

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

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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 experimental setting, there are workers, managers, and firm owners. Managers decide how much to pay their workers, workers then decide how much effort to provide. These decisions determine the profit created for the firm which is shared by the firm owner and manager. By changing the identity of the firm owner (either a charity or another subject), we study whether workers and managers behave differently when they work for a non-profit versus a for-profit firm. Contrary to some of the findings in prior research, we find that the presence of a mission does not reduce the responsiveness of effort to increasing wages. Workers are more responsive to higher wages when they work for a non-profit firm relative to a for-profit firm. On the other hand, the managers' behaviors are similar across these two types of firms. Overall, these result in higher overall profit generated for the non-profit firm. Our research contributes to the literature by studying how pro-social motivation interacts with monetary payments for worker effort choices in the workplace, particularly when the job involves "doing good."

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

JEL Classifications: C90, L31, J20.

Declarations

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1. Introduction

One crucial aspect of a successful charitable organization is the people – the workers who often accept 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. According to previous research, there may be multiple reasons of why this pay gap exists (such as workers receiving nonpecuniary rewards, seeing their work as “labor donation,” or lower wages may be necessary to ensure selection by intrinsically motivated workers). Because of the demographic make-up of the non-profit sector, this wage differential between the non-profit and for-profit sector contributes to overall racial and gender disparities in pay. Thus, it is important to understand the relationship between monetary compensation and workers’ productivity and whether this relationship is different based on the type of the organization that workers work for. In this paper, our main research goal is to study this relationship between monetary compensation and worker effort decisions in non-profit and for-profit settings.

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: Workers may also exert more effort if their work is in the service of a mission that they support (Gerhards, 2015; Besley and Ghatak, 2018; Cassar and Meier, 2018; Cassar, 2019). 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 this selection (e.g., Dur and Zoutenbier, 2014).

Importantly, this selection of workers means that high mission motivation goes hand-in-hand with lower wages in the field. However, 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. In this paper, 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. By randomly allocating workers to the two types of firms, we remove the selection effect. Thus, our research complements this research on selection and examines the impact of financial incentives on worker motivation in isolation.

We study our research question by using a modified gift exchange environment that consists of three types of actors: worker, manager, and firm owner.¹ We implement the difference in organizations by varying the identity of the “firm owner.” The decisions made by the worker and

¹ 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).

manager generate a payment to the firm owner who is either another subject in the lab (which represents working for a for-profit firm) or a non-profit organization. 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. This design models the difference in a key factor that motivates workers – the mission of the firm – and allows us to study the relationship between financial compensation and effort in the two settings.

First, we study whether workers exert more effort when they are randomly assigned to an exogenously chosen mission-oriented job. More specifically, we ask whether workers exert more effort, for a given wage level, when they work for a non-profit firm rather than a for-profit firm. We find that workers respond to wages by exerting higher effort in both environments. However, we also find that their response to higher payments relative to lower payment levels is *larger* for the non-profit firm. Note that this is in direct contrast to theoretical arguments that financial rewards will crowd out intrinsic or prosocial motivations and thus pay needs to be low in non-profit settings, or other jobs that involve an element of ‘doing good.’

Since workers exert more effort when offered high levels of payment in the non-profit firm relative to the for-profit firm, we also ask whether managers offer different wage levels across these two types of firms. We find that the wages offered by the managers are similar. Thus, by looking at managers’ wage offer decisions, we do not find any significant evidence that managers expect this differential response to wages by workers.

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 claim to care about making a difference in society more than personal gains) exert similar levels of effort in both firms, while those with lower levels exert lower effort levels in the for-profit firm. This somewhat counterintuitive result is discussed in more detail later. However, note that the more pro-socially oriented workers would likely select into a non-profit firm, given the choice, and if so, the pattern of effort observed would have been similar to that found in observational data where higher prosocial motivation and effort levels are seen in conjunction in the nonprofit sector. This underlying correlation could thus mask the true differences in motivation. Our design allows us to separate the effects of selection and motivation.

Our research contributes to a large several strands of research. In section 4, we provide a survey and a more detailed discussion of this literature. Here, we focus on a detailed comparison with the studies that are closest to ours. These studies differ from ours in several key ways. First, some of these studies 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 do not hold constant the efficiency of the exchange; that is non-profit firms generate additional external benefits in the form of payments to charitable organizations, over and above any earnings produced for the worker-manager pair. While non-profit organizations may generate a positive externality to the society and thus have higher social efficiency, we believe it is important to hold the overall efficiency constant in the lab across

treatments to make comparisons as valid as possible.² Thus our experiments are more applicable to sectors such as health care where nonprofit and for profit firms both operate, rather than nonprofits that produce a “missing” public good and so do not have a for-profit counterpart.

A third issue is that some studies use stable worker-employer pairs, with the same pairs playing repeatedly over all rounds, while others (like ours) rematch the pairs each round. This design choice tends to make the “relationship” within the team an important determinant of behavior, a potential confound we would prefer to avoid. Thus, we contribute to this literature by studying the workers’ response to fixed wages where the efficiency of the exchange is held constant, and the intra-team relationship is minimized.

In a closely related study, Fehrler and Kosfeld (2014) conduct an experiment to investigate mission motivation and the importance of selection into mission-motivated organizations. Although their design is similar to ours, it is different in two important ways. First, they use a partner-matching design where subjects play in the same groups across all periods of the experiment. Second, 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). Possibly due to these differences in design, in contrast to our findings, they find that workers are not motivated to work harder by the mission of their organization, but rather selection plays the most important role.

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, 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 (2014), 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.

² It is important to note that the social efficiency is still higher in our non-profit treatment since the donations made to the non-profit organization create a positive externality to the society. However, the social efficiency in the lab is held constant across the two treatments.

Armouti-Hansen et al. (2020) also explore efficiency wages as we do, in for-profit and non-profit treatments (i.e. no piece rate). However, like Cassar (2019) the treatments are not equivalent, in that an external payment is only generated in the non-profit treatment. Moreover, unlike our study, effort choices by workers are elicited using a strategy method where 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.

In sum, the details of the experimental design clearly matter, and the three elements identified above play important roles in the outcomes observed across studies. Our work adds an important piece to this puzzle. Our findings are important for understanding the management of workers in non-profit organizations. Contrary to prior theoretical arguments, we do not find that paying someone appropriately for the value that they bring to an organization harms their effort. Rather, paying efficiency wages further increases their effort and engagement with the organization. We find that, even in this abstract setting, managers do not recognize this important truth. Outside of the lab, failure to fully recognize that individuals do not have to be underpaid in order to work hard in a charitable organization contributes to gender and racial inequality in the labor market and likely affects retention.

2. 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 of these types of firms 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.³ Both the wage paid, and the effort level provided determines the earnings for all three group members. The payoff functions are as follows:

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

$$\pi_M = 0.40 \times \text{Profit} \quad (2)$$

$$\pi_F = 0.60 \times \text{Profit} \quad (3)$$

$$\text{Profit} = 2 \times (100 - \text{wage}) \times e \quad (4)$$

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 ($\text{wage} \in \{10, 20, 30, 40, 50, 60\}$)

³ In a pilot experiment, we used a strategy method to elicit worker's response to wages. We found that the strategy method caused workers to focus mostly on the payment structure, which suppressed the saliency of the treatments (i.e. the identity of the firm owner). As a result, we opted to take a more realistic approach and use the direct response elicitation method.

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.

{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.

The roles are assigned randomly at the beginning and fixed across all rounds, consistent with most of the literature. Subjects are placed in groups of three that consist of one worker, one manager and one firm owner. 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.⁴ 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 and Non-Profit. The 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, it 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. 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 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.

3. 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). We used tokens, where 6 tokens were worth 1 USD. 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

⁴ 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).

any statistically significant differences across the two treatment groups as shown in Table B1 in Appendix B.

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

{Table 2}

3.1. Workers

Similar to previous studies using the gift-exchange game (or variants of it), we do not find support for Nash equilibrium (NE) predictions. The workers provide significantly higher effort levels than the NE prediction of 0.1; the average across both treatments is 0.44. Table 2 and Figure 1 show the average effort provided across treatments and wage levels. 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. This behavior is consistent with slight decline over time (see Figure A1 in the appendix). Although there are some fluctuations over time, the average effort provided in the non-profit treatment is mostly above the average effort provided in the for-profit treatment.

{Figure 1}

When we compare the distribution of effort levels provided across treatments, we see a similar story. Figures A2 and A3 in the appendix present these distributions for low and high wages, respectively. Using the Epps-Singleton test,⁵ 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).

{Table 3}

To check the robustness of these findings, we run a panel data random effects Tobit regression and the results are presented in Table 3. 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.

⁵ Findings are similar if we use the Kolmogorov-Smirnov test.

Looking at columns (1) and (2) in Panel A of Table 3, 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 are also interested in the workers' responsiveness to the wages in the non-profit treatment compared to the for-profit treatment (see Table B2 in Appendix B). We find weak evidence of higher responsiveness to wages in the non-profit treatment. However, this impact is not statistically significant when we control for period and gender (see column (2) in Table B2). Based on the findings presented above, we next examine this behavior separately for high and low wages, and the regression results are presented in Panel B of Table 3. 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. We summarize as follows.

Result 1 *On average, workers exert higher level of effort when they work for a non-profit firm relative to a for-profit firm. Additionally, workers are more responsive to wages in a non-profit firm, but only when the wages are sufficiently high.*

We next explore heterogenous treatment effects by including a variable to measure the mission motivation of subjects. Inspired by the Public Service Measure (PSM) of Perry (1996), we construct a new variable, *Society Oriented*, by using the answers to the following question: "Making a difference in society means more to me than personal achievements."⁶ The answers range from 1 ("Strongly Disagree") to 5 ("Strongly Agree"). As can be seen in column (3) of Panel B in Table 3, what distinguishes Society Oriented subjects is their behavior in the for-profit treatment. Society-oriented individuals provide significantly higher levels of effort when they are in the for-profit treatment (see the coefficient of Society Oriented). Being society oriented creates an extra incentive for these individuals to work harder and thus exert higher level of effort. 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. On the other hand, caring about making a difference in society 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). This is perhaps because all subjects in the non-profit treatment could exhibit mission motivation, and thus there is no differential impact coming from how society oriented one is.

3.2. Managers and Profits

Given that we see a differential worker response across treatments based on whether the wage offered was high, we also investigate the managers' response to the treatment. If the managers

⁶ This item is listed as PSM1 under the self-sacrifice subscale in Perry (1996).

expect workers to respond to wages differently across treatments, then we would also expect to see a difference in wages offered across for-profit and non-profit firms. However, this is not what we find.

{Figure 2}

First, similar to what is observed for worker behavior, we do not find support for Nash equilibrium predictions for the managers. Although the managers are predicted to offer the lowest possible wage of 10, the average wage offered across both treatments is 38.65 tokens. 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). Figure A4 in the appendix shows the average wage offered over time across treatments. Average wages seem consistent over time and across treatments.

{Table 4}

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 4. 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 results suggest that managers do not anticipate workers to be more responsive to wages across treatments. We summarize as follows.

Result 2 *Managers pay similar wages to workers independent of whether they work for a non-profit firm or a for-profit firm. This implies that managers do not anticipate that workers will respond to higher wages differently based on the type of the firm.*

{Figure 3}

Above, we showed that the workers exert more effort when offered higher wages in the non-profit treatment compared to the for-profit treatment, and there is no difference in managers' wage selection. All of these translate into higher overall profits for the non-profit firm compared to the for-profit firm. 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 (Mann-Whitney test p-value < 0.001). Figure A5 in the appendix illustrates the profits generated across different wage levels. The profits across treatments are not significantly different when the wages are either 10 or 20. However, the profits are higher in the non-profit treatment when the wage offered is 30 or higher (Mann-Whitney test p-values < 0.05 for all).⁷ More formally, Table 5 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 5, we find that profits are

⁷ Since our experiment uses a stranger-matching design, the group members who generate the profits in each round are determined randomly. In order to account for this, we conduct these tests using average profits per manager. First, we calculate the average profits across all rounds for each manager at a given wage level using manager's earnings. And then, using the Mann-Whitney test, we test for treatment differences.

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.

{Table 5}

4. Discussion and Related 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 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.⁸ How financial incentives interact with these other motivations is an open question.

There is a vast literature looking into this question and we provide a overview of this literature 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.

4.1. Importance of pro-social preferences and intrinsic motivation for selection

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

⁸ 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.

(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 Myers (2010) find that the decision to volunteer as a firefighter is correlated with measures of altruistic preferences.⁹

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.

4.2. 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

⁹ 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).

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 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.¹⁰ But in this effect is likely to be strongest when working for the “right” mission (i.e. mission alignment).

4.3. 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 both are important, and that their interaction depends on the nature of the task: When compensation is closely tied to (measurable) output, crowding 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

¹⁰ 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.

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. Closing

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. 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.

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 remove the selection effect by randomly allocating workers to the two types of firms and 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, on the other hand, workers in the non-profit firms 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 and even more in the non-profit sector.

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 examine whether managers in the for-profit and non-profit firms offer different wage levels. 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.

To conclude, our research is important for understanding the management of workers in non-profit organizations. Our findings on worker behavior contradict the claim in prior research that paying workers in non-profit organizations higher wages will harm their effort. On the contrary, paying efficiency wages increases their engagement with the organization. Managers not anticipating or noticing this behavioral response by workers to higher wages curbs the organizations' ability to increase efficiency and further contributes to gender and racial inequality in the labor market.

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

FIGURES

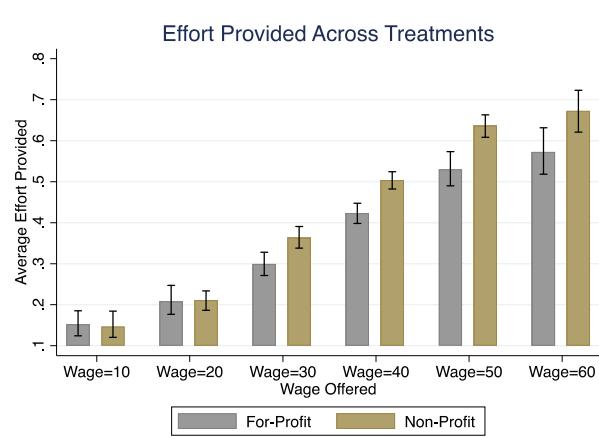


Fig 1. Average effort by treatment and wage levels. Vertical lines on bars are the bootstrapped 95% confidence intervals.

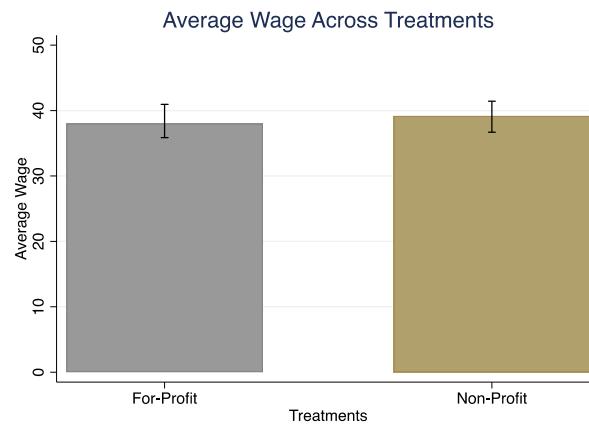


Fig 2. Average wage by treatment. Vertical lines on bars are the bootstrapped 95% confidence intervals.

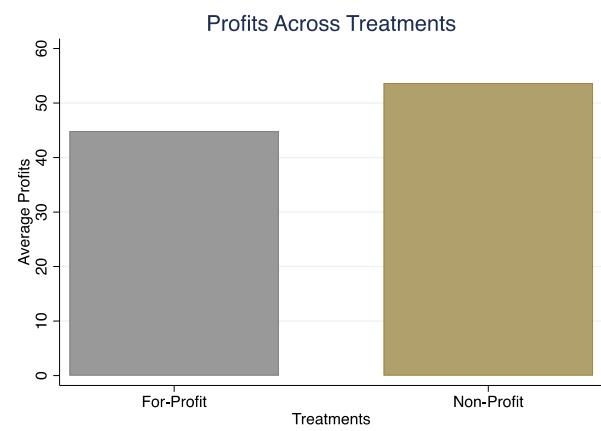


Fig 3. Average profits by treatment.

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. Average Effort Provided

	Wage Paid					
	10	20	30	40	50	60
Non-Profit Treatment	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
For-Profit Treatment	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
<i>p-values</i> †	0.422	0.968	0.364	0.030	0.014	0.042
<i>p-values</i> ‡	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 3. Panel Data Random Effect Tobit Regression Results for Worker's Effort

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

	(1)	(2)
Non-Profit	0.747 (2.334)	-0.447 (2.275)
Female		-1.639 (1.983)
Period		0.135** (0.058)
Lagged Effort		13.818*** (2.004)
Constant	38.682*** (1.810)	32.699*** (2.480)
<i>Number of Observations</i>	2040	2040
<i>Number of Groups</i>	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 5. Panel Data Random Effect Tobit Regression Results for Firm Profits

	(1)	(2)
Non-Profit	9.172*** (3.337)	0.324 (5.666)
Period	-0.582 *** (0.114)	-0.602*** (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*** (2.495)	34.847*** (3.890)
<i>Number of Observations</i>	2,040	2,040
<i>Number of Groups</i>	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.

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

APPENDIX A: Figures

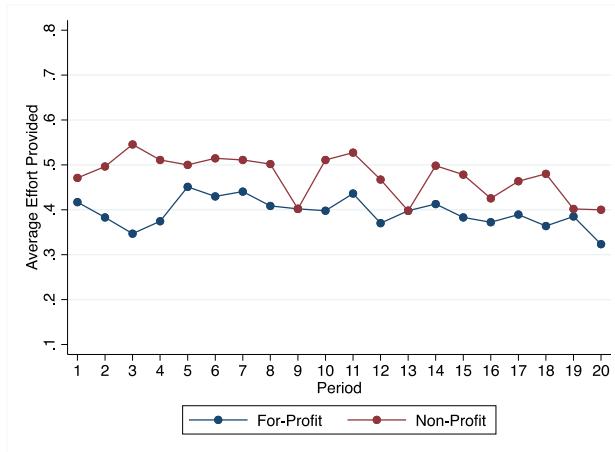


Fig A1. Average Effort by Treatment and Period.

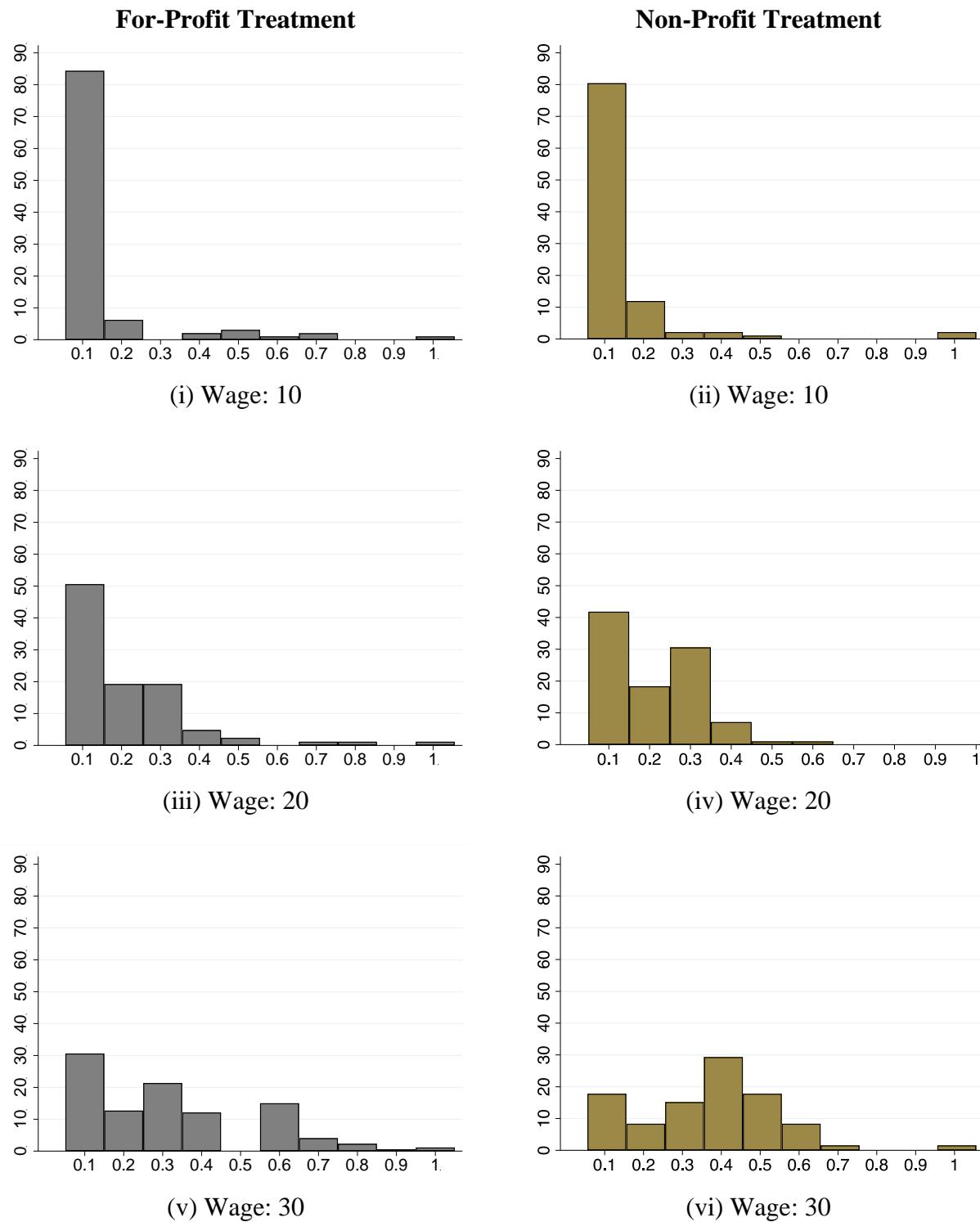
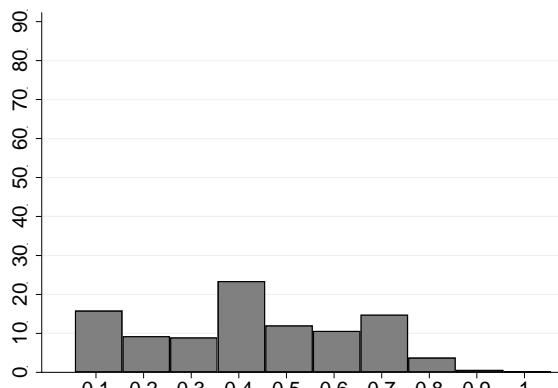


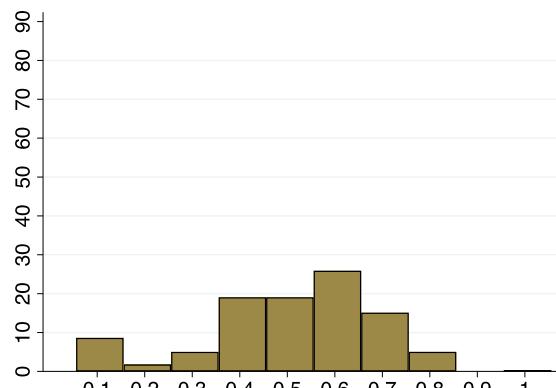
Fig A2. Distributions of Effort provided Across Low Wages and Treatments.

For-Profit Treatment

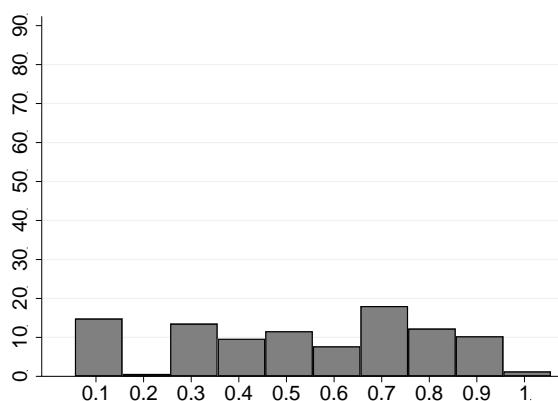


(i) Wage: 40

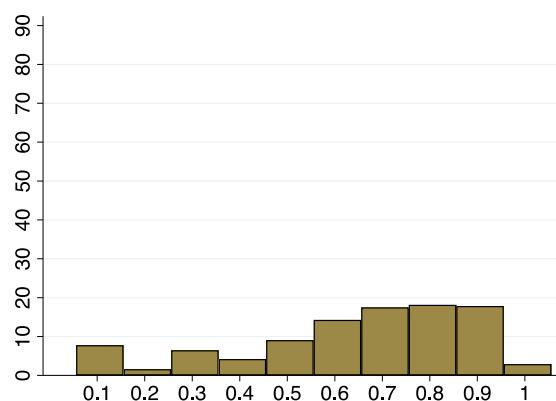
Non-Profit Treatment



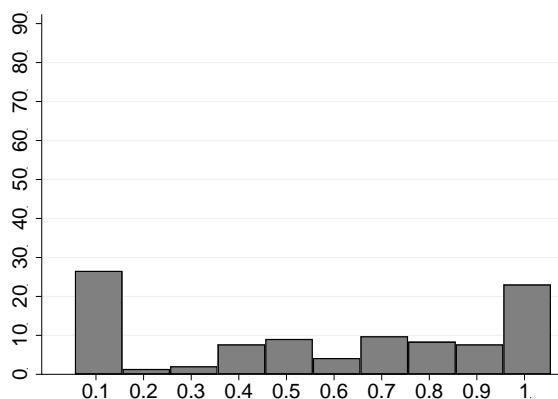
(ii) Wage: 40



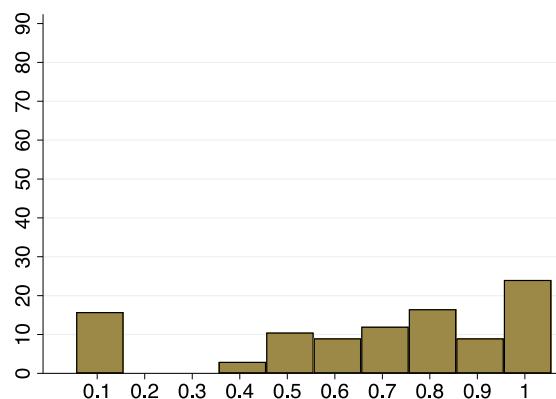
(iii) Wage: 50



(iv) Wage: 50



(v) Wage: 60



(vi) Wage: 60

Fig A3. Distributions of Effort provided Across High Wages and Treatments.

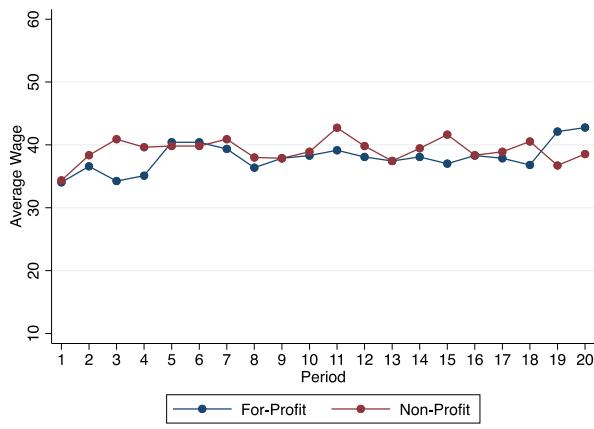


Fig A4. Average Wage by Treatment and Period.

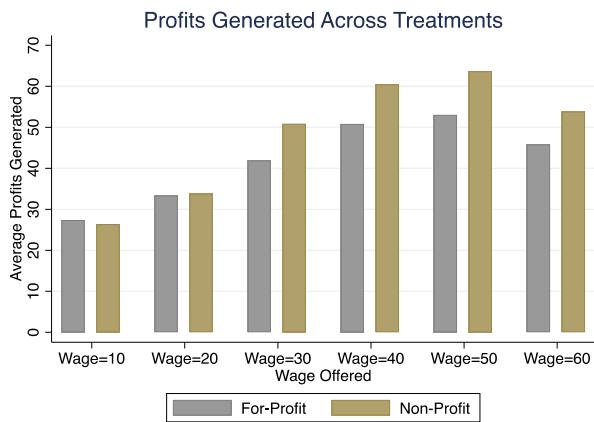


Fig A5. Average Profits by Wage Offered and Treatment.

APPENDIX B: Tables

Table B1. Subjects' Demographics Across Treatments

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

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 B2. Panel Data Random Effects Tobit Regression Results

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

*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



Thank you for participating in our study.

This is an experiment in decision-making. You will earn money based on the decisions that you and others make during this study. Since you could earn a significant amount of money from this study, please pay attention to the instructions.

Please turn off your electronic devices and put them away. It is very important that you remain silent and **do not** talk to others. If you have any questions or need assistance, please raise your hand and an experimenter will come to you. Today, I will be reading the instructions for you. Please follow the instructions as I read them and please **do not** click "NEXT" until I instruct you to do so.

You will be paid a show-up fee of \$10 for participating in our study today; this will be yours to keep. You will have the opportunity to make more money during this experiment. All of your earnings will be paid to you in cash and in private at the end of the experiment.

The currency used in this experiment is experimental dollars (E\$). At the end of the experiment, all of the experimental dollars you have earned will be converted to money at the following rate:

6 E\$ = 1 USD

Please click NEXT when you are ready.

NEXT

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

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:

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

The firm's profits are calculated as follows:

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

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

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:

$$\text{Worker's Earnings} = \text{Wage} - \text{Cost of Effort}$$

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

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:

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

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

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

At the end of the experiment, the computer will randomly select two rounds to be the paying rounds. Operation Kindness'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

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

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

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

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

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:

$$\text{Worker's Earnings} = \text{Wage} - \text{Cost of Effort}$$

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	<input type="text"/>	0.0

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

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:

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

The firm's profits are calculated as follows:

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

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

Please click NEXT to make your decision.

NEXT

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

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

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

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

Perioden

1 von 1

Thank you for participating in our study.

This is an experiment in decision-making. You will earn money based on the decisions that you and others make during this study. Since you could earn a significant amount of money from this study, please pay attention to the instructions.

Please turn off your electronic devices and put them away. It is very important that you remain silent and do not talk to others. If you have any questions or need assistance, please raise your hand and an experimenter will come to you. Today, I will be reading the instructions for you. Please follow the instructions as I read them and please do not click "NEXT" until I instruct you to do so.

You will be paid a show-up fee of \$10 for participating in our study today: this will be yours to keep. You will have the opportunity to make more money during this experiment. All of your earnings will be paid to you in cash and in private at the end of the experiment.

The currency used in this experiment is experimental dollars (E\$). At the end of the experiment, all of the experimental dollars you have earned will be converted to money at the following rate:

6 E\$ = 1 USD

Please click NEXT when you are ready.

NEXT

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

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:

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

The firm's profits are calculated as follows:

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

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

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:

$$\text{Worker's Earnings} = \text{Wage} - \text{Cost of Effort}$$

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

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:

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

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

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

Firm owner's earnings calculation is provided on your Earnings Calculation Sheet.

Are there any questions?

Please click NEXT when you are ready.

NEXT

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

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?
- b. What are the worker's earnings?
- c. What are the profits?
- d. What are the manager's earnings?
- e. What are the firm owner's earnings?

CALCULATOR

Wage	Effort Level	PROFIT
<input type="text"/>	<input type="text"/>	0.0

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

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

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

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:

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

The firm's profits are calculated as follows:

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

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

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:

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

The firm's profits are calculated as follows:

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

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

Please click NEXT to make your decision.

NEXT

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

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

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:

$$\text{Worker's Earnings} = \text{Wage} - \text{Cost of Effort}$$

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

Please click NEXT to make your decisions.

NEXT

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

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 <input type="radio"/> For-Profit for \$90 <input checked="" type="radio"/>
2	Non-Profit for \$20 <input type="radio"/> For-Profit for \$80 <input checked="" type="radio"/>
3	Non-Profit for \$30 <input type="radio"/> For-Profit for \$70 <input checked="" type="radio"/>
4	Non-Profit for \$40 <input type="radio"/> For-Profit for \$60 <input checked="" type="radio"/>
5	Non-Profit for \$50 <input type="radio"/> For-Profit for \$50 <input checked="" type="radio"/>
6	Non-Profit for \$60 <input type="radio"/> For-Profit for \$40 <input checked="" type="radio"/>
7	Non-Profit for \$70 <input type="radio"/> For-Profit for \$30 <input checked="" type="radio"/>
8	Non-Profit for \$80 <input type="radio"/> For-Profit for \$20 <input checked="" type="radio"/>
9	Non-Profit for \$90 <input type="radio"/> For-Profit for \$10 <input checked="" type="radio"/>

Please click NEXT when you are ready.

NEXT

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

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. Seeing 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

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

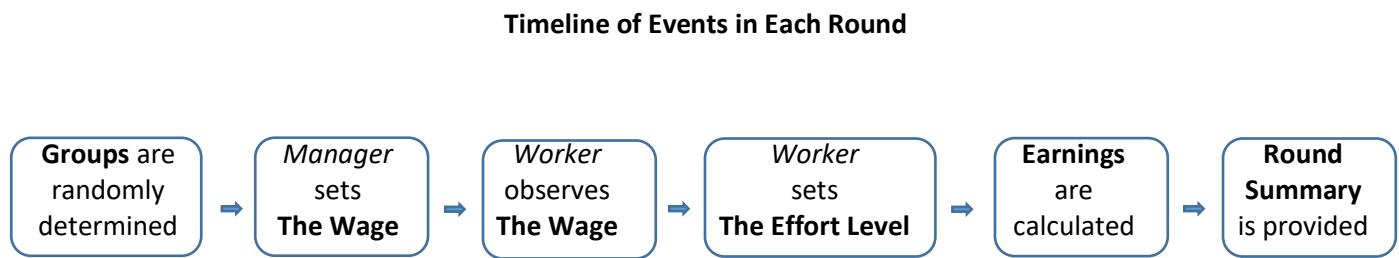
Q36: Do you work while attending school?

- 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



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:

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

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.

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

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.

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

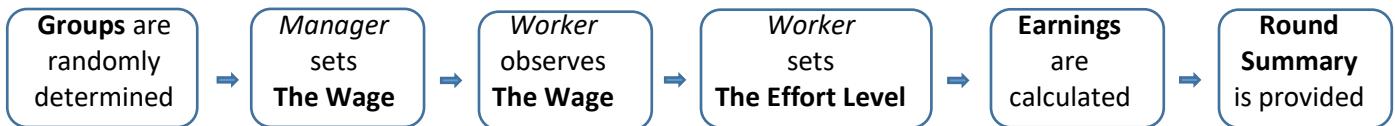
OPERATION KINDNESS

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

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

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:

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

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.

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

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.

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

FIRM OWNER

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

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