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Giving on the Margin: The Power of Donor Recognition

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ABSTRACT

This study develops a controlled laboratory experiment to examine the effects of personal recognition on charitable giving. I find evidence that both the possibility of acquiring prestige and the desire to avoid shame motivate individuals to give in recognition situations. Furthermore, I show that the possibility of being recognized is more important than the distinguishing value of that recognition, suggesting that an offer of recognition has greater power to increase charitable contributions when a larger proportion of donors will be recognized.

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INTRODUCTION

Charities rely on individual contributions to provide many important services for those most in need. As a result, charities are constantly tasked with convincing individuals to give away their savings or salaries to provide public goods for others. Despite this challenge, charitable donations in the US exceed two percent of gross domestic product annually, and 89 percent of households give each year (List (2011), Independent Sector (2001)). The sheer magnitude and frequency of these contributions suggests that these donations are not an anomaly for standard, rational decision makers, but rather, a true expression of individuals' preferences.

Historically, charities have tried a variety of fundraising strategies in an effort to take advantage of these preferences. However, no universal consensus regarding optimal fundraising practices has emerged. In lieu of this consensus, research has aimed to continue identifying and characterizing the set of non-standard preferences that motivate individuals to give to charity. This knowledge has incrementally armed charities with more efficient fundraising practices, which in turn help charities raise additional funds, broaden their reach, and set more ambitious goals.

Despite the initial dearth of knowledge in this area, charities have known for some time that acquiring new donors is more costly than attempting to fundraise from existing ones. In research focused on relationship marketing, Harley (1984) and Petersen (1997) showed that customer acquisition could be five times as costly as customer retention, while Sargeant (2001) proved that this effect extended to donors in the non-profit sector. As a result, charities often must convince an existing donor base to contribute when attempting to raise additional funds.[1] I define an existing donor base as the group of previous donors

1 In this paper, I assume that the cost of acquiring new donors is prohibitive. In other words, charities are stuck attempting to maximize the donations of their existing donor base. A different field within the charitable giving

to a charity, plus non-profit volunteers, employees, and anyone who has demonstrated interest in the charity's cause through subscription to a mailing list or similar group. Existing donor bases provide a stark challenge for every charity. Every time the charity wishes to raise additional funds, it must return to its donor base and convince its members to contribute once again.

The simplest strategy charities utilize to raise additional funds is to ask donors to contribute more money. However, early research has established that many alternatives are more effective than simply asking for additional contributions. Some examples include securing seed money to use in a matching or challenge campaign (Potters et al. (2005), Rondeau and List (2008)), public recognition of donors (Rege and Telle (2004), Andreoni and Petrie (2004), Dana et al. (2006)), and offering material rewards in exchange for donations (Falk (2004)). In this paper, I focus on public recognition because it presents some interesting and unanswered questions.

When utilizing public recognition, some charities choose to recognize a large proportion of their donors, while others choose to recognize a small proportion, or set dollar-denominated cutoffs for recognition. For example, the Clinton Foundation, an international philanthropic fund, publishes the name of every one of their donors on their website. In contrast, Scholarship America, an American education charity, only recognizes a small proportion of their donors by offering membership in their Jefferson Society in exchange for annual contributions exceeding fixed amounts. This includes a President's Circle which requires contributions exceeding $100,000 annually. This strategic diversity presents a classic optimization problem. The more donors a charity offers to recognize, the more likely potential donors are to be recognized. However, as a greater proportion of donors are recognized, that recognition becomes less valuable because it will distinguish donors from fewer of their peers.

This paper explores public recognition's ability to motivate additional contributions, the mechanism through which public recognition motivates these contributions, and the optimal proportion of donor recognition. I develop a public good laboratory game and use evidence from the game to reproduce prior results that personal recognition is an effective strategy for mo-

literature focuses on donor acquisition, but that is outside the scope of this paper. See List (2011) for a brief overview.

tivating an existing donor base to contribute more to a cause. Furthermore, using this evidence, I investigate the manner in which personal recognition influences potential donors. I show that personal recognition motivates contributions through shame, or the costs associated with not receiving recognition, and prestige, or the benefits associated with receiving recognition. Finally, I also develop intuition suggesting that receiving recognition is more important than the value of recognition. Therefore, it is better for charities to offer a high chance of donor recognition to illicit increased donations, rather than offer a low chance of recognition and hope the distinguishing characteristic of this recognition will motivate donors to give more. Section 2 of this paper reviews the charitable giving literature. Section 3 describes this study's empirical strategy, including a description of the laboratory game. Section 4 presents my results, and Section 5 concludes.

2

LITERATURE REVIEW

The literature on charitable giving has grown rapidly in recent years, and Andreoni and Payne (2011) break this growth down into four categories, individuals, giving as a market, the inherent sociality of giving, and the giver's mind. The literature on individuals focuses on personal incentives, and how individuals respond to them. The literature on the charitable giving market takes an aggregate approach, investigating both the supply and demand for donations, government intervention, and interactions between the market participants. Research concerning the social aspects of giving seeks to explain donations from a prosocial perspective, investigating how human interactions, their levels of publicity, and emotions change the way individuals donate. Finally, the literature exploring the giver's mind attempts to pinpoint specific motivations on the individual level, and discern their consequences on a broader scale.

2.1 THE INDIVIDUAL

Research on individuals and incentives first stemmed from an interest in the effects of tax deductions on charitable giving. The US government has offered preferential tax treatment for donors since the Revenue Act of 1917, absed on the idea that any foregone tax revenue due to charity related tax breaks is less valuable than the additional dollars given to charity because of the breaks. In other words, tax deductions on charitable donations make sense as long as the price elasticity of charitable giving is ≤ -1. This led Andreoni (2006) to label a price elasticity of -1 as the golden standard, which has been used repeatedly as a benchmark in the literature.

Taussig (1967) made the first well-known attempt to estimate this elasticity using tax returns, laying the groundwork for Feldstein and Clotfelter (1976), which estimated giving's elasticity between -1.1 and -1.5, a significant step forward for proponents of tax breaks. Later, other studies including Feldstein and

Taylor (1976), Clotfelter (1985), and Feenberg (1987) achieved similar results while accounting for shortcomings of the initial study, and using different data sets. However, this universal agreement in the literature would not last.

By the 1990s, the availability of richer IRS datasets led to different, conflicting estimates of the price elasticity of charitable giving. Particularly, Randolph (1995) called into question previous estimates by utilizing instruments to identify a much lower permanent price elasticity of giving, and a higher transitory elasticity of giving. While this research supported the idea that tax breaks were unfit to incentivize charitable giving, shortly thereafter, Auten et al. (2002) used similar data but achieved a different result by assuming a constant elasticity and using a log-log specification.

More recently, projects such as Tiehen (2001), O'Neil et al. (1996), and Bakija and Heim (2011) have confirmed that the price elasticity of giving is ≤ -1, although with some complications. For example, Bakija and Heim (2011) did separate analyses for households with incomes above and below $200,000, finding that the government lost revenue relative to the increase in charitable giving due to tax breaks for lower income households, while the effect was opposite for higher income households.

Despite the many complications, the body of current evidence does appear to suggest that the price elasticity of charitable giving is ≤ -1, and therefore, tax breaks deserve at least some consideration when attempting to stimulate charitable giving. However, charities have not been willing to stand by and let the government handle incentive provision for donors. Instead, they have also taken matters into their own hands, often by providing material incentives for donors.

For example, National Public Radio raises millions each year while offering pens, coffee mugs and tote bags in exchange for small donations. Surprisingly, and despite the prevalence of this strategy, research is uncertain of its effectiveness. Intuitively, it seems that offering some material reward for donating should make individuals more likely to contribute, and to contribute more. However, Holmes et al. (2002) and Shang and Croson (2009) both discovered in field experiments that donations tended to bunch around amounts necessary to receive gifts, raising the possibility that donors treated these contributions as purchases rather than donations. While the amounts

necessary to receive gifts may have encouraged more donations, it is also possible that these benchmarks decreased donations.

Rather than making donations transactional, it is also possible that material incentives may discourage donations altogether. For example, Newman and Shen (2012) found in a set of experiments that offering thank-you gifts, or gifts given in exchange for a donation, actually decreases donations regardless of charity, gift desirability, or gift value. One explanation for this result is that offering thank-you gifts in exchange for donations may create a crowding out effect (see Bowles (2008), Frey (2001)). This idea is supported by lab work such as Heyman and Ariely (2004), which finds that individuals are less likely to engage in altruistic tasks for a monetary reward than a non-monetary incentive. In a similar vein, Ariely et al. (2009) show that monetary incentives dilute the social benefits of acting prosocially. Both of these studies point to the possibility that donors derive some social or personal utility from contributing to a charity without recompense, and whether that utility is socially or personally rooted, the provision of additional material incentives that attempt to encourage a donation actually reduces or eliminates that utility.

Tax breaks and material incentives have proven to be more complicated than they first appeared. Both examples make it clear that individuals and their incentives provide one complicated way to break down charitable giving, but that we cannot come close to learning everything we would like to while only pursuing this approach. In fact, individual incentives might make little difference at all when applied only to small groups. It is only when these incentives are manipulated or applied on a large scale that we may begin to see shifts in the aggregate market. Therefore, it will be helpful to discuss the market as a whole, both to acquire an aggregate viewpoint, and to observe the market conditions that charities might seek to take advantage of, or change by manipulating incentives.

2.2 THE CHARITABLE GIVING MARKET

The charitable giving market has three players; donors provide the supply of charitable contributions, non-profits create the demand for these donations and the services, and the government alters tax policy, distributes grant money, and provides some public services itself. The literature focused on the aggregate market looks for trends in supply and demand, and traces

those trends back to individual policies that affect both charities demand for contributions, and donors desire to contribute.

In a survey of the entire market, List (2011) draws a number of interesting conclusions. First, the market is growing rapidly, as charitable giving in the US has climbed steadily from 1.5% of GDP in the 1990s to over 2% by 2011, and this growth has outpaced the SP 500. Furthermore, during this period of growth, charitable giving has been significantly more responsive to upward trends in the economy than downward trends. To complement this growth in supply, the number of charitable organizations registered with the IRS grew nearly 60% between 1995 and 2005. Second, most giving is to religious causes. In 2006, these donations made up 61% of all contributions in the US. In addition, when examined over time, contributions to religious causes are stable as a percentage of income, and unaffected by economic fluctuations, while contributions to other causes are closely correlated with measures of economic strength. This suggests a fundamental difference between religious donations, and those to other non-profits.

List (2011) also delves more deeply into the supply of charitable contributions. While most households give, donation frequency has a sharp income dependency. For example, only 39% of households with income under $20,000 donate, while more than 90% of households that make over $130,000 do.[1] Furthermore, giving as a percentage of income follows a U shaped pattern. Households making between $20,000 and $40,000 give 5% of their income on average, while households making between $40,000 and $75,000 give approximately 2%. At the rich end of the spectrum, according to Center on Philanthropy at Indiana University (2007), households making more than $1,000,000 give more than 5% on average, and according to Auten et al. (2000), the richest 1.4% of households give 86% of all charitable gifts. While this U shaped distribution of giving appears counterintuitive, James and Sharpe (2007) explain it by suggesting many low income households are actually retired individuals donating out of accumulated wealth rather than current income, thus skewing low income household donations upwards.

While most charitable contributions come from individuals, the government also distributes some grant money to charities. These grants have spurred research searching for crowding out

1 This is important evidence supporting Bakija and Heim(2012)'s assertion that lower income household's donations to charity are much less responsive to tax breaks than rich household's contributions

to determine if the grants are truly helping charities advance their missions. Eckel and Johnston (2005) ran a lab experiment in which subjects were allowed to split money between a charity and themselves, and in some trials subjects were told the charity was receiving a grant from the experimenters. In this experiment, there was almost complete crowding out of individual donations. Taking a different approach, Andreoni (2003) and Andreoni and Payne (2009) use a charity's fundraising expenses as an instrument, and examining both fundraising expenditures, grant money, and funds raised, they find that the presence of a grant reduces charitable contributions. However, this reduction is mostly due to decreases in fundraising expenditures, while the presence of the grant actually brings in additional contributions by acting as a signal of legitimacy for the charity. Clearly, the effect of government grants is still somewhat uncertain, and the limited evidence of crowding out warrants further investigation.

While an aggregate market view advances our knowledge of charitable giving, it is still unable to explain many of the phenomena we observe. While traditional incentives like tax breaks and material objects can explain some fluctuations in giving, they leave other questions unanswered, and sometimes have the opposite effects that they are supposed to. To help answer some of these puzzles, it will be useful to consider the social nature of giving.

2.3 THE SOCIAL NATURE OF GIVING

Giving to charity is an inherently social action, and overlooking the communal nature of helping those in need is a poor simplification. Therefore, economists have attempted to address this social aspect of giving by characterizing how individuals perceive each other, and want to be perceived, when donating to charity. Ariely et al. (2009) characterize this sociality as image motivation, or an individuals tendency to be motivated partly by others perceptions, while Andreoni and Petrie (2004) describe the same phenomenon as audience effects.

There is significant evidence that individuals behave more prosocially when their actions will improve their public image. In some of the first research on this subject, Andreoni and Petrie (2004) utilize a basic public good laboratory game with varying levels of information and recognition between subjects. This work was particularly important because before it, economists

strictly protected the confidentiality of subjects in laboratory games. By doing this, studies failed to account for the recognition strategies real charities use to attempt to motivate donations, and the public nature of many contributions. In Andreoni and Petrie's experiment, the subjects played a public good game on a computer where they had the opportunity to contribute, with payoffs for their entire group, or keep money for themselves. The authors found that in treatments where subjects see pictures of the other members of their group, and are told the amount the other subjects donated, contributions to the public good increase significantly.

In similar work, Rege and Telle (2004) found increased donations to a public good when subjects had to announce their contributions to the good in front of the group, and Dana et al. (2006) found that dictators would take less money from a dictator game in exchange for receivers never knowing the game had taken place. Continuing this line of research, Andreoni and Bernheim (2009) expanded upon the effects of prosocial behavior in dictator games by investigating the effects of an audience on normative 50-50 splits. In their experiment, they hypothesize that dictators want others to believe they are fair. Therefore, using the 50-50 split as a reference point, dictators should avoid giving slightly less than 50-50, because they will appear relatively unfair, but will also choose to give zero rather than a small number close to zero, because in either situation, they will be viewed as unfair. In their experiment, they observe this exact double pooling equilibrium around zero and fifty, providing more evidence that others' perceptions are a strong factor in dictator's decisions.

In contrast to research supporting recognition's positive effect on prosocial behavior, recent analysis by Jones and Linardi (2014) suggests recognition does not universally encourage prosocial behavior. Instead, the authors provide evidence of wallflower preferences, where some individuals seek to avoid both positive and negative recognition. By avoiding extreme behavior in either direction, individuals can attempt to take an average action, fulfilling their desire to remain unrecognized. It follows that decisions motivated by wallflower preferences depend heavily on expectations about average behavior, and therefore are also deeply rooted in social expectations. In this way, wallflower preferences still are intrinsically social, despite their discouragement of additional prosocial behavior.

From all of this research, we have learned that individuals truly care about others' perceptions of them. They will often behave more prosocially than if their actions were private to improve their image, and will go so far as to forego monetary incentives to preserve their reputation. Karlan and McConnell (2014) helps clarify individual's interest in behaving prosocially by teasing out the difference between contributing in a charitable setting to motivate others to give, and to improve ones own social standing. Using both a randomized field experiment and lab experiment, they find that public recognition is an important factor in the decision to donate to charity, and that motivating others to give can not completely explain prosocial behavior, validating image motivation as an important consideration in the donation decision-making process.

However, heterogeneity limits the explanatory power of socially motivated models of giving. While some individuals may care deeply about social status and public image, others may be wallflowers, while still others may not care about their image at all. Therefore, to further categorize the donation decision making process, economists have sought to identify other sets of preferences not rooted in prosocial behavior. Each investigation of prosocial behavior has brought us further from a standard economic model in which money is the primary, or only incentive, towards one in which we must account for a different set of preferences. While I have already discussed image motivation as a social preference, any discussion of the charitable giving literature is not complete without considering the set of other non-standard preferences.

2.4 THE GIVER'S MIND

Investigations of the giver's mind seek to truly establish the microfoundations for a more comprehensive economic theory of charitable giving, and therefore are closely related with other branches of the literature. For example, considering the social nature of giving immediately led economists to hypothesize that personal recognition is a factor that individuals consider when deciding whether to give or not. Another example is the search for evidence of crowding out caused by government grants. If government grants do crowd out individual donations, this crowding out may suggest that givers care that the charity receives enough money to do its work, but do not care if they themselves make the donation. If this were true, the

giver's utility function would increase over aggregate contributions. On the other hand, if government grants do not crowd out charitable giving, this could suggest that donors have a personal desire to donate, and derive utility from the actual act of donating, rather than from the charity receiving more aggregate donations. To characterize this preference, a giver's utility function would increase over their own donations, but not others.

An investigation of the giver's mind seeks to answer why individuals decide to donate to charity, but also seeks to compartmentalize that decision making process. The literature has previously established altruism, warm glow, and social pressure as three broad motivations for donating. As described above, the altruistically motivated donor's utility increases over aggregate donations, because they are concerned with total contributions to the charity more than their own donation. Alternatively, a donor may be primarily motivated by warm glow, in which case their utility would increase over their own donation, but be unaffected by other donations. In this case, the donor derives utility from the act of donating, but not from the effects of their contribution. Finally, and in contrast to altruism and warm glow, social pressure models of giving hypothesize that there is a negative utility associated with the solicitation process or targeting of potential donors, who are motivated to make a contribution to rid themselves of this negative utility.

Historically, Becker (1974), Andreoni (1989), and Andreoni (1990) suggested supply-driven giving models, in which givers gained additional utility from donations, fitting more closely with an altruistic or warm glow approach to explaining charitable contributions. The key insight of these models was allowing individuals to derive a benefit when they made a contribution, or allowing donors to gain utility from giving away money. These were the first significant steps away from a standard economic model to help explain charitable contributions in any economic framework.

However, other research has established social pressure as a third, and important factor in the donation decision-making process. Originally, Akerlof and Kranton (2000) suggested a demand-driven model of giving in which charitable givers lost utility, in opposition to the supply-driven models discussed above. Social pressure exists in a variety of scenarios, but the most common example is door-to-door solicitation. In many cases, the donor might pay the solicitor just to go away, to rid

themselves of the annoyance of having to deal with the solicitor, and not because of any desire to contribute to a cause. Other examples include Karlan and McConnell (2014), who find evidence that donors may attempt to pressure other potential donors into contributing, and Mas and Moretti (2009) who observe social pressure in the workplace.

In an important project, DellaVigna et al. (2012) confirm the existence and importance of social pressure by running a field experiment with door-to-door solicitors to test aggregate welfare effects of fundraising campaigns, and to differentiate between altruistic and social pressure determinants of giving. They estimate a large net-negative welfare effect of door-to-door campaigns, but also come up with a simple and elegant solution to this problem. By giving potential donors the option to opt out of the solicitation beforehand, we can mitigate the negative welfare effects of door-to-door campaigns.

Furthermore, and more importantly for this paper, when donors in the study were given an opt out option, total donations decreased significantly, particularly smaller donations. This is for two reasons, both of which provide evidence of social pressure. First, households who donate because of social pressure are much less likely to answer their doors when notified in advance that the solicitor is coming because the advance notification makes it easy for the household to avoid a negative imposition of social pressure.[2] Second, the presence of an opt out option significantly reduces the frequency of donations $<$ \$10, but has no negative effect on larger donations. The authors posit that \$10 is enough to rid potential donors of all negative effects of social pressure, and therefore hypothesize that social pressure is a primary determinant of the many small donations they observe, but not of the larger, unaffected donations which make up the rest of their observed contribution distribution.

In addition to altruism, warm glow, and social pressure, economists have identified prestige and shame as two donor motivations in recognition situations. Harbaugh (1998) defines prestige as the utility that comes from having the amount of a donation publicly known, which could be valuable for its direct contribution to utility and social status. Conversely, where prestige is the benefit associated with recognition, shame is the

2 Note that if giving were purely altruistic, any advance notification of solicitation would not make it less likely for a household to be present when the solicitor arrives because the solicitation would impose no negative effect on potential donors

cost of not receiving recognition. In any instance of recognition, those donors who are not recognized are implicitly identified as the lowest donors. Shame motivates donors to contribute more as they seek to avoid this implicit recognition as a bottom donor.

In a series of recent studies, Anya Samek and Roman Sheremeta investigate the ability of prestige and shame to motivate charitable contributions. Samek and Sheremeta (2013) organized a public good game similar to Andreoni and Petrie (2004). However, in their four treatments, they identified all subjects, no subjects, the top two donors in a group, and the bottom two donors in a group, with the last two treatments meant to isolate prestige and shame. In this study, Samek and Sheremeta found that shame was a stronger motivator than prestige, and caused about the same increase in donations as identifying all donors. Later, Samek and Sheremeta (2015) performed a framed field experiment, in which groups of subjects in the lab split a personal endowment between themselves and a charitable donation to the Red Cross, with the same four treatments. In this study, the authors observed strong positive effects of both prestige and shame on giving.

However, in their pursuit to isolate the effect of shame in the lab in these papers, the authors have adopted a laboratory treatment which no longer maps back to charitable donations in the field. In their shame treatment, when they publicly identify donors who give the least, they pursue a strategy that charities would never use in practice. As an example, the authors reference Ensign (2010), which describes two Ivy league schools that decided to shame seniors who did not contribute to class gift campaigns. However, this is a poor example because students share a distinct and lifelong connection to their alma mater that individuals do not share with a charity.[3] Compounding this problem, despite the lasting connection between student and university, Ensign (2010) notes that the persistent contact and targeting associated with the shaming strategy turned off many students from contributing. While Samek and Sheremeta (2015) do acknowledge this problem, they only mention that the abil-

3 Even if a student is shamed in a senior glass gift campaign for not donating, they cannot change the school they attended, and will still be an alumni of the school for the rest of their life. This lasting bond is not present between members of charity's donor bases and the charities. If a charity shames an existing donor, the donor can just contribute to a different cause, or not contribute at all.

ity to retain donors while pursuing negative recognition strategies is an interesting avenue for future research.

As we consider the giver's mind, it is important to remember the aspirations of this line of research. While economists will never be able to describe every mental factor contributing to the donation decision-making process, they have identified important categorical pieces of the process. These pieces, which include altruism, warm glow, and social pressure, and in recognition situations, prestige and shame, are particularly important because they can inform charities decisions as they attempt to raise more funds from existing donor bases. For example, charities now know that applying social pressure is a good way to induce small donations, but a bad way to induce large ones.

On an even broader scale, discoveries about the giver's mind give us insight into the set of preferences a charity must appeal to if they seek to induce more donations. As previously mentioned, heterogeneity necessitates casting a wide net, and searching for a diverse set of preferences that may motivate donations. In any situation, it would be a gross simplification to attribute an individual donation-decision to a single preference. However, in specific scenarios, different donors will be primarily motivated by different preferences. Therefore, developing a comprehensive set of preferences will allow charities to tailor their fundraising efforts to the relative prevalence and dominance of different preferences within their existing donor bases, increasing the efficiency and effectiveness of fundraising campaigns.

3

EMPIRICAL STRATEGY

In the charitable giving literature, economists use both field and laboratory experiments to test their behavioral hypotheses. These two approaches offer different strengths and weaknesses. The advantage of laboratory studies is the potential for true *ceteris paribus* observation of individual economic decision makers, which is difficult to obtain in the field. However, while it is tempting to quickly extrapolate laboratory results to broader applications, it is important to remember that results from the laboratory do not automatically correspond with the field. To mitigate this problem economists also run field experiments, utilizing randomization in naturally occurring settings, where they have significantly less control over individuals, but are able to test certain strategies on large groups (See DellaVigna (2009) for a broad survey).

3.1 THE LABORATORY GAME

I have opted to utilize a laboratory experiment in this paper in an effort to isolate the specific mechanism through which recognition motivates charitable contributions. The experiment is a provision point mechanism, which Rondeau (1999, 2005) establishes as an efficient simulation of a public good in a laboratory setting.[1] The following procedure, which borrows heavily from Rondeau and List (2008), was applied in all treatments. Subjects entered a room and sat in a circle at desks, with the experimenter in the circle. The experimenter then gave printed-out instructions to each subject individually. The subjects had 10 minutes to read the instructions and make a decision, at which point they were asked to make a final decision and all materi-

1 All subjects in the study were Bowdoin undergraduate students. Subjects were selected on a first-come first-serve basis if they responded to an advertisement in Bowdoin's Student Digest, an online message board which is distributed by email to all students.

als were collected. Subjects were not allowed to communicate for the duration of the experiment, and at its conclusion, after filling out an exit survey, each subject received any payouts associated with their participation in cash.

Subjects played the game in groups of 6. They were each given a $12 endowment and asked to distribute it between a private account and group investment fund. The group had a threshold of $45, and if the threshold was met or exceeded, each member of the group received a fixed payout, as well as a proportional net rebate of $0.20 for each dollar the fund exceeded the threshold by. If the fund did not exceed the threshold, subjects received all of their money back. Each subject had a $9 fixed payout; however, subjects were told that the payoff amounts from the investment fund were randomly assigned. This element of the experiment eliminated any dominant strategy, as subjects had no knowledge regarding other subjects' payoffs.

The game's three separate treatments each included their own set of instructions (Appendix A). These treatments introduced recognition to the experiment. In one treatment, at the conclusion of the game, the top three contributors to the investment fund were announced by name, along with the amount they each donated to the fund. In the second treatment, at the game's conclusion, the top contributor was recognized by name and donation size. The third treatment was a control group with no recognition. In the event of ties for top donors, the proper number of subjects were selected at random from the group who tied for the top donation(s).

Upon entering the lab, each subject participated in all three treatments before leaving. To accommodate more subjects, the results of only one treatment per subject, chosen at random, were realized. To accommodate this structure, a subject would enter, and participate in each of their three treatments in succession. At the end of the third treatment, the experimenter announced which treatment was being realized, and any recognition outcomes associated with that treatment, if applicable. In an effort to control for learning from previous experience, I randomized the treatment's presentation order across different subject groups.

The game is structured to isolate the effect of recognition on donations to a public good. This structure is analogous to donating to charity because the lack of information about other subjects' payoffs from the investment fund eliminates any dom-

inant strategy. Therefore, each subject's only personal incentive to contribute more to the public good is to help the group break the threshold, except insofar as breaking the threshold benefits them. There is no guarantee a subject receives more money by contributing, and there is even a possibility a subject may lose money if they give a large amount and their group barely breaks the threshold, so any donation to the fund is prosocial behavior, reflecting a subject's preference to contribute to a public good.

The structure of the game warrants a close consideration of which data provides a true representation of subject's preferences. The first, and most obvious, approach to analyzing results is to use every observation from each treatment in comparisons. However, individuals undergo a different experience in lab based on the random order in which the treatments are presented. While subjects have no opportunity to learn from treatment to treatment because no results are announced until the conclusion of the session, their decisions in later treatments may be skewed as they begin to understand what varies between treatments.

For example, if a subject is presented with the control treatment, followed by a recognition treatment, the subject will know that recognition is being tested in some capacity. Their experience and decision in the recognition treatment will therefore be fundamentally different than if that treatment had been presented to them first. As Levitt and List (2007) outline, subjects tend to fulfill the perceived wishes of their experimenters, and therefore, if subjects realize recognition is being tested, they may be inclined to donate more than otherwise.[2]

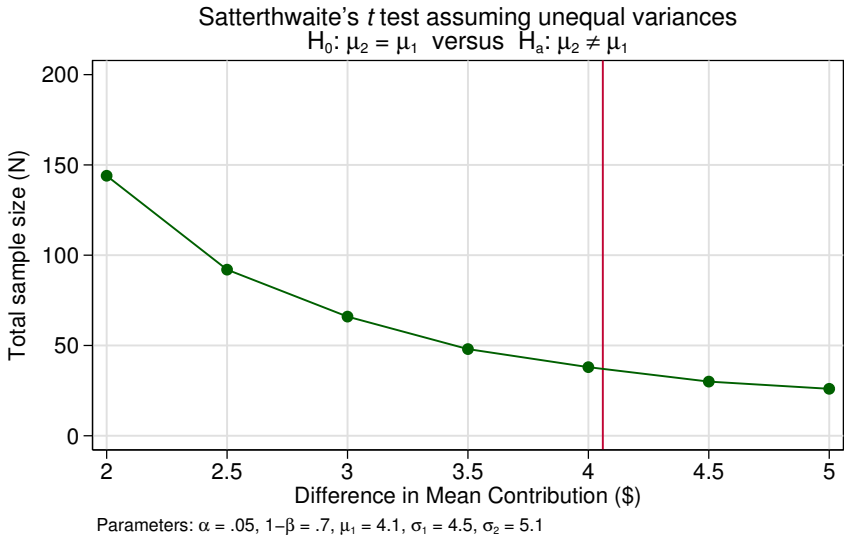
To further confound the process, subjects might base subsequent decisions off of their first decision. In this case, subjects might systematically decrease or increase their contributions based on treatment variation, using their first decision as a baseline. Or, subjects may not care about variation between treatments, and return to their first decision as a viable option for each subsequent treatment, regardless of variation in levels of recognition.

Even if bias pervades all decisions except the treatments presented to subjects first, there is a reasonable expectation that

2 This effect could also cause a decrease in donations in a single recognition treatment following a half recognition treatment, or vice versa, depending on subject's opinions of which treatment experimenters believed should induce more donations.

I will be able to achieve statistically significant results when comparing treatments. Figure 1 presents a power calculation using data from Rege and Telle (2004), who conduct a similar laboratory study testing recognition's effect on donations to a public good. After scaling their results to US dollars and a $12 endowment, they observe an approximate $4 shift in mean contributions when introducing recognition. The shift they observe comfortably exceeds the mean shift necessary to observe a significant difference in means with 70% power at a sample size of 48. This provides evidence that even if I am restricted to the 24 observations per treatment that are presented to subjects first in subsequent analysis, I still should be able to observe statistically significant differences between treatment statuses.

Figure 1 –– Power Calculation Utilizing Rege and Telle (2004) Contribution Data



In summary, when a subject participates in multiple subsequent treatments, there are a variety of factors that might influence the likelihood and magnitude of their donations. While quantifying the size of these potential biases is one approach to controlling for this problem, another is to utilize only the subset of data including treatments that were presented to subjects first. This subset of data provides a simple means of observing subjects' true preferences, and can be expected to produce significant results with 70% power.

3.2 RECOGNITION MECHANISM HYPOTHESIS

Shame and prestige both motivate individuals to give to charity in recognition situations. Harbaugh (1998) defines prestige as the utility that comes directly from having the amount of a donation publicly known, while Samek and Sheremeta (2015) isolate shame by recognizing the lowest donors in a group. Despite the two preferences' differences, a donation motivated by either one seeks to accomplish one goal, receiving recognition. Therefore, donors motivated by prestige should seek to contribute enough to receive recognition, and the prestige associated with that recognition, while donors motivated by shame should seek to contribute enough to receive recognition, and avoid the shame associated with not receiving recognition. Thus, the amount individuals donate should be based upon their own expectations regarding other donations.

While Samek and Sheremeta (2015) are able to isolate shame in a lab experiment, to do so, the experimenters sacrifice the ability to generalize their results to actual strategies charities might employ. Rather than attempt to distinguish between shame and prestige, I allow them to both operate simultaneously.

Hypothesis 1: When a charity offers recognition, donors contribute more in an effort to receive recognition, based on their expectations of what it will take to receive recognition, regardless of whether that contribution is motivated by shame or prestige.

The unique results of DellaVigna et al. (2012) present an intriguing empirical strategy to test for the effect of a specific preference or set of preferences in a public good setting. In their case, removing social pressure from potential donors led to a decrease in the type of contributions that most readily mitigated the social pressure, contributions of $10 or less. In a similar manner, to test hypothesis 1, I will search for the absence of donations in non-recognition situations that would be specifically made to acquire prestige or avoid shame. In other words, if there is a spike in larger donations in recognition treatments, this will provide evidence that subjects were making those donation-decisions to receive recognition, either to acquire prestige or avoid shame.

One consequence of this hypothesis is that recognition should have a larger effect on contributions for those donors whose preference is to give less in non-recognition situations. As Samek and Sheremeta (2015) propose, recognition introduces tournament-like incentives to the fundraising process. The victors of this competition both acquire prestige and avoid shame. In the context of a heterogeneous existing donor base, offers of recognition will provide little incentive to those who already prefer to give significant amounts to give more, because they already are in a position to receive recognition. On the other hand, offers of recognition should have a strong effect on those whose preference is to give relatively less, because to incorporate shame and prestige into their decision, and realistically, to receive recognition, they have to diverge significantly from their preferences in a non-recognition situation.

3.3 OPTIMAL DONOR RECOGNITION PROPORTION

The structure of the laboratory game also provides an opportunity to compare different donor recognition proportions. Previous studies including Rege and Telle (2004), Dana et al. (2006), and Samek and Sheremeta (2013) have established that complete recognition encourages prosocial behavior. That is to say, in the context of this laboratory game, identifying every donor and the amount they contributed at the conclusion of the game would increase the amount they contributed. However, charities do not always recognize every donor, and in many cases, only recognize a small fraction of donors.

This presents an optimization problem. For each additional donor recognized, the distinguishing nature of that recognition diminishes, but for each additional donor, the chance of receiving recognition increases. Therefore, in an attempt to answer this question empirically, I have selected two treatments involving partial recognition of top donors. While some data points already exist regarding the effect of recogniton on prosocial behavior, I add two more to the argument by including half recognition and single recognition (or 1/6th of donors). While a more rigorous answer to the question of optimal recognition levels would require a large scale randomized control experiment, this approach allows for the development of some modest intuition suggesting that either more or less recognition is superior.

4

RESULTS

Table 1 provides a brief overview of the results from all treatments. One clear pattern is that subjects give more in both recognition treatments. While subjects in the half recognition treatment give slightly more on average than those in the single recognition treatment, the difference is not nearly as large as between either recognition treatment and the control.

Table 1 – Dollar Contributions in Different Lab Treatments

Treatment:	Control	Single Recognition	Half Recognition
Mean	7.99	8.44	8.59
Median	8	9	9
Std Dev	3.29	2.82	3.20
Minimum	0	0	0
Maximum	12	12	12

Observations = 72

To further tease out the difference between treatments, Table 2 presents exact p-values from two sample Kolmogorov-Smirnov tests for distributional equality between treatments. All of these tests fail to reject the null hypothesis that the sample contribution distributions for different lab treatments come from the same underlying distribution.

Table 2 – Exact p-values: Two Sample Kolmogorov-Smirnov Tests

	Control	Single Recognition	Half Recognition
Control		0.966	0.770
Single Rec			0.627
Half Rec			

Observations = 144 per test

H_0: Both samples come from the same underlying distribution

The results of these tests suggest that either we cannot rule out the possibility that the contribution distributions are the same

for every treatment, or that the data used in the tests do not accurately reflect subjects' preferences.

4.1 TREATMENTS PRESENTED FIRST ARE UNBIASED

As previously mentioned, it is possible that a number of biases are introduced into subjects' decision making processes for the second and third treatment they participate in while in the laboratory. Therefore, the data from only those treatments that were presented to subjects first should provide a more unbiased view of their preferences. Table 3 presents summary statistics for these observations.

Table 3 – Dollar Contributions in Different Lab Treatments Presented First

Treatment:	Control	Single Recognition	Half Recognition
Mean	7.69	9.23	9.73
Median	8	9.50	9.50
Std Dev	3.18	1.91	2.52
Minimum	0	5	1
Maximum	12	12	12

Observations = 24

The difference between contributions in both recognition treatments and the control is much more pronounced in the treatments presented to subjects first. These statistics suggest that there is a distinct difference between all the data collected, and the first-presented data. Lending further credence to this argument, Table 4 presents the same Kolmogorov-Smirnov tests as above on this subset of data.

Table 4 – Exact p-values: Two Sample Kolmogorov-Smirnov Tests for Treatments Presented First

	Control	Single Recognition	Half Recognition
Control		0.140	0.012
Single Rec			0.686
Half Rec			

Observations = 48 per test

H_0: Both samples come from the same underlying distribution

While the Kolmogorov-Smirnov tests fail to reject the null hypothesis that the sample contribution distributions for the single recognition and half recognition treatments are the same,

this round of tests rejects the hypothesis that the half recognition sample and control sample come from the same underlying distribution. This serves as an indication that the donation decision-making process is fundamentally different in recognition situations, and this difference is also reflected in the summary statistics in Table 3.

Table 5 presents summary statistics for demographic information collected in an exit survey for the unbiased treatments that were presented first. This data suggests good randomization between treatments, reinforcing the validity of these results. For many of the statistics, we cannot reject the null hypothesis that the mean from the control does not differ from the mean in the single recognition or half recognition treatment. For race, whether a subject is a senior, subject class year, and whether the subject is a social science major, there is some indication that we should reject this null hypothesis. I return to these variables in subsequent analysis.

Table 5 – Demographic Statistics By Treatments Presented First

	(mean) Control	(mean) Single	(mean) Half	S - C p-value	H - C p-value
% Financial Aid	54	58	46	0.777	0.573
% Female	67	50	79	0.251	0.340
% Minority	32	25	13	0.229	0.023
% Seniors	25	50	42	0.076	0.229
% STEM	42	33	33	0.561	0.561
% Soc Science	29	42	54	0.376	0.082
% Know	29	21	50	0.515	0.146
Class	2017.83	2017.13	2017.21	0.106	0.058
Family Income	220	183	481	0.596	0.374

Observations = 48 per test

H_0: The difference between the two sample means is 0

Family Income in $100,000s per Year

STEM majors: biology, chemistry, physics, biochemistry, neuroscience, math and computer science

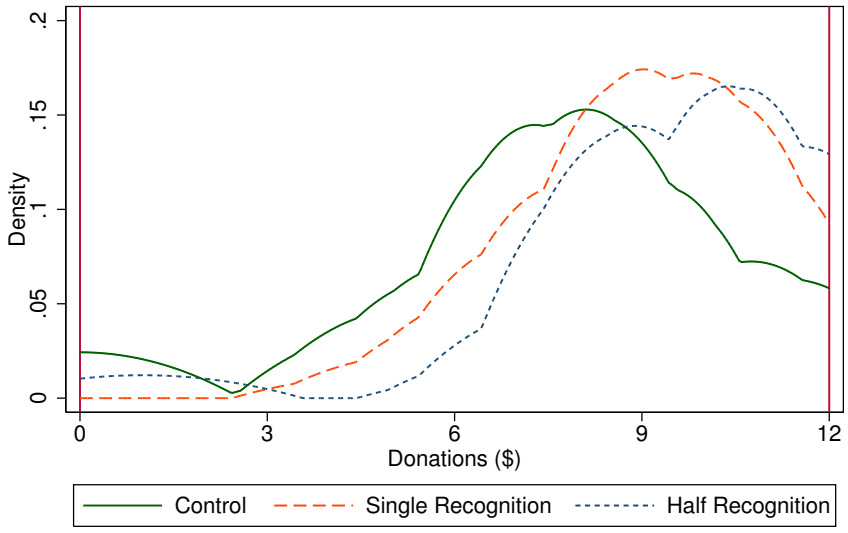
Social Science majors: economics, psychology, government, anthropology, and sociology

% Know: The percentage of subjects who knew other subjects in their group of 6

4.2 PRESTIGE AND SHAME MOTIVATE ADDITIONAL CONTRIBUTIONS

The kernel density plot below provides clear evidence that subjects motivated by prestige and/or shame increase their contributions in lab treatments including recognition. In both recognition treatments, there is a noticeable increase compared to the control group in donations over $9. The only additional utility offered to subjects in recognition treatments was prestige, or avoiding shame, both of which required receiving recognition. Therefore, we can attribute the increase in contributions in recognition treatments to these two motivations, as well as infer that most subjects believed they had to donate more than $9 to receive recognition. It is possible that $9 is a reference point for recognition because that was each subject's payoff from the investment fund if their group broke the threshold.

Figure 2 –– Kernel Density Plots of Amount Donated in Treatments Presented First

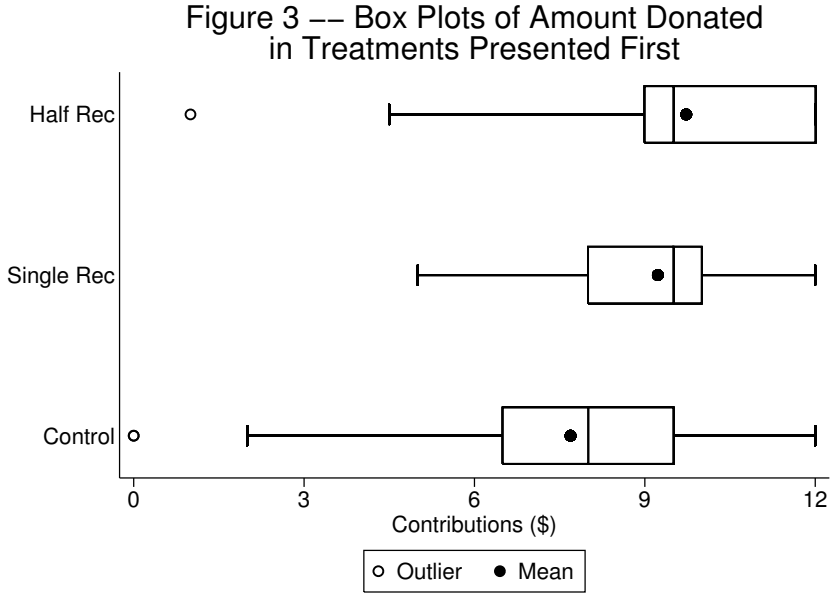


Intuitively, we would expect that recognition has a stronger effect on subjects whose preference is to give less when prestige and shame are not part of their donation-decision. In a group of donors with heterogeneous preferences, some will prefer to contribute more than others in non-recognition situations. If recognition is introduced to these potential donors, those who prefer to give less in non-recognition situations will have to donate significantly more to receive recognition, while those

who prefer to give more will not have to change their preferred donation amount as much to receive recognition.

By examining the shift in different quartiles of the contribution data, we can make across-subject comparisons that reflect heterogeneous preferences, and test for different recognition effects on different groups of subjects. In the box plot below, the control distribution represents a baseline contribution distribution in which some are motivated to give most or all of their endowment to the group fund, while others prefer to give very little. Regardless of control subjects' initial preferences, no contributions in the group were influenced by prestige or shame.

Somewhat surprisingly, we do not clearly observe a larger increase in contributions across subjects in the bottom two quartiles than in the top two. While the lowest contributions in the second quartile of either recognition treatment exceed the median and mean in the control treatment, right-censoring at $12 makes it difficult to observe the true shift in contributions across subjects for the top two quartiles.



To further test the hypothesis that recognition should have a stronger effect on those subjects who give less in non-recognition situations, I run doubly censored least absolute deviation estimations (dCLAD) and censored quantile regressions in Table 6. This technique is similar to a Tobit regression, but does not rely on normal error distributions. The results in Table 6 can be interpreted as estimating the magnitude of the effect of each treatment type on the first quartile cut-off, in column 1, the

median, in column 2, and the third-quartile cut off, in column 3.[1]

These estimations reinforce the inconclusive nature of the evidence supporting a larger recognition effect for donors who prefer to give less in non-recognition situations. The single recognition treatment has an insignificant effect on the first quartile, median, and third quartile. While the half recognition treatment has significant effects on the median and third quartile, it has an insignificant effect on the first quartile. This does not provide evidence that recognition has a larger effect on donors who prefer to give less in non-recognition situations. However, it does not rule it out either, particularly because quantile estimators tend to be noisier with small sample sizes.[2]

Table 6 – Effects of Recognition Treatments on Contributions For Treatments Presented First: dCLAD Estimations

	(1)	(2)	(3)
VARIABLES	1st Quartile	Median	3rd Quartile
Half Recognition	2	2**	3**
	(1.232)	(0.991)	(1.361)
Single Recognition	1	1	1
	(1.344)	(0.665)	(1.551)
Constant	7***	8***	9***
	(1.126)	(0.290)	(1.337)
Observations	72	72	72

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

While it appears that shame and prestige should have a larger effect on donors whose preference is to give less in non-recognition situations, the evidence collected here does not support that conclusion. It is possible that a larger sample size could more

1 Doubly censored least absolute deviations estimation, or dCLAD, is similar to CLAD estimation (Powell (1986)), but accounts for right and left censoring, as is appropriate in this case. Matthew Botsch provided the dCLAD estimation script.

2 Another explanation for these results stems from the game instructions. Both $9 and $12 appear repeatedly in the instructions, and it is possible these numbers stick with subjects as they make their donation-decisions. This could increase contributions at the higher end of the distribution because subjects thinking about increasing a donation in a recognition situation might increase their donation more to reach a $9 or $12 cutoff, a consideration which is not present for subjects at the lower end of the contribution distribution.

clearly identify the size of recognition's effect on different subgroups of subjects. Despite this uncertainty, there is clear evidence that both shame and prestige motivate additional contributions. This indicates that recognition is a worthwhile strategy for charities to pursue, and that it does motivate donors to contribute more.

4.3 CHARITIES SHOULD RECOGNIZE A LARGE PROPORTION OF THEIR DONORS

When charities decide what proportion of donors to recognize, they must weigh the benefits of increasing the probability a donor is recognized with the costs of reducing the value of that recognition. Results from this laboratory study suggest that a charity will induce more contributions by recognizing a larger proportion of their donor base. As Wilhelm (2008) suggests, I perform both Tobit and dCLAD estimations to test for the effect of the different treatment statuses on contributions, and whether results between tests differ in an economically meaningful way.

Table 7 – Effects of Recognition Treatments on Contributions For Treatments Presented First: Tobit Estimations

VARIABLES	(1) Tobit	(2) Tobit	(3) Tobit	(4) Tobit
Half	2.676***	2.701**	2.674**	2.695***
	(0.988)	(1.036)	(1.042)	(1.060)
Single	1.685*	1.698*	1.650	1.662
	(0.967)	(0.981)	(1.002)	(1.008)
Minority		0.0787	0.0875	0.088
		(0.953)	(0.954)	(0.954)
Senior			0.197	0.196
			(0.843)	(0.843)
% Social Science				-0.091
				(0.927)
Constant	7.862***	7.829***	7.776***	7.803***
	(0.684)	(0.792)	(0.824)	(0.859)
Observations	72	72	72	72

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 7 presents Tobit regression results. Column 1 includes only dummy variables specifying treatment type, and these results suggest that the half recognition treatment increases contributions by approximately 22% of the endowment (significant at the 1% level), while the single recognition treatment increases contributions by approximately 14% (significant at the 10% level).

Given the relatively successful randomization between treatments presented in Table 5, including race, whether a subject is a senior, and whether a subject is a social science major in Tobit specifications are obvious robustness checks. These alternative specifications are displayed in columns 2, 3 and 4. However, the coefficients on all of these variables are both economically small and insignificant, providing evidence that any lack of randomization across treatments had little impact on contributions. The same lack of economic and statistical significance holds for a number of Tobit specifications including log(income), gender, whether a subject is on financial aid, and subject social networks.

Already displayed above, Table 6 presents the results of dCLAD estimations examining the effect of treatment types on the median and other quartile contributions. Column 2 suggests that the half recognition treatment will increase the median contribution by \$2 (significant at the 1% level), while the single recognition treatment will increase the median by \$1 ($p < 0.124$). These results are in line with the Tobit results, and both provide evidence that while the single recognition treatment induces marginally more contributions from donors, the half recognition treatment induces significantly more contributions.

This difference provides evidence that charities should opt to recognize a large proportion of their donors whenever they offer recognition. These results do not rule out the possibility that recognition may decrease in value as a larger proportion of a donor's peer group receives that recognition. However, they do indicate that in terms of power to induce further contributions, the chance for more individuals to receive recognition dominates this decreasing value of recognition.

5

CONCLUSION

Much of the charitable giving literature is focused on helping charities to raise additional funds within the constraints of their own resources. In this paper, I investigate the power of personal recognition to help charities induce contributions from an existing donor base. In my laboratory game, I find that recognizing the top half of donors corresponds to a 22% increase in contributions, while recognizing the top donor corresponds to a 14% increase in contributions. Both prestige and shame motivate these increases in contributions, though it is unclear whether these two motivations resonate more strongly with those who prefer to give less in non-recognition situations. In addition, I collect evidence that charities are better off recognizing a larger proportion of their donors rather than a smaller one, as the increase in contributions due to an increasing chance of recognition dominates any decrease in contributions due to recognition losing value as it is spread between more donors.

An important task for future research will be to quantify the magnitude of recognition's effect in the field, and more rigorously test different donor recognition proportions. This study provides evidence that shame and prestige are true components of the decision making process in a public good situation, and subsequent field experiments should capitalize on this information by emphasizing these components.

There are also many interesting variants of the laboratory game I constructed. One possibility is to vary endowment size to explore the effects of wealth disparity on recognition's ability to motivate contributions. Another interesting variant would include both random and absolute recognition systems. In the random system, a top proportion of donors would be recognized, as in this experiment, while in the absolute system, donors contributing above a fixed threshold would receive recognition. This experiment could help unpack which sys-

tem induces more contributions, and which strategy charities should employ.

Another important task for future research is to search for proof of shame in positive recognition situations. In this paper, I did not distinguish between shame and recognition, but they are two distinct motivations. If we are able to identify shame in isolation in positive recognition situations, it would provide more proof that identifying a high proportion of donors is a good strategy, because the smaller the unrecognized group, the more acute shame should be. Information like this can continue to advance charities understandings of the preferences that motivate their existing donor bases to contribute, and can improve charities fundraising practices in the future.

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Appendix A: The Investment Game

[Treatment variation in italics]

Experiment Instructions

This is an experiment in the economics of decision-making. If you follow these instructions closely and make a careful decision, you will earn money. Do not communicate with any other participant during the experiment.

OVERVIEW:

- In today's experiment, you are part of a group of six (6) people.
- To start the experiment, we give you, and every other participant an initial balance of $12.
- Once you have read and understood these instructions, you will be asked to divide your $12 between a "private account" and a "group investment fund". You can put any amount between $0 and $12 into either account, but the total of the two accounts must equal $12.
- Any money that you deposit in your private account is yours to keep and will be paid in cash.
- The money you put in the group investment fund will be combined with the money received from all other members of your group.
- The group investment fund has a single investment opportunity with a minimum investment cost of $45. Hence, in order for the investment to be made by the group investment fund, the total amount of money placed in the investment fund must equal or exceed $45.
- If the total amount of money in the investment fund is below $45, no investment will be made and the amount of money you put in the fund will be refunded to you.
- On the other hand, if the total amount of money in the investment fund equals or exceeds $45, the investment will be made and each member of your group will receive a personal payoff from the investment. The payoff you could receive is indicated in Table 1 of the attached "Information and Decision Sheet". Look at your Information and Decision Sheet now to see what your personal payoff would be if $45 or more are placed in the investment fund.

- If the amount of money in the investment fund exceeds $45, the excess will also be invested and you will receive an additional payoff for each dollar in the fund in excess of $45. Table 1 also indicates how many cents you will receive for each dollar in the investment fund in excess of $45.
- [*After all investments in the group investment fund have been recorded, your group will be told the names of the three investors in your group that contributed the most, and the amounts they contributed. / After all investments in the group investment fund have been recorded, your group will be told the name of the investor that contributed the most, and the amount they contributed.*]
- Note that you have been randomly assigned to your personal and additional payoff amounts and that the payoffs of other members of your group may differ from yours.

CALCULATION OF YOUR EARNINGS:

Your earnings for the experiment depend on how you choose to divide your initial balance of $12 between your private account and the investment fund. They also depend on whether or not the total amount of money in the investment fund equals or exceeds the investment cost of $45. There are three possible outcomes:

FIRST POSSIBLE OUTCOME: the total amount in the investment fund is LESS than $45. In this case, the investment cannot be made and the amount you put in the group investment fund will be refunded. This is a Money-Back-Guarantee: if the minimum investment cost is not reached, the full amount of your contribution to the investment fund will be refunded to you. Therefore, if the total amount in the investment fund is less than $45, your earnings for the experiment will be equal to your initial balance of $12.

SECOND POSSIBLE OUTCOME: the total amount in the investment fund is EXACTLY $45.

In this case, all $45 received by the investment fund will be invested. You will receive your personal payoff from the investment. Every other member of your group will also receive a payoff. Therefore, if the minimum investment cost of $45 is exactly met, your earnings for the experiment would be equal to the amount you deposit in your private account, plus your personal payoff from the group fund (as indicated in Table 1).

THIRD POSSIBLE OUTCOME: the total amount in the investment fund is GREATER than $45. In this case, all of the money received by the group fund will be invested. You will receive your personal payoff and every other member of your group will also receive a personal payoff. In addition, the amount of money in excess of $45 will provide you and all other members of your group with an additional payoff for each dollar in the investment fund in excess of $45 (your rate of additional payoff is indicated in Table 1). Therefore, if the investment cost is exceeded, your earnings for the experiment would be the amount you deposit in your private account, plus your personal payoff from the group fund, plus your additional payoff for each dollar in the investment fund in excess of $45.

SUMMARY:

- You are part of a group of six individuals.
- You and all other members of the group have received $12.
- You must decide how much of your $12 to deposit into a private account, and how much to put into a group investment fund.
- [*Your group's three largest contributors will be publicly identified. / Your group's largest contributor will be publicly identified.]*
- If the sum in the investment fund is less than $45, no investment will be made but a money-back guarantee ensures that your earnings for the experiment will be equal to your initial balance of $12.
- If the sum in the investment fund is equal to $45, all of the money in the fund will be invested and you will receive the personal payoff indicated on the attached information sheet. Your earnings for the experiment would be the amount you deposited into your private account plus your payoff from the group fund.
- If the sum in the investment fund is greater than $45, all of the money in the fund will be invested and you will receive your personal payoff. You will also receive an additional payoff for every dollar in the investment fund in excess of $45. Your earnings for the experiment would be the amount you deposited into your private account, plus your personal payoff from the group fund, plus your additional payoff.

YOUR TASK:

1) You must now decide how to divide your $12 between your private account and the group investment fund. This

decision is strictly confidential and will not be revealed to anyone.

2) To indicate your decision, you must fill out the bottom portion of the attached decision sheet.

3) Indicate how much of your $12 you are depositing in your private account and how much you are depositing into the group investment fund. Make sure that the sum of these two amounts equals $12.

Once everyone has completed the form, these instructions and the form will be collected. This will end the experiment. Your decision will be entered into a computer along with those of all other members of your group to determine whether the investment by the group fund will be made and to calculate your earnings. Your earnings will be paid to you in cash.

All information regarding your personal decisions, payoff and earnings is strictly confidential and will not be revealed to anyone [*unless you are one of the three largest contributors in your group / unless you are the largest contributor in your group*].

It is very important you that you understand these instructions. Raise your hand if you have any questions.

Table 1

Information and Decision Sheet

YOUR INITIAL BALANCE	$12.00
YOUR PERSONAL PAYOFF	$9.00
YOUR ADDITIONAL PAYOFF FOR EACH DOLLAR IN THE INVESTMENT FUND IN EXCESS OF $45	$0.20

PLEASE WRITE LEGIBLY

SUBJECT ID NUMBER: _____

How much of your $12 do you put into your PRIVATE ACCOUNT:_____
How much of your $12 do you put into the GROUP INVESTMENT FUND:_____

MAKE SURE THAT THE TOTAL OF THE TWO AMOUNTS ABOVE IS EQUAL TO $12