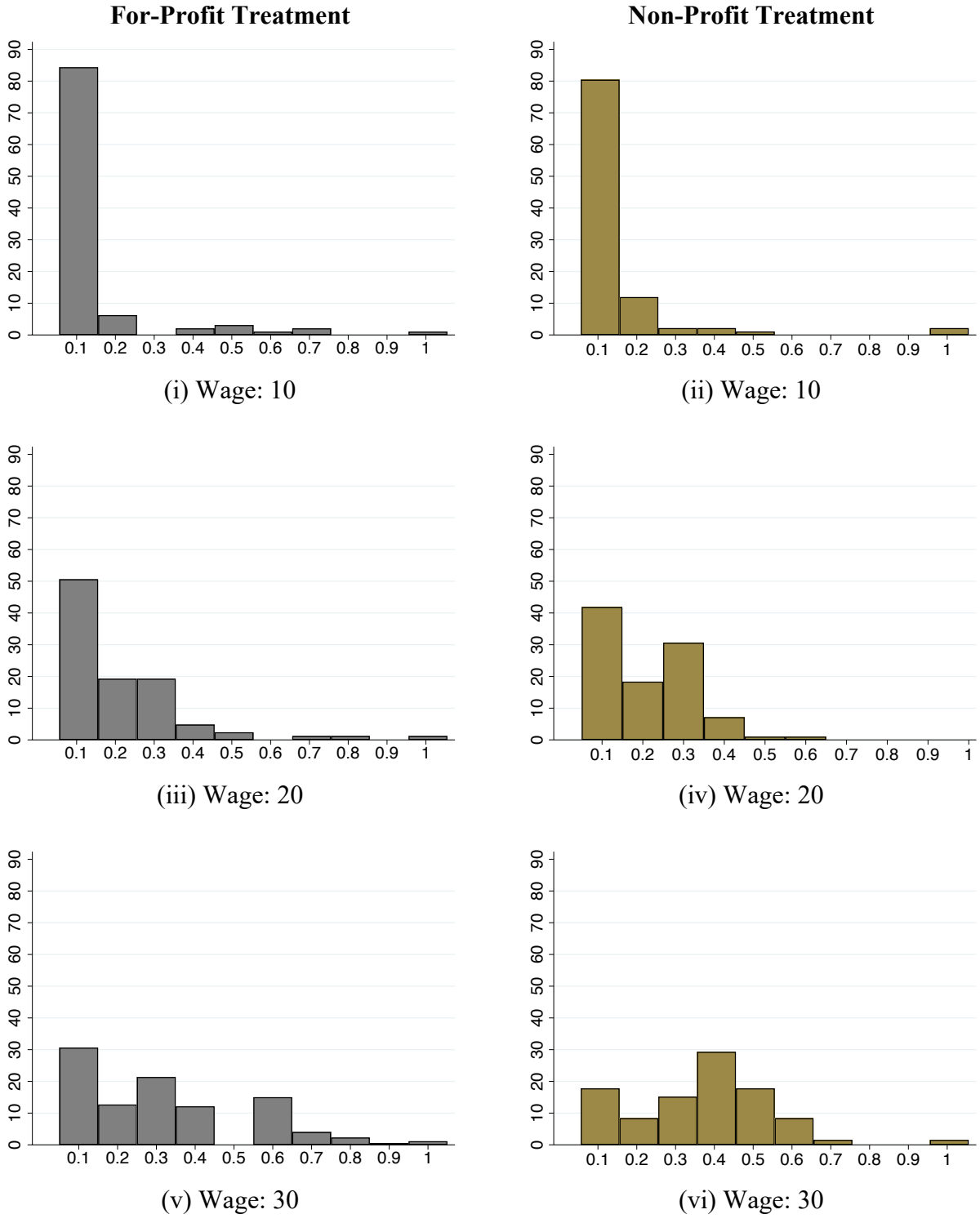


Fig A1: Distributions of Effort provided Across Low Wages and Treatments.

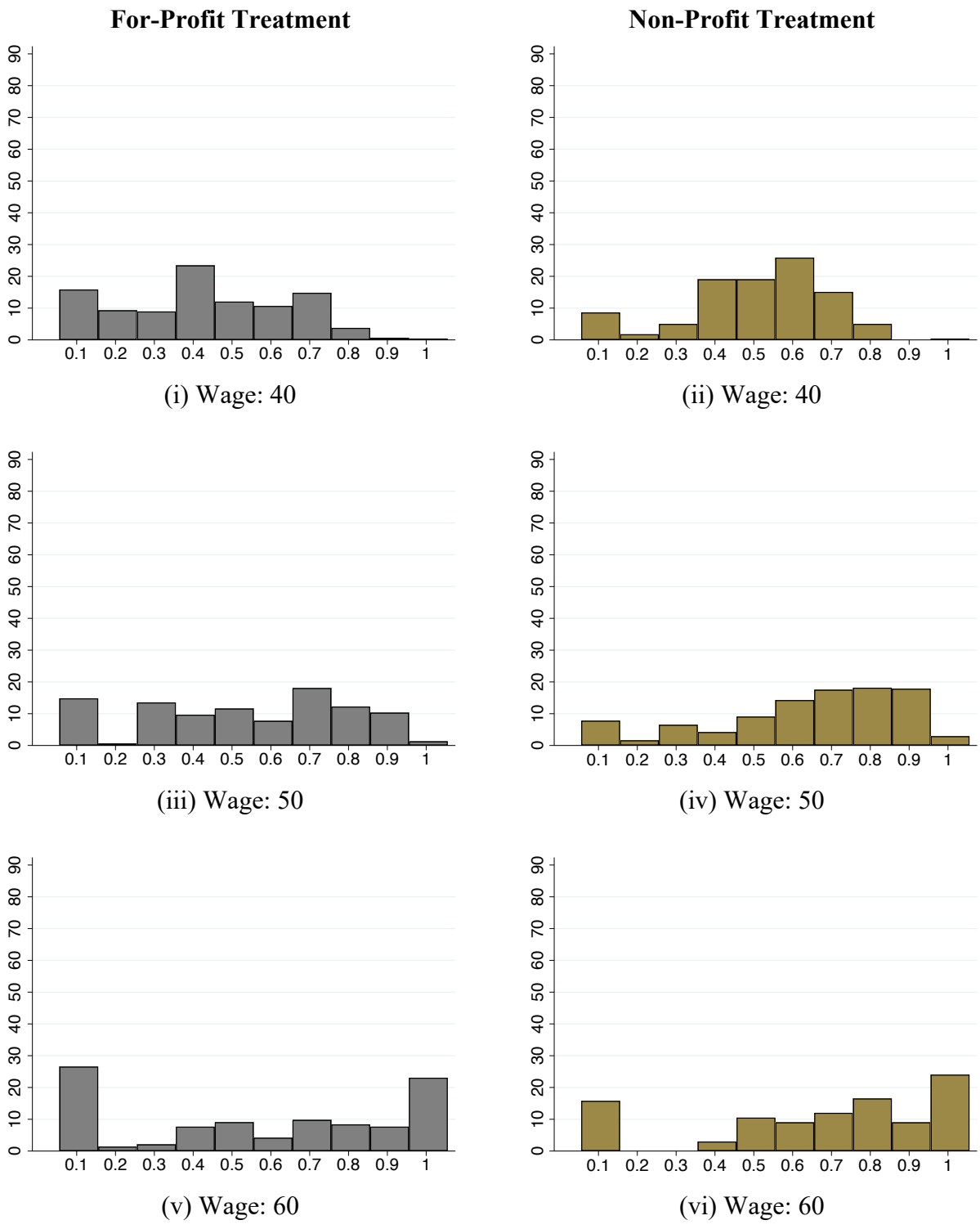


Fig A2: Distributions of Effort provided Across High Wages and Treatments.

Table A1: Panel Data Random Effects Tobit Regression Results

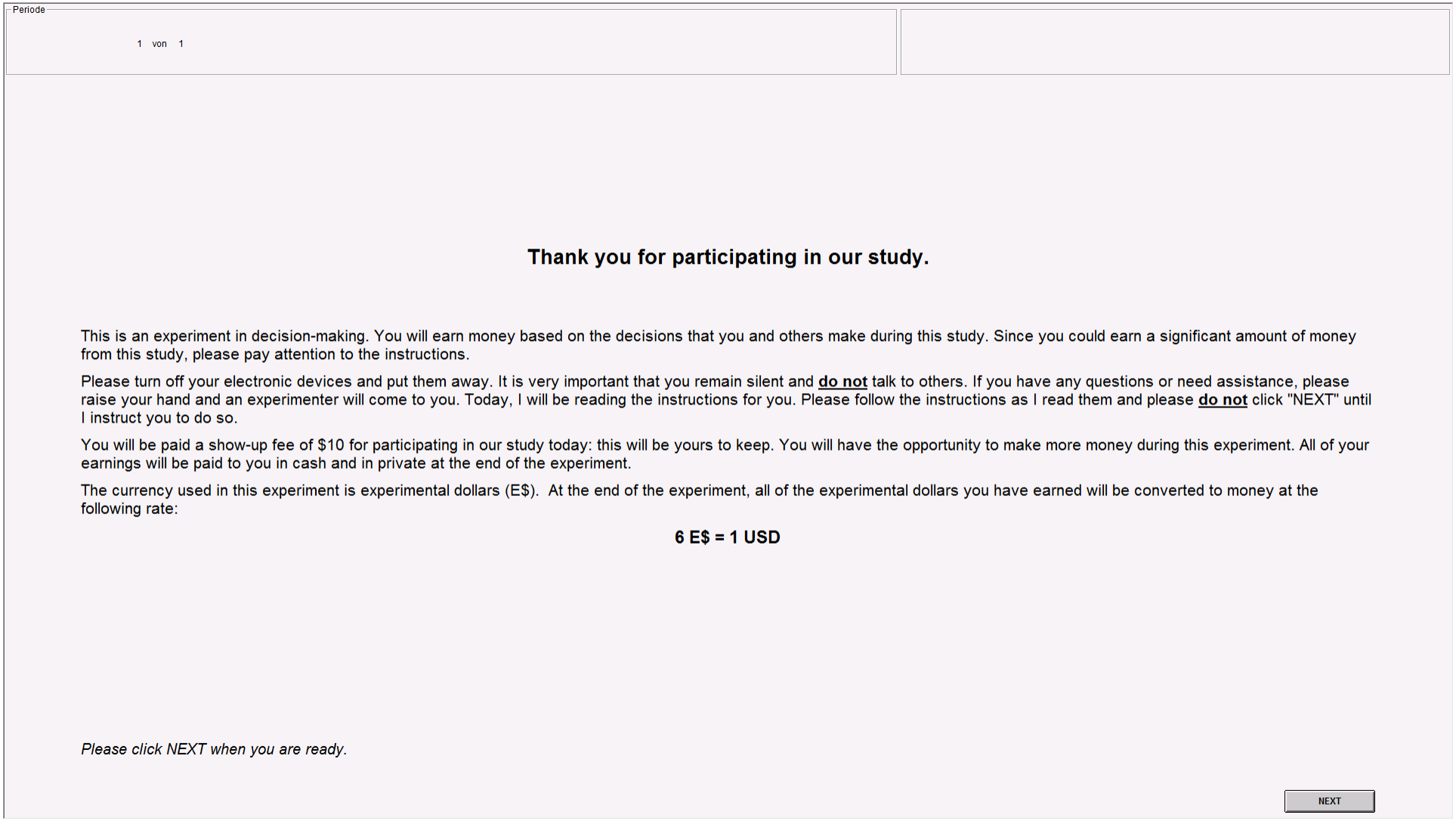
	(1)	(2)	(3)
Wage	0.013***	0.014***	0.014***
	(0.001)	(0.001)	(0.001)
Non-Profit	0.001	0.002	0.368*
	(0.078)	(0.083)	(0.210)
Wage*Non-Profit	0.003*	0.002	0.002
	(0.002)	(0.002)	(0.002)
Period		-0.008***	-0.008***
		(0.001)	(0.001)
Female		-0.085*	-0.067*
		(0.039)	(0.038)
Society Oriented			0.109***
			(0.036)
Society Oriented*Non-Profit			-0.096**
			(0.045)
Constant	-0.188***	-0.072	-0.491***
	(0.052)	(0.067)	(0.161)
Number of Observations	*2040*	*2040*	*2040*
Number of Groups	*102*	*102*	*102*

*p < 0.10, **p < 0.05, ***p < 0.01. Bootstrapped standard errors are in parentheses. Dependent variable is the amount of effort provided by the worker. Since the effort has to be between 0.1 and 1, the left censoring is set to 0.1 and the right censoring is set to 1.

Instructions For Workers' Response to Monetary Incentives in For-Profit and Non-Profit Jobs

For Online Publication Only

Non-Profit Treatment Screenshots



Periode

1 von 1

Instructions

The experiment will consist of 20 rounds and a survey. At the end of the experiment, the computer will randomly select two of these 20 rounds, and these two rounds are going to be the paying rounds. In other words, you will be paid in cash for your earnings in these two paying rounds. Since nobody knows which rounds are the paying rounds, it is in your best interest to pay equal attention to all rounds.

In this experiment, you will be taking part in an experimental labor market. There are two types of players: managers and workers. You could be either a manager or a worker, and this will be determined randomly by the computer. Once your type is randomly determined, it will be the same for the remainder of the experiment. As we explain later in the instructions, managers and workers will make decisions that will determine the profits.

This experiment will also involve a charity: Operation Kindness. Operation Kindness is the largest no-kill animal shelter in North Texas. It will receive a share of the profits. At the end of today's session, we will randomly pick one of the participants to be the monitor. The monitor will be paid extra $5 for staying a little longer to make sure that all money earned for Operation Kindness will be donated on the charity's website.

At the beginning of each round, the computer will randomly construct groups that consist of one worker and one manager. Thus, your group will be re-determined in each round.

In each round, first the manager decides the wage that he/she will pay to his/her worker. Then the worker observes the wage and decides how much effort to provide. These decisions will determine the earnings for the manager, the worker and Operation Kindness in that round. On the following screens, we explain how the game works in more detail.

Please click NEXT when you are ready.

NEXT

Period

1 out of 3

Managers

If you are randomly selected to be a manager, you will need to decide on the wage to pay to the worker. Wages can be between 10 and 60 in multiples of 10 (e.g. 10, 20, ...).

Manager's Earnings: Managers earn 40% of the firm's profits. Therefore:

*Manager's Earnings = 0.40 * Profits*

The firm's profits are calculated as follows:

*Profits = (100 - Wage) * 2 * Effort*

Profits and manager's earnings calculations are provided on your Earnings Calculation Sheet.
Are there any questions?

Please click NEXT when you are ready.

NEXT

Period

1 out of 3

Workers

If you are randomly selected to be a worker, you will receive a wage, which is determined by the manager.

Workers observe the wage chosen by the manager and they choose the level of effort to provide.

The effort level should be between 0.1 and 1 in multiples of 0.1 (e.g. 0.1, 0.2 ... etc.). Effort reduces the amount earned by the worker, and increases the amount of profit. The cost to the worker, in E$, of choosing each possible effort level is shown in the following Cost of Effort Table:

Cost of Effort Table

Effort	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
Cost in E$	0	1	2	4	6	8	10	12	15	18

For example, the cost of choosing an effort level of 0.1 is zero, the cost of choosing an effort level of 0.2 is E$1. ... the cost of choosing an effort level of 1 is E$18.

Worker's Earnings: Workers earn their wage (set by the manager), minus their effort cost. Therefore:

Worker's Earnings = Wage - Cost of Effort

The Cost of Effort Table and worker's earnings calculation are provided on your Earnings Calculation Sheet.
Are there any questions?

Please click NEXT when you are ready.

NEXT

Period

1 out of 3

Operation Kindness's Earnings

Operation Kindness will not make any decisions. However, Operation Kindness's earnings will be determined by the decisions made by the manager and the worker.

Operation Kindness earns 60% of the firm's profits. Therefore:

*Operation Kindness's Earnings = 0.60 * Profits*

Again, the firm's profits are calculated as follows:

*Profits = (100 - Wage) * 2 * Effort*

At the end of the experiment, the computer will randomly select two rounds to be the paying rounds. Operation Kidness's total earnings in these two paying rounds will be donated to Operation Kindness on their website. At the end of the experiment, we will randomly select a participant to be the monitor. The monitor will be paid an extra $5 and he/she will monitor and make sure that the donation is made to the charity.

Operation Kindness's earnings calculation is provided on your Earnings Calculation Sheet.
Are there any questions?

Please click NEXT when you are ready.

NEXT

Period

1 out of 3

UNDERSTANDINGS TASK

Before you start making your decisions, we would like to ask you some questions. These questions are designed to help you become familiar with how the experiment works. They should not be used as a guide for your decisions in the experiment. If you need any help with the questions, please raise your hand and the experimenter will come and help you. You have to answer the questions correctly in order to be able to proceed.

Please click NEXT when you are ready.

NEXT

Period

1 out of 3

QUESTION 1

If you need assistance at any point, please raise your hand. Feel free to refer to the handout for the calculation formulas and/use or the calculator to the right.

1. Suppose that the wage offered by the manager is E$20, and the worker decided to provide an effort level of 0.2.

a. What is the cost of effort for the worker? 1

b. What are the worker's earnings? 19

c. What are the profits? 32

d. What are the manager's earnings? 12.8

e. What are Operation Kindness's earnings? 19.2

CALCULATOR

Wage	Effort Level	PROFIT
20	0.2	32.0

Calculate

When you are finished answering the questions, please click NEXT.

Next

Period

1 out of 3

QUESTION 2

If you need assistance at any point, please raise your hand. Feel free to refer to the handout for the calculation formulas and/or the calculator to the right.

2. Suppose that the wage offered by the manager is E$40, and the worker decided to provide an effort level of 0.7.

a. What is the cost of effort for the worker? 10

b. What are the worker's earnings? 30

c. What are the profits? 84

d. What are the manager's earnings? 33.6

e. What are Operation Kindness's earnings? 50.4

CALCULATOR

Wage	Effort Level	PROFIT
40	0.7	84

Calculate

When you are finished answering the questions, please click NEXT.

Next

Period

1 out of 3

Summary

There are two types of players: managers and workers. Your type could be either a manager or a worker, and it will be determined randomly by the computer. This randomly determined type will be the type that you will have for the rest of the experiment.

This experiment will last for 20 rounds. At the beginning of each round, the computer will randomly construct groups that consist of one worker and one manager.

Two rounds will be randomly selected for payment. Decisions made in these two rounds will determine the earnings of the workers and managers, and the amount to be donated to Operation Kindness. Since we do not know which rounds are going to be selected, it is in your best interest to pay close attention to all rounds.

At the end of each round, you will be informed about the wage determined by the manager, effort level determined by the worker; and the worker's, manager's and Operation Kindness's earnings for that round.

Now, please take a minute to look at the Timeline of Events in Each Round sheet that was provided in your computer stations.

We will start the experiment momentarily. Please pay close attention to each screen. If you have any questions at any point, please raise your hand. After you make your decisions, do not forget to click NEXT in order to continue.

Please click NEXT when you are ready.

NEXT

Period

1 out of 3

YOUR TYPE

You are randomly selected to be the **worker**. This will be your type in all 20 rounds. At the beginning of each round, the computer will randomly construct groups that consist of one worker and one manager.

As a reminder, in each period, you will choose the level of effort to provide for the wage offered by the manager. The effort level should be between 0.1 and 1. Effort reduces the amount you earn. The cost, in E$, of choosing each possible level of effort are shown in the following cost schedule:

Cost of Effort Table

Effort	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
Cost in E$	0	1	2	4	6	8	10	12	15	18

For example, the cost of choosing an effort level of 0.1 is zero, the cost of choosing an effort level of 0.2 is E$1. ... the cost of choosing an effort level of 1 is E$18.

Worker's Earnings: Workers earn their wage (set by the manager), minus their effort cost. Earnings are therefore:

Worker's Earnings = Wage - Cost of Effort

Please refer to the Earnings Calculation Sheet when you need this information again.

Please click NEXT to make your decisions.

NEXT

Period

1 out of 3

Cost of Effort Table

Effort	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
Cost in E$	0	1	2	4	6	8	10	12	15	18

Remember, your group will randomly be re-determined in each round.

Please use the calculator on the screen as many times as you like.

The wage paid by the manager is : **20 E$**

Your effort level can be between 0.1 and 1. Now, please select an effort level:

CALCULATOR

Wage	Effort Level	PROFIT
20		0.0

Calculate

Please make your decision now and click NEXT when you are ready.

NEXT

Period

1 out of 3

YOUR TYPE

You are randomly selected to be the **Manager**. This will be your type in all 20 rounds. At the beginning of each round, the computer will randomly construct groups that consist of one worker and one manager.

As a reminder, in each round, you will need to decide on the wage to pay to the worker. Wages can be between 10 and 60 in multiples of 10 (e.g. 10, 20 ... etc.).

Manager's Earnings: Managers earn 40% of the firm's profits. Therefore:

*Manager's Earnings = 0.40 * Profits*

The firm's profits are calculated as follows:

*Profits = (100 - Wage) * 2 * Effort*

Please refer to the Earnings Calculation Sheet when you need this information again.

Please click NEXT to make your decision.

NEXT

Period

1 out of 3

DECISION

Remember, your group will randomly be re-determined in each round.

Please feel free to use the calculator on the screen as many times as you like.

Wages can be between 10 and 60 in multiples of 10.
Now, please select a wage:

CALCULATOR

Wage	Effort Level	PROFIT
		0.0

Calculate

Please make your decision now and click NEXT when you are ready.

NEXT

Period

1 out of 3

Round Summary

Wage: 20E$

Effort Level: 0.5

Profits: 80 E$

EARNINGS

Operation Kindness (60% of Profits) : 48.00 E$

Worker : 14.00 E$

Manager (40% of Profits) : 32.00 E$

Please click NEXT when you are ready.

NEXT

Period

3 out of 3

Earnings

Rounds Chosen for Payment: 3 and 1

Earnings (E$): 56.00 (6 E$ = 1 USD)

Earnings (USD): $9.33

Show up Fee: $10

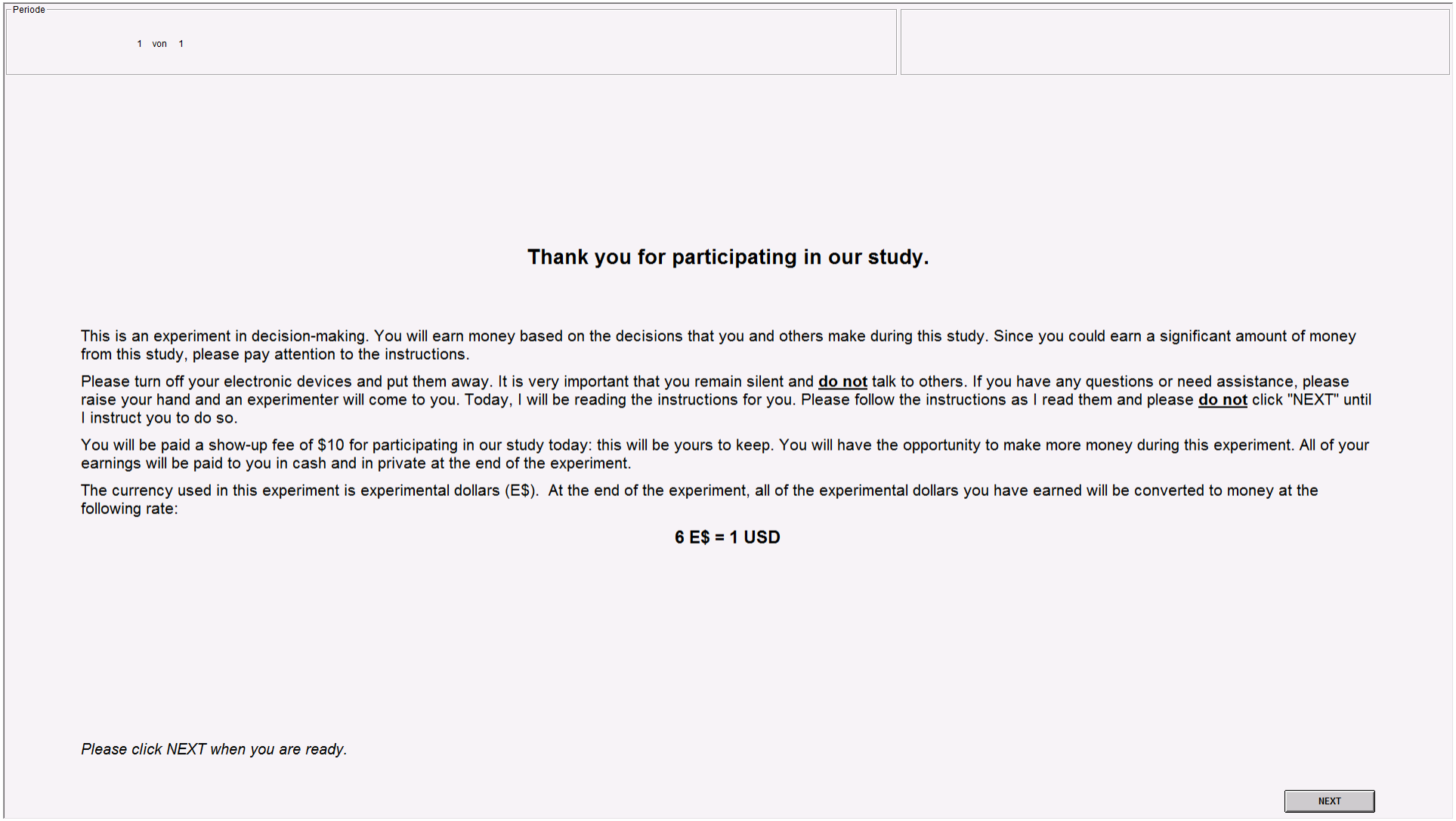
Total Earnings (USD) : $ 19.33

Your group generated $ 16.00 to be donated to the charity. Thus, your share of this donation amount is $ 8.00. Your share will be written on your payment receipt by the experimenter.

Please click NEXT when you are done.

NEXT

For-Profit Treatment Screenshots



Periode

1 von 1

Instructions

The experiment will consist of 20 rounds and a survey. At the end of the experiment, the computer will randomly select two of these 20 rounds, and these two rounds are going to be the paying rounds. In other words, you will be paid in cash for your earnings in these two paying rounds. Since nobody knows which rounds are the paying rounds, it is in your best interest to pay equal attention to all rounds.

In this experiment, you will be taking part in an experimental labor market. There are three types of players: managers, workers, and firm owners. You could be either a manager, a worker or a firm owner, and this will be determined randomly by the computer. Once your type is randomly determined, it will be the same for the remainder of the experiment.

At the beginning of each round, the computer will randomly construct groups that consist of one worker, one manager and one firm owner. Thus, your group will be re-determined in each round.

In each round, first the manager decides the wage that he/she will pay to his/her worker. Then the worker observes the wage and decides how much effort to provide. These decisions will determine the earnings for the manager, the worker and the firm owner in that round. Please notice that the firm owner does not make any decisions. On the following screens, we explain how the game works in more detail.

Please click NEXT when you are ready.

NEXT

Period

1 out of 2

Managers

If you are randomly selected to be a manager, you will need to decide on the wage to pay to the worker. Wages can be between 10 and 60 in multiples of 10 (e.g. 10, 20, ...).

Manager's Earnings: Managers earn 40% of the firm's profits. Therefore:

*Manager's Earnings = 0.40 * Profits*

The firm's profits are calculated as follows:

*Profits = (100 - Wage) * 2 * Effort*

Profits and manager's earnings calculations are provided on your Earnings Calculation Sheet.
Are there any questions?

Please click NEXT when you are ready.

NEXT

Period

1 out of 2

Workers

If you are randomly selected to be a worker, you will receive a wage, which is determined by the manager.

Workers observe the wage chosen by the manager and they choose the level of effort to provide.

The effort level should be between 0.1 and 1 in multiples of 0.1 (e.g. 0.1, 0.2 ... etc.). Effort reduces the amount earned by the worker, and increases the amount of profit. The cost to the worker, in E$, of choosing each possible effort level is shown in the following Cost of Effort Table:

Cost of Effort Table

Effort	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
Cost in E$	0	1	2	4	6	8	10	12	15	18

For example, the cost of choosing an effort level of 0.1 is zero, the cost of choosing an effort level of 0.2 is E$1. ... the cost of choosing an effort level of 1 is E$18.

Worker's Earnings: Workers earn their wage (set by the manager), minus their effort cost. Therefore:

Worker's Earnings = Wage - Cost of Effort

The Cost of Effort Table and worker's earnings calculation are provided on your Earnings Calculation Sheet.
Are there any questions?

Please click NEXT when you are ready.

NEXT

Period

1 out of 2

Firm Owners

If you are randomly selected to be a firm owner, you will not make any decision. Your earnings will be determined by the decisions made by the manager and the worker.
Firm owners earn 60% of the firm's profits. Therefore:

*Firm Owner's Earnings = 0.60 * Profits*

Again, the firm's profits are calculated as follows:

*Profits = (100 - Wage) * 2 * Effort*

Firm owner's earnings calculation is provided on your Earnings Calculation Sheet.
Are there any questions?

Please click NEXT when you are ready.

NEXT

Period

1 out of 2

UNDERSTANDINGS TASK

Before you start making your decisions, we would like to ask you some questions. These questions are designed to help you become familiar with how the experiment works. They should not be used as a guide for your decisions in the experiment. If you need any help with the questions, please raise your hand and the experimenter will come and help you. You have to answer the questions correctly in order to be able to proceed.

Please click NEXT when you are ready.

NEXT

Period

1 out of 2

QUESTION 1

If you need assistance at any point, please raise your hand. Feel free to refer to the handout for the calculation formulas and/or use the calculator to the right.

Suppose that the wage offered by the manager is E$20, and the worker decided to provide an effort level of 0.2.

a. What is the cost of effort for the worker? 1

b. What are the worker's earnings? 19

c. What are the profits? 32

d. What are the manager's earnings? 12.8

e. What are the firm owner's earnings? 19.2

CALCULATOR

Wage	Effort Level	PROFIT
		0.0

Calculate

When you are finished answering the questions, please click NEXT.

Next

Period

1 out of 2

QUESTION 2

If you need assistance at any point, please raise your hand. Feel free to refer to the handout for the calculation formulas and/or use the calculator to the right.

Suppose that the wage offered by the manager is E$40, and the worker decided to provide an effort level of 0.7.

a. What is the cost of effort for the worker? 10

b. What are the worker's earnings? 30

c. What are the profits? 84

d. What are the manager's earnings? 33.6

e. What are the firm owner's earnings? 50.4

CALCULATOR

Wage	Effort Level	PROFIT
		0

Calculate

When you are finished answering the questions, please click NEXT.

Next

Period

1 out of 2

Summary

There are three types of players: managers, workers, and firm owners. Your type could be a manager, a worker or a firm owner, and it will be determined randomly by the computer. This randomly determined type will be the type that you will have for the rest of the experiment.

This experiment will last for 20 rounds. At the beginning of each round, the computer will randomly construct groups that consist of one worker, one manager and one firm owner.

Two rounds will be randomly selected for payment. Decisions made in these two rounds will determine the earnings of the workers, managers, and firm owners. Since we do not know which rounds are going to be selected, it is in your best interest to pay close attention to all rounds.

At the end of each round, you will be informed about the wage determined by the manager, effort level determined by the worker and the earnings for that round.

Now, please take a minute to look at the Timeline of Events in Each Round sheet that was provided in your computer stations.

We will start the experiment momentarily. Please pay close attention to each screen. If you have any questions at any point, please raise your hand. After you make your decisions, do not forget to click NEXT in order to continue.

Please click NEXT when you are ready.

NEXT

Period

1 out of 2

YOUR TYPE

You are randomly selected to be the **Firm Owner**. This will be your type in all 20 rounds.

You will not make any decisions. However, you will be paid depending on the decisions made by the manager and the worker.

Firm Owner's Earnings: Firm Owners earn 60% of the firm's profits. Therefore:

*Firm Owner's Earnings = 0.60 * Profits*

The firm's profits are calculated as follows:

*Profits = (100 - Wage) * 2 * Effort*

In each round, while the worker and the manager make their decisions, we would like to answer a couple of questions.

Please click NEXT

NEXT

Period

1 out of 2

YOUR TYPE

You are randomly selected to be the **Manager**. This will be your type in all 20 rounds. At the beginning of each round, the computer will randomly construct groups that consist of one worker, one manager and one firm owner.

As a reminder, in each round, you will need to decide on the wage to pay to the worker. Wages can be between 10 and 60 in multiples of 10 (e.g. 10, 20, ... etc.).

Manager's Earnings: Managers earn 40% of the firm's profits. Therefore:

*Manager's Earnings = 0.40 * Profits*

The firm's profits are calculated as follows:

*Profits = (100 - Wage) * 2 * Effort*

Please refer to the Earnings Calculation Sheet when you need this information again.

Please click NEXT to make your decision.

NEXT

Period

1 out of 2

DECISION

Remember, your group will randomly be re-determined in each round.

Please feel free to use the calculator on the screen as many times as you like.

Wages can be between 10 and 60 in multiples of 10.
Now, please select a wage:

CALCULATOR

Wage	Effort Level	PROFIT
		0.0

Calculate

Please make your decision now and click NEXT when you are ready.

NEXT

Period

1 out of 2

YOUR TYPE

You are randomly selected to be the **worker**. This will be your type in all 20 rounds. At the beginning of each round, the computer will randomly construct groups that consist of one worker, one manager and one firm owner.

As a reminder, in each period, you will choose the level of effort to provide for the wage offered by the manager. The effort level should be between 0.1 and 1. Effort reduces the amount you earn. The cost, in E$, of choosing each possible level of effort are shown in the following cost schedule:

Cost of Effort Table

Effort	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
Cost in E$	0	1	2	4	6	8	10	12	15	18

For example, the cost of choosing an effort level of 0.1 is zero, the cost of choosing an effort level of 0.2 is E$1. ... the cost of choosing an effort level of 1 is E$18.

Worker's Earnings: Workers earn their wage (set by the manager), minus their effort cost. Earnings are therefore:

Worker's Earnings = Wage - Cost of Effort

Please refer to the Earnings Calculation Sheet when you need this information again.

Please click NEXT to make your decisions.

NEXT

Period

1 out of 2

Round Summary

Wage: 60 E$

Effort Level: 0.1

Profits: 8 E$

EARNINGS

Firm Owner (60% of Profits) : 4.80 E$

Worker : 60.00 E$

Manager (40% of Profits) : 3.20 E$

Please click NEXT when you are ready.

NEXT

Period

2 out of 2

Earnings

Rounds Chosen for Payment: 1 and 2

Earnings (E$): 60.00 (6 E$ = 1 USD)

Earnings (USD): $10.00

Show up Fee: $10

Total Earnings (USD): $ 20.00

Please click NEXT when you are ready.

NEXT

Periode

1 von 1

Finally, we would like to ask you a hypothetical question. Please notice that your answer to the following question will not impact your earnings.

Suppose that you have an extra day that you can spend this week. You have two alternative ways to spend your extra day: you can either work for a "For-Profit-Organization" or a "Non-Profit-Organization". A Non-Profit-Organization is dedicated to furthering a particular social cause or advocating for a shared point of view. It uses its surplus of the revenues to further achieve its ultimate objective, rather than distributing its income to the organization's shareholders, leaders, or members. And, a For-Profit-Organization, on the other hand, aims to earn profit through its operations and is concerned with its own interests, unlike Non-Profit Organizations.

Assume that both organizations will ask you to do a similar job that requires you to use a computer. Below, we present nine different daily wage scenarios and we ask you to select which organization would you rather work for a day for the indicated daily wages.

For example, in the first scenario, the Non-Profit-Organization pays you $10 and the For-Profit-Organization pays you $90. Similarly, in the second scenario, the Non-Profit-Organization pays you $20 and the For-Profit-Organization pays you $80.

If you are ready, please look at the following daily wage scenarios, and choose either Non-Profit (left) or For-Profit (right) in each scenario. If you have any questions, please raise your hand. We will come and help you

Scenario	*Non-Profit or For-Profit*
1	Non-Profit for $10 ○ ○ For-Profit for $90
2	Non-Profit for $20 ○ ○ For-Profit for $80
3	Non-Profit for $30 ○ ○ For-Profit for $70
4	Non-Profit for $40 ○ ○ For-Profit for $60
5	Non-Profit for $50 ○ ○ For-Profit for $50
6	Non-Profit for $60 ○ ○ For-Profit for $40
7	Non-Profit for $70 ○ ○ For-Profit for $30
8	Non-Profit for $80 ○ ○ For-Profit for $20
9	Non-Profit for $90 ○ ○ For-Profit for $10

Please click NEXT when you are ready.

NEXT

Period

3 out of 3

Finally, we would like to ask you a hypothetical question. Please notice that your answer to the following question will not impact your earnings.

Suppose that you have an extra day that you can spend this week. You have two alternative ways to spend your extra day: you can either work for a "Private School" or a "Public School". The nature of the job at both schools is similar, they both pay $100 per day, and both are equally easy for you to commute.

Would you rather work for the Private School or the Public School?

Private School ○ ○ Public School

Please click NEXT when you are ready.

NEXT

Period

3 out of 3

You chose to work for the Public School for $100 per day. Now, we ask you to decide whether you would be willing to work for the Private School instead if the Private School paid the following daily wages:

If Private School offers $110, would you work for the Private School instead?	Yes ○ ○ No
If Private School offers $120, would you work for the Private School instead?	Yes ○ ○ No
If Private School offers $130, would you work for the Private School instead?	Yes ○ ○ No
If Private School offers $140, would you work for the Private School instead?	Yes ○ ○ No
If Private School offers $150, would you work for the Private School instead?	Yes ○ ○ No

Please click NEXT when you are ready.

NEXT

Period

3 out of 3

While we prepare your payments, we would like you to answer the following survey questions.

Please click NEXT when you are ready.

NEXT

Survey

While we prepare your payments, we ask you to answer the following questions. Please read all of the questions very carefully.

Begin

Survey - Page 1 of 6

Please answer the following questions to best of your knowledge

Q1. I enjoyed doing this activity very much.

- Strongly Agree
- Agree
- Undecided
- Disagree
- Strongly Disagree

Q2: If someone does me a favor, I am eager to return it.

- Strongly Agree
- Agree
- Undecided
- Disagree
- Strongly Disagree

Q3: How many times have you donated money to a charitable organization, such as international aid organization, child agency, church and so forth, in the past year?

- 0
- 1 or 2 times
- 3,4 or 5 times
- 6 to 10 times
- More than 10 times

Q4: Approximately how much money have you donated to charitable organizations, such as international aid organization, child agency, church and so forth, in the past year?

- 0
- $1 - $10
- $11 - $25
- $26 - $50
- $51 - $100
- $101 - $250
- $251 - $500
- More than $500

Q5: How many times have you volunteered some of your time to a charitable organization, such as a non-profit, university charity effort, church, and so forth, in the past year?

- 0
- 1 or 2 times
- 3,4 or 5 times
- 6 to 10 times
- More than 10 times

Q6: Approximately how many hours have you donated to charitable organizations in the past year?

- None
- 1-5 hours
- 6-10 hours
- 11-20 hours
- 21-30 hours
- 31-50 hours
- 51-75 hours
- 76-100 hours
- More than 100 hours

Survey - Page 2 of 6

Please read the following statements and pick the option that best describes your opinion

Q7. People should be willing to help others who are less fortunate.

- ○ Strongly Agree
- ○ Agree
- ○ Undecided
- ○ Disagree
- ○ Strongly Disagree

Q8: Helping troubled people with their problems is very important to me.

- ○ Strongly Agree
- ○ Agree
- ○ Undecided
- ○ Disagree
- ○ Strongly Disagree

Q9: People should be more charitable toward others in society.

- ○ Strongly Agree
- ○ Agree
- ○ Undecided
- ○ Disagree
- ○ Strongly Disagree

Q10: People in need should receive support from others.

- ○ Strongly Agree
- ○ Agree
- ○ Undecided
- ○ Disagree
- ○ Strongly Disagree

NEXT

Survey - Page 3 of 6

Please read the following statements and pick the option that best describes your opinion

Q11. I consider public service my civic duty.

- Strongly Agree
- Agree
- Undecided
- Disagree
- Strongly Disagree

Q12. Meaningful public service is very important to me.

- Strongly Agree
- Agree
- Undecided
- Disagree
- Strongly Disagree

Q13. I would prefer seeing public officials do what is best for the whole community even if it harmed my interests.

- Strongly Agree
- Agree
- Undecided
- Disagree
- Strongly Disagree

Q14. It is difficult for me to contain my feelings when I see people in distress.

- Strongly Agree
- Agree
- Undecided
- Disagree
- Strongly Disagree

Q15. I am often reminded by daily events how dependent we are on one another.

- Strongly Agree
- Agree
- Undecided
- Disagree
- Strongly Disagree

Q16. I feel sympathetic to the plight of the underprivileged.

- Strongly Agree
- Agree
- Undecided
- Disagree
- Strongly Disagree

Q17. To me, patriotism includes seeing to the welfare of others.

- Strongly Agree
- Agree
- Undecided
- Disagree
- Strongly Disagree

Q18. Serving other citizens would give me a good feeling even if no one paid me for it

- Strongly Agree

Q13. I would prefer seeing public officials do what is best for the whole community even if it harmed my interests.

- Strongly Agree
- Agree
- Undecided
- Disagree
- Strongly Disagree

Q14. It is difficult for me to contain my feelings when I see people in distress.

- Strongly Agree
- Agree
- Undecided
- Disagree
- Strongly Disagree

Q15. I am often reminded by daily events how dependent we are on one another.

- Strongly Agree
- Agree
- Undecided
- Disagree
- Strongly Disagree

Q16. I feel sympathetic to the plight of the underprivileged.

- Strongly Agree
- Agree
- Undecided
- Disagree
- Strongly Disagree

Q17. To me, patriotism includes seeing to the welfare of others.

- Strongly Agree
- Agree
- Undecided
- Disagree
- Strongly Disagree

Q18. Serving other citizens would give me a good feeling even if no one paid me for it.

- Strongly Agree
- Agree
- Undecided
- Disagree
- Strongly Disagree

Q19. Making a difference in society means more to me than personal achievements.

- Strongly Agree
- Agree
- Undecided
- Disagree
- Strongly Disagree

Q20. I am prepared to make enormous sacrifices for the good of society.

- Strongly Agree
- Agree
- Undecided
- Disagree
- Strongly Disagree

Q21. I believe in putting duty before self.

- Strongly Agree
- Agree
- Undecided
- Disagree
- Strongly Disagree

NEXT

Survey - Page 4 of 6

Please read the following statements and pick the option that best describes your opinion

Q22. To what extent do you agree or disagree that supporting care for homeless cats and dogs is an important cause?

- ○ Strongly Agree
- ○ Agree
- ○ Undecided
- ○ Disagree
- ○ Strongly Disagree

Q23. Operation Kindness is the largest no-kill animal shelter in North Texas. How much do you trust Operation Kindness in providing care for homeless cats and dogs?

- ○ Strongly Trust
- ○ Trust
- ○ Undecided
- ○ Distrust
- ○ Strongly Distrust
- ○ No Opinion/I don't know Operation Kindness

Q24. Please evaluate the quality of the work done by Operation Kindness in providing care for homeless cats and dogs?

- ○ Excellent
- ○ Above Average
- ○ Average
- ○ Below Average
- ○ Poor
- ○ No Opinion/I don't know Operation Kindness

Q25. How confident are you that donations to Operation Kindness will be used efficiently? Please evaluate the quality of the work done by in providing care for homeless cats and dogs?

- ○ Very Confident
- ○ Somewhat Confident
- ○ Undecided
- ○ Somewhat Not Confident
- ○ Not Confident At All
- ○ No Opinion/I don't know Operation Kindness

NEXT

Survey - Page 5 of 6

Please answer the following questions.

Q26. What is your gender?

- ○ Male
- ○ Female

Q27. What is your age?

Q28: How would you describe your ethnicity? Click all that apply.

- ☐ American Indian or Native Alaskan
- ☐ Black or African-American
- ☐ Hispanic or Latino
- ☐ East Asian (e.g. Chinese, Thai, Japanese, Malaysian, Vietnamese, Indonesian)
- ☐ South Asian Subcontinent (e.g., Indian, Pakistan)
- ☐ Pacific Islander or Hawaiian
- ☐ White (Caucasian)
- ☐ Middle Eastern
- ☐ Other

If you answer in Q28 is other, please describe:

Q29: How fluent are you in English?

- ○ Completely fluent
- ○ Close to fluent
- ○ Somewhat fluent
- ○ Struggle at times in English
- ○ Not at all fluent in English

NEXT

Survey - Page 6 of 6

Please answer the following questions.

Q30: Relative to other students at Texas A&M University, would you say your family income is:
- ○ Much below average
- ○ Somewhat below average
- ○ About Average
- ○ Somewhat above average
- ○ Much above average

Q31: How would you describe the state of your own personal finances these days?
- ○ Excellent
- ○ Good
- ○ Not so good
- ○ Poor

Q32: What year of college are you currently in?
- ○ Freshman
- ○ Sophomore
- ◉ Junior
- ○ Senior
- ○ Graduate Student
- ○ Not a student

Q33: What is your major area of study?
- ○ Economics
- ○ Business
- ○ Psychology
- ○ Maths, Engineering, Sciences
- ○ Other

If other, please fill this in

Q34: How many Economics classes have you taken?

Q35: Are you a part time or full time student?
- ○ Part time
- ○ Full time
- ○ Neither

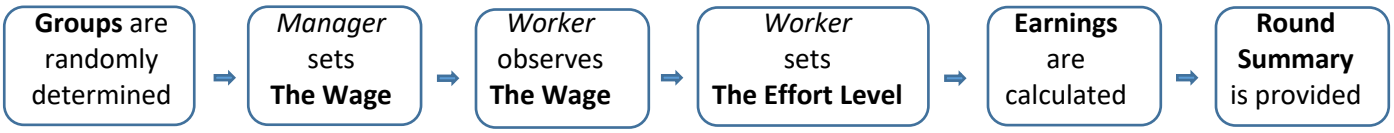
Q36: Do you work while attending school?
- ○ Yes
- ○ No

Q37: If the answer of Q36 is yes, how many hours per week do you currently work for pay?

Thank you for participating in the study. Please stay seated. An experimenter will be with you shortly.

Handouts for the Non-Profit Treatment

Timeline of Events in Each Round



Your randomly assigned type (either *worker* or *manager*) will remain the same in all rounds.

EARNINGS CALCULATION SHEET

PROFITS

The firm's profits are calculated as follows:

$$\boldsymbol{Profits} = \boldsymbol{(100 - Wage) * 2 * Effort}$$

MANAGER

Managers decide on the wage to be paid to the worker. Wage can be between 10 and 60 in multiples of 10.

Managers earn 40% of the firm's profits.

$$\boldsymbol{Manager's\ Earnings} = \boldsymbol{0.40 * Profits}$$

WORKER

Worker's Cost of Effort Table										
Effort	**0.1**	**0.2**	**0.3**	**0.4**	**0.5**	**0.6**	**0.7**	**0.8**	**0.9**	**1**
Cost in E$	**0**	**1**	**2**	**4**	**6**	**8**	**10**	**12**	**15**	**18**

Workers earn their wage (set by the manager), minus the cost of the effort they chose.

$$\boldsymbol{Worker\ Earnings} = \boldsymbol{Wage - Cost\ of\ Effort}$$

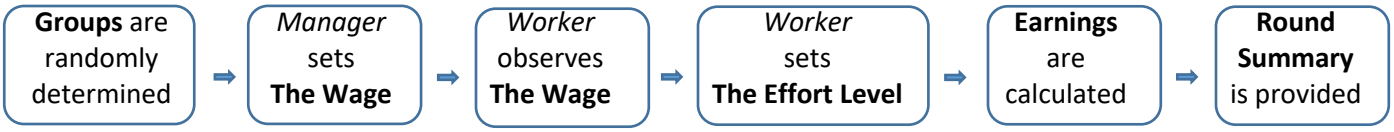
OPERATION KINDNESS

Operation Kindness earns 60% of the firm's profits.

$$\boldsymbol{Operation\ Kindness's\ Earnings} = \boldsymbol{0.60 * Profits}$$

Handouts for the For-Profit Treatment

Timeline of Events in Each Round



Your randomly assigned type (*worker*, *manager* or *firm owner*) will remain the same in all rounds.

EARNINGS CALCULATION SHEET

PROFITS

The firm's profits are calculated as follows:

$$\boldsymbol{Profits} = (\mathbf{100} - \boldsymbol{Wage}) * \mathbf{2} * \boldsymbol{Effort}$$

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WORKER

Worker's Cost of Effort Table										
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Cost in E$	0	1	2	4	6	8	10	12	15	18

Workers earn their wage (set by the manager), minus the cost of the effort they chose.

$$\boldsymbol{Worker\ Earnings} = \boldsymbol{Wage} - \boldsymbol{Cost\ of\ Effort}$$

FIRM OWNER

Firm Owners earn 60% of the firm's profits.

$$\boldsymbol{Firm\ Owner's\ Earnings} = \mathbf{0.60} * \boldsymbol{Profits}$$