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How Low Can You Go? Charity Reporting When Donations Signal Income and Generosity

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Abstract:

Consistent with nonprofit fundraising practices, donation visibility has been shown to increase giving. While concern for status is used to explain this response, the authors argue that this explanation relies on the assumption that giving signals only income or generosity. When giving signals both attributes overall status need not increase in donations, and donation-visibility may be harmful when individuals prefer to be perceived as poor-and-generous rather than rich-and-stingy. Using an experiment the authors find that both income-status and generosity-status concerns affect behavior. Furthermore, donation-visibility fails to increase contributions as low-income individuals select low donation amounts that are unlikely to be attributed to high-income individuals.

Keywords: charitable donations, lab experiments, status, crowding out

JEL Classifications: C91, D01, D80, H41

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This paper presents preliminary analysis and results intended to stimulate discussion and critical comment. The views expressed herein are those of the authors and do not indicate concurrence by the Federal Reserve Bank of Boston, or by the principals of the Board of Governors, or the Federal Reserve System.

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1. Introduction

Over the past two decades economists have become increasingly interested in understanding whether and why observed fundraising strategies are effective in increasing contributions. One strategy many nonprofits use is the public announcement and recognition of the organization's donors. Announcements may be made in a newsletter, on a plaque commemorating the completion of a project, or in a program for a funded event. While the outlets vary, the recognition commonly includes both the donor's name and an indication of the donated amount.

Economists have provided a varied set of explanations for why organizations may benefit from announcing contributions during a fundraising campaign (see, for instance, Andreoni, 1998; Romano and Yildirim, 2001; Vesterlund, 2003).[1] The explanations for why organizations announce contributions at the end of a campaign are more limited, and typically point to the donation serving as a signal on donor type. That is, donation-visibility makes it possible for individuals to signal that they possess characteristics that society perceives as desirable, and thus enables them to acquire status and change their "position or rank in relation to others" or "relative rank in a hierarchy of prestige" (definitions of status taken from the *Merriam-Webster* dictionary).[2] In particular it has been argued that the amount given may signal the individual's generosity (Hollander 1990; Benabou and Tirole 2006) or professional success and wealth (Glazer and Konrad 1996; Harbaugh 1998a). Since generosity, success, and wealth are desirable characteristics, it may be argued that the donor's status increases in the amount given, and that this increases the incentive to give when donations are visible.

Indeed, past experimental studies largely confirm that individuals give more when observed.[3] For instance, visibility has been shown to increase giving in dictator and public good games (see Sell and Wilson 1991; Hoffman et al 1994; Bohnet and Frey 1999; Gachter and Fehr 1999; Andreoni and Petrie 2004; Rege and Telle 2004; Filiz-Ozbay and Ozbay 2013; Samak and Sheremeta 2013; Dana, Cain, and Dawes 2006; Broberg, Ellingsen, and Johannesson 2007; Dana, Weber, and Kuang 2007; Andreoni and Bernheim 2009; Lazear, Malmendier and Weber 2012).[4] Central to these and other studies, however, is

[1] See Vesterlund (2012) for a review.

[2] Harbaugh (1998a) notes the cynical statement by George Bernard Shaw (1896) that "...a millionaire does not really care whether his money does good or not, provided he finds his conscience eased and his social status improved by giving it away...'' In economics, concern for prestige or status is thought to play an important role in explaining both conspicuous consumption and prosocial behavior (for a review see Heffetz and Frank, 2011).

[3] Lab and field studies also show that visibility increases volunteer work. In a lab experiment, Ariely, Bracha, and Meier (2009) find that when exerting effort for a well-regarded charity people exert more effort in public. In field studies Carpenter and Myers (2010) find a positive effect of visibility in the context of volunteer firefighter, Lacetera and Macis (2010) show a positive effect of visibility on blood donation, Zhang and Zhu (2011) demonstrate a positive effect on Wikipedia contributions, and Funk (2010) finds a positive effect on voting in small communities. In the case of volunteering it may be easier to draw inference on generosity as the opportunity cost of giving increases with wage. Related to the role of visibility is also the evidence that individuals avoid public giving situations (Dana, Weber, and Kuang 2007; Hamman, Lowenstein, and Weber 2010; DellaVigna, List, and Malmendier 2012; Andreoni et al 2012).

[4] Dufwenberg and Muren (2006) and Noussair and Tucker (2007) are exceptions to the finding that visibility increases giving. However these studies rely on subject population that may adhere to different norms than those

that donations only signal one specific characteristic. For example in the experimental studies there is no variation in endowments, so an increase in giving can be seen as solely a signal of greater generosity. Theoretical modeling of status acquisition also emphasizes one-dimensional signaling. For example, in Glazer and Konrad (1996) individuals gain status from their professional success and associated wealth, and donations are seen solely as a signal of what we will refer to as income-status. When donations only signal one attractive attribute, say generosity or income, status increases in the amount given and this added incentive to donate helps explain why fundraisers benefit from announcing contributions after a fundraising campaign.

In this paper we argue that past positive results on donation-visibility are sensitive to the assumption that donations only signal one attribute. We demonstrate that status need not increase giving when donations can signal multiple attributes. As an example, we consider a situation where donations simultaneously serve as signals of income and generosity, and where (at least partially) generosity is a function of the share of income given. While the amount donated may increase inferences made about the donor's income-status, it may lower inferences regarding the donor's generosity-status (i.e., share of income given). The effect of donation-visibility in such a setting will depend on the relative weight attached to the two sources of status. For example individuals who prefer to be perceived as poor-and-generous rather than rich-and-stingy may give less when donations are publicly announced. With donation-visibility possibly decreasing the return from giving, we need not find that donation-visibility increases contributions.

To better understand the effect of donation-visibility we deviate from the existing literature and examine an environment where donations signal multiple attributes. To examine the effect of donations that signal both income and generosity, we present a simple example of a charitable-giving model where generosity depends on the share of income given. Using this setting we demonstrate how a larger donation may lower the perception of an individual's generosity, and in turn cause overall status to decrease in giving.

After deriving the comparative statics for our model, we design a donation experiment where, in contrast to previous lab experiments, income is heterogeneous. We rely on a two-stage design, where in the first stage participants solve math problems and earn income depending on their relative performance. Participants with above-median performance are referred to as the "Best Performers" and earn $35, while the "Not Best Performers" earn $15. The second stage introduces participants to a charity and asks them to donate part of their earnings. To identify concerns about income-status and generosity-status and to identify the response to donation-visibility, we rely on a 2x2 between-subject experimental design, varying both income-visibility and donation-visibility.

Looking at the case when donations are not visible we find that the response to income-visibility is consistent with participants benefitting from others knowing that they have high income/performance.

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previously examined (students majoring in economics or economics and mathematics). This explanation is consistent with the Duffy and Kornienko (2010) finding that the ranking system used (ranking according to either generosity or personal earning) influences transfers in the dictator game.

That is, we find that income-visibility increases giving by high-performers and decreases it by low-performers. With evidence that income-status affects donation behavior, we then examine the potential role of generosity-status by looking at the effect of income-visibility when donations are visible. Low-performers who only care about income-status are predicted to give less when income is visible. First because it no longer is possible to falsely signal that one is a high-performer, and second because income-visibility reveals the individual's performance on the math task. In contrast to the only-income-status prediction we do not find a decrease in giving. That is, income-visibility decreases low-performers' contributions only when their donations are not visible. We interpret this sensitivity to donation-visibility as evidence that individuals are concerned about both their relative ranking of income and generosity.

Accounting for the dual status concerns, we conclude by examining the effect of donation-visibility. When donations can serve as signals of both income and generosity we do not find that donation-visibility increases giving. This response is largely driven by low-performers who respond to donation-visibility by decreasing and pooling their contributions at a donation that is unlikely to be falsely attributed to a high-performer. While donation-visibility alone causes donation amounts to be concentrated at a low level, dispersion is secured when both donations and income are visible. The response suggests that when income is not visible, donation-visibility may cause donations to decrease as individuals want to be perceived as giving a large share of their income and being generous.

The remainder of the paper proceeds as follows: in section 2 we present a simple model of status and formalize the main argument of the paper; in section 3 we present our experimental design and develop two sets of testable hypotheses—the income-status hypotheses and the only-income-status hypothesis. Section 4 explains how we implemented the study, and section 5 presents the experimental results. Section 6 concludes.

2. A Simple Model of Status

To demonstrate how donation-visibility may affect charitable giving, we consider a simple example where an individual, i, allocates her income, w_i, between consumption of a private good and a donation, d_i, to charity. Donations generate both warm-glow (Andreoni 1989, 1990) and status, $s_i(d_i)$; assuming separability and that status has consumption value (e.g., Frank, 1985) secures a utility function $\Psi_i(\cdot)$ of the following form:

$$\Psi_i(d_i) = U_i\big(w_i - d_i + s_i(d_i)\big) + v_i(d_i) \quad (1)^{5}$$

where $s_i(\cdot)$ is a concave status function, $U_i(\cdot)$ the individual's utility from consumption, and $v_i(\cdot)$ the warm-glow that comes from giving. The latter two functions are assumed to be strictly increasing and concave. The individual's optimal donation, d_i^*, is therefore determined by the first order condition:

[5] We show later that the assumption that status has consumption value is consistent with the behavior seen in our experimental study.

$$v_i'(d_i^*) = U_i'\big(w_i - d_i^* + s_i(d_i^*)\big)\big(1 - s_i'(d_i^*)\big). \quad (2)$$ [6]

We see from equation (2) that there are two channels through which status influences giving: the stock of status, $s_i(d_i)$, and the marginal return from status acquisition, $s_i'(d_i)$. Status stock lowers the marginal utility of consumption and thus the cost of giving. Similarly, the cost of giving decreases with a higher status return. While status stock and status return unambiguously increase the incentive to give, the comparative statics we are interested in are less transparent. In particular, it is not clear how status responds to an increase in giving, or in turn how giving responds to donations becoming visible.

Consider first the effect contributions have on status. Suppose, for example, that an individual's status is increasing in her generosity and income, and that the amount she gives causes others to update their assessment of how she ranks in either or both of these dimensions.[7] The literature has centered on one-dimensional status acquisition, where the amount given is seen as a signal of either generosity or income, but not both. In these cases status monotonicity follows naturally: holding the individual's generosity constant, a larger donation weakly increases the perception of the individual's income, and similarly, holding the individual's income constant, an increase in the amount given increases the perception of her generosity.[8] That is, all else equal, status ($s(d_i)$) increases in donations and is an additional motivation to give. This comparative static prediction has been the focus of past experimental work on donation-visibility, where income is held constant and homogeneous, thus ensuring that a larger donation only can signal greater generosity.[9]

However, when the amount given signals both income and generosity, the effect of contributions on status is not straightforward. For example, if generosity depends on the share of income given, then a higher donation increases the perception of income and decreases that of generosity.[10] With generosity-status potentially decreasing in giving, there may be a range of donations for which overall status is nonmonotonic.

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[6] To secure an internal solution we assume that $lim_{d_i \to 0}\ \Psi_i' = \infty$ and $lim_{d_i \to w_i}\ \Psi_i' = -\infty$. Hence status return is always less than one ($s'(d_i) < 1$).

[7] Note that income status may be acquired because income signals professional success or skills, or that one is related to individuals who have such characteristics. In our experimental study income indicates performance and skills.

[8] Income status is examined in Glazer and Konrad (1996), Harbaugh (1998a,b), Ireland (1994). Generosity status is examined in Bénabou, and Tirole (2006), Conley and Kung (2010), Ellingsen and Johansson (2008, 2011).

[9] E.g., Andreoni and Petrie (2004), List, Berrens, Bohara, and Kerkvliet (2004), Rege and Telle (2004), Burnham and Hare (2007), Andreoni and Bernheim (2009).

[10] While a particular donation may be seen as generous when made by someone who is poor, it may be seen as stingy when made by someone who is wealthy. The notion that generosity is measured as the share of income donated is widespread. For example, Luke 21:1–4 writes: "Jesus looked up and saw the rich putting their gifts into the offering box, and he saw a poor widow put in two small copper coins. And he said, 'Truly, I tell you, this poor widow has put in more than all of them. For they all contributed out of their abundance, but she out of her poverty put in all she had to live on.' Both the Bible and the Koran refer to the percentage of income or wealth donated when providing guidelines on how much to give (see, for instance, "How Much to Donate? God Knows," http://www.nytimes.com/2010/05/01/your-money/01money.html?_r=0).

To consider a concrete example, suppose income-status is assessed relative to the mean expected income for a group, and generosity is assessed as the share of expected income the individual gives relative to some donation norm, $\propto$. That is, upon observing d_i the assessment of *i*'s status is given by:

$$s(d_i) = [E(w_i|d_i) - \overline{w}] + \gamma \left[\frac{d_i}{E(w_i|d_i)} - \propto\right] \quad (3),$$

where $E(w_i|d_i)$ is the donor's expected income given a donation d_i, $\overline{w}$ is the average income in the population, $\frac{d_i}{E(w_i|d_i)}$ is the donation share of expected income, and γ is the weight assigned to generosity-status relative to income-status. The status function in equation (3) demonstrates how an increase in giving can increase income-status and decrease generosity-status[11]. When donations are seen as a signal of only one attribute, status increases in giving—but this need not be the case when donations are seen as a signal of multiple attributes.

That is, status return can be negative when donations signal multiple attributes that interact with one another.[12] An increase in donations may cause others to perceive an individual as being rich-and-stingy rather than poor-and-generous, and the status assigned to the latter may exceed that of the former. Absent status monotonicity, donation-visibility may backfire, as individuals potentially contribute less when observed.

To demonstrate the effect of donation-visibility on giving when status return is negative, consider a case where status stock is zero absent visibility and positive when positive donations are observed.[13] Examine first the case where visible donations only affect status in one dimension (generosity or income). As noted above, status-monotonicity naturally follows in this case and, as in previous studies, donation-visibility is predicted to increase giving. This is demonstrated in Figure 1 (a) below: absent visibility, the donor's preferred contribution is given by the intersection between the marginal cost curve, $U'(\cdot)$, and the marginal benefit curve, $v'(\cdot)$. Donation-visibility affects both status stock and status return, shifting the marginal cost curve of giving down when both are positive. As seen in Figure 1 (a), the optimal point shifts from 1 to 2 and unambiguously increases the individual's preferred donation.

Next consider the case where a donation signals multiple attributes, as in the example above. In this case status may decrease in giving for some range of donations. That is, even when visibility increases

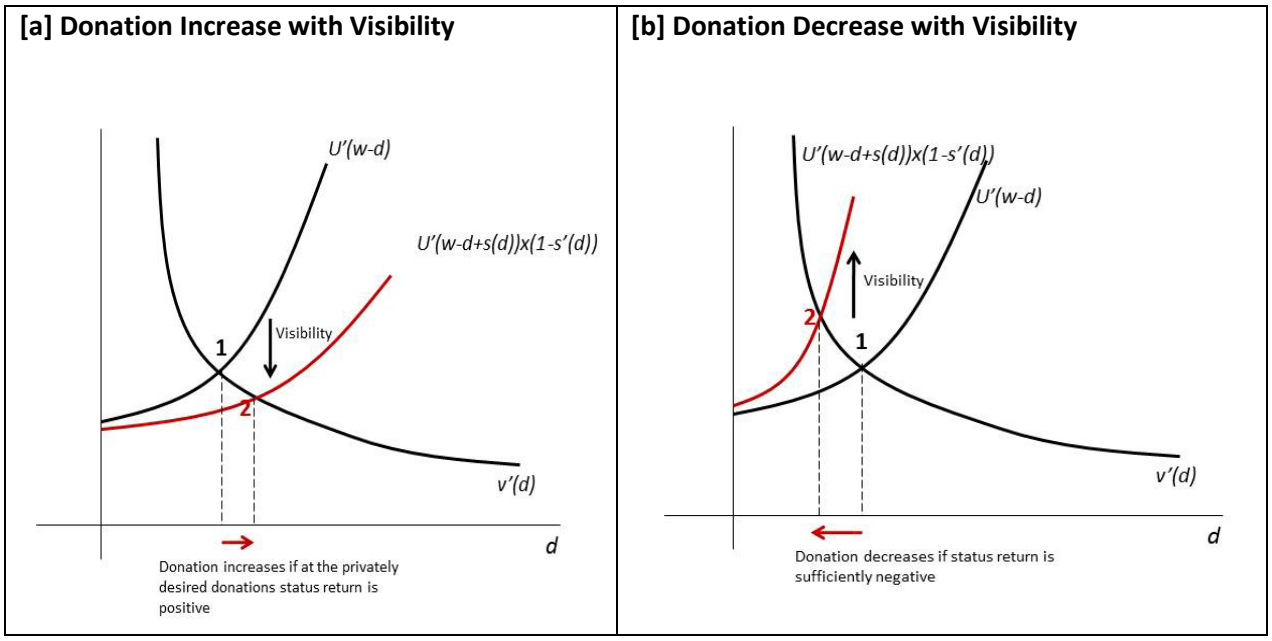
[11] Perceived generosity, a function of perceived income share donated, declines if the elasticity of expected income with respect to giving is more than one.

[12] Existing models of status acquisition through charitable donations, such as Glazer and Konard (1996), and Harbaugh (1998a), assume that both the status stock and status return are positive; similarly positive equilibrium contributions can only be secured in Hollander (1990) when both the status stock and return are positive.

[13] Donation-visibility may also cause a decrease in status stock. In assuming positive status stock we merely want to demonstrate that donation-visibility can decrease giving despite the boost in status stock. Our empirical analysis accounts for the possibility that visibility can decrease status stock.

status stock, it is possible (for sufficiently negative status return) that the overall cost of giving increases, thus shifting $U'(\cdot)$ up in Figure 1 (b). As indicated by the shift of the ideal point from 1 to 2, donation-visibility will decrease the incentive to give and lower contributions.

Figure 1: Donation-Visibility Effect



3. Experimental Design and Comparative Statics

To examine the effect of donation-visibility when donations can signal both income and generosity, we conduct a laboratory experiment consisting of two stages. In the first stage, participants secure income and in the second stage they are given the option to donate part of that income. To understand the effect of visibility we rely on a 2x2 between-subject design, varying the visibility of both income and donations.

Specifically, participants in this study are paired in groups of six and seated in clusters that ensure easy identification of the other group members. In the first stage participants are asked to perform a math task, and told that their performance compensation depends on the number of problems the participant solves relative to the performance by the other group members. The three participants with the highest performance each earn $35, and the three participants with the lowest performance each earn $15. Upon completion of the first stage, the participants are notified of their income and relative performance ("Best Performer" or "Not Best Performer"). Depending on their assigned treatment, they do or do not learn the specific income of the other group members. In the nonvisible-income treatments participants knew only their own income and the overall income distribution ($35, $35, $35, $15, $15, $15). In the visible-income treatments they are also informed of each of the other group members' specific income.

The second stage of the experiment offers participants the opportunity to contribute to a charity. Depending on the treatment, the individual's donation may or may not be revealed to the other group members. In the nonvisible-donation treatments participants only know their own donation. In the visible-donation treatments the participants are also told what amount each of the other group members donated. This information is provided after all donation decisions have been made.

Absent the variation in income-visibility and donation-visibility, all other procedures are held constant across treatments. Participants are fully aware of the information structure in their treatment. That is, prior to taking any actions they know whether others will or will not observe their income and/or their donation. Table 1 summarizes the experimental design.

Table 1: 2x2 Experimental Design

	Nonvisible income	Visible income
Nonvisible donation	DV=0, IV=0	DV=0, IV=1
Visible donation	DV=1, IV=0	DV=1, IV=1

We use our design to first identify whether there is evidence that income- and generosity-status influence giving, then accounting for such effects we determine how contributions respond to donation-visibility. When donations are not observed the variation in income-visibility allows us to examine the role of income-status. Comparing the response to income-visibility when donations are and are not visible helps us assess the role of generosity-status. Finally, we can examine the effect of donation-visibility when donations can signal both income and generosity. Below we elaborate and explain the comparative static predictions used to identify concerns for income-status and generosity-status.

3.1 Income-Status

We can evaluate the role of income-status by examining the case when donations are nonvisible (Table 1, row 1). With nonvisible donations only income-status can vary between the visible and nonvisible income treatments. By design, we have two income levels—high-performers who receive $35 and low-performers who receive $15. Income-visibility eliminates any uncertainty that participants may have on individual types and endows high-performers with high-income-status while endowing low-performers with low-income-status.[14] This increase in status stock for high-performers and decrease in status stock for low-performers will, to the extent that status has a consumption value, alter the marginal utility of consumption, effectively decreasing the cost of giving for high-performers while increasing it for low-performers.

[14] Recall that to demonstrate the effect of negative status return we assumed that status stock is positive when donations are visible and that it is zero otherwise. In our empirical analysis, however, donation-visibility may increase or decrease status stock.

Evidence of income-status can thus be assessed by our ability to reject the null hypothesis of no effect against the alternative income-status hypotheses stated below

Income-Status Hypotheses: When donations are nonvisible, income-visibility is predicted to

- *increase donations by high-performers*
- *decrease donations by low-performers*
- *increase the difference in donations by high- and low-performers*

3.2. Generosity-Status

With potential evidence that income-status affects giving, it is more challenging to examine the role of generosity-status. To do so we assume that income is the only source of status, and ask whether the response to income-visibility is consistent with this assumption (Table 1, row 2).

If income-status affects behavior when donations are not visible (Table 1, row 1) then it should also affect behavior when donations are visible. The main difference between the two examinations of income-visibility (row 1 vs. row 2) is that visible donations can be used to acquire income-status. That is individuals can, by increasing their donation, signal that they are high-performers. Since income-visibility eliminates the ability to signal performance through donations, it alters both status stock and status return.

When income is the only source of status, income-visibility eliminates status return and endows low-performers with low-income-status. With both status stock and status return decreasing, the cost of giving unambiguously increases and low-performers are predicted to decrease their contributions.

The effect of income-visibility on donations by high-performers (under donation-visibility) is less clear. When income is the sole source of status, income-visibility will on one hand eliminate positive status return, while on the other hand increase status stock. The first effect increases the cost of giving and the second lowers it. With an ambiguous comparative static for the high-performers we will assess the evidence of generosity-status by looking at the response by low-performers.

In looking at the low-performers it is important to note that concerns for generosity-status counters the effect of income-status concerns. Concerns for income-status are predicted to decrease the incentive to give, while concerns for generosity-status are predicted to increase it. The reason is that the knowledge that someone is of low income increases the assessment of how generous a donation is. Hence, all else equal, income-visibility increases generosity-status stock and generosity-status return.

Provided evidence that income-status affects behavior when donations are not visible, we assess the role of generosity-status by our ability to reject the only-income-status hypothesis stated below

Only-Income-Status Hypothesis: When donations are visible, income-visibility is predicted to decrease donations by low-performers.

4. Experimental Details

Our experimental design has to fulfill several criteria to improve our understanding of the role donation-visibility plays in a multisource status environment. First, participants in a comparison group must be able to identify each other, and in some treatments they must be able to determine the income and donations made by other group members. Second, the performance task must be one where individuals care about their relative performance. And third, contributions must be considered desirable in the sense that these can be used to signal both generosity and income. Below we first explain how our experimental design aims to meet these criteria, and then how we implemented the study.

4.1. Meeting the Design Criteria

To be able to recognize other group members, individuals were seated in groups of six. There were four such groups, denoted A through D, in each session. Members of each group were seated in a cluster of six individual cubicles, with three facing the other three. Individuals were identified by ID numbers (1 through 6), which were posted in front of each individual's cubicle. Both the ID number and the individual were visible to other group members during the session. However, the individual computer screen was only visible to the individual. Depending on treatment, the computer monitor displayed information on individual income and on donations, referring to individuals by their ID number. For example, for the visible-income treatments, the individual screens displayed a list of the six ID numbers along with information on each group member's relative performance and income. The information was shown before they were asked to make a donation. In the donation-visibility treatments, each group member's ID number and donation amount were displayed on all six screens after donations were made.

To select a task where participants were likely to care about their relative ranking, we opted for using a ten-minute version of the Niederle and Vesterlund (2007) addition task. Participants were given ten minutes to add up as many sets of five two-digit numbers as possible. When given five minutes to solve such problems, Niederle and Vesterlund (2007) found that participants exerted substantial effort in performing the task, and that the vast majority thought that their performance exceeded that of the three other group members. We interpreted this result as evidence that individuals cared about their relative performance on this task. In doubling the length of the task we hoped to strengthen the perceived association between performance and the participants' attributes and to weaken the possibility that high performance on the task could result from mere luck.

To have a giving environment where donations are considered worthy and desirable, and where a donation may be generated and affected by status concerns, we opted to examine giving to an actual charity rather than to an experimentally generated public good. To prevent free-riding considerations,

we could not rely on contributions to preexisting charities. We therefore chose to use "individualized-charities" as in Vesterlund, Wilhelm, and Xie (2009). Specifically each participant was paired with a child between 1 and 12 years of age whose house has suffered extensive fire damage. Participants were asked to contribute funds to purchase books for the child they were paired with. They were informed that these books would be delivered by the American Red Cross of Southwestern Pennsylvania when they arrived to assist the family at the scene of the fire. Participants were told that these books would help the child cope with the disaster, and that neither the American Red Cross nor any other donor provides books to the affected children at this critical point in time. This one-participant/one-recipient matching ensured that a participant could not rely on the donation being made by others: if the participant did not make a donation the child would not get any books. The choice to use individualized charities insured that changes in expectations over what others might donate would not affect the benefit the recipient is expected to get from making a donation.

4.2. Experimental Procedures

The experiment was conducted at the Pittsburgh Experimental Economics Laboratory (PEEL) at the University of Pittsburgh. Two sessions were conducted for each of the four treatments (eight sessions in total). Twenty-four undergraduate students participated in each session. With eight groups per treatment we had a total of 32 groups or 192 participants. Forty-five percent of the participants were male, and their age ranged from 18 to 24, with the mean age being 19.6.

Upon entering the lab, the participants were seated in one of four computer station clusters, each consisting of six stations, then the session proceeded as follows. First, instructions were distributed and read aloud, providing time for participants to ask questions in private. The instructions explained the session procedure, the identifier system, what information participants would receive during the study, and who the recipients would be. The participants were informed that books would be purchased for an amount equal to the amount donated. To assure the participants that donations would reach their intended recipients, they were given two forms they could fill out at the end of the study—one requesting a donation receipt from the American Red Cross and another to indicate whether the participant wished to be present when the donated books were mailed. The two forms were distributed along with the instructions and were collected at the end of the experiment.

Once the instructions had been read, the experimenter asked the participants, one group at a time, to silently stand up to better see the other members of their group. The experimenter reminded participants of the identification system by noting that each of the groups had its own letter, and that the individual identifier numbers at each computer station corresponded to the participant sitting at that station. A few concrete examples of the identification numbers were given in each group.

The ten-minute computerized addition task began after the members of each group were reseated. Participants could use paper and pencil to solve the problems, but were not allowed to use calculators or any other electronic devices. During the addition task the time remaining was projected on a big screen in the lab. The experiment was programmed and conducted using the software z-Tree

(Fischbacher, 2007). When the ten minutes for the addition task were over, a buzzer sounded and the participants had to stop solving problems. Each individual was then informed on her screen whether s/he was "a Best Performer" and earned $35, or "not a Best Performer" and earned $15. To ensure that information on the income distribution was held constant across treatments we reminded the participants that there were three "Best Performers" who earned $35 and three "not Best Performers" who earned $15. In the nonvisible-income treatments participants were given no information on who was in which category. In the visible-income treatments, the ID numbers of the three "Best Performers" and three "not Best Performers" were clearly displayed on the participants' screens.

Having received the relevant income information, each participant was then asked how much s/he wanted to donate to the child with whom s/he was matched. Donations could be made in increments of $5 (meaning $0, $5, $10, and so on) and were not allowed to exceed the participant's earnings from the performance task. Following the donation decision, participants were asked a few questions, some of which elicited their beliefs regarding the other group members' donations. Two questions were incentivized and could increase an individual's earnings by at most $2. Participants in the visible-donation treatments were then provided with a list reporting the amount each group member donated. This step was omitted in the nonvisible-donation treatments.

Finally, in all four treatments, a summary page listed the participant's own total earning, donation amount, and the difference between the two. Including the incentivized belief questions, the average individual earning from the study, net of donation, was $19.90, plus an additional $6 show-up fee.

5. Results

In examining the results we first report on the performance and overall donations. We then determine whether contributions are consistent with the idea that individuals are concerned about their relative income and generosity rankings. Finally, taking these results into consideration, we examine the effect of donation-visibility when contributions can signal both income and generosity.

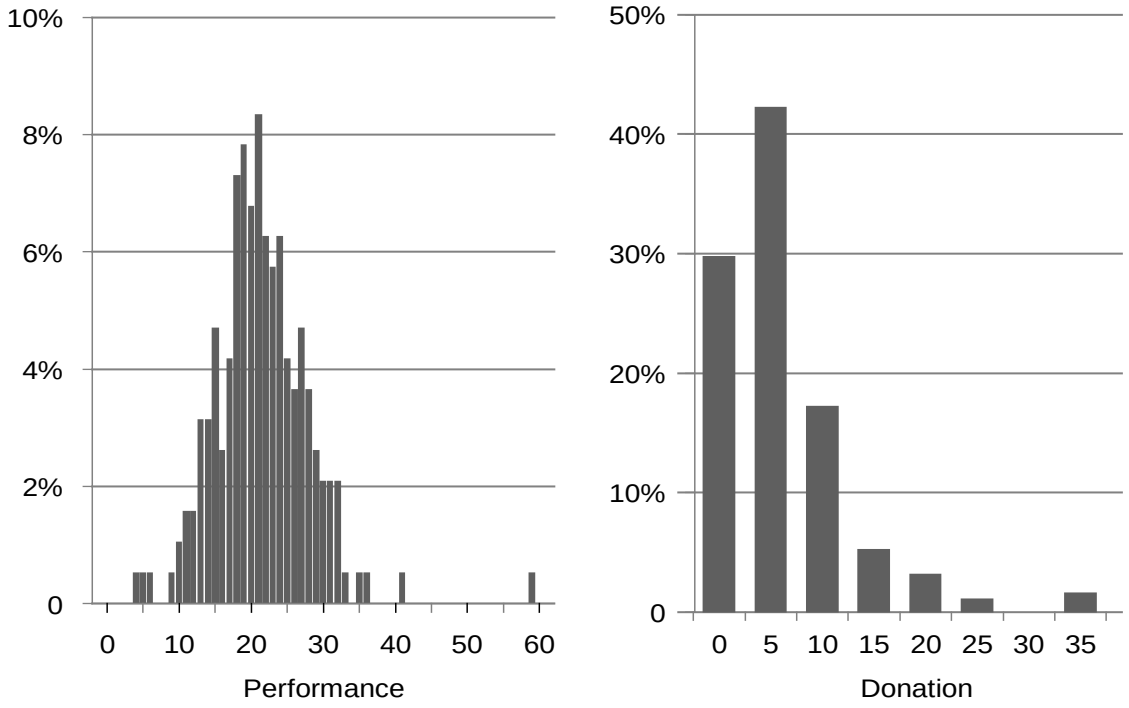
5.1. Performance and Giving

The participants in our study exerted substantial effort during the ten-minute performance task. Figure 2 panel (a) shows the distribution of the number of correctly solved problems for the pooled sample. The median and average number of correctly solved problems were 21 and 21.39 (std. err 0.473), respectively.[15] These performance levels suggest that participants were motivated to achieve the

[15] The average number of correctly solved problems did not differ significantly by treatment. Comparing any two treatments, the smallest mean difference in performance was 0.125 and the largest was 1.833. The p-values of two-sided t-tests ranged between p=0.20 and p=0.92.

highest possible performance on the task.[16] The number of problems solved differed substantially between the "Best Performers" and the "Not Best Performers." The median and mean performances were 24 and 25.55 (std. err 0.568) for the "Best Performers," while 18 and 17.22 (std. err 0.459) for the "Not Best Performers."

The individualized charity appeared to be one that participants generally cared about. Looking at the entire sample, 70.3 percent opted to contribute at least $5. Figure 2 panel (b) shows the distribution of donations for the pooled sample. The median and average contributions were $5 and $6.04 (std. err. 0.464), respectively. As expected, the wealthier participants made larger contributions, with the "Best Performers" donating an average of $8.49 (std. err. 0.759) and the "Not Best Performers" donating an average of $3.59 (std. err. 0.403). The differences in giving, however, are not reflected in the median contributions, which was $5 for both the "Best Performers" and for the "Not Best Performers."



Panel (a): Correctly Solved Problems **Panel (b): Dollar Donation**

Figure 2: Cumulative Distribution of Performance and Donation (n=192)

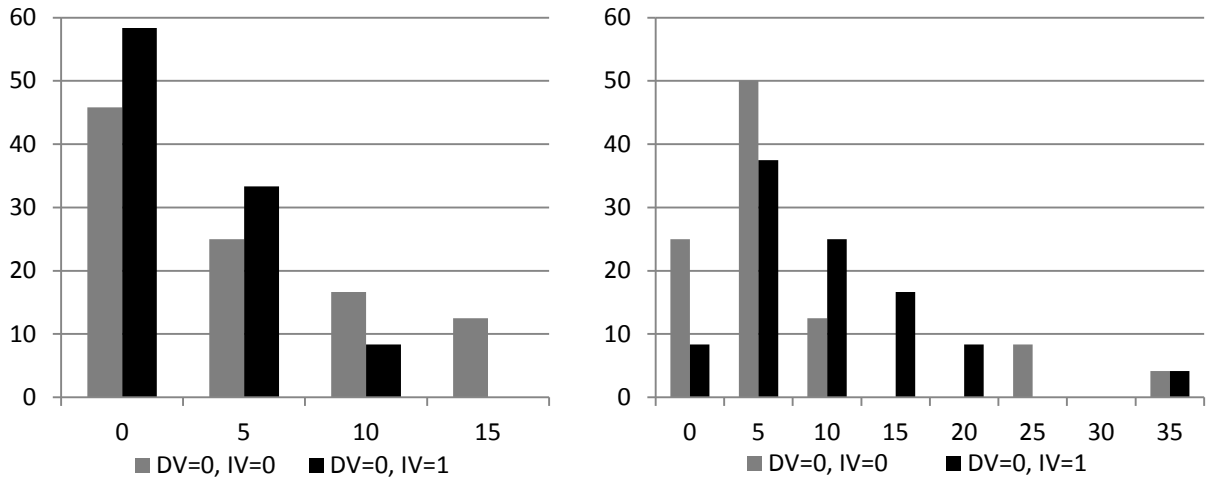
[16] This is consistent with the results in Niederle and Vesterlund (2007), who argue that participants appeared to exert the maximum possible effort on the task. By comparison, on a five-minute addition task Niederle and Vesterlund found that the average performance was ten correctly solved problems under a piece-rate compensation scheme and 12 correctly solved problems under a subsequent tournament compensation scheme.

5.2. Income-Status

We begin by examining whether income-status appears to influence behavior. To test the income-status hypotheses we evaluate the response to income-visibility when donations are nonvisible. Figure 3 demonstrates the response by high- and low-performers separately. When income is not visible low-performers give less than high-performers, and this difference in giving increases when income is made visible. While income-visibility shifts the contribution distribution to the right for high-performers, it shifts it to the left for low-performers. Despite the choice-set being the same and no one seeing the individual's donation, the mean donation by high-performers increases from \$7.30 to \$10 when income is visible. This response to income-visibility is significant when using a two-sided Mann-Whitney (p=0.04) test and when using an ordered probit to account for the discrete nature of the contribution data (p=0.067). Clustering the standard errors by group, the effect of income-visibility remains significant in a one-sided test (two-sided p_{op}=0.13; $p_{op\text{-}pb}$=0.104).[17] In contrast to the response by high-performers, income-visibility decreases contributions by low-performers from \$4.80 to \$2.50 (p_{MW}=0.17, p_{op}=0.108; p_{op_pb}=0.122). Consistent with the income-status hypotheses, the 37 percent increase in contributions from high-performers differs significantly from the low-performers' 48 percent decrease in contributions (p_{op}=0.028; p_{op_pb}=0.019).[18] Clustering the standard errors by group, an ordered probit of the contribution amount yields coefficients of –0.518 (p_{op}=0.135; p_{op_pb}=0.134) on an income-visibility dummy, 0.365 (p_{op}=0.317; p_{op_pb} =0.271) on a high-performer dummy, and 1.068 (p_{op}=0.028; p_{op_pb} =0.019) on the interaction between income-visibility and high-performer. Thus, consistent with income-status influencing behavior we find that income-visibility increases the donation gap between low- and high-performers.

[17] The p-values of two-sided tests are reported throughout the paper. We use p_{MW} to denote the p-value of the Mann-Whitney test, p_{op} to denote the p-value of an ordered probit with standard errors clustered by group, and p_{p} to denote the p-value of a probit with standard errors clustered by group. Since the number of clusters is small, we use paired bootstrapping to estimate standard errors for ordered probit and OLS regressions. When using paired bootstrapping we denote the p-value of the associated test statistics with subscript pb. Our results are similar when using wild bootstrapping (Cameron et al. 2008). For probit regressions we report the paired bootstrapping results from the linear probability model.

[18] Interestingly the ranking of donation shares by high- vs. low-performers changes with income-visibility. When income is nonvisible the donation shares of high-performers are lower than those of low-performers (0.21 versus 0.32). This relationship is reversed when income is visible (0.29 versus 0.17).



Panel (a): Low-Performers **Panel (b): High-Performers**

Figure 3: Contribution Distribution with Visible and Nonvisible Income Holding Donations Nonvisible

The differential response to income-visibility is also seen when looking at the likelihood of making a contribution. Income-visibility increases the fraction of high-performers who give from 75 to 91.7 percent, but lowers the fraction of low-performers who give from 54.2 to 41.7 percent, with the differential response being significant.[19] The same conclusion is reached when looking at how income-visibility affects the likelihood that someone makes a contribution above the modal and median contribution of \$5.[20] For high-performers, income-visibility increases the likelihood of contributing more than \$5 from 25 percent to 54.2 percent, while decreasing it from 29.2 percent to 8.3 percent for low-performers, with the differential being significant.[21]

With nonvisible donations we find that relative to the response by low-performers, income-visibility causes high-performers to give more, be more likely to give, and be more likely to give large amounts (more than \$5). This differential response is consistent with a model where the individual is concerned about others knowing her or his relative income ranking, and where the potential benefit from status acquisition is seen as substitutable for the individual's private consumption.

[19] Clustering standard errors by group, a probit of the likelihood of contributing yields coefficients of –0.315 (p_p=0.392) on an income-visibility dummy, 0.570 (p_p=0.090) on a high-performer dummy, and 1.024 (p_p =0.064) on the interaction between income-visibility and high-performer, and a constant of 0.105 (p_p =0.731). Corresponding coefficients of a linear probability model are –0.125 on income-visibility (p_{pb} =0.386), 0.208 on high-performer (p_{pb} =0.089), 0.292 on the interaction (p_{pb} =0.063), and a constant of 0.542 (p_{pb} <0.001).

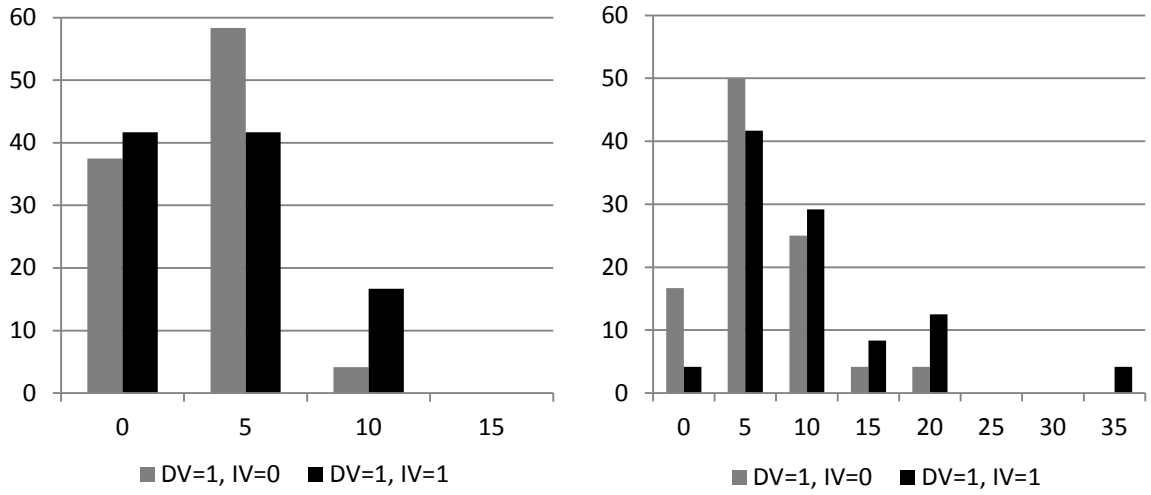
[20] A contribution of \$5 is the median and modal contribution across all treatments.

[21] Clustering standard errors by group, a probit of the likelihood of contributing more than \$5 yields coefficients of –0.834 (p_p=0.059) on an income-visibility dummy, –0.126 (p_p =0.770) on a high-performer dummy, and 1.61 (p_p =0.016) on the interaction between income-visibility and high-performer, and a constant of –0.549 (p_p =0.048). Corresponding coefficients of a linear probability model are –0.208 (p_{pb} =0.053) on income-visibility, –0.04 on high-performer (p_{pb} =0.747), 0.5 on the interaction (p_{pb} =0.009), and a constant of 0.292 (p_{pb} =0.002).

5.3. Generosity-Status

In looking for evidence of generosity-status we examine the effect of income-visibility when donations are visible. Income-visibility eliminates the possibility of using donations to signal performance, as it establishes the individual's actual income-status. Under the only-income-status hypothesis, both status stock and status return are decreasing for low-performers, so their donations are predicted to decrease. In examining the role of generosity-status we therefore focus on the response by low-performers. While the comparative static prediction is more complicated for high-performers, for the sake of comparison we also report the response for this group.

Conditional on donation-visibility, Figure 4 shows the contribution distributions in response to income becoming visible. In this figure we compare the two treatments in row 2 of Table 1 (DV=1,IV=0 versus DV=1,IV=1). For both high- and low-performers we note that income-visibility increases giving. High-performers increase mean donations from \$6.45 to \$10.20 when income is visible (p_{MW} =0.05, p_{op} =0.015; $p_{op\text{-}pb}$=0.014). That is, independent of donation-visibility, income-visibility increases contributions by high-performers.



Panel (a): Low-Performer

Panel (b): High-Performer

Figure 4: Contribution Distribution with Visible and Nonvisible Income, Holding Donations Visible

To draw inferences on generosity-status we look at the response by low-performers. In contrast to the result for high-performers we find that donation-visibility influences the response to income-visibility. While Figure 3 panel (a) shows that income-visibility shifts the contribution distribution to the left when donations are not visible, Figure 4 panel (a) shows a slight shift to the right when donations are visible. Rather than the predicted decrease under the only-income-status hypothesis, we find that income-visibility has a minor positive effect on mean contributions (increasing these from \$3.33 to \$3.75, p_{MW}=0.801, p_{op}=0.69; $p_{op\text{-}pb}$=0.693). Thus we reject the only-income-status hypothesis.

In contrast to the nonvisible-donation treatment we cannot reject that the response to income-visibility is the same for high- and low-performers. The response to income visibility is not significantly different for high- and low-performers when looking at the change in donations, the likelihood of giving, or the likelihood of giving more than $5.[22]

We see the differential response by low-performers to income-visibility when donations are and are not visible as evidence that they are concerned about both their relative ranking of income and generosity. While income-visibility decreases income-status (stock and return) the knowledge that their income is low in turn increases generosity-status (stock and return). This joint concern for income- and generosity status gives rise to the possibility that donation-visibility decreases giving.[23]

5.4. The Effect of Donation-Visibility

Past studies on donation-visibility have centered on environments where an increase in contributions unambiguously led to an increase in status, and when donation-visibility was predicted to increase giving. In this section we ask whether this result continues to hold when donations serve as signals of both income and generosity. Status monotonicity need not hold in such an environment, as an individual's social ranking may be higher when s/he is perceived to be poor-and-generous rather than

[22] Clustering by group, an ordered probit of the amount given yields coefficients of 0.118 (p_{op}=0.727; p_{op_pb} =0.707) on an income-visibility dummy, 0.845 (p_{op} =0.000; p_{op_pb} <0.001) on a high-performer dummy, and 0.558 (p_{op}=0.261; p_{op_pb}=0.218) on the income-visibility and high-performer interaction. Clustering by group a probit of the likelihood of giving yields coefficients of –0.108 (p_p=0.783) on an income-visibility dummy, 0.649 (p_p=0.043) on a high-performer dummy, and 0.872 (p_p=0.231) on the income-visibility and high-performer interaction, and a constant of 0.319 (p_p=0.203). Corresponding coefficients of a linear probability model are –0.042 (p_{pb}=0.779) on income-visibility, 0.208 (p_{pb} =0.048) on high-performers, 0.167 (p_{pb}=0.339) on the interaction, and a constant of 0.625 (p_{pb} <0.001). Clustering by group, a probit of the likelihood of giving more than $5 yields coefficients of 0.764 (p_p=0.137) on income-visibility, 1.301 (p_p=0.007) on high-performers, and –0.229 (p_p=0.741) on the interaction, and a constant of –1.732 (p_p=0.000). Corresponding coefficients of a linear probability model are 0.125 (p_{pb}=0.064) on income-visibility, 0.292 (p_{pb} <0.001) on high-performers, 0.083 (p_{pb}=0.627) on the interaction, and a constant of 0.042 (p_{pb}=0.310). The probability of giving more than $5 increases from 33.3 percent to 54.2 percent for high-performers and from 4.2 percent to 16.7 percent for low-performers.

[23] Additional evidence that individuals are concerned about generosity-status may be seen by looking at the effect of donation-visibility when income is visible, pooling the data for high- and low-performers we find that donation-visibility increases the likelihood that individuals contribute from 0.667 to 0.771, with p_p=0.137 (p_{pb} =0.137). We test for generosity status by examining the differential effect of income visibility when donations are and are not visible since we know that (1) when income is visible income status stock is positive for high performers and negative to low performers, and (2) holding donations visible, income visibility would lead any donations amount given by a low performer to be judged more generous (at least weakly) regardless of the giving norm. Hence, generosity status, if it exists, should have a positive effect of donations by low performers. Nevertheless, we cannot test for generosity status by simply examining the effect of donations visibility when income is known, since for such a test knowledge of the unobserved generosity norm is needed.

wealthy-and-stingy.[24] Absent status monotonicity, participants may give less when observed, and donation-visibility has the potential of decreasing rather than increasing contributions.

With two different sources of status it is difficult to predict how participants will respond to donation-visibility.[25] In examining the response to donation-visibility our objective is merely to demonstrate that when donations signal both income and generosity, the interaction of the two attributes may cause donations to decrease. We examine the effect of donation-visibility in the case where income is nonvisible. That is, we compare the treatments in column 1 of Table 1 (DV=0, IV=0 versus DV=1, IV=0). Looking first at the overall contributions, we do not find evidence that donation-visibility increases giving. The mean contributions decrease from \$6.04 to \$4.90, which is statistically insignificant (p_{MW}=0.953, p_{op}=0.803; p_{op_pb} =0.787).[26]

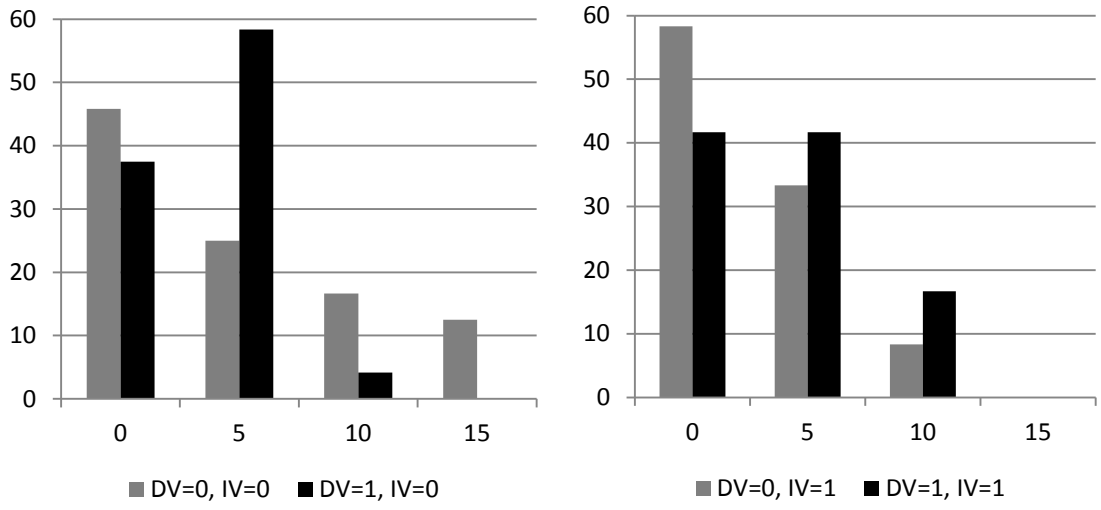
In understanding the response described above, it is particularly interesting to look at the response by low-performers to donation-visibility. Conditional on nonvisible-income, Figure 5 panel (a) illustrates how donation-visibility leads the contribution distribution for low-performers to contract around a \$5 contribution. The standard error of the mean contribution decreases from 1.1 to 0.576 (p=0.0028), and the likelihood of a \$5 contribution increases from 25 percent to 58.3 percent (p_p=0.015; p_{pb} =0.013).[27] While part of this increase appears to stem from individuals being less likely to give nothing when their donation will be viewed by others (the share of noncontributors among the low-performers decreases from 45.8 percent to 37.5 percent), this decrease is not significant (p_p=0.587; p_{pb}=0.605). Yet the decrease in the likelihood of giving more than \$5 is significant (decreasing from 29.2 percent to a mere 4.2 percent, p_p=0.026; p_{pb} =0.009). This decrease in large contributions is consistent with low-performers preferring that others perceive them as generous-low-performers rather than as stingy-high-performers.

[24] While the rank of wealthy-and-generous may be preferred, it may be too costly or impossible for low-performers to contribute a large enough amount to secure such a perception.

[25] Status stock and status return may change along with changes in the beliefs on what others give.

[26] Similarly the probability of giving or of giving more than \$5 does not increase. Clustering by group, a probit on the probability of giving yields a coefficient of 0.236, p_p=0.447 (p_{pb}=0.478), similarly for the probability of giving more than \$5 we see a coefficient of –0.277, p_p=0.259 (p_{pb}=0.309).

[27] Mean contributions decrease from 4.79 to 3.33 (p_{MW}=0.524, p_{op}=0.456; $p_{op\text{-}pb}$=0.485).



Panel (a): Income Not Visible **Panel (b): Income Visible**

Figure 5: Low-Performers' Contribution Distribution with Visible and Nonvisible Donations

As anticipated the response to donation-visibility is markedly different when income is visible. In this case low-performers need not worry that a high contribution will be interpreted as anything other than a generous act. As shown in Figure 5 panel (b), donation-visibility now shifts the distribution to the right, and mean contributions increase from \$2.50 to \$3.75 (p_{MW}=0.219, p_{op}=0.21; p_{op_pb}=0.235). Rather than decreasing the variance of the mean contribution, donation-visibility now has no effect on the variance (increasing from 0.67 to 0.752, p=0.597).[28]

[28] Further evidence on signaling can be seen by examining participants' beliefs holding income nonvisible. Specifically, at the end of the study (and before revealing the actual donations in the visible donation conditions) participants were asked to predict the donations they believe others had made. Restricting our attention to low-performers who made a positive donation, we find that on average they believed that the lowest gift by a high-performer was \$6.54 (std. error 1.734) when donations were nonvisible (IV=0,DV=0) and \$6.33 (std. error 1.031) when donations were visible (IV=0, DV=1). While donation-visibility did not alter beliefs on the lowest donation made by a high-performer, it decreased the average donations made by low-performers from \$8.846 (std. error 1.154) when donation were nonvisible (IV=0, DV=0) to \$5.333 (std. error 0.333) when donations were visible (IV=0, DV=1). Calculating the gap between each low-performer's donation and her predicted lowest donation by a high-performer, we find that on average it was \$2.308 (std. error 1.844) when donations were nonvisible (IV=0, DV=0) and –1 (std. error 0.873) when donations were visible (IV=0, DV=1). In other words, when neither income nor donations are visible, low-performers give more than what they think is the lowest donation among the high-performers. In sharp contrast, when donations are visible, low-performers give less than what they think the lowest donation is among the high-performers. This change in the gap (between low-performers' donation and their belief regarding the lowest donation among high-performers) in response to donation-visibility (from 2.308 to –1) is significant in a one-sided test (two-sided t-test p=0.1023). The same result holds when looking at low-performers independent of their donation decision. In this case the gap between donation and belief regarding the

The differential response to donation-visibility when income is and is not visible is assessed in Table 2 below. Given the bunching at the median donation of $5 we examine changes in the likelihood of giving more than $5. Consistent with the income-status hypotheses, we see in columns 2 and 3 that income-visibility decreases the likelihood that a low-performer contributes more than $5. Donation-visibility has a similar negative effect on contributions when income is not visible. The interaction between income-visibility and donation-visibility, however, reveals that the response to donation-visibility is significantly different when income is visible, counteracting the negative effect of donation-visibility seen when income is not visible. Interestingly when income is known, donation-visibility causes an insignificant increase in the likelihood that low-performers give more than $5.[29]

Table 2: Probability of Giving More than $5*

	Low-Performers		**High-Performers**	
	Probit	OLS	Probit	OLS
Constant	-0.549	0.292	-0.674	0.250
	(0.044)	(0.003)	(0.031)	(0.018)
Incomev	-0.834	-0.208	0.779	0.292
	(0.055)	(0.063)	(0.055)	(0.055)
Donationv	-1.183	-0.250	0.244	0.083
	(0.023)	(0.016)	(0.490)	(0.496)
IV_DV	1.599	0.333	-0.244	-0.083
	(0.016)	(0.012)	(0.646)	(0.671)

*The p-values are in parenthesis. For probit the standard errors are clustered by group. The p-values for the linear probability model are based on paired-bootstrapping.[30]

Looking at the fourth and fifth columns of Table 2 we can assess the response by high-performers. Consistent with the income-status hypotheses, income-visibility increases the likelihood that high-performers give more than $5. In contrast to low-performers, donation-visibility does not affect the likelihood that high-performers give more than $5.[31]

While past research has shown advantages of announcing donor contributions, our study adds grounds for caution when the income of prospective donors is heterogeneous and not well known. Figure 6 summarizes the effect on the pooled sample. We see first that absent information on income, donation-visibility causes the contribution distribution to contract around $5, insignificantly decreasing donations from $6.04 to $4.89 ($p_{MW}$=0.95, p_{op}=0.803; $p_{op\text{-}pb}$=0.787), and significantly reducing the variance

lowest donation by a high-performer changes from 0.417 to –2.292, with the response to donation-visibility being significant (p=0.044).

[29] Testing the joint hypothesis that the sum of the coefficients on donation-visibility and on the interaction term yields in the probit regression, $\chi^2(1) = 1.01$; $p = 0.316$; and in the OLS regression, F(1,31)=1.07, p=0.31.

[30] The marginal effects evaluated at the mean for low-performers are –0.25 on donation-visibility, –0.17 on income-visibility, and 0.33 on the interaction. For high-performers it is 0.09 on donation-visibility, 0.29 on income-visibility, and –0.09 on the interaction.

[31] Rather than being evidence that generosity-status does not matter the limited response may result from donation-visibility increasing generosity-status return and decreasing generosity-status stock.

(p=0.002). Note however that this effect is reversed when income becomes visible. Consistent with Figure 4 we see that conditional on donation-visibility income-visibility increases the variance of the distribution (p=0.001) and increases mean contributions from \$4.90 to \$6.98 (p_{MW}= 0.134, p_{op}=0.021; $p_{op\text{-}pb}$=0.018).

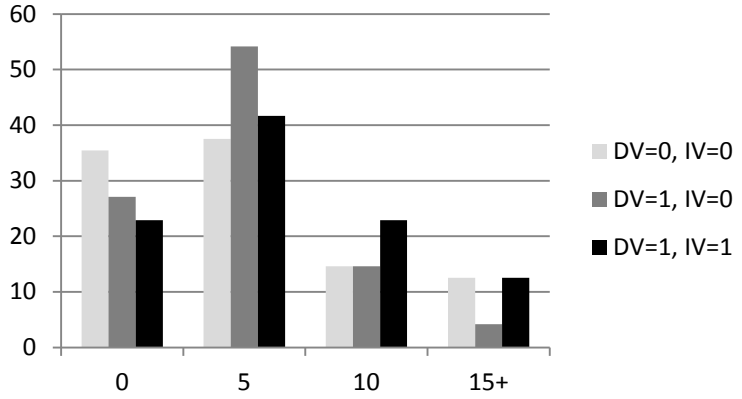


Figure 6: Aggregate Contribution Distribution with Visible Donations and Income

6. Conclusion

The literature on charitable giving has largely reached the consensus that donation-visibility increases giving. A common explanation for the advantages of donation-visibility is that disclosing the amount that an individual contributes will be seen as a positive signal of the individual's type, and that a desire to acquire status will boost donations when these can be seen. In this paper we argue that this comparative static is sensitive to the assumption that status increases in donations. While status monotonicity follows when donations only signal one desirable characteristic, this need not be the case when donations signal both income and generosity.

Using an example where generosity status increases in the share of income donated, we demonstrate that while higher donations may increase income status they may at the same time reduce generosity status. Depending on the weights attached to these different sources of status, it is possible that higher status can be achieved with a lower donation. In particular, a lower donation amount may give rise to the perception that the individual is poor-and-generous rather than rich-and-stingy, and the status of the former may exceed that of the latter.

Examining behavior in a simple donation experiment we find comparative statics that are consistent with participants benefitting both from signaling high generosity and high income. In this multisource status environment we find that donation-visibility fails to increase the amount donated to charity.

Our results may help explain why some organizations opt not to announce donations at the end of a fundraising campaign. Organizations that solicit in circles where the names of donors do not confer information on individual incomes may fare better by not publishing individual contributions. If nonetheless they decide to publicly announce donations, then they may benefit from including in the announcement information on the individual donor's job title or neighborhood of residence, which can

be taken as proxy indications of income, to ensure that a larger monetary donation is seen as increasing rather than decreasing the share of income given.

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Appendix I: Instructions

Welcome

Thank you for agreeing to participate in our study on decision making. In this study you are asked to perform a calculation task. The money you earn in this task depends on your performance relative to the performance of others in your group. Once you have earned money from the calculation task, you will have the opportunity to donate some of your money to a child in need. That is, you will each be paired with a child and we will ask you to decide how much of your earnings to keep for yourself, and how much to donate to the child. Your payment from the study will be your earnings from the calculation task, minus your donation, plus a $6 show up fee. Note that you cannot donate your show up fee. The study should take less than an hour. At the end you will be paid your total payment in private and in cash.

For this study you will be put in a group of six people. There are four groups in the room: A, B, C, and D. Before we begin, we will ask you and your group members to stand up such that you get familiar with your group. We ask that you do not speak to each other, or communicate in any other way during the study. We also ask that you do not discuss the procedures and details of the study, including your performance or donation amount, with others (including your group members) outside this room. If at any point you have questions please raise your hand, and one of us will come to answer you in person.

Your Identity and Information

Your name will never be revealed during the course of the study. We will use the number at your computer station as your ID number. Your number will be either 1, 2, 3, 4, 5, or 6. Your group letter along with your ID number are the identifier we use when paying for your participation in the study.

During the study, [T1: we will tell you how much each member of your group earned, and how much each member donated to the child he or she is paired with]. [T2: we will tell you how much each member of your group earned, but we will not tell you how much each member donated to the child he or she is paired with] [T3: we will tell you how much each member of your group donated to the child he or she is paired with, but we will not tell you how much each member earned] [T4: we will not tell you how much each member of your group earned, nor will we tell you how much each member donated to the child he or she is paired with].

[T1, T2, T3: When we provide your information to the other group members we will use your ID number to refer to you, and when we provide you information on the other members of your group we will use their ID numbers to refer to them].

Calculation Tasks

In the calculation task you are asked to calculate the sum of five randomly chosen two-digit numbers. You will be given 10 minutes to calculate the correct sum of a series of these problems. A buzzer will sound at the end of the 10 minutes. You cannot use a calculator to determine the sum of numbers, but are welcome to use the provided pencil and paper.
To submit an answer, simply click on the submit button with your mouse. When you enter an answer the computer will immediately tell you whether your answer is correct or not. Your answers to the problems are anonymous.

The computer will count the number of problems you solve correctly during the 10 minutes. Your count of correct answers does not decrease if you provide an incorrect answer to a problem.

When the 10 minutes are up, the computer will inform you how many problems you solved correctly. The system will then compare your performance with that of the rest of the members in your group, and will determine whether you are among the best three performers in your group of six. We will refer to these best three performers as "Best Performers." Your earnings from the calculation task depend on whether you are among the Best Performers or not. The Best Performers will each earn $35 from the calculation task while those who are not among the Best Performers each will earn $15. You will find out whether you are among the Best Performers immediately after all six members of your group have completed the 10-minutes calculation task.

Donation

As mentioned, you and the other members of your group will each have the opportunity to donate part of your earnings to a child in need. Each group member is paired with a different child in Southwestern Pennsylvania (Allegheny, Washington, Greene, and Fayette Counties). All of these children are between 1 and 12 years old, and their family home has suffered extensive fire damage. Most or all of their family's possessions have been lost. The sum of money donated by you will be spent to purchase books for the child you are paired with. The American Red Cross will give the books to the child you are paired with immediately after the child has been affected by a severe fire.

As soon as a fire is reported in Southwestern Pennsylvania, the American Red Cross is contacted and volunteers are dispatched to the site. They help the affected families find temporary shelter, provide them with clothing, a meal, and give them a comfort bag with essential toiletries. Each day an average of one family in Southwestern Pennsylvania experiences a severe fire. These families depend on the American Red Cross for emergency help to cope with the sudden loss of their home and belongings. Unfortunately the American Red Cross only has funds to provide these families with the bare essentials, and they do not provide any "comfort" items for the children of the affected families.

We have joined the American Red Cross of Southwestern PA to collect funds to buy books for the affected children. The child you are paired with will receive books of a value that equals your donation. If you do not contribute anything, the child will not receive any books. Each person in this study is paired with a different child. Neither the American Red Cross nor any other donors provide books to the child at the scene of the fire. In explaining why the American Red Cross is seeking this type of support, their Director of Emergency Services, Michael Adametz states "Children's needs are often overlooked in the immediate aftermath of a disaster because everyone is concerned primarily with putting the fire out, reaching safety, and finding shelter, food and clothing... just the basics of life. So many times, I've seen children just sitting on the curb with no one to talk to about what's happening... for this reason I've found trauma recovery experts in the community to work with us to train our volunteer responders in how to address children's needs at the scene of a disaster... being able to give the children fun and distracting books will provide a great bridge for our volunteers to connect with kids and get them talking about what they've experienced."
Once you have completed the calculation task you will have the opportunity to use your earnings from the task to help out the child you are paired with. For administrative purposes donations must be made in increments of $5, i.e., $0, $5, $10, $15, etc.

Immediately after the study, we will order books corresponding to the amount that you donate. Please let us know if you are interested in being present when we order the books, or when we drop them off at the American Red Cross. If you wish to receive a receipt from the American Red Cross for your donation, you will need to fill out the acknowledgment form on the next page. Note however that by doing so you will relinquish your anonymity. If you wish to remain anonymous, leave the acknowledgment form blank.

Information You and Others Will Receive

As explained above, at the end of the calculation task you will be told how many problems you answered correctly, and whether you are among the Best Performers in your group of six. This information will appear on your screen, and you are asked not to share it with anyone else.

[T1: In addition, we will tell you and the other group members how much each specific group member (including yourself) earned in the calculation task. Thus all group members will be informed how much each of the other group members earned and who the Best Performers are.

Moreover, after the donation decisions, we will tell you and the other group members how much each specific member (including you) decided to donate to the child he or she is paired with. Thus all group members will know how much each of the other group members donated.]

[T2: In addition, we will tell you and the other group members how much each specific group member (including yourself) earned in the calculation task. Thus all group members will be informed how much each of the other group members earned and who the Best Performers are.

However, after the donation decisions, we will not tell you or the other group members how much each specific member decided to donate to the child he or she is paired with. Thus no group member will know how much each of the other group members donated.]

[T3: Note that we will not tell you or the other group members how much each specific group member earned in the calculation task. Thus no group member will be informed how much each of the other group members earned or who the Best Performers are.

However, after the donation decisions, we will tell you and the other group members how much each specific member (including you) decided to donate to the child he or she is paired with. Thus all group members will know how much each of the other group members donated.]

[T4: Note that we will not tell you or the other group members how much each specific group member earned in the calculation task. Thus no group member will be informed how much each of the other group members earned or who the Best Performers are.

Moreover, after the donation decisions, we will not tell you or the other group members how much each specific member decided to donate to the child he or she is paired with. Thus no group member will know how much each of the other group members donated.]

If you have any questions, please raise your hand now and one of us will come to your seat to answer your question. You are reminded to please not discuss any details regarding your or others' performance or donation with anyone during or after the study.

Before we begin, we will ask each group at a time to please stand up such that each participant will get familiar with his or her group members. Please do not talk or communicate, just stand up so you can see each other.

We will begin momentarily.

Group ____ ID Number ____

Acknowledgment form

Please send a receipt for my contribution of books with the value of $_____ (to be filled out by the assistant)

My address is Name_____
Address_____

City_____
State_____
Zip_____

Please note that you relinquish your anonymity by filling out this form

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If you would like to be present for the purchase or the delivery of the books please provide us with your email and we will contact you when we order the books and deliver them to the American Red Cross.

Name_____
Email_____