Checking Out Checkout Charity: A Study of Point-of-Sale Donation Campaigns[1]

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Abstract: There have been a proliferation of point-of-sale donation campaigns, where people are asked to donate following an unrelated transaction. We use an experiment to compare three popular solicitation mechanisms used in this setting: a rounding request (i.e., yes or no to an amount based on the transaction); a fixed donation request (i.e., a request to donate an amount unrelated to the transaction); and an open-ended ask. Donation rates are the highest for the rounding mechanism. Differences in donation rates between the rounding and fixed request treatments appear to be driven by "loose change effects", whereby individuals are more likely to donate when doing so reduces the amount of change received from the coupled transaction. The open-ended ask yielded a higher per person revenue than the fixed request. However, we estimate that the average person facing the fixed request was, in fact, willing to donate more (but constrained by the amount of the ask). This suggests that the design of the fixed request campaign could be altered to yield similar or even higher revenue than open-ended. We also examine the effects of providing (limited) information on the charity, and find that this increases revenue and donation rates, but only for the fixed request mechanism. Information appears to motivate donations in situations where loose change effects are less important.

JEL Classifications: C91; D64; H00

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1. Introduction

Point-of-sale (POS) donation campaigns have become an increasingly popular fundraising tool. Commonly referred to as "checkout charity," these campaigns ask people to make small donations when checking out at stores and restaurants or ordering online. In a recent study by Accelerist (2021), 86% of survey respondents reported donating at an in-store or online checkout over the past 12 months. According to a report by Engage for Good (2021), checkout charity campaigns generated more than $605 million in donations in the U.S. in 2020, and more than $4.9 billion over the last three decades.[2] Moreover, the amount of funds raised through these campaigns has increased by 24% since 2018, indicating their growing popularity.

When placed within the context of overall charitable giving from individuals, which was estimated to be $310 billion in the U.S. in 2020 (Benefactor Group 2020), the amount collected through checkout charity campaigns is modest.[3] However, some charities rely on point-of-sale donation campaigns as a major source of funds. For example, PetSmart Charities raised $78.2 million in 2020, 44 million (56%) of which came from their point-of-sale donation campaign (PetSmart Charities 2020). Moreover, indirect benefits are likely to accrue from these campaigns, such as publicity for the charities and the organizations promoting them. Donation rates may provide important signals to potential major donors about which charities are viewed favorably by the public.

Across these checkout charity campaigns, there is much variation in solicitation methods. Examples include a collection box at a McDonald's service counter, a cashier at PetSmart asking a customer if they would like to donate a specific amount (e.g., $1) to help feed hungry pets, and

[2] These statistics are for a group of 76 POS fundraising campaigns that each raised over $1 million.

[3] Our experiment raised donations for St. Jude Children's Research Hospital. Using information from the Engage for Good (2021) survey along with information from an annual report from ALSAC/St. Jude Children's Research Hospital (2020), we estimate that 4 to 7% of their year 2019 donations came from checkout charity campaigns.

an electronic ask through a payment kiosk at Walmart. Motivated by this variation, this study contributes to the literature by exploring differences across some of the popular fundraising methods used in this relatively new checkout charity setting. We conduct a controlled experiment through which we raise donations and vary as treatments the donation solicitation mechanism, amount requested, and whether (brief) information on the charity is provided. The laboratory allows us to simultaneously vary solicitation methods across potential donors, which is challenging to accomplish in the field.[4] The experimental setting nevertheless captures the key characteristics of a checkout charity encounter: a largely unanticipated, quick ask for a small amount of money to go towards a known charity.

Checkout charity campaigns have characteristics that distinguish them from other fundraising efforts, which makes them particularly interesting to study. Notably, customers are often caught unaware by the solicitation at checkout and either have limited ability or no option to avoid the ask (e.g., when paying online, and the ask is automated).[5] The consumer is usually forced to make a quick decision, often within a few seconds. This type of immediate decision-making, known as "impulse giving," is a potential contributor to the success of checkout charity campaigns (Karlan et al. 2019; Patterson 2012). Last, in most cases, the amount requested (or expected) from the potential donor is small – often less than a $1.

While there is some survey research suggesting that most consumers are agreeable to being asked to donate at checkout and prefer some approaches over others (Catalist 2016), there

[4] In a typical retail setting, while it is technically feasible to program checkout kiosks to randomize the amount of a fixed ask, businesses may be reluctant to devote resources to tasks that do not increase their revenue. Further, if this randomization were to become known, it could impact the reputation of seller as well as the charity (and donations). From our own experience trying to partner with various retailers, managers were hesitant to randomly vary methods within a store (aside from varying information) but somewhat open to randomizing across stores which of course poses logistical and identification challenges.

[5] Multiple studies have documented evidence of avoidance behavior, whereby potential donors will avoid being solicited if possible (Andreoni and Rao 2011; DellaVigna, List, and Malmendier 2012).

is little research on what methods are most effective at reaching fundraising objectives (e.g., maximizing revenue or donation rates), and what behavioral mechanisms underlie donation behavior in the unique POS donation setting. Ours is the first experiment to compare the popular solicitation mechanisms used in checkout charity.

We focus on the three solicitation mechanisms most used in POS campaigns: fixed donation request, rounding request, and an open-ended ask (i.e., an amount of the donor's choosing).[6] Both the rounding and fixed request are "closed-ended" mechanisms that simply present the potential donor with a yes or no choice. The rounding request is unique to checkout charity. In the field, the rounding request is tied to the customer's bill, and the common ask involves rounding up the bill to the next whole dollar, with the difference donated to the charity. We instead ask the potential donor to round down their earnings accrued through an unrelated experiment to the next whole dollar amount.

In the fixed request treatments, the amount requested is randomly assigned to the potential donor. This provides the opportunity to compare donation rates with the rounding treatments at amounts below $1. Further, we use a wide range of fixed request amounts (up to $3), which allows for extensive comparisons with the open-ended treatments. For both of these mechanisms, we estimate willingness to donate (WTD) distributions and the income elasticities of charitable donations. Estimation of the WTD distribution provides additional information on preferences from which to refine the design of charity campaigns.

Our comparison of different solicitation mechanisms is distinct within the broad charitable giving literature. Much of the prior work on solicitation mechanisms focuses on the effects of providing suggested donation amounts in an otherwise open-ended setting, with

[6] According to Engage for Good (2021), the most popular solicitation methods, in rank order, are as follows: $1 fixed request, roundup, $5 fixed request, open-ended, and $3 fixed request.

suggestions relayed in various ways such as through a recommendation, an amount contributed by another donor, or a default option (Adena et al. 2014; Edwards and List 2014; Goswami and Urminsky 2016). While the evidence across studies is mixed, the data overall suggest that the donation rate – relative to the control (no suggestion) – decreases with the suggested amount, and both the average donation (for those who donated) and revenue increase with the suggested amount (Goswami and Urminsky 2016). However, there is no comparable study that investigates the differences in donation rates and amounts between open-ended and closed-ended questions. We are the first study to test for differences in donation behavior between two binary choice solicitation methods and an open-ended solicitation (with no suggested amount). Further, we test two different closed-ended asks, one of which (rounding) is unique to the checkout charity setting.

In a survey about checkout charity by Catalist (2016), the primary reason selected for not donating at the register was "not knowing much about the cause asking for money." For this reason, we also test the effects of including a brief information statement on the charity. Information effects have been previously examined, with several studies finding positive effects on donation rates and revenue (Cryder et al. 2013; Goswami and Urminsky 2016; Horn and Karlan 2018). Additionally, the type of information provided matters. In concurrent work, Horn and Karlan (2018) conduct an online eBay checkout charity experiment, and find that certain information drivers (short mission statement) have a larger effect than others (popularity). Our study adds to this literature by investigating possible interactions between the solicitation mechanism used and charity information under the constraints of checkout charity situations: limited time and small asks. We test the impact of a one-sentence information statement against a control with no information. Due to the fast-paced nature of checkout charity solicitations, it is

unclear whether information would impact the donation decision of an "impulsive" donor.

To inform the comparisons across treatments, we build upon the theory of donation behavior by DellaVigna et al. (2012). The theoretical framework highlights that social norms, the disutility of loose change, and decision costs differ across the mechanisms we study. Further, an open-ended solicitation allows a person to give an amount that maximizes utility whereas in a closed-ended solicitation, a donor should simply agree to donate whenever the utility of giving the requested amount exceeds that of not donating. This innate difference in decision rules further leads to expected disparities in donation rates and revenue.

The experimental evidence, with few exceptions, lends support to predictions from the theoretical framework. In the experiment, for amounts less than $1, donation rates are significantly higher in the rounding treatments relative to the fixed request and open-ended treatments.[7] This disparity appears to be driven by "loose change effects", whereby individuals are more likely to donate if they would have less change as a result.[8] Albeit in different decision settings and with different solicitation mechanisms, other studies on charitable giving have also found evidence of loose change effects (Brown et al. 2019; Etang et al. 2012; Fielding and Knowles 2015).[9] Donation rates in the fixed request treatments are greater than or equal to donation rates for the open-ended treatments at various amounts. This leads to a higher mean WTD for the fixed request treatments, suggesting that the design of the fixed request campaign

[7] For open-ended solicitations we compute the donation rate at a particular amount, $x, by calculating the percentage of individuals who donate at least $x. This provides a way to compare open- and closed-ended solicitation treatments.

[8] As summarized by Fielding and Knowles (2015), this phenomenon may be due to a preference for whole numbers or a preference for bills over coins, which are easier to carry and more difficult to lose.

[9] Brown, Meer, and Williams (2019) evaluate donation preferences between giving time and money. In one treatment where participants must earn money before donating, many chose to donate any coins earned while keeping notes. In Etang et al. (2012), participants are given a combination of coins and notes for a donation experiment ($15 in notes and $5 in coins). Of those participants who chose to donate, many gave $5 by donating all of their coins. Fielding and Knowles (2015) test whether participants are more willing to donate via coin collection if given smaller bills/more loose change and find weak evidence of loose change effects.

could be altered to yield similar or even higher revenue than open-ended. Last, providing a one-sentence information statement about the charity increases donations for the fixed request mechanism only. Our analysis suggests that the information statement is an important driver in settings where donating does not also provide an opportunity to reduce loose change.

2. Theoretical framework and testable hypotheses

In this section we develop a theoretical framework to better understand giving behavior in checkout charity settings, and to derive testable hypotheses for our experiment. We begin with the utility function of DellaVigna et al. (2012), who specify the utility to a potential donor from giving an amount g as:

[1] $$U(g) = u(W - g) + a \cdot v(g, G_{-i}) - s(g),$$

where W is the donor's wealth, and G_{-i} denotes the giving of others. The first term is the "private" utility of the donor, with $u' > 0$ and $u'' \leq 0$. The function $v(g, G_{-i})$ represents the utility derived from charitable donations and captures pure and impure altruism, with $v'_g > 0$ and $v''_{gg} < 0$. The coefficient $a \geq 0$ denotes the altruism level. The third term, parameterized as $s(g) = S \cdot (g^s - g) \cdot 1_{[g<g^s]} \geq 0$, reflects a social cost that occurs when the donation g is *less* than the social norm g^s. The severity of the marginal social cost to an individual is captured by the parameter S, which reflects both internal (e.g., what we expect others to do; what we feel is the 'right' thing to do) and external (e.g., observability of donations; reputation) factors.

2.1. Closed-ended donation mechanisms: fixed donation request and rounding request

The fixed donation and rounding mechanisms are closed-ended mechanisms that provide a take-it-or-leave-it opportunity to give a specific amount, g^f. This amount signals the social norm, i.e., $g^s = g^f$, and a social cost is only incurred by not giving. The individual will agree to

donate $g = g^f$ if:

[2] $u(W - g^f) + a \cdot v(g^f, G_{-i}) \geq u(W) + a \cdot v(0, G_{-i}) - S \cdot g^f$.

In the absence of social costs, as the utility function [1] is strictly concave, there will be a range of amounts for which the utility of giving g^f is higher than the utility of not giving. However, as g^f increases, donating would make the person worse-off at sufficiently high amounts. Applying the model to a population of heterogenous donors, this implies that the donation rate decreases with g^f. In the presence of social costs, when g^f signals a social norm, the social cost of not giving increases with the amount asked for. This not only increases the donation rate associated with any amount but suggests there will be a range of (low) values of g^f for which increasing the amount of the ask either holds fixed or increases the utility difference between giving or not. Thus, it is possible that social costs are sufficient to motivate giving rates that *increase* with g^f over some range. As a practical matter, when g^f becomes large, people may suspect that others are unlikely to give, reducing the saliency of the social norm.

Hypothesis 1. Without social costs, donation rates for the closed-ended mechanisms decrease with the amount of the ask. With social costs, it is possible that donations may increase with the amount requested, at least for sufficiently low amounts.

2.1.1. Loose change effects

The literature documents that, due to a preference for whole numbers or a disutility from carrying coins, people are more likely to give to a charity if doing so decreases the amount of loose change they would receive (Brown et al. 2019; Etang et al. 2012; Fielding and Knowles 2015). Let the utility cost of loose change be given by $l(g) = L \cdot m(g) \geq 0$, where $L \geq 0$ is a preference weight and $m(g)$ is the number of coins one receives at checkout, accounting for any

donation g.[10] Extending the model, one will agree to donate if

[3] $$u(W - g^f) + a \cdot v(g^f, G_{-i}) - l(g^f) \geq u(W) + a \cdot v(0, G_{-i}) - S \cdot g^f - l(0).$$

The person now weighs the disutility from the loose change received when giving, $l(g^f)$, with the disutility from the loose change received by not giving, $l(0)$. A donor agreeing to the fixed request may receive more, less, or an equal amount of change relative to not donating as the amount of change received depends on the amount of her bill relative to the amount of the ask. In contrast, a donor agreeing to the rounding mechanism avoids *any* loose change from the transaction, which means $l(g^f) = 0$ and $l(g^f) < l(0)$. Therefore, we expect the donation rate to be higher with the rounding mechanism.

Hypothesis 2. The donation rate, conditional on any amount g^f, is higher for the rounding mechanism relative to the fixed request.

2.2. Open-ended donation mechanism

For an open-ended solicitation, individuals are free to give any amount. This is conceptually desirable to charities, as it is possible that some donors will give more than what would have been directly asked for in a closed-ended solicitation. Further, one does not need to consider the tradeoffs between donation rates and expected revenue involved in selecting g^f. However, there are additional considerations. First, in the absence of a suggested donation amount it is unclear what the social norm is for an open-ended ask. The default donation is zero, and if this is the perceived norm then there is no social cost from not donating. Second, the

[10] This specification best describes a cash transaction where the customer does not have change in her pocket prior to payment. A transaction can therefore never result in less change, which accurately captures the money exchange between the researcher and a participant in the experiment. The model also applies to an electronic payment setting where the customer prefers whole numbers; in this case, $m(g)$ is better defined as the deviation between the amount paid and the nearest whole number.

decision problem is now a more complex, two-stage problem.[11] The individual first must determine whether to give, and then if she elects to give, she must figure out how much.

Let $\tilde{g}^s$ denote the donor's beliefs about the social norm. This may be the person's expectation of the average amount given by others or the default of zero. Further, and supported by the findings of Reiley and Samek (2019), let c denote a decision cost, which is incurred if the individual decides she should donate, in which case she expends cognitive resources to determine how much to give. In the absence of a clear signal for the social norm, it is natural to suspect that the social norm is uncertain, which complicates the second-stage decision problem and increases the decision cost. The utility of donating an amount $g > 0$ is then given by

$$[4] \qquad U(g) = u(W - g) + a \cdot v(g, G_{-i}) - S \cdot (\tilde{g}^s - g) \cdot 1_{[g<\tilde{g}^s]} - l(g) - c.$$

Prior to "paying" the cognitive cost c one does not exactly know the optimal donation, nor the utility associated with it. Nevertheless, if the optimal amount is likely to be small and/or there is considerable uncertainty over the social norm, it will not be worth incurring this decision cost. Let $\underline{g}$ denote the threshold donation amount above which it will be optimal to incur the decision cost. Moreover, let g^* denote the optimal donation amount in the open-ended setting, i.e., this is the amount that maximizes [4].

To make an apples-to-apples comparison between open- and closed-ended mechanisms, we can contrast the donation rate at a particular amount g^f with the proportion of people who give at least g^f in the open-ended solicitation. In the absence of social costs and loose change effects, the comparison is unambiguous: donation rates are higher for a closed-ended mechanism. This arises for two reasons. First, the higher decision costs means that when it is not worth it to

[11] The findings of Krupka and Croson (2016) support the idea that donors facing an open-ended solicitation follow a two-stage decision process.

incur the decision cost, i.e., $U(0) > U(\underline{g})$, an individual faced with an open-ended ask will donate nothing; nevertheless, she will agree to donate g^f in a closed-ended solicitation as long as $U(g^f) \geq U(0)$. Second, when facing an open-ended solicitation (assuming it is worthwhile to give), the donor can precisely select an amount, g^*, that maximizes utility. When instead facing a closed-ended mechanism, the person will agree to any amount if the utility of giving exceeds that of not giving. As the utility function is strictly concave, this not only includes amounts less than or equal to g^*, but some higher amounts as well.

It is unlikely that social norms will reverse the above hypothesized relationship between open-ended and closed-ended mechanisms. First, the default open-ended donation is zero and this may be the social norm that naturally arises. Second, even if the perceived social norm, $\tilde{g}^s$, is higher than what would arise in the closed-ended setting, the social cost impacts the optimal open-ended donation at the margin. In contrast, a person facing a closed-ended mechanism must consider the potentially large, non-marginal difference between the social cost of giving (i.e., 0) and not giving (i.e., $S \cdot g^f$). Third, increasing the amount of the ask increases the pressure to give in the closed-ended setting, an effect absent from the open-ended solicitation.

Last, when comparing mechanisms, loose change effects are potentially important. As with the rounding mechanism, a donor facing an open-ended solicitation can eliminate loose change from the transaction and so neither mechanism holds an advantage. As such, and given the arguments above, we hypothesize that (conditional) donations rates will be higher for the rounding mechanism relative to an open-ended solicitation.

Hypothesis 3. The donation rate, conditional on any amount g^f, is higher for the rounding mechanism relative to an open-ended solicitation.

In contrast, if loose change effects are very important, the comparison between open-ended and fixed request is ambiguous. However, as there are multiple factors favoring fixed request, we speculate that these will overcome the disutility from loose change.

Hypothesis 4. The donation rate, conditional on any amount g^f, is higher for the fixed donation request relative to the open-ended mechanism.

Our experiment will ultimately shed light on whether this conjecture is supported and, in turn, provide insight on the drivers of donation behavior. Table 1 provides a summary comparison of the three mechanisms with respect to social norms, loose change, decision costs, and decision rules.

2.3. Revenue

When the (conditional) donation rate for any amount g^f is higher for an open-ended solicitation relative to a closed-ended mechanism, an open-ended ask will generate a higher mean revenue (i.e., money raised per person asked). This is because the open-ended mechanism does not constrain the amount donated. When the donation rate for a closed-ended mechanism is relatively higher, the implication for revenue is instead ambiguous, and depends on the amount(s) asked and the underlying preferences of donors. For instance, suppose that 25% of potential donors are willing to donate when faced with the open-ended solicitation, and conditional on donating, give $5. This yields higher revenue than a closed-ended ask of $1, even if the donation rate were 100%. If those in the open-ended setting are instead only willing to give $2, then a closed-ended solicitation for $1 will yield higher revenue with a donation rate above 50%. Intuition suggests that, conditional on a donation, the amount of the donation should be higher for an open-ended solicitation. However, as mentioned previously, a closed-ended

mechanism may motivate people to donate an amount higher than what they would give when they are free to choose the amount.

2.4. Providing information on the charity

When donors have imperfect information on the charity, providing an information statement may alter the utility of giving. If donors are motivated by pure altruism, then information that changes beliefs about the charity's production function can alter $v(\cdot)$. For instance, if the person learns that donations would potentially go to social causes she cares about, but did not previously know of, this can increase the value of $v(\cdot)$ for any amount donated. Information may also influence a, as noted by DellaVigna, List, and Malmendier (2012), if beliefs about the quality of the charity are altered. If the information signal brings potentially unknown but positive information, it follows that this increases the marginal utility of giving to the charity and it is optimal for donors to agree to pay higher amounts.

Hypothesis 5. Providing information on the charity increases donation rates and revenue.

3. Experimental Design and Procedures

We asked several hundred students enrolled at the University of Tennessee (Knoxville) to donate to St. Jude Children's Research Hospital. St. Jude is a well-known non-profit organization and is one of the highest grossing charities. The research hospital has been involved in many POS donation campaigns. The donation ask was made following the completion of an unrelated experiment conducted in the UT Experimental Economics Laboratory. There were neither verbal

nor written instructions provided prior to the ask, which was made through the participant's computer screen, paralleling a field setting where the ask is likely to be a surprise.[12]

Following the solicitation, we asked those who agreed to donate to disclose their reasons for giving, and those who did not donate to disclose their reasons for not giving. We also asked participants whether they enjoyed being asked to donate. Basic demographic information on participants was collected through a post-experiment questionnaire. All information was collected via personal computers using software programmed in z-Tree (Fischbacher 2007).

Participants were assigned to one of six treatments defined by the solicitation method (fixed request, rounding, and open-ended) and information condition (no information or information). Treatment assignment was quasi-random as we reassigned those selected into a rounding treatment if their earnings from the unrelated experiment was a whole dollar amount. Earnings from the prior experiment were rounded to the nearest quarter.[13]

In the fixed request, we asked the potential donor "Would you like to donate $X.XX to St. Jude Children's Research Hospital?", and provided response options of "Yes" or "No thanks". For the rounding mechanism, we instead asked "Would you like to round down your earnings to the nearest whole dollar by donating $0.XX to St. Jude Children's Research Hospital?". Those assigned to the rounding mechanism eliminated loose change by donating. Last, the open-ended solicitation was worded as "Would you like to donate a portion of your earnings to St. Jude Children's Research Hospital? Please check "Yes" or "No thanks" and enter the desired donation in the Donation Amount box below."

[12] At the conclusion of the experiment, participants were shown a letter that would later be sent to St. Jude along with a check for the money raised. The letter detailed where the money was coming from, how it was collected, as well as a statement confirming that researchers would not be claiming these donations as a tax deduction.
[13] Due to a coding error at the early stages of data collection, 11 participants' earnings were not rounded to the nearest quarter.

We included the fixed request and rounding mechanisms due to both their use by charities and perceived popularity among customers. In a consumer survey report released by Catalist (2016), the "add $1" (a fixed donation request) was the most preferred method of donation at the register at 46%. Following close behind was the rounding method with 23% of consumers preferring it. While those surveyed did not express a preference for an open-ended ask, this approach is nevertheless commonly used, such as when people are simply presented with a donation box.

Earnings in the unrelated experiment were rounded to quarter amounts, and so individuals in rounding treatments were asked to donate either 25¢, 50¢ or 75¢. Although rounding campaigns in the field will usually involve a continuum of donation amounts, limiting the amounts in the experiment allows for higher-powered comparisons with the fixed request treatments. Our decision to only ask for amounts under $1 reflects most field implementations. For the fixed request treatments, we randomly varied across participants the amount of the request: 25¢, 50¢, 75¢, $1, $1.50, $2, and $3. This facilitates comparisons with both the rounding and open-ended solicitations.

To study the effects of providing a brief information statement on the charity, we derived a single descriptive sentence indicating how the charity uses monetary donations. Specifically related to St. Jude Children's Research Hospital, we gathered information on what donations were used for from the organization's website and constructed the following informational sentence: "Through donations, St. Jude's patients (children) receive care, treatment, and cutting edge research, at no cost to their families."

4. Results

4.1. Data

We have data from 896 donation asks. Data from 352 participants were collected during the summer and fall of 2017, using an experimental design that included all six treatments, but fixed request amounts were limited to 50¢ and $1. In the fall of 2019, to make additional comparisons between the fixed request and other treatments, we collected data from several hundred additional participants using a design that included the full set of fixed request amounts presented above. We continued to collect data from all six treatments after this change was made, and experimental procedures remained identical. Based on matching names across participation records for the various studies our experiment was tacked on to, we estimate that about 100 participants may have participated in the experiment twice. While we do not have the ability to match names with observations in the data set, we hypothesize that this has a negligible effect on our results. We suspect most repeat participants did not remember the solicitation method used in a prior ask (if they remember being asked at all), and were not anchored by a donation decision made two years prior.

Table 2 provides a summary of the full experimental design, including the six treatments and amounts asked for by the closed-ended mechanisms. Also presented are the corresponding donation rates and mean revenue. While the sample sizes across solicitation mechanisms are imbalanced, this reflects deliberate design choices. Meaningful sample sizes are needed to make comparisons at specific amounts across the two closed-ended mechanisms. Further, in the context of comparing willingness-to-donate distributions, more information is needed from fixed request solicitations relative to open-ended, given that the latter reveals a point estimate and the former only defines an upper or lower bound.

As the theoretical framework makes predictions about how donation rates, conditional on the amount asked, for an open-ended solicitation compare with donation rates for closed-ended mechanisms, we further provide Figure 1. For the two closed-ended mechanisms, the figure simply reflects the percentage of people donating at each solicited amount. For the open-ended solicitation, presented is the empirical survival function, which reflects the percentage of respondents that donated *at least* a particular amount.

Table 3 summarizes the variables used in the data analysis. As indicated in this table, 57% of participants are male, and the mean age is 20. The overall donation rate is 49.1%. Donations across all participants average 42¢, while the donation from contributors is 85¢ on average. In total, including data from pilot sessions, $377.50 was collected for St. Jude Children's Research Hospital. Prior to being asked to donate, participants had earned $22.89 on average from an unrelated experiment, with earnings ranging from $6.75 to $36.75.

When questioned whether they enjoyed being asked to donate, 43.4% selected "Yes", 43.4% indicated they were "Indifferent", and only 13.5% answered "No." Interestingly, 12.6% of participants chose not to donate, but enjoyed being asked to do so. For those that donated, the most popular reason for doing so was that they liked the charity (59.3%), followed by perceiving the amount requested to be reasonable (55.1%). Only 2.6% of subjects donated but did not like being asked to do so. Of those not donating, the most popular reason selected was "I recently donated to charity" at 33.6%, with "I just didn't want to" the second most popular at 29.3%.[14]

4.2. Donation Rates

Pooling observations across information conditions, the donation rates are 80.6% for

[14] The online appendix provides representative screenshots from the experiment, and all response options to the follow-up questions and the percentage selecting them.

rounding, 41.0% for fixed request, and 42.2% for open-ended. Using Fischer's exact tests to examine differences in donation rates across the mechanisms, the donation rate for the rounding mechanism is statistically different than the fixed request ($p < 0.01$) and the open-ended solicitation ($p < 0.01$). The difference in the overall donation rate between the fixed request and open-ended treatments is small (1.2 percentage points (pp)) and insignificant ($p = 0.843$).

If we limit observations in the fixed request treatments to amounts less than $1, which coincides with the amounts also included in the rounding treatments, the fixed request donation rate increases to 57.9%, although the difference in donation rates between the two mechanisms remains large and statistically significant ($p < 0.01$). Of interest, if we compare the donation rate for fixed request observations under $1 with the (unconditional) open-ended donation rate, the difference is large (15.7 pp) and statistically significant ($p < 0.01$). Comparing the donation rate for fixed request observations of $1 and higher (27.0%), with the open-ended donation rate conditional on the donation being $1 or higher (25.8%), the difference is insignificant ($p = 0.814$). The latter two results coincide with what may be gleaned from Figure 1: at low amounts, the donation rates are higher for the fixed request, but at higher amounts the donation rates are similar.

For the four closed-ended treatments, donation rates tend to decline with the amount requested. Using Fischer's exact tests, we reject the hypothesis that the donation rate is equal across all requested amounts for each fixed request treatment ($p < 0.01$). For the rounding treatments, the same hypothesis is marginally rejected when the information statement is provided ($p = 0.073$), but not when the statement is absent ($p = 0.149$).

To gain additional insights, as well as to control for other factors that may also be driving treatment effects, we estimate ordinary least squares regressions. Covariates included in the

regressions are defined and summarized in Table 3, and results are presented in Table 4. The dependent variable, *Donated*, is an indicator of whether a participant donated (regardless of amount). In model (1), the included explanatory variables are a set of mechanism-specific indicator variables as well as interactions between each mechanism indicator and an indicator that equals 1 when information about the charity was provided. In model (2), we add as control variables the participant's earnings in the prior experiment, age, and gender. In both models, the baseline (omitted) treatment is the open-ended mechanism without information.

Donation rate differences from both models reverberate conclusions drawn from the nonparametric tests: the donation rate is significantly higher for the rounding mechanism relative to the other two mechanisms, and donation rates for the fixed request and open-ended mechanisms are similar. As new insights, the model reveals that the relationship between mechanisms does not depend on the information condition. That is, for example, the rounding request is higher than both fixed request and open-ended with the information statement, and without the statement. As can be gleaned from model (2), adding control variables has little impact on estimated treatment effects. As expected, those who earned more in the prior experiment donate at a higher rate – a 0.9 percentage point increase for each additional dollar earned. Although the variation in age is limited due to the student sample, we also find that donation rates increase by 1.4 percentage points for each year of age. The effect of both covariates may be indicative of an income effect.

Given the limited range of asks for the rounding treatments, for a more apples-to-apples comparison we present regressions in Table 5 that allow for an analysis of donation rates at amounts below $1. For this analysis, we include all observations from the rounding and open-ended treatments but drop observations from the fixed request treatments associated with asks of

$1 or more. To estimate donation rates conditional on the amount asked, we use a simulation approach to retain the open-ended observations. In particular, we randomly assigned an ask of 25¢, 50¢, and 75¢ to each open-ended observation and then recorded a simulated yes/no response based on whether the actual amount given is at least as high as the randomly assigned amount.[15]

Model (1) in Table 5 indicates that both the fixed request and rounding treatments yield higher donation rates relative to the open-ended treatments (consistent with the non-parametric tests). The rounding and fixed request treatments yield donation rates that are approximately 43 and 21 percentage points higher, respectively, than the open-ended treatments. Donation rates between these two closed-ended mechanisms are statistically different ($p < 0.01$).

Model (2) adds indicators for asks of 50¢ and 75¢, coefficients on which measure differences from the baseline ask of 25¢. The donation rate at 50¢ is virtually identical to the rate at 25¢, whereas the donation rate at 75¢ is 19.6 percentage points lower relative to the 25¢ donation rate. Model (3) incorporates control variables. The effects of prior experiment earnings are similar to before, but age is no longer significantly correlated with the donation rate.

4.2.1. Loose change effects

The theory highlights the disutility of loose change as a potential driver of contributions, and may explain differences in donation rates across solicitation mechanisms. By donating in response to a fixed amount request, a person may increase, decrease, or hold fixed the amount of loose change associated with a transaction. In contrast, by construction, the rounding mechanism eliminates loose change. Thus, if people experience disutility from loose change (or prefer whole numbers), donation rates should be relatively higher for the rounding mechanism. To explore

[15] This random assignment procedure adds some "noise" to the estimation. However, as the open-ended distribution is fairly flat across this range of amounts (see Figure 1), estimation results change negligibly when we repeat the random assignment procedure and re-estimate the model.

this, for each fixed request participant we determined whether donating the proposed amount would lead to "more change" or "less change" received upon payment from the experiment session.[16] For example, if a subject earned $16.75 for the session and is asked to give $0.50, donating would result in "less change" upon payment relative to not donating.

Table 6 presents donation rates, for asks under $1, for the rounding treatments as well as fixed request subsamples based on loose change. The differences between the "more change" and "less change" fixed request subsamples are stark, with much higher donation rates for the "less change" participants. For example, for an ask of 75¢ the difference in donation rates is nearly 58 percentage points. These donation rates are statistically different ($p < 0.01$). Comparing the donation rates of the "less change" fixed request subsamples to the rounding treatments reveals similar point estimates and no statistical differences. This is strong evidence that the observed differences between the fixed request and rounding treatments are primarily driven by loose change effects.

We further investigate whether loose change effects are an important driver of the donation rate for the open-ended solicitations, as predicted by theory. For those who would have received change in the absence of a donation, the donation rate is 45.6%. For those whose pre-donation earnings were instead a whole dollar amount, the donation rate drops to 28.0%. Also enlightening is that, among the 54 donors in the open-ended treatments, 42 donated all their change and the other 12 donors left themselves with an equal amount of change. No one increased the amount of change through their donation.[17]

[16] For donation requests less than $1, given that earnings from the prior experiment are rounded to the nearest quarter, it is not possible for people to be in a situation where donating would leave them with the same amount of change.

[17] There is anecdotal evidence of loose change effects from the post-experiment questionnaire. For all treatments, participants left comments that indicated their donation decision was influenced by the amount of change earned.

4.2.2. Providing information on the charity

It is reasonably clear from Table 2 and Figure 1 that the effects of providing the one-sentence statement about the charity are in the expected direction but not large. Using Fischer's exact tests, the information statement increases donation rates for the fixed request mechanism ($p = 0.044$) but not for the rounding ($p = 0.708$) or the open-ended asks ($p = 0.371$). The same conclusions can be drawn from the regression analysis based on the full sample (Table 4), where the donation rates for the fixed requests increased by 8.2 to 8.6 percentage points for the fixed request mechanism.

Interestingly, when the sample is reduced to only include asks less than $1 (Table 5), there no longer is an information effect for the fixed request treatment and the point estimates across specifications suggests only a 2.9 to 3.2 percentage point difference. Therefore, providing information only seems to matter at amounts higher than 75¢. From Table 2, the information effect is highest at $1 and $3, for which donation rates are 15.5 and 16.2 percentage points higher with information. In the latter case, just 2.6% donate in the absence of the information statement.

The prior analysis of loose change motivated us to ask whether loose change effects may also explain some of the heterogeneity in the response to information. For the fixed request mechanism, among those facing less change if they donate, the donation rates across no information (65.4%) and information (69.1%) conditions differ by less than four percentage points, and are statistically equal ($p = 0.727$). For those who would have more change if they donated, the donation rate is higher with information (25.8% versus 32.2%), although not

For example, several participants left comments such as "I didn't want a quarter" and "I don't like change anyways".

significantly different ($p = 0.214$).[18] Last, when donating would not alter the change one receives, i.e., asks for a whole dollar donation, the giving rate is much higher with information (51.7%) than without (30.0%), and this difference is statistically significant ($p = 0.018$). This effect is further clear when looking at the donation rates in Table 2 for the fixed request treatment at amounts of $1 and $3. We speculate that the salience of the information statement, and in turn its effect on the utility derived from altruism, is magnified when one cannot rationalize donating based on reducing loose change.

Turning to the open-ended mechanism, for those who would have received change in the absence of a donation, donation rates are notably higher with the information statement (40.0% versus 52.1%). In contrast, donation rates are virtually identical when information is introduced to those who would not have received change in the absence of a donation (27.3% versus 28.6%). While the small sample sizes make it difficult to detect anything but very large differences, there is at least suggestive evidence of an interaction effect between information and loose change for the open-ended mechanism as well.

4.2.3. Summary

The conclusions drawn from statistical tests, with few qualifications, lend support to the five hypotheses derived from the theoretical framework. These findings are robust to corrections for multiple hypothesis testing.[19] The nonparametric tests and regression models convey that donation rates are higher in the rounding treatments relative to the fixed request, and this appears

[18] This difference is marginally significant if we focus on requested amounts below $1.

[19] Palm-Forster et al. (2019) recommend accounting for multiple hypothesis testing by limiting the false discovery rate (FDR). They suggest applying the procedure of Benjamini and Hochberg (1995), and using an FDR of 20% for laboratory experiments. Presented in Table A.2 (appendix) are the Benjamini and Hochberg adjusted *p*-values for the set of 25 nonparametric tests associated with the five main hypotheses. If we apply an FDR of 20% (or if we go as low as 14%), then all nonparametric hypotheses tests reported in the paper with (unadjusted) *p*-values of 0.073 and smaller should be rejected.

to be driven by loose change effects (Hypothesis 2). Donation rates for the rounding mechanism are also higher than the conditional donation rates of the open-ended solicitation. This result is consistent with Hypothesis 3, and potentially explained through differences in social norms, decision costs, and decision rules. Further, (conditional) donation rates are higher in the fixed request treatments relative to the open-ended treatments. Given the strong evidence of loose change effects, this provides further support that a combination of disparities in social norms, decision costs, and decision rules are at play. Indeed, donation rates are extremely high, 67.1%, among all those in the fixed treatment that stood to reduce change by donating. This is nearly 25 percentage points higher than the (unconditional) donation rate for open-ended. This evidence is congruent with Hypothesis 4.

Donation rates vary with the amount asked in three of the four closed-ended treatments. As evident from Figure 1, donation rates are overall declining for the fixed request treatments, along with the rounding treatment without information. However, observed donation rates at 50¢ are *higher* than at 25¢. This evidence suggests that social norms are important (see Hypothesis 1). Last, there is mixed support for Hypothesis 5, as providing the information statement only increased the donation rate for the fixed request treatment. The effect of information appears to stronger in settings where donating would not reduce loose change.

4.3. Revenue

We now briefly analyze revenue, the amount collected from a participant, which is equal to zero for non-donors. Pooling observations across information conditions, the revenue per person is 82¢ for open-ended, 40¢ for rounding, and 33¢ for fixed request. While the donation rate for the open-ended solicitation is somewhat low considering that a person could give any amount, those who did donate contributed $2.19, on average. Relevant for Hypothesis 5, we first

conduct Wilcoxon rank-sum tests of the effects of information on revenue. We find that information (marginally) increases revenue for the fixed request mechanism ($p = 0.055$), but has no effect for either the rounding ($p = 0.672$) or open-ended ($p = 0.451$) mechanisms.

Table 7 presents two linear regressions with *Amount Donated* as the dependent variable. The open-ended treatment without information serves as a baseline. From both models, there is a significant decrease in average revenue when one uses either closed-ended mechanism relative to the open-ended ask ($p < 0.05$). The estimated differences are rather large, indicating the closed-ended mechanisms decrease revenue between 50% to 65%. With the information statement turned on, based on model (1), the two closed-ended mechanisms yield statistically equal revenue ($p = 0.790$). However, under the no information condition, the estimates from the two closed-ended mechanisms are statistically different ($p < 0.01$), with a mean donation of \$0.29 for the fixed request and \$0.41 with rounding. Thus, although we included additional, higher amounts in the fixed request treatments, the resulting lower donation rates proved enough to offset the potential revenue that could have been gained. Echoing results from the analysis of donation rates, and further relaying that there is mixed support for Hypothesis 5, information only affects mean donations for the fixed request mechanism. For this treatment, revenue increases by 9¢, which is an increase of nearly 30%. From model (2), the amount donated increases by 2¢ for every \$1 increase prior experiment earnings.[20]

4.4. Willingness to Donate

[20] As a robustness check, we re-estimated the models in Table 4 and Table 7 using only the data collected in the first phase of the project. These models are presented in the appendix as Table A.3 and Table A.4, respectively. The overall results are similar. Donation rates are the highest for the rounding treatments, and the open-ended treatments generate higher per person revenue than either the fixed request or rounding treatments. There is marginal evidence that the information statement increases revenue for the fixed request mechanism. While the information statement does not lead to a statistically significant increase in donation rates in these regressions, which may be attributable to the lower sample sizes, estimates of the information effect are similar in magnitude.

The random assignment of a large range of donation amounts for the fixed request mechanism allows us to estimate the WTD function, i.e., the complementary cumulative distribution or survival function of donations. Conceptually, this involves fitting a curve to the data presented in Figure 1. By doing so, one obtains an estimated donation rate for any ask, including amounts excluded from the experimental design. One could use such information to, for example, determine the (single) donation ask that would yield the highest revenue. The WTD function can also be used to identify the mean WTD, which is the amount an average person would be willing to donate (rather than what they actually donated). Mean WTD provides an upper-bound on how much revenue (per person) could be obtained from a carefully targeted closed-ended campaign. For comparison purposes, we can further estimate a WTD function for the open-ended data. Mean WTD for an open-ended ask is equivalent to mean revenue, given the amount people are willing to donate is directly observed.

To estimate WTD functions using the binary choice data (fixed request), we use established methods from the welfare economics literature (Cameron and James 1987; Wooldridge 2010) . Let y_i^* denote participant i's latent WTD. This is not directly observed from the donation choice, but instead can be treated as a censored dependent variable. When the person donates, this implies that $y_i^* \geq g_i^f$; i.e., the lower bound on WTD is the amount requested. Otherwise, when the person does not donate, this provides the signal $y_i^* < g_i^f$; i.e., g_i^f identifies the upper bound of WTD. We assume that y_i^* is a linear function of covariates and a mean-zero error term which is assumed to be distributed normal with standard deviation σ. This gives rise to what is commonly referred to as an interval regression model. With a linear conditional mean function, assuming the error term has a normal distribution is analogous to

assuming a normal distribution for WTD, and further one can interpret coefficients of the model directly as marginal effects.

Accommodating data from both donation mechanisms in the same regression does not pose additional challenges as popular software packages allow for a mix of continuous and interval-censored data.[21] As we assume that donations of $0 in the open-ended treatments are true indications of the person's WTD, for consistency we use $0 as the lower-bound on WTD for those in the fixed request treatments who did not donate. The WTD regressions are presented in Table 8.

From model (1), mean WTD is $0.82 (std. err. = 0.09) for the open-ended treatment, averaged across information conditions, which coincides with mean revenue. Mean WTD is $1.17 (0.05) for the fixed request, which is statistically different from the open-ended ($p < 0.01$). As actual revenue from the fixed request was just 33¢, this suggests that the mechanism can be altered to generate a much higher revenue, and possibly more revenue than an open-ended solicitation. For either mechanism, information does not systematically alter WTD.

Model (2) adds control variables. Importantly, the variable *Earnings* allows us to estimate the income elasticity of donations. When evaluated at the mean of *Earnings*, and also averaging over the information conditions, the income elasticity is 1.01 (0.28) for open-ended and 0.68 (0.17) for fixed request.[22] These elasticities are significantly different ($p = 0.024$). Model (3) allows WTD to vary for those in the fixed request treatments that had the opportunity to reduce the amount of loose change by donating. For this "less change" subgroup, which may serve as a reasonable proxy for people facing instead a rounding mechanism, mean WTD increases by 36¢,

[21] We estimate the reported regressions using the "intreg" command in Stata (version 17.0).
[22] As the income elasticity is a nonlinear function of estimated parameters, we obtain standard errors using the delta method.

which is about a 30% difference. The income elasticity for this subgroup is 0.57 (0.14).

5. Discussion

We conducted an experiment to compare three popular solicitation mechanisms used in point-of-sale donation campaigns or "checkout charities": a fixed donation request (yes or no to a randomly assigned amount); a rounding request (yes or no to an amount based on an unrelated transaction); and an open-ended ask. The theoretical framework and experiment provide several insights that are of potential importance to checkout charity campaign designers. First, donation rates are relatively low for the open-ended ask. This solicitation mechanism allows potential donors to give *any* amount, and so we suspect that this finding may be counterintuitive to some. The overall evidence suggests that decision costs associated with figuring out *how much* to give are an important obstacle to giving; in contrast, the closed-ended solicitations pose potential donors with a simple take-it-or-leave-it decision. Differences due to beliefs over social norms, and from optimizing over a continuous rather than a binary choice, may also explain differences in donation rates.

Second, we find strong evidence that "loose change effects" are an important determinant of contributions for all solicitation mechanisms. This effect is the primary explanation for why donation rates, conditional on the amount asked, are higher for the rounding treatments relative to the fixed requests. The literature suggests that loose change effects may stem from a preference for whole numbers or the disutility from carrying coins. If the latter is the main driver, our results are unlikely to extend or at least may be weaker when characterizing behavior from non-cash transactions. As an interesting side note, in response to a coin shortage, Engage for Good (2021) reported that many POS campaigns were motivated to use rounding mechanisms as

a way for retailers to avoid having to distribute coins.

Third, the open-ended solicitation raised the highest revenue per person. To the degree this finding extends to other settings, a path forward may be to couple a suggested donation amount or amounts with an open-ended ask. This is hypothesized to decrease cognitive burden, which should increase donation rates (and revenue). However, as suggested by several research studies conducted in different contexts, one must select suggested donation amounts carefully. In the context of the theoretical framework, the suggested donation amount is likely to alter the social norm, and, for instance, a recommended amount that is too low may unintentionally limit the donations from generous individuals.

Fourth, we find that providing a one-sentence information statement on the charity (St. Jude Children's Research Hospital) increases donations, but only for the fixed request solicitation. As the likely impact of an information statement depends on prior knowledge of the charity, we speculate that a favorable information statement would have a larger impact in a campaign involving a lesser-known charity.

Fifth, the results highlight that donation rates and revenue for a closed-ended mechanism are sensitive to the requested amounts included in the design. We estimate a willingness to donate (WTD) function for the fixed request treatments, and this analysis suggests that people are willing to donate substantially more, on average, than the observed revenue generated. It is therefore technically possible to alter the campaign design in ways that yield a much higher revenue. For instance, we estimate mean WTD for the fixed request to be $1.16. At this amount, the predicted donation rate is 50%. Therefore, a campaign that included a single amount (near) $1.16 should expect to yield a revenue of 58¢, which nearly doubles the observed revenue. The 50% donation rate is further higher than we observed. Information from the WTD function,

regardless of whether based on a closed- or open-ended solicitation, may further provide insight on recommended donation amounts to include with an open-ended ask.

As our experiment was conducted in a lab setting with college students and involved a single charity, the generalizability of our conclusions is subject to question. The pervasiveness of checkout charity campaigns means that this segment of the population nevertheless has plenty of experience with them. Further, fast food restaurants are popular settings for checkout charities, and most students eat fast food daily. While it is difficult to generalize point estimates from any (lab or field) case study, the experimental literature supports the notion that treatment effects based on student samples are nevertheless generalizable to other populations (Fréchette 2016). Further, our directional results are largely consistent with the theoretical framework.

One specific concern raised by a reviewer of this research is that our overall donation rate of 49% is unusually high. Engage for Good (2021) reports that donation rates across all 76 campaigns they surveyed range from 1 to 71%, with an average of 23%. Considering that some campaigns ask for higher amounts, some involve face-to-face requests which are prone to noncompliance (e.g., a cashier may feel uncomfortable asking every customer to donate), and the charity we selected is widely known, it is at least plausible that our donation rate may match with field settings that share similar characteristics. The only other checkout charity experiment we are aware of is Horn and Karlan (2018), who find donation rates for a $1 ask (with the option to donate more) ranging from 7 to 22% among eBay customers. The higher degree of anonymity afforded by the online donation setting as well as differences in charity preferences could partially explain these somewhat lower donation rates.

Perhaps a larger concern is that we studied a rounding mechanism that involved rounding experiment earnings down, which differs from the field setting where one instead is asked to

round their bill up. Nevertheless, our evidence suggests that many donations in the rounding treatments were driven by a loose change effect, which would arise with either rounding approach. Further, when we restrict the fixed request sample to those who would reduce change by donating (consistent with the rounding mechanism), we find similar donation rates to the rounding mechanism. This suggests that differences due to framing across what are otherwise theoretically equivalent approaches are likely to be small.

This study represents an early attempt to gain insight into checkout charity methods. In traditional charity campaigns, a person is asked infrequently to donate; for instance, it is typical for organizations to have annual fundraising drives. On the other hand, checkout charity campaigns can last weeks or months, and frequent shoppers are then asked to donate to the same charity on multiple occasions. One important question is what methods best achieve charity goals over the course of such campaigns, and another is how long a campaign run should. Another interesting set of questions relates to how donation behavior varies according to the solicitor. In some cases, the solicitation is made by a person. In others, whether one donates may be viewed by others (e.g., those in line at a grocery store or a cashier). The online checkout experience is, in contrast, private. Important factors such as social pressure, warm glow, form of payment, and decision time vary across these settings. It is therefore natural to expect solicitor effects, and by extension interactions between the solicitation methods and the solicitor.

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Table 1. Theoretical comparison of donation mechanisms

	Rounding request	Fixed request	Open-ended request
Clarity of social norm (i.e., expected donation)	Clear	Clear	Unclear
Effect of donation on loose change	Decreases	Depends on the ask	Depends on the amount donated
Decision costs	Low	Low	High
Decision rule	Donate requested amount if it yields higher utility than not donating	Donate requested amount if it yields higher utility than not donating	Choose donation amount that maximizes utility

Table 2. Experimental design summary, donation rates, and revenue

	Observations		Donation Rate		Mean Donation (if Donated)		Mean Revenue	
Information:	No	Yes	No	Yes	No	Yes	No	Yes
Rounding								
$0.25	25	31	88.0%	90.3%	$0.25	$0.25	$0.22	$0.23
$0.50	33	26	87.9%	65.4%	$0.50	$0.50	$0.44	$0.33
$0.75	31	34	71.0%	79.4%	$0.75	$0.75	$0.53	$0.60
Fixed Request								
$0.25	28	38	60.7%	71.1%	$0.25	$0.25	$0.15	$0.18
$0.50	62	49	67.7%	71.4%	$0.50	$0.50	$0.34	$0.36
$0.75	45	44	37.8%	36.4%	$0.75	$0.75	$0.28	$0.27
$1	61	57	34.4%	50.9%	$1	$1	$0.34	$0.51
$1.50	38	33	26.3%	21.2%	$1.50	$1.50	$0.39	$0.32
$2	38	25	18.4%	24.0%	$2	$2	$0.37	$0.48
$3	38	32	2.6%	18.8%	$3	$3	$0.08	$0.56
Open Ended								
Overall	66	62	37.9%	46.8%	$2.19	$1.74	$0.83	$0.81

Notes: Results are split based on whether participants were given a one-sentence information statement about the charity, where "Information: Yes" identifies results conditional on receiving this statement.

Table 3. Data description

Variable name	Description	Mean	Std. Dev.
Donated	=1 if participant donated in experiment	0.491	0.500
Amount Donated	amount participant donated to charity, if any, in $	0.418	0.748
Fixed Request	=1 if fixed request solicitation mechanism	0.656	0.475
Rounding	=1 if rounding solicitation mechanism	0.201	0.401
Open-ended	=1 if open-ended solicitation mechanism	0.143	0.350
Information	=1 if participant was presented with information on charity	0.481	0.500
50 cents	=1 if donation ask was for 50¢	0.239	0.427
75 cents	=1 if donation ask was for 75¢	0.219	0.414
Less change	=1 if donating would result in less change and mechanism is closed-ended	0.367	0.482
More change	=1 if donating would result in more change and mechanism is closed-ended	0.490	0.500
Male	=1 if participant identifies as male	0.570	0.495
Age	participant's age, in years	20.478	2.244
Earnings	participant's earnings from prior experiment, in $	22.893	4.975

Notes: This table defines and provides summary statistics for the variables used in the regression analyses. For the open-ended treatments, the indicators "50 cents" and "75 cents" are based on a simulation exercise (see text for details).

Table 4. Analysis of donation rates

Dependent variable: Donated	(1)	(2)
Fixed Request	-0.008	-0.004
	(0.066)	(0.067)
Fixed Request × Information	0.082**	0.086**
	(0.041)	(0.040)
Rounding	0.441***	0.425***
	(0.073)	(0.074)
Rounding × Information	-0.029	-0.014
	(0.059)	(0.059)
Open-ended × Information	0.090	0.084
	(0.087)	(0.088)
Earnings		0.009***
		(0.003)
Age		0.014**
		(0.006)
Male		0.023
		(0.032)
Constant	0.379***	-0.131
	(0.060)	(0.163)
N	896	896
R^2	0.105	0.118
F-statistic	26.96	19.75

Notes: This table presents OLS regression estimates of the effects of solicitation methods on whether a participant donated. The dependent variable, *Donated*, equals 1 if the participant donated or equals 0 if the participant did not donate. All covariates are defined in Table 3. The omitted category is the open-ended solicitation without the information statement. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Robust standard errors are in parentheses.

Table 5. Analysis of donation rates, conditional on asks of under $1

Dependent Variable: Donated†	(1)	(2)	(3)
Fixed Request	0.199***	0.219***	0.227***
	(0.073)	(0.074)	(0.075)
Fixed Request × Information	0.032	0.029	0.031
	(0.061)	(0.059)	(0.058)
Rounding	0.457***	0.475***	0.461***
	(0.072)	(0.073)	(0.075)
Rounding × Information	-0.029	-0.028	-0.017
	(0.059)	(0.060)	(0.060)
Open-ended × Information	0.023	0.050	0.043
	(0.086)	(0.088)	(0.087)
50 cents†		-0.047	-0.030
		(0.047)	(0.047)
75 cents†		-0.196***	-0.186***
		(0.048)	(0.049)
Earnings			0.011***
			(0.004)
Age			0.004
			(0.007)
Gender			0.007
			(0.040)
Constant	0.364***	0.431***	0.066
	(0.060)	(0.067)	(0.191)
N	574	574	574
R^2	0.104	0.133	0.148
F-Statistic	14.82	13.90	11.23

Notes: This table presents OLS regression estimates of the effects of solicitation methods on whether a participant donated if the donation ask was under $1. The dependent variable, *Donated*, equals 1 if the participant donated or equals 0 if the participant did not donate. All covariates are defined in Table 3. The omitted category is the open-ended solicitation without the information statement. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Robust standard errors are in parentheses. † For comparability with the closed-ended treatments, values of the denoted variables for open-ended treatments are based on the procedures described in the text.

Table 6. Analysis of loose change effects for closed-ended mechanisms

Sample	Donation Rate [sample size]		
	25¢ ask	50¢ ask	75¢ ask
Fixed Request, more change	36.8% [19]	54.7% [53]	28.0% [75]
Fixed Request, less change	78.7% [47]	82.8% [58]	85.7% [14]
Rounding	89.3% [56]	78.0% [59]	75.4% [65]
Test: Fixed Request; less change = more change	$p = 0.003$	$p = 0.002$	$p < 0.001$
Test: Fixed Request, less change = Rounding	$p = 0.176$	$p = 0.643$	$p = 0.504$

Notes: Reported *p*-values correspond to Fischer's exact tests. By construction, donating in response to the rounding mechanism eliminates all change that would have resulted from the coupled transaction.

Table 7. Analysis of revenue (per person)

Dependent variable: Amount Donated	(1)	(2)
Fixed Request	-0.536***	-0.526**
	(0.204)	(0.203)
Fixed Request × Information	0.087*	0.090**
	(0.046)	(0.046)
Rounding	-0.419**	-0.431**
	(0.204)	(0.203)
Rounding × Information	-0.017	-0.007
	(0.040)	(0.042)
Open-ended × Information	-0.015	-0.024
	(0.263)	(0.262)
Earnings		0.015***
		(0.005)
Age		0.011
		(0.008)
Gender		-0.016
		(0.050)
Constant	0.830***	0.279
	(0.202)	(0.290)
N	896	896
R^2	0.052	0.062
F-statistic	4.46	4.24

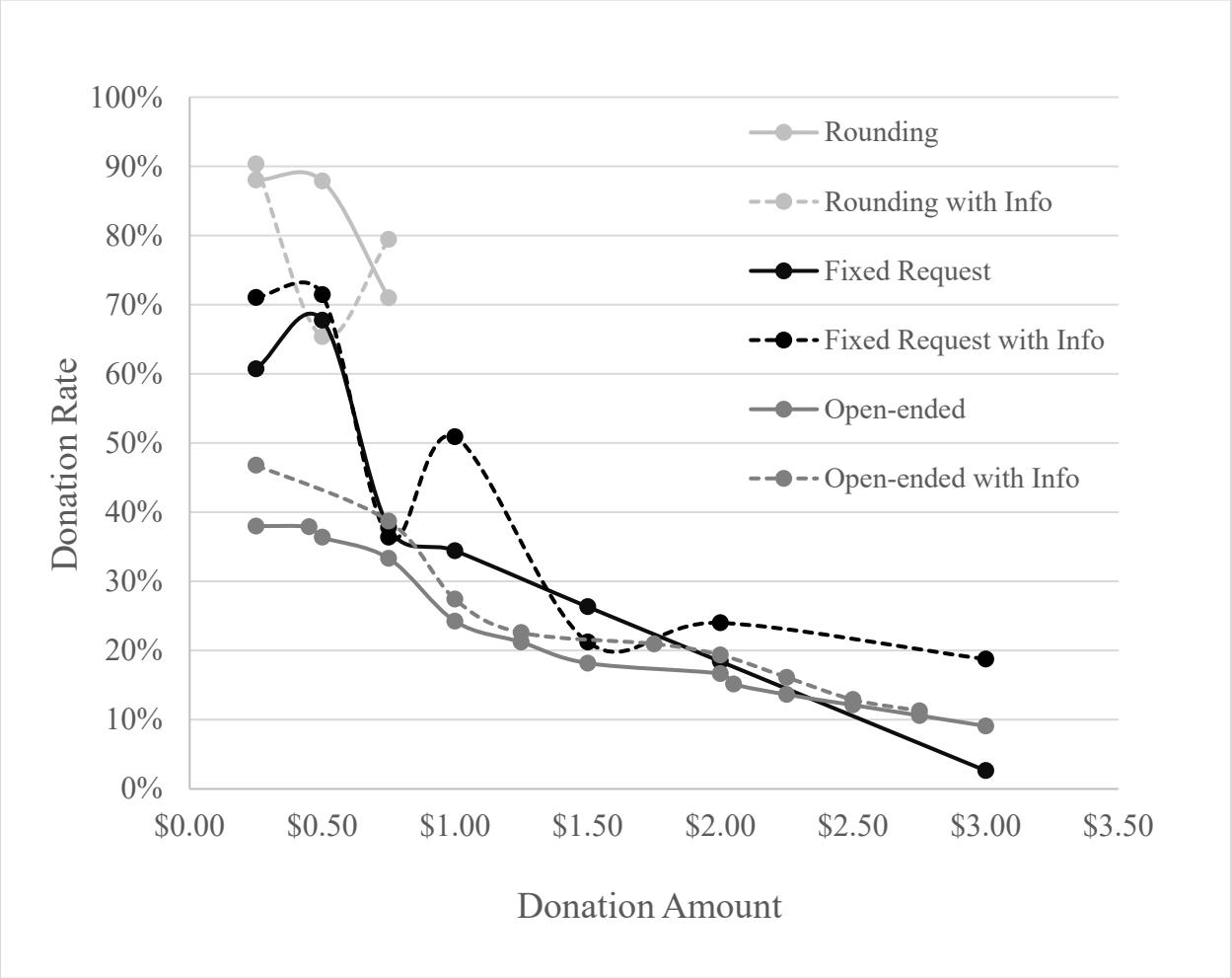
Notes: This table presents OLS regression estimates of the effects of solicitation methods on *Donation Amount*, which is the amount donated in $. All covariates are defined in Table 3. The omitted category is the open-ended solicitation without the information statement. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Robust standard errors are in parentheses.

Table 8. Willingness-to-donate models

Dependent Variable: latent WTD	(1)	(2)	(3)
Fixed Request	0.278**	0.300**	0.229
	(0.140)	(0.139)	(0.142)
Fixed Request × Information	0.123	0.133	0.139
	(0.098)	(0.098)	(0.099)
Fixed Request × Less change			0.361***
			(0.127)
Open-ended × Information	-0.015	-0.039	-0.040
	(0.175)	(0.173)	(0.174)
Earnings		0.035***	0.037***
		(0.009)	(0.009)
Age		0.022	0.023
		(0.021)	(0.021)
Gender		-0.016	-0.010
		(0.086)	(0.087)
Constant	0.830***	0.821***	0.821***
	(0.122)	(0.121)	(0.121)
Std deviation of WTD (σ)	0.990	0.977	0.982
	(0.033)	(0.033)	(0.033)
N	716	716	716
McFadden's R^2	0.009	0.020	0.025
Log-likelihood	-748.189	-739.881	-735.689

Notes: This table presents interval regression estimates of the effects of solicitation methods on willingness-to-donate (WTD). The data analyzed are from the fixed request and open-ended solicitations only. All covariates are defined in Table 3. The variables *Earnings*, *Age*, and *Gender* are demeaned so that the intercept (Constant) can be interpreted as the estimated mean WTD for the open-ended solicitation without information in all models. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Standard errors are in parentheses.

Figure 1. Conditional donation rates by treatment



Notes: Figure 1 plots the conditional donation rates by treatment. For the closed-ended treatments (rounding and fixed request treatments), the figure reflects the percentage of persons donating at each amount asked. For the open-ended treatments, presented is the empirical survival function, which reflects the percentage of respondents that donated *at least* a particular amount.

Appendix

Title: Checking out checkout charity: A study of point-of-sale donation campaigns

Authors: Adrienne W. Sudbury and Christian A. Vossler

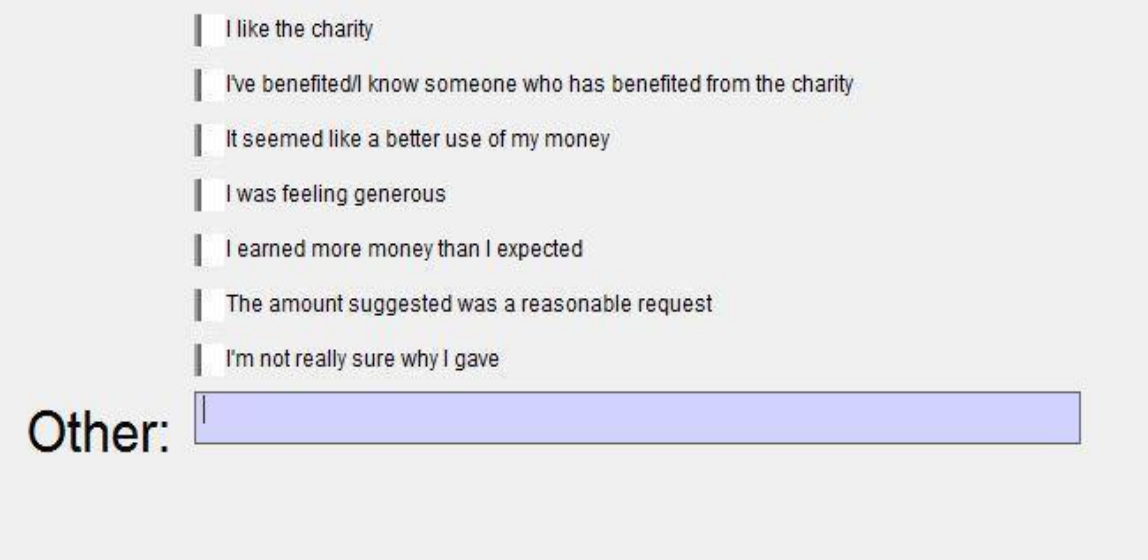
Date: August 2022

Note: Replication data and code for this article can be found at https://doi.org/10.7910/DVN/UIPADP.

Figure A.1 Fixed request solicitation ("no information" condition) (screenshot)

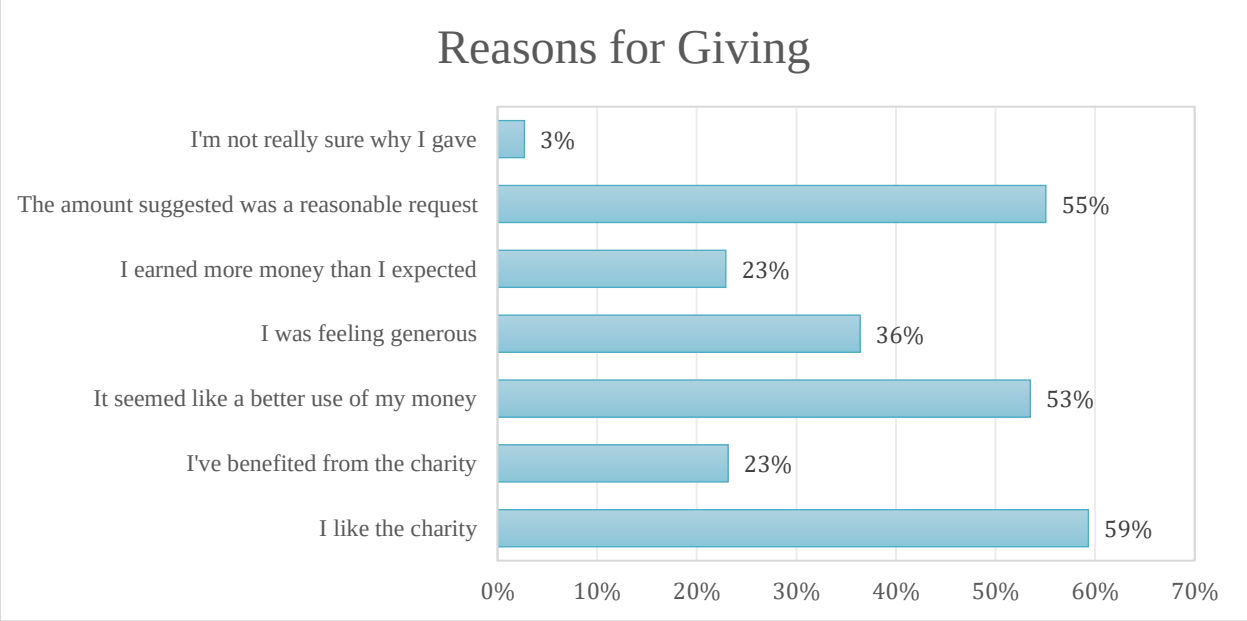
Notes: This figure shows the donation screen for a rounding request of $0.25. In this example, the participant has earned $16.25 in the prior unrelated experiment and is asked to "round down" their earnings by $0.25.

Figure A.2a Follow-up question: Reasons for donating (screenshot)



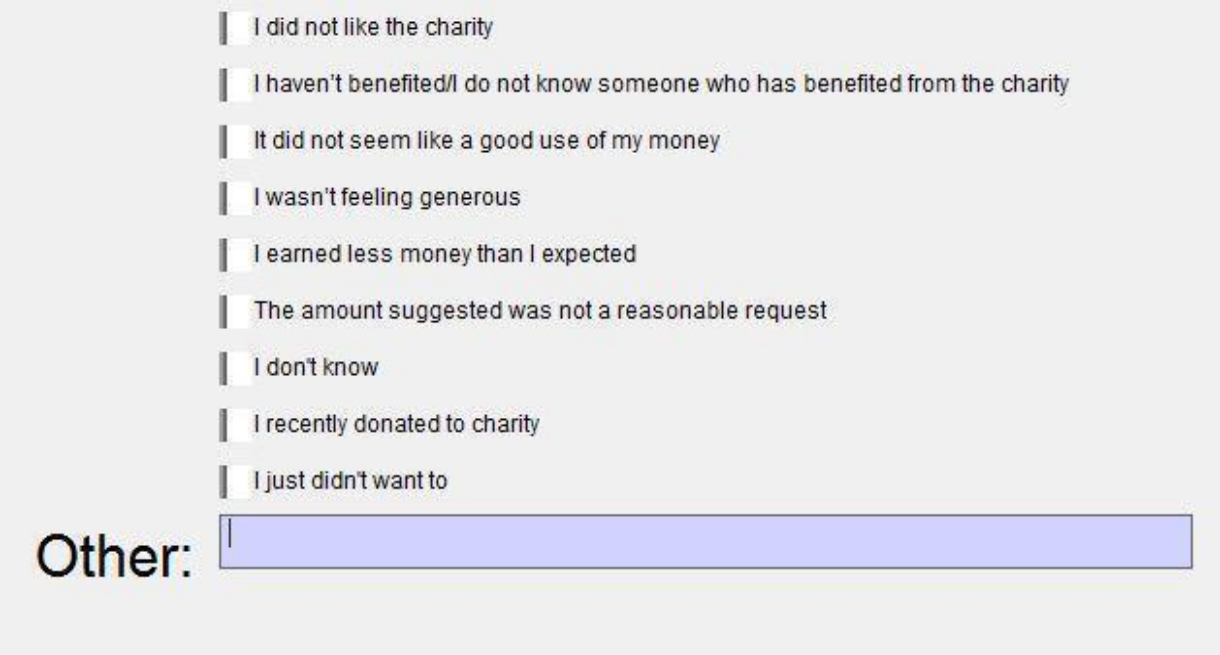
Notes: This figure shows the options participants could select as the reason(s) for their donation decision. Note that participants could write their own reasoning into the "other" entry field.

Figure A.2b Reasons for donating, response frequencies



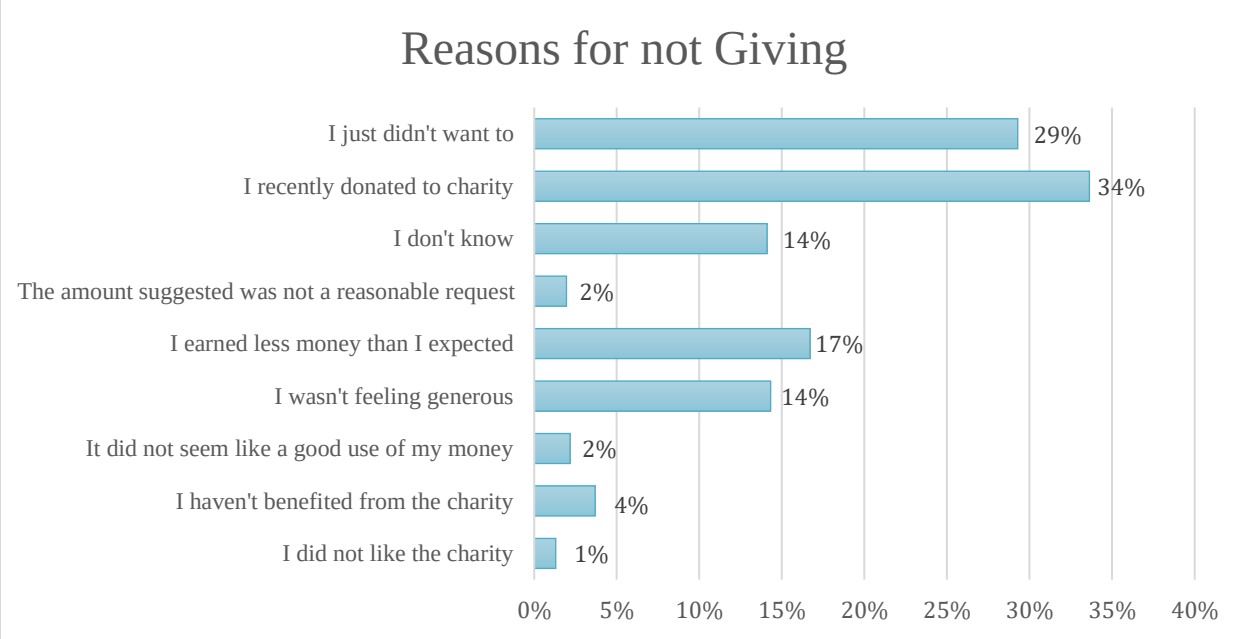
Notes: This figure shows the percentage of participants that selected each option as a reason for their donation decision. More than one option could be selected, and so the percentages above do not add up to 100%. On average, participants that donated selected an average of 2.53 reasons.

Figure A.3a Follow-up question: Reasons for not donating (screenshot)



Notes: This figure shows the options participants could select as the reason(s) for their donation decision. Note that participants could write their own reasoning into the "other" entry field.

Figure A.3b Reasons for Not Giving



Notes: This figure shows the percentage of participants that selected each option as a reason for their donation decision. More than one option could be selected, and so the percentages above do not add up to 100%. On average, subjects that declined to donate selected an average of 1.17 reasons.

Table A.1 Cross-tab between enjoying being asked to donate and whether the person donated

	Did the Participant Enjoy Being Asked to Donate?			
	No	Indifferent	Yes	Total
Donated	2.6%	15.8%	30.8%	49.2%
Did not donate	10.9%	27.3%	12.6%	50.8%
Total	13.5%	43.1%	43.4%	100%

Notes: This table shows the cross tabulation of participants donation decision and their response to a question of whether they enjoyed being asked to donate.

Table A.2 Corrections for multiple hypothesis testing

Test Number	Outcome variable	Hypothesis	Unadjusted *p*-values	BH-adjusted *p*-values
1	Donated	R = FR	0.0000	0.0000
2	Donated	R = OE	0.0000	0.0000
3	Donated	FR = OE	0.8431	0.8431
4	Donated	FR (asks < $1) = R	0.0000	0.0000
5	Donated	FR (asks < $1) = OE	0.0037	0.0103
6	Donated	FR (asks ≥ $1) = OE	0.8144	0.8431
7	Donated	Equal rates across asks; FR (info)	0.0000	0.0000
8	Donated	Equal rates across asks; FR (no info)	0.0000	0.0000
9	Donated	Equal rates across asks; R (info)	0.0728	0.1399
10	Donated	Equal rates across asks; R (no info)	0.1486	0.2654
11	Donated	Less change = more change; FR (25¢)	0.0030	0.0095
12	Donated	Less change = more change; FR (50¢)	0.0019	0.0067
13	Donated	Less change = more change; FR (75¢)	0.0001	0.0003
14	Donated	FR (less change) = R; 25¢	0.1762	0.2936
15	Donated	FR (less change) = R; 50¢	0.6428	0.7901
16	Donated	FR (less change) = R; 75¢	0.5040	0.6632
17	Donated	FR (no info) = FR (info)	0.0443	0.1008
18	Donated	R (no info) = R (info)	0.7076	0.7901
19	Donated	OE (no info) = OE (info)	0.3714	0.5462
20	Donated	R (no info) = R (info); less change	0.7268	0.7901
21	Donated	R (no info) = R (info); more change	0.2143	0.3348
22	Donated	R (no info) = R (info); equal change	0.0181	0.0452
23	Amount Donated	FR (no info) = FR (info)	0.0550	0.1146
24	Amount Donated	R (no info) = R (info)	0.6713	0.7901
25	Amount Donated	OE (no info) = OE (info)	0.4525	0.6285

Notes: "Test Number" refers to the order the test result is reported in the text. Abbreviations: "R" = rounding mechanism, "FR" = fixed request mechanism, "OE" = open ended mechanism, "info" = information statement, "no info" = no information statement. The "Unadjusted *p*-values" correspond to those reported in the text. The "BH-adjusted *p*-values" are associated with the Benjamini-Hochberg procedure for controlling for the false discovery rate (FDR). If the BH-adjusted *p*-value is less than the FDR, then the hypothesis should be rejected.

Table A.3 Analysis of donation rates (first phase)

Dependent variable: Donated	(1)	(2)
Fixed Request	0.133	0.162
	(0.089)	(0.090)
Fixed Request × Information	0.105	0.108
	(0.080)	(0.078)
Rounding	0.445***	0.432***
	(0.087)	(0.091)
Rounding × Information	0.020	0.031
	(0.073)	(0.076)
Open-ended × Information	0.068	0.058
	(0.099)	(0.100)
Earnings		0.012***
		(0.004)
Age		0.009
		(0.007)
Male		-0.011
		(0.052)
Constant	0.392***	-0.071
	(0.069)	(0.187)
N	352	352
R^2	0.115	0.144
F-statistic	11.06	9.06

Notes: This table presents OLS regression estimates of the effects of solicitation methods on whether a participant donated. The dependent variable, *Donated*, equals =1 if the participant donated or =0 if the participant did not donate. Observations are limited to those collected in the first phase (2017). All covariates are defined in Table 3. The omitted category is the open-ended solicitation without the information statement. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Robust standard errors are in parentheses.

Table A.4 Analysis of revenue (first phase)

Dependent variable: Donation Amount	(1)	(2)
Fixed Request	-0.619**	-0.568**
	(0.259)	(0.254)
Fixed Request × Information	0.103	0.109*
	(0.064)	(0.064)
Rounding	-0.552**	-0.525**
	(0.258)	(0.254)
Rounding × Information	0.005	-0.020
	(0.056)	(0.064)
Open-ended × Information	-0.200	-0.216
	(0.315)	(0.313)
Earnings		0.015***
		(0.005)
Age		0.002
		(0.012)
Gender		-0.134
		(0.099)
Constant	0.975***	0.638
	(0.255)	(0.413)
N	352	352
R^2	0.057	0.074
F-statistic	2.26	2.02

Notes: This table presents OLS regression estimates of the effects of solicitation methods on *Donation Amount*, which is the amount donated in $. All covariates are defined in Table 3. The omitted category is the open-ended solicitation without the information statement. Observations are limited to those collected in the first phase (2017). *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Robust standard errors are in parentheses.