

The Pledging Puzzle: How Can Revocable Promises Increase Charitable Giving?

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Abstract. What is the value of pledges if they are often reneged upon? In this paper, we show—both theoretically and experimentally—that pledges can be used to screen donors and to better understand their motives for giving. In return, nonprofit managers can use the information they glean from pledges to better target future charitable giving appeals and interventions to donors, such as expressions of gratitude. In an experiment, we find that offering the option to pledge gifts induces self-selection. If expressions of gratitude are then targeted to individuals who select into pledges, reneging can be significantly reduced. Our findings provide an explanation for the potential usefulness of pledges.

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1. Introduction

Almost all charities accept some form of pledges, and some rely entirely on pledges. Consider a religious congregation in Massachusetts that recently switched to a system of only pledges. Every year, they ask each congregant to make a pledge that will tell the shul what value it has to their life. They go on to state that this model of fundraising has resulted in increases in membership and overall revenue to their religious community.¹ Pledges also include the millions of calls into National Public Radio fund drives; they include planned gifts written (not irrevocably) into a living person's will and recurring monthly debits to a credit card or bank account that can be stopped at any time. To be sure, charities see many pledges, both large and small, that go unfulfilled.²

Pledges would seem to be a weaker tool for fundraising than simply requiring the full gift when it is declared. The fact that charities allow pledges, however, would suggest instead that pledges must, on the whole, increase the revenues of charitable organizations. However, applying standard economic reasoning would suggest that pledges are at best benign and at worst a loophole for someone feeling pressured to give. We lack a theory of how pledging can

increase giving. The prevalence of pledging, therefore, creates an interesting puzzle.

To see the puzzle, imagine an individual who, absent a pledging opportunity, would choose to give today. If the utility from giving occurs at the time the gift is *transacted*, then this person would gain the same positive net utility from pledging and giving later. Because the act of giving increases instantaneous utility by the same amount whenever the gift is made, a person who discounts the future would prefer to give today rather than to pledge.

Suppose that some share of the positive feeling of giving occurs at the time of the giving *decision*, as in Andreoni and Serra-Garcia (2016). A person may make a sincere pledge to give later because the positive *decision utility* is not discounted, whereas the utility and cost of transacting the gift are. Because of discounting, pledges could lead to slight increases in giving. Strikingly, and contrary to common experiences in fundraising, this model predicts that no pledge goes unfulfilled.

Imagine that the person would feel some social pressure from a fundraiser to say yes to an ask to give (DellaVigna et al. 2012). Pledging can become a way of postponing the awkward social situation of saying no. Thus, under this line of reasoning, pledges mainly give the charity a set of phantom donors who pledge

now with the full expectation of saying no later. Again, the charity is not much better off from having pledges.

To understand how utility can be attached to a decision to give or to a decision to renege on that gift later, it will be illustrative and useful to understand the process that can generate utility flows of this nature. The process we propose is self-image and social-image signaling. Making a gift today may create the highest self-image or social-image utility. Saying no today may have the lowest image utility. Pledging creates a web of possible outcomes, but it also creates an opportunity for the charity. By pledging, instead of giving today, a potential donor reveals to the charity that he or she is more likely on the fence between giving and not. The donor chose not to say no, indicating that he or she suffers from social pressure costs when saying no to the fundraiser. However, the donor did not give now, indicating significant costs of giving. Without doing anything else, pledges would still not be much better for charities. However, the potential donor's decision to pledge provides information that the charity could use to apply other pressures on those pledging to increase the (opportunity) costs of renegeing on a pledge.

What kinds of other pressures do charities actually apply? Many charities send thank-you notes after pledges have been made. Standard thank-you templates are broadly shared online by many nonprofits, including university development offices and churches. Guides to pledging emphasize the importance of thanking donors for their pledges.³ Pledges per se may not make the charity better off, but thanking donors, especially those who reveal that they are more likely on the margin, could reduce renegeing and increase giving.

There are two ways to test these ideas. First is to compare a situation with and without pledging to see if indeed pledging can increase donations. Our theory predicts that pledging (without any further pressures to give) is only slightly better, if at all. This prediction, however, provides a poor test of our theory. The next way to test our theory is to introduce a manipulation that will potentially change the costs of renegeing. For this, we chose to randomly send a thank-you email to people in our laboratory experiment who pledged to give. The email arrived within an hour of completing the first part of the experiment, where the initial giving decisions (pledge or give now) were made. A week later (to the hour), there was a second meeting where the pledgers either paid or renegeed on their pledges (and both pledgers and nonpledgers answered survey questions). The hypothesis is that the thank-you email makes the subjects feel more social pressure to give, possibly by feeling more attached to the charity or by a heightened sense of potential

embarrassment or shame at the time of saying no. Thus, the prediction is that the thank-you note will increase donations by reducing the number of people who renege on their pledge. This is a more revealing test of our theory.

Our experimental findings support the limited effects of pledges but also their potential value when combined with thank-you notes. Pledges, by themselves, have a small effect on giving. While the giving frequency is 31% when immediate gifts are requested, this frequency weakly increases to 35% with pledges. When seen as a device into which individuals can self-select, pledges become useful as a screening device. In our experiments, self-selected pledgers renege 70% of the time. However, when they receive a thank-you note, their renegeing drops by more than 20 percentage points, to less than 50%. The effect of offering the option to pledge and applying pressure through gratitude is significant, both statistically and economically. This targeted social pressure causes a 15 percentage point increase in the likelihood of giving and provides a solution to the puzzle of pledges. Charities may gain more gifts through pledges and reduce the costs of thanking pledgers by allowing (highly supportive) donors to make immediate gifts and targeting expressions of gratitude to donors who are on the margin between giving and renegeing.

The rest of this paper is organized as follows. In Section 2, we present a brief discussion of the related literature. Section 3 presents the theoretical framework that guides the experimental design presented in Section 4. The results are presented in Section 5, and Section 6 concludes.

2. Background

Andreoni and Serra-Garcia (2016) proposed that utility can be attached to the *decision* to give rather than just the *transaction* of a gift. This can be direct utility or utility provided through a concern for the giver's self-image or social-image for being charitable. Existing research has either assumed or shown that at least some individuals care about the social-image and self-image implied by their decisions to give to charity. Becker (1974) drew attention to giving as a social interaction with social payoffs, which was the insight leading to models of warm-glow giving (Andreoni 1989, 1990). Harbaugh (1998) modeled giving as providing prestige, which he demonstrated experimentally by announcing donation sizes. These effects were strengthened by Andreoni and Petrie (2004), who showed that publishing photos and amounts donated provided a strong boost to giving. Bénabou and Tirole (2006) provided some of the first theoretical modeling of self-image, which was later demonstrated experimentally by Ariely et al. (2009). Andreoni and Bernheim (2009) constructed

a model of social-image and used a simple experiment to show that people were very strategic in manipulating social-images. DellaVigna et al. (2012) brought the issue of unpleasant social pressure to the table as a fundraising tactic. In related work, Andreoni et al. (2017) showed that people would take extraordinary steps (literally) to avoid a fundraiser standing in the doorway of a supermarket. Adena and Huck (2020) show how overly aggressive fundraising can backfire on a charity.⁴

There has also been a small amount of research on the effects of gratitude in giving. Samek and Longfield (2019) note that expressing gratitude *after* a gift is made is common for many organizations, and this is aimed at securing the donor's allegiance to the charity. We rely on the fact that a similar reasoning applies to a thank-you note arriving directly after a pledge to give. We hypothesize that our thank-you note will add social pressure for the donor to confirm his or her pledge. Those choosing to pledge, when they could have given immediately, are revealing themselves to be closer to the boundary between giving and not giving. Targeted attention to the self-selected group of pledgers, who are more likely to renege and potentially more susceptible to social pressure, then can pay off. This may be particularly valuable to fundraisers because some donors may prefer not to be contacted often and because expressing gratitude is costly. The cost of one thank-you call is approximately \$1 (Samek and Longfield 2019). Thank-you notes sent via email are less costly but still require tracking pledges and timely management such that thank-you notes are sent right after the pledge is made.

A small number of papers have used pledges to solicit donations, finding mixed evidence. Lacetera et al. (2016) show that observable pledges are often fulfilled, although pledges are rare. Image concerns can increase pledging (Meyer and Tripodi 2018), but a great many pledges are reneged upon (Fosgaard and Soetevent 2018).⁵ These patterns are captured by our model.

Fundraising organizations could leverage the heterogeneity in donor motives, and purposefully target those who are less decided, to achieve increases in giving and cost reductions. Types of donors seem to be persistent in their giving across organizations (de Oliveira et al. 2011). Little is known thus far about the value of screening within an organization for donor types, and this paper suggests that carefully designing the options in the ask can provide highly useful information and increase giving.

3. The Model

We examine the effect of adding the option to pledge on fundraising. We start with the simplest model possible in which the utility from giving only flows at the time a gift is transacted, finding that it cannot

provide an explanation for the value of pledges. Motivated by the literature on charitable giving that suggests different motives for giving, as discussed in Section 2, we progressively extend the model to allow for decision utility, social pressure, and social-image concerns. These extensions provide an explanation of the patterns of pledging and giving we see in charitable fundraising.

The decision we study is that of an individual asked to give a set amount g to a charity, which we normalize to one so that $g = 0$ or 1 can be interpreted as both a quantity and an index of giving. If the individual decides to give, he or she gains value $v \geq 0$ but must pay 1 for the gift. We allow v to be distributed according to $f(v)$, where the cumulative distribution function is $F(v)$. Let δ be the one-week discount parameter, $0 \leq \delta \leq 1$.

3.1. Transaction Utility Without Social Payoffs: No One Pledges

Transaction utility means that the utility from a choice depends on when that choice results in a transaction that changes consumption. First, consider the market that only allows people to give now or say no. We assume that the utility from saying no is zero, so a person will give now if

$$v - 1 \geq 0 \quad (1)$$

and say no otherwise.

Suppose that we offered a third option to pledge to give a week later. Would anyone choose it? The utility from pledging is $\delta(v - 1)$. If $v - 1 < 0$, then the person will neither give now nor pledge. If $v - 1 \geq 0$, then $v - 1 > \delta(v - 1) > 0$, implying that giving now dominates pledging. Overall, this approach to the utility of giving produces no role for pledges.

3.2. Decision Utility Without Social Payoffs: No One Reneges

Now assume that a share γ of the utility of giving is experienced in the period the donor makes the *decision* to give, where $0 < \gamma < 1$. The analysis of the decision to give now or say no is unchanged. Would anyone choose to pledge? When the decision to pledge and give later is made, it yields utility

$$(\gamma + \delta(1 - \gamma))v - \delta.$$

Only a share of the utility of giving is discounted, whereas the full cost of the gift is discounted. A donor who would give now, with $v - 1 \geq 0$, would prefer to pledge. In fact, all giving will come from pledges. Anyone with $1 > v > \frac{\delta}{(\gamma + \delta(1 - \gamma))}$ pledges with the intention of giving later.

Does this mean that pledges increase giving? Assume that a person who pledges does not revisit his or

her giving decision. Then pledges will increase giving (perhaps only slightly) because $\delta < 1$ and $0 < \gamma$. In Online Appendix A, we discuss what happens when people revisit their decision. In that case, pledges could have no effect or even a negative effect on giving.

3.3. Decision Utility with Social Pressure Costs: No One Gives Now

Suppose that we bring in social pressure to give (DellaVigna et al. 2012). We adopt the view that social pressure is a particular kind of cost that is felt at the time of saying no to a request to give (Andreoni and Rao 2011, Andreoni et al. 2017). We think of social pressure costs as resulting from guilt, embarrassment, shame, and similar emotions unique to saying no. Although social pressure is closely related to social-image utility, it has distinct behavioral implications. It can explain the public avoidance of the ask, as shown in DellaVigna et al. (2012) and Andreoni et al. (2017). From the point of view of an observer, social pressure costs can be seen as a random variable. Define $\tilde{s} > 0$ as the cost a person would feel from saying no. Assume that these costs can be treated as independent and identically distributed (i.i.d.) random variables with probability distribution function $h(\tilde{s})$, cumulative distribution function $H(\tilde{s})$, and $\tilde{s}_\ell \leq \tilde{s} \leq \tilde{s}_h$.⁶

As in the preceding subsection, giving now yields net utility $v - 1$, whereas saying no means suffering a cost $-\tilde{s}$ when saying no. Given a choice to give now or say no, a person will give now if

$$v - 1 \geq -\tilde{s},$$

which rearranges to

$$v - 1 + \tilde{s} \geq 0.$$

Thus, higher costs of saying no are more likely to result in donations.

What about pledges? Consider the decision to pledge with the intention to give later. As in the prior model, the cost of the gift is discounted, whereas the utility from giving later is only partially discounted; then anyone who would give now will strictly prefer to pledge and confirm. Again, there will be those for whom $(\gamma + \delta(1 - \gamma))v - \delta + \tilde{s} > 0$ but $v - 1 + \tilde{s} < 0$, meaning that they will pledge with the intention of giving later but would have said no if giving now was the only way of giving. Hence, pledges could increase giving.

What about pledging with the intention to renege? Reneging is akin to saying no but with the potential aggravation that it comes after a previous promise to give. If individuals suffer from costs of breaking their pledges (e.g., Ellingsen and Johannesson 2004,

Charness and Dufwenberg 2006, Serra-Garcia et al. 2013), the social utility cost of renegeing could be higher than that of saying no immediately. Define $\tilde{r} > 0$ as the social utility costs a person would feel from renegeing after having pledged. These are weakly higher than the costs of saying no $\tilde{r} = \lambda\tilde{s}$, where $\lambda \geq 1$.⁷

For those with $-\delta\tilde{r} > -\tilde{s}$, pledging and renegeing later will be preferred. This model predicts, therefore, that all those who intend to give will first pledge, many will renege, and the outcome will be an increase (perhaps imperceptible) in giving. The important thing to notice in this model is that social pressure costs give us a theoretical rationale for pledging with the intent to renege. Because of the stark simplicity of the model, however, it also makes extreme predictions that are clearly false. In particular, it predicts there will *only* be pledges.

To understand the full complexity of donors' and fundraisers' choices, we want to provide a rationale for pledges that exists within a model that captures the broad patterns of giving seen in the world, in which some people give now and some say no now, whereas others pledge and many renege. We present this model next.

3.4. Decision Utility, Social Pressure, and Image Concerns

Social-image relies on an audience. For instance, other donors or the experimenter can play the role of the audience. Self-image relies on the donor managing his or her own opinion about his or her own character. This means that a donor can be his or her own audience. In equilibrium, the audience forms an expectation about the value v of each individual. The higher the expected value of v , the grander is the social-image the donor has in the eyes of the audience. The better the donor looks to the audience, the more utility the donor derives from this. Use μ_a for the expected v given actions a . Use M_a to represent the donor's utility from image following from the action a , where M_a is an increasing and concave function of μ_a . Possible actions are to give now (gn), pledge (p), later confirm the pledge (pc), later renege on the pledge (pr), or say no now (nn). We use these abbreviations in our notation.

For example, consider a person who wants to give. The utility from giving now is

$$U_{gn} = \tilde{v} - 1 + M_{gn}, \quad (2)$$

or that from pledging and confirming is

$$U_{pc} = (\gamma + \delta(1 - \gamma))\tilde{v} - \delta + M_p + \delta M_{pc}. \quad (3)$$

Likewise, for a person wishing to say no, the utility from pledging and renegeing is

$$U_{pr} = M_p + \delta M_{pr} - \delta\tilde{r}, \quad (4)$$

whereas the utility for simply saying no in period 1 is

$$U_{nn} = M_{nn} - \tilde{s}. \quad (5)$$

Given these utilities, we can characterize the equilibrium of a game in which all four possible actions are used, as we do in Proposition 1.

Proposition 1. *The Bayesian equilibrium of the game in which all four possible actions are used is characterized by the numbers v_{gn}^* and v_{pc}^* such that all individuals with $v > v_{gn}^*$ give now, individuals with $v_{pc}^* < v < v_{gn}^*$ choose to pledge and confirm, and those with $v < v_{pc}^*$ choose not to give, where v_{gn}^* , v_{pc}^* solve the following conditions:*

$$U_{gn}(v_{gn}^*, \mu_{gn}) = U_{pc}(v_{gn}^*, \mu_{pc}), \quad (6)$$

$$U_{pc}(v_{pc}^*, \mu_{pc}) = \int_{\tilde{r}_\ell}^{\tilde{r}_h} U_{pr}(v_{pc}^*, \mu_n, \tilde{r})h(\tilde{r})d\tilde{r}, \quad (7)$$

$$\int_{\tilde{r}_\ell}^{\tilde{r}_h} U_{pr}(\mu_n, \tilde{r})h(\tilde{r})d\tilde{r} = \int_{\tilde{s}_\ell}^{\tilde{s}_h} U_{nn}(\mu_n, \tilde{s})h(\tilde{s})d\tilde{s}, \quad (8)$$

where $\mu_{gn} = \int_{v_{gn}^*}^{\tilde{v}} vf(v)d\tilde{v}$, $\mu_{pc} = \int_{v_{pc}^*}^{v_{gn}^*} vf(v)d\tilde{v}$, and $\mu_n = \int_0^{v_{pc}^*} vf(v)d\tilde{v}$.

Equation (6) requires there to be a critical v_{gn}^* such that all those with $\tilde{v} \geq v_{gn}^*$ will prefer to give now. Equation (7) requires there to be a critical v_{pc}^* such that all those with $v_{gn}^* \geq \tilde{v} \geq v_{pc}^*$ will prefer to pledge and confirm. Finally, Equation (8) notes that v is not an element of the utility of those who do not give, regardless of whether they pledge and renege or say no immediately. Because social-image is defined in terms of the expected value of \tilde{v} , it must be that the utility from social-image is identical in the two versions of saying no. The proof is provided in Section A.1 of Online Appendix A.

Proposition 1 characterizes the equilibrium in which all four possible actions are used. Importantly, and in contrast to the models, image concerns imply that there will always be some donors who choose to give now in equilibrium.⁸ Hence, this model predicts that pledges and immediate gifts may coexist—a new prediction, which is in line with the richness of the giving behaviors we see in the world.

Does offering the option to pledge (and give now) increase giving relative to only offering the option to give now? As in previous models, pledges are of limited value in increasing giving. They are, however, attractive for those who have lower utility from giving, who can delay the no by pledging and renege. Hence, with the option to give now, pledges will induce selection among those who pledge who will most likely renege.⁹

3.4.1. The Role of Thank-You Messages. We have now reached the point where we have a predictive model of the effect of thank-you notes. Individuals who are

not among the most generous will have revealed themselves by choosing to pledge with the likely plan of renege. Assume that a donor reacts to a thank-you note for a pledge by becoming more committed to the charity and by helping to maintain an identity as a contributor. In our model, we represent this as an exogenous and unanticipated increase in renege costs, from \tilde{r} to $\alpha\tilde{r}$, where $\alpha > 1$.

Suppose that the thank-you message prompts potential donors to revisit the decision to pledge they just made, unexpectedly. Equation (7) changes because of the unexpected increase in the cost of renege. Someone who pledged has a stronger incentive to confirm, and the critical value of v separating those who confirm from those who renege on their pledges decreases to $v_{pc}^{TY} < v_{pc}^*$. There is less renege and more gifts.

Thank-you notes also increase renege costs when pledging is the only option available to potential donors. However, when giving now is also possible, more individuals initially intend to pledge and renege because the choice to pledge and confirm is a weaker signal of generosity when the option to give now is available (but not chosen). Thus, more individuals could be affected by thank-you notes. If, additionally, the costs of renege \tilde{r} are positively correlated with the value of giving v , pledgers will react more strongly to the thank-you note (further detail is provided in Online Appendix A). In other words, thank-you notes could make pledges a valuable tool for fundraisers by allowing fundraisers to apply additional pressure on pledgers, especially when this group has self-selected into pledging.

By including social pressure and social-image as motives for giving, the model explains most patterns of behavior. Some patterns of behavior could be potentially explained by different motivations. For example, promise keeping (e.g., Ellingsen and Johannesson 2004, Vanberg 2008) and guilt aversion (e.g., Charness and Dufwenberg 2006), which we view as part of renege costs, could explain the effects of thank-you notes. Alternative assumptions on discounting could explain why people pledge. Yet, the model we present shows the implications for pledging of well-documented motives (for giving) and provides, in our view, the most compelling explanation for the coexistence of immediate gifts and pledges.

4. Experimental Design

In our experiment, individuals participated in a two-week study with two sessions spread exactly one week apart from each other to the hour. Participation in both sessions was required and independent of decisions. As we show, attrition rates were very low, and more than 90% of participants participated in both sessions.

At the beginning of the week 1 session, individuals were offered the opportunity to donate \$5 to GiveDirectly, a charity that gives direct cash grants to poor households in Kenya and other African nations. In presenting the charity, we emphasized that one of the cofounders and current officers of GiveDirectly is Professor Paul Niehaus of the Department of Economics at the University of California, San Diego, where the study was conducted. This, we expect, added confidence to both our claims about the quality and efficacy of the charity and our (true) promises that the donations would indeed go to GiveDirectly. The presentation ended with an ask to give \$5.

Giving decisions in three treatments are compared. In the pledge-or-give-now treatment, individuals could pledge in week 1 to give \$5 to the charity in week 2, decide to give the \$5 immediately in week 1, or say no to giving. In the pledge treatment, individuals could only pledge to give in week 2 or say no in week 1. In both treatments, we formulated the decision to pledge as “Yes, I’d like to donate \$5 next week. Ask me again next week, and I will make my final decision.” We chose this wording for several reasons. First, the meaning of *pledge* varies strongly across the solicitations of different charitable organizations. Sometimes pledges are interpreted as enforceable commitments to give, whereas other times they are not. To ensure common understanding across all individuals, we avoided using the word *pledge*. Second, to ensure that individuals understood what their decision implied, we solicited an initial statement of an intention to give, which would be confirmed later. This may have been viewed by subjects as a promise (e.g., see Hanfling 2008 for a philosophical argument and Charness and Dufwenberg 2006, 2010 and Serra-Garcia et al. 2013 for experimental evidence), which is our intention. In the give-now treatment, individuals could only give in week 1 or say no. The instructions are presented in Online Appendix B.

In all treatments, at the beginning of the week 2 session, individuals were reminded of their giving decision in week 1. If they had pledged, they were asked to either confirm or renege on their pledge by making their decision to give final or selecting no if they wanted to change their decision. If their week 1 decisions were final, then they were reminded of them in all treatments. After this, we asked about their interest in signing up for a newsletter about the charity to measure potential spillover effects of the treatments on willingness to engage with the charity. Then participants were also asked several survey questions. Because we hypothesized that thank-you notes could affect how the fundraiser’s expectations are perceived, we elicited individuals’ feelings regarding pressure to donate and regret of their donation

decision. We also elicited liking of the charity to examine the effects of thank-you notes on the enjoyment of giving per se.¹⁰

4.1. Thank-You Messages

Existing research in psychology suggests that expressions of gratitude can facilitate interpersonal relationships and lead to more positive emotions if evaluated as authentic, but not if they are thought of as strategic or manipulative (Algoe 2012, Dwyer 2015, Algoe et al. 2016). Thus far, little is known about the effect of gratitude on charitable contributions. Samek and Longfield (2019) do not find evidence of a positive effect on subsequent donations of thanking donors several months after their donation. We test whether thanking donors for their pledges shortly after they are made and before they make a donation decision can increase giving.

In the pledge and pledge-or-give-now treatments, we sent thank-you notes via email to a randomly chosen subset of subjects who pledged to give in the first week of the experiment. The email was delivered by 5:00 p.m. on the same day of the session in week 1, seven days prior to having to confirm their pledges. We compare the effect of receiving a thank-you note to not receiving any message, and hence, we measure the effects of the thanking *process*, which also includes the fact that the charity acknowledges the gift in addition to expressing gratitude for it. All subjects received an email 24 hours prior to their week 2 session simply reminding them to attend.

To examine how thank-you notes may affect the utility of renegeing and giving, we designed both a *strong* version and a *weak* version of the thank-you note. The weak thank-you note emphasized the importance of the pledge and thanked individuals for pledging. The strong thank-you note included two manipulations shown elsewhere to enhance giving: the identifiable victim effect and identity as a donor.¹¹ We do not find a difference between the weak versus strong thank-you notes in the pledge-or-give-now treatment and hence pool them together for the analyses. In the pledge treatment, only weak thank-you notes were sent.

4.2. Procedures

The experiment was conducted at the University of California, San Diego, Economics Laboratory. There were 215 participants in the pledge-or-give-now treatment, 118 in the pledge treatment, and 179 in the give-now treatment.¹² We purposely recruited more subjects in the pledge-or-give-now treatment to have enough observations when examining the effect of the thank-you note on giving.

Eighteen of 215 participants in the pledge-or-give-now treatment, 8 of 118 in the pledge treatment, and

14 of 179 in the give-now treatment failed to participate in the week 2 session. The average attrition rate was 7.8% and did not vary with the treatment, with the decision subjects made in week 1, or with their individual characteristics. A detailed analysis of attrition is shown in Online Appendix C.

To address concerns of attrition, the first four sessions in the give-now treatment and all sessions in the pledge and pledge-or-give-now treatments had a higher show-up fee in week 2 than in week 1 (\$6 in week 1 and \$20 in week 2). We later added four sessions to the give-now treatment offering equal show-up fees of \$15 each week and found that the time structure of show-up fees had no effect on giving decisions.¹³

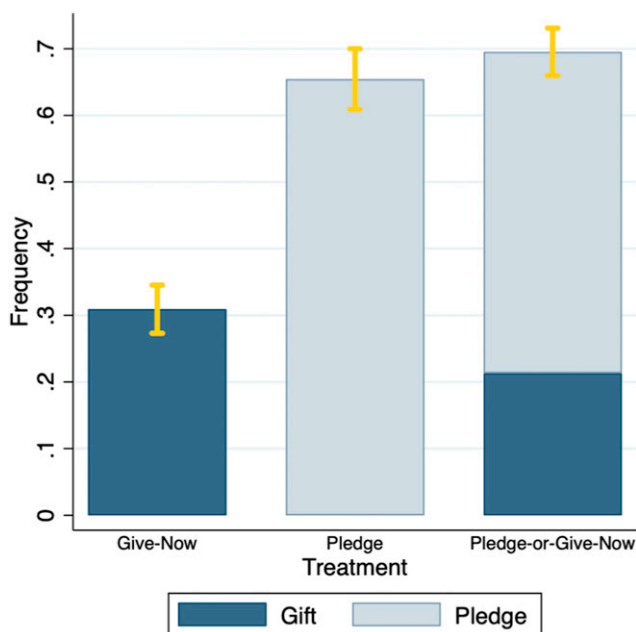
5. Results

In what follows, we provide an analysis of the experimental results. We start with decisions in week 1 of the experiment and then turn to week 2 decisions. We then examine the effect of pledging on giving and also examine the effects of expressions of gratitude on self-reported pressure to donate.

5.1. Week 1 Decisions

Figure 1 presents the giving decisions made in week 1. In the give-now treatment, 30.9% of subjects choose to give now. When subjects can only pledge, we observe that the share of those who say no is 34.5%, whereas 65.5% of subjects pledge, leading to a higher frequency of yes initially than in the give-now treatment ($\chi^2 = 31.860, p < 0.01$).

Figure 1. (Color online) Giving and Pledging in Week 1



Note. Error bars denote ± 1 standard error.

In the pledge-or-give-now treatment, the percentage of subjects who give immediately is 21.3%. The percentage who pledge is 48.2%, and the percentage who say no is 30.5%. Hence, 69.5% of subjects either pledge or give immediately. Adding the option to give now increases the frequency of yes decisions by four percentage points relative to only allowing pledges, an effect that is not statistically significant ($\chi^2 = 0.543, p = 0.461$). At the same time, it secures 21.3% of potential gifts while leaving the option of collecting more gifts in week 2 open. Even if pledging with the option of giving now does not ultimately increase giving, this would provide fundraisers at least a fraction of gifts earlier.

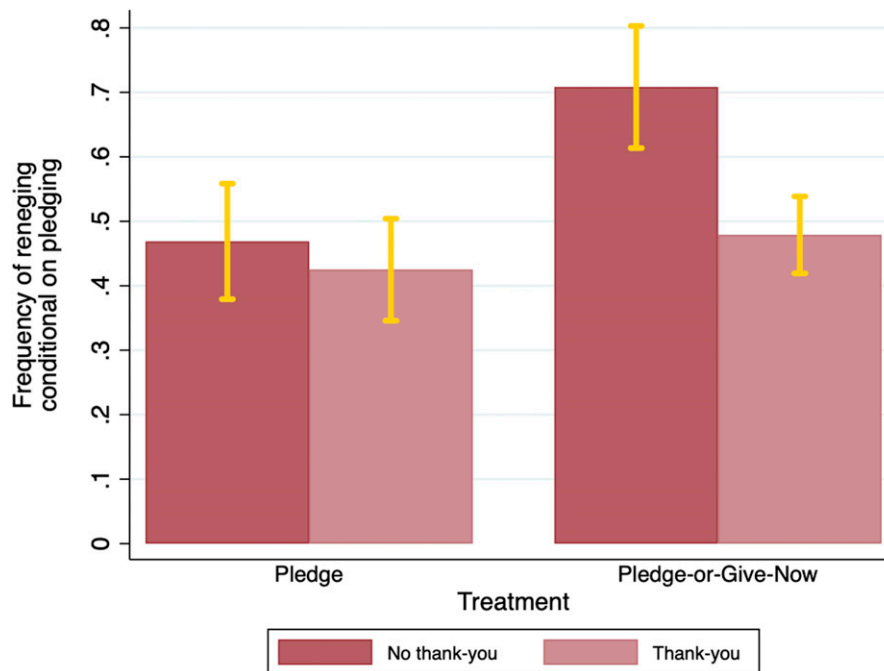
Overall, week 1 decisions reveal that self-selection occurs in the pledge-or-give-now treatment, whereby a fraction of individuals gives immediately, whereas another chooses to pledge to give later. The fact that some but not all individuals chose to give immediately in the pledge-or-give-now treatment is consistent with social-image. The use of pledges suggests that there are social pressure costs. An important question is what decisions look like in week 2.

5.2. Week 2 Decisions

Individuals who pledged in week 1 were asked in week 2 to confirm their donations or to renege. Figure 2 shows the frequency with which individuals who pledged renege on their pledges.¹⁴

Consider first the case without thank-you notes. In the pledge treatment, 46.9% of individuals renege on their pledge. This fraction increases by more than 20 percentage points to 70.8% in the pledge-or-give-now treatment ($\chi^2 = 3.214, p = 0.073$). In both cases, there is substantial renegeing, suggesting that individuals postponed saying no in week 1 because of social pressure when being asked to give. In line with the prediction of self-selection, those who pledged in the pledge-or-give-now treatment are more likely to renege. Because they chose not to give now when the option was available, they can be viewed as less generous donors. Instead of saying no, however, they chose to pledge, indicating that they could have felt social pressure in week 1 and preferred to delay that cost.

What happens when a thank-you note follows a pledge? In the pledge-or-give-now treatment, the thank-you note reduces renegeing by 22.9 percentage points to 47.9% ($\chi^2 = 3.798, p = 0.051$). This effect is especially striking in light of the fact that the thank-you note came within a few hours of their pledges and a full seven days before subjects returned to confirm them or renege. It is, however, in line with recommendations of fundraisers to acknowledge donor pledges immediately after they have been made.¹⁵

Figure 2. (Color online) Reneging in Week 2

Note. Error bars denote ± 1 standard error.

In the pledge treatment, individuals receiving a thank-you note renege in 42.5% of the cases, compared with 46.9% when they do not receive a thank-you note. This four percentage point drop in reneging is not significant ($\chi^2 = 0.138$, $p = 0.710$).¹⁶

Comparing reneging across the two treatments is difficult because of self-selection. To better understand the differences, we consider first reneging without thank-you notes and include immediate gifts. If we account for the 21.3% of donors who chose to give immediately in the pledge-or-give-now treatment, we find that the fraction that reneges, relative to all those who pledge or give immediately, is 48.6% in this treatment. Consistent with the social-image model, this fraction is larger, although only slightly, than the 46.9% of donors who renege in the pledge treatment.

The stronger effect of thank-you notes in the pledge-or-give-now treatment is, to some extent, directly driven by self-selection. In the pledge treatment, there is no self-selection, and pledgers are more likely to pledge and confirm initially, which reduces the potential impact of the thank-you notes. Empirically, we find a four percentage point drop in reneging. In the pledge-or-give-now treatment including immediate gifts, reneging decreases from 48.6% to 33.3% with thank-you notes. This yields a 15 percentage point decrease in reneging relative to all initial yes decisions. This drop is larger than the effect of thank-you notes in the pledge treatment, revealing that there is an interaction effect of thank-you notes on self-selected

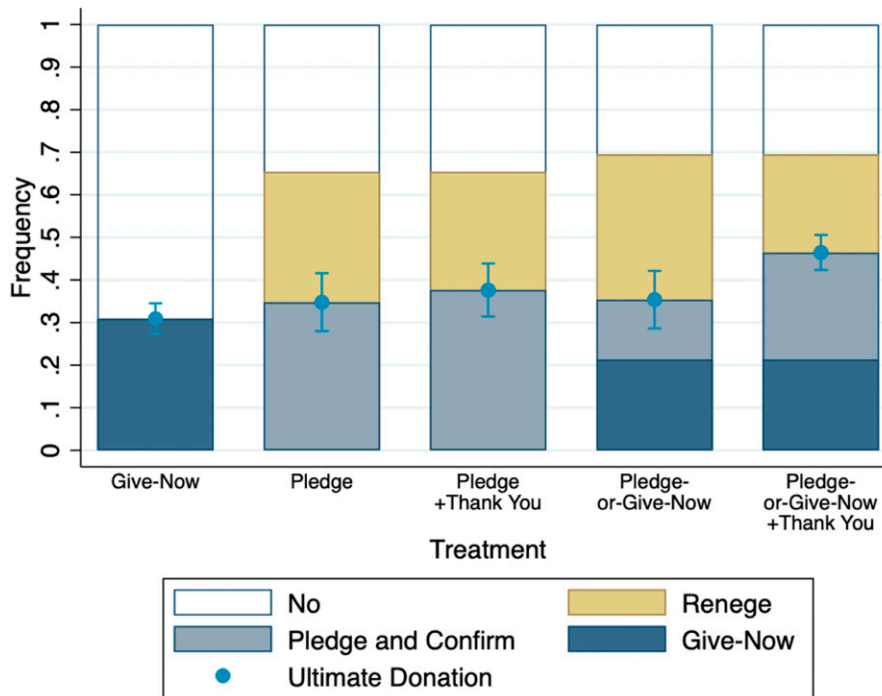
pledgers. Through the lens of our model, the interaction could be explained by a correlation between the utility of giving v and social pressure. It could also be that being *targeted* with a thank-you note after having chosen not to give immediately makes people feel particularly guilty when reneging. We explore this explanation by examining self-reported feelings of pressure in Section 5.4.¹⁷

5.3. Ultimate Giving

Figure 3 presents the rate of giving by treatment, which combines week 1 and week 2 decisions and separates those who receive thank-you notes and those who do not. Table 1 presents the results of the regression analysis of the treatment effects.¹⁸ As shown in columns (1) and (2), pooling the individuals who received a thank-you note and those who did not, we observe an average increase in ultimate giving in the pledge-or-give-now treatment.¹⁹

Because thank-you notes were sent only to individuals who pledged, to test their effect, we assign those who did not pledge to a thank-you condition with a probability equal to that of their counterparts who did pledge. We then examine the effect of the thank-you conditions using a weighted probit regression.²⁰ Without thank-you notes, 34.8% of individuals in the pledge treatment ultimately make a donation, whereas 35.4% of individuals give in the pledge-or-give-now treatment. Compared with the give-now treatment, where 30.9% of individuals give, the increase in giving in the pledge and

Figure 3. (Color online) Ultimate Donations: Week 1 and Week 2 Decisions Combined



Note. Error bars denote ± 1 standard error.

pledge-or-give-now treatments is moderate. Columns (3) and (4) of Table 1 show that without thank-you notes, the effect of pledges in the pledge and

pledge-or-give-now treatments is similar, of approximately four percentage points, and not statistically significant.

Table 1. Determinants of Ultimate Giving

Treatment	(1)	(2)	(3)	(4)
	Ultimate donation (=1)			
	Probit		Weighted probit	
<i>Pledge—with and without thank-you</i>	0.056 (0.048)	0.055 (0.043)		
<i>Pledge-or-give-now—with and without thank-you</i>	0.127*** (0.028)	0.127*** (0.027)		
<i>Pledge-or-give-now—without thank-you</i>			0.046 (0.058)	0.048 (0.058)
<i>Pledge-or-give-now—with thank-you</i>			0.153*** (0.025)	0.153*** (0.023)
<i>Pledge—without thank-you</i>			0.041 (0.056)	0.038 (0.052)
<i>Pledge—with thank-you</i>			0.068 (0.066)	0.068 (0.061)
Individual controls	No	Yes	No	Yes
Observations	472	472	472	472

Notes. This table presents the average marginal effects (calculated at the means of all variables) from probit regressions on ultimate giving decisions. Columns (1) and (2) present the marginal effect from simple probit regressions on the treatment pledge, pooling all thank-you conditions together. Columns (3) and (4) present results from weighted probit regressions, whereby individuals who did not pledge in the pledge and pledge-or-give-now treatments are assigned to both the no thank-you and the thank-you conditions and weighted correspondingly. Robust standard errors, clustered at the session level, were used in each regression.

***Significant at the 1% level.

With thank-you notes, pledges increase giving in the pledge-or-give-now treatment by 15 percentage points, an effect that is substantial and statistically significant. Thank-you notes also have a positive effect in the pledge treatment, although it is small and overall does not increase giving significantly.

Overall, as predicted, pledges deliver moderate effects on giving, in line with social-image and social pressure. However, when combined with the option to give now, they lead to the self-selection of more marginal donors into pledging. Thank-you notes can then be used to apply additional pressure on donors, especially self-selected ones, to reduce renegeing and increase giving.

5.4. Pressure to Donate and Interest in the Charity

In discussing different frameworks, we argue that the effects of thank-you notes come via an increased pressure to donate, potentially through higher perceived observability of the pledger's behavior or because of higher guilt from renegeing on the pledge. To examine whether this mechanism is a driver of individuals' decisions to confirm pledges, we elicited several measures of subjects' perceptions of their donation decisions and also of the charity at the end of the week 2 session. Naturally, because these were

elicited after all decisions had been made, they should be interpreted with caution.

To measure pressure (and, more broadly, negative feelings toward the charity), we used two statements: "I felt pressured to donate" and "I regret my donation decisions." The standardized average response to these questions is the dependent variable used in columns (1) and (2) in Table 2. The results in Table 2 reveal that indeed those subjects who pledged in the pledge-or-give-now treatment and received thank-you notes felt more pressure to donate. The thank-you notes acted in a way that seems consistent with social pressure. In line with the effects of thank-you notes on renegeing, the feelings of pressure were weaker in the pledge treatment.

Given the effects of gratitude on social pressure, an important question is whether these effects could have negative spillovers on future interactions with the charitable organization (Meier 2007, Adena and Huck 2020). As shown by Adena and Huck (2020), the long-run effects of an ask could be negative and large in size. In our experiment, we target interventions to individuals who are highly likely to renege. If this is the case, there is less concern that these individuals will not give in the future because they were unlikely to give in the first place.

Table 2. Effects of Gratitude on Pressure to Donate, Interest, and Liking of the Charity

	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Pressure index</i>		<i>Newsletter</i>		<i>Like charity index</i>	
<i>Thank-you</i>	0.484** (0.195)	0.424** (0.181)	0.086 (0.059)	0.147** (0.065)	-0.083 (0.151)	-0.143 (0.199)
<i>Pledge</i>	-0.643* (0.338)	-0.622** (0.287)	0.175 (0.126)	0.333 (0.191)	0.665** (0.280)	0.725*** (0.191)
<i>Thank-you × Pledge</i>	-0.467* (0.244)	-0.085 (0.288)	-0.244** (0.110)	-0.363** (0.161)	0.017 (0.244)	-0.126 (0.256)
<i>Confirm pledge</i>		-0.141 (0.305)		0.286 (0.259)		0.143 (0.743)
<i>Thank-you × Confirm pledge</i>		0.177 (0.375)		-0.244 (0.302)		0.051 (0.821)
<i>Pledge × Confirm pledge</i>		0.021 (0.478)		-0.432 (0.338)		-0.179 (0.788)
<i>Pledge × Thank-you × Confirm pledge</i>		-0.725 (0.491)		0.359 (0.348)		0.305 (0.849)
Constant	0.091 (0.227)	0.132 (0.186)	0.083 (0.079)	-0.000 (0.000)	-0.183 (0.223)	-0.225 (0.142)
Observations	166	166	166	166	166	166
R ²	0.274	0.302	0.027	0.055	0.144	0.157

Notes. This table presents the coefficients from ordinary least squares regressions on self-reported pressure to donate, interest, and liking of the charity. Column (1) presents the coefficients from simple regressions, including dummies for assignment to the thank-you condition and the pledge treatment relative to pledge-or-give-now. Column (2) includes the decision to give (confirm a pledge) as well as an interaction term with the thank-you note and pledge treatment assignment. Robust standard errors, clustered at the session level, were used in each individual regression.

*Significant at the 10% level; **significant at the 5% level; ***significant at the 1% level.

To measure potential long-term effects of gratitude expression, at the end of the longitudinal experiment, we measured individuals' liking of the charity. We used two measures. First, participants in the experiment were given the opportunity to receive a newsletter about the charity, by email, during the week 2 session. Second, we asked participants to express their feelings and perceptions about the charity and their donations. We elicited agreement to the following statements on five-item Likert scales: "I am happy about my donation decision," "I liked having the opportunity to donate to GiveDirectly," "I like the work of GiveDirectly," and "I plan to donate to GiveDirectly in the future." The results are shown in columns (3)–(6) in Table 2. We find a small positive effect of gratitude on newsletter demand in the pledge-or-give-now treatment but no effect on liking of the charity. These effects indicate that feelings of pressure because of the thank-you notes did not translate into large negative effects on these measures.

6. Conclusion

If charities have the option of accepting pledges for future gifts or of requiring all gifts to be made upon their declaration, simple consumer theory would suggest that pledges would be of little benefit to the charity. Pledging would mainly increase the number of insincere pledges that people use to escape the immediate pain of saying no to the request to give. That is, most of the increase in stated intentions to give by pledging will be matched dollar for dollar with reneging on those same pledges. Why, then, are pledges so ubiquitous in fundraising? The task of this paper is to offer a resolution to the puzzle of pledging with the hope that this will deepen our understanding of the subtle decision processes surrounding charitable giving.

Our solution revolves around the utility derived from the social interaction between the giver and the fundraiser. Imagine that people are heterogeneous in how they experience the social pressure of an ask to give—some have little problem saying no or yes to giving today, whereas others who are closer to indifferent may be struggling with their reply. They are, by contrast, sympathetic to the cause and hate to disappoint, perhaps for issues related to self-identity or social-image. Alternatively, they may recognize that one simply cannot afford to give to every socially beneficial cause that asks for money and must, perhaps somewhat arbitrarily, select some requests to decline.

What can make pledges work for the charity is identifying people in this uncomfortable position. If the charity can show even a small bit of extra appreciation to these people, perhaps the charity can flip them into becoming givers. A person who is close to

indifferent may be looking for a way to postpone that uncomfortable feeling of saying no. A pledge with the intent to renege provides such a way. In a situation where those with strong feelings can easily give now or say no now, the charity can identify the more indecisive prospects by allowing pledges. We hypothesize that something as simple as sending an email thanking the people for their pledges can be enough to make givers out of some who had intended to renege on their pledges.

We find evidence for this explanation in our experiment both by observing behavior and through an attitudinal survey about the emotional reactions to the thank-you email. Both suggest that the thank-you note, although very passive, added enough extra pressure to those most on the fence between giving and not giving, especially for those who chose to pledge when it was possible to give immediately.

This is, of course, just one possible explanation for pledges and may be the explanation most suited to the setting under study. There is still more to this puzzle that deserves study. Are there better ways than the thank-you note for charities to approach this self-selected group of persuadable potential donors? Will those persuaded become return givers, or will they avoid future solicitations? A particularly important question is how we understand those organizations who have opted for only pledges. For instance, what about the example in the Introduction about the synagogue that switched from preset membership dues to voluntary pledges? Why did the synagogue find this a successful strategy? Was it succeeding because of the intensive margin—the existing congregation is giving more—or the extensive margin—new members switch synagogues in response to, among other things, a potentially lower price?

Finally, this paper raises the potentially valuable opportunity for managers of charities and other types of organizations to use pledges as tools to identify the middle or indecisive group between the clear yes and no groups. Knowing who is closer to indifferent could be valuable in defining further interventions that will better manage and motivate such people.

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Endnotes

¹See Paulson (2015), for example, "The 'Pay What You Want' Experiment at Synagogues," *New York Times* (February 2, 2015), <https://www.nytimes.com/2015/02/02/us/the-pay-what-you-want-experiment-at-synagogues.html>.

²See, for example, “Making Donors Make Good on Their Pledges,” *Chronicle of Philanthropy* (February 26, 1998), <https://www.philanthropy.com/article/Making-Donors-Make-Good-on/182105>.

³See, for example, “5 Techniques to Get More from Your Pledge Fundraising,” GuideStar blog (October 16, 2018), <https://trust.guidestar.org/5-techniques-to-get-more-from-your-pledge-fundraising>. Technique number 5 is thanking donors multiple times, the first time being immediately upon receiving the pledge.

⁴See also Dana et al. (2006, 2007), Haisley and Weber (2010), Andreoni and Rao (2011), Exley (2015, 2018), Exley and Naecker (2017), Kessler (2017), and Exley and Petrie (2018), among others.

⁵Also related is the study of repetition effects on generosity. For example, Kessler and Roth (2014) find that individuals are less likely to say no to organ donation when they make a second decision in the laboratory. This result is potentially consistent with social pressure if subjects felt more pressure to give in the laboratory than in the Department of Motor Vehicles office. Pledging differs from these studies in that only one donation decision is made. Pledges are clearly framed as intentions to give and not as final decisions about giving.

⁶Alternatively, s and v could be jointly distributed, according to $g(v, s)$, where v and s have a positive covariance. This makes pledging an even better screening device.

⁷Alternatively, we could assume that \tilde{r} is an i.i.d. random variable with probability distribution function $g(\tilde{r})$, cumulative distribution function $G(\tilde{r})$, and $\tilde{r}_i \leq \tilde{r} \leq \tilde{r}_i$. To illustrate that reneging costs are likely higher than the cost of saying no, then we can assume that the distribution of reneging costs first-order stochastically dominates that of the cost of saying no, $G(x) < H(x)$, for all x . Results remain qualitatively similar.

⁸Consider an equilibrium in which this is not the case; then people choose pc , pr , or mn . The person with $v = \bar{v}$ has an incentive to separate from others by choosing gn . Because giving now is more costly than pledging and confirming, the inference must be that the type that does it has the highest value of giving.

⁹The equilibria of the games with only pledges and with only immediate gifts are characterized in detail in Section A.2 of Online Appendix A.

¹⁰The survey also included a survey instrument to measure empathy, the Interpersonal Reactivity Index (Davis 1983), and the Barratt Impulsiveness Scale (Barratt and Ernest 1959). The correlation between these behaviors and giving is studied in Andreoni et al. (2018).

¹¹Specifically, in the weak thank-you note, subjects were thanked for their participation and their decision to pledge. They were told that their contribution would make an important difference in the life of the recipient family. The note closed by stating that we looked forward to seeing them in a week when they could confirm their pledge. The strong thank-you note had the same opening sentence. Instead of telling subjects about the general importance of their donation, the text emphasized that the donation would go to a family in Kenya “like this one,” and a picture of a family was shown. This reflects the importance of the identifiable victim, as shown by Small and Loewenstein (2003). In addition, the weak note thanked them for their pledge, whereas the strong note thanked them for “being a donor” to increase the appeal to an individual’s identity as a donor and thereby increase behavior in line with this identity, as used by Walton and Banaji (2004), Bryan et al. (2013), and Kessler and Milkman (2016), among others.

¹²The data from the give-now treatment are part of the control treatment in experiment 1 of Andreoni and Serra-Garcia (2016), who study time inconsistency in charitable giving using a dynamic model of social-image in three different experiments.

¹³Attrition was not significantly different by show-up fee ($\chi^2 = 0.8440$, $p = 0.358$). Donation rates were 32.5% and 29.4% in the give-now

treatment ($\chi^2 = 0.184$, $p = 0.668$) in the first and second sets of sessions, respectively.

¹⁴In the pledge treatment, 72 subjects pledged to give in week 2. Among pledgers, approximately half (55.6%) received the weak version of the thank-you note. In the pledge-or-give-now treatment, 95 subjects pledged to give in week 2. Among them, 27.4% received the weak version of the thank-you note, and 47.4% received the strong version.

¹⁵For example, such recommendations can be found in “5 Techniques to Get More from Your Pledge Fundraising,” GuideStar blog (October 16, 2018), <https://trust.guidestar.org/5-techniques-to-get-more-from-your-pledge-fundraising> or through Snowball, a digital fundraising platform, on “How To Collect Pledges: 6 Steps for Securing Pledged Support” (<https://snowballfundraising.com/collecting-pledges/>), where the second step is to immediately send a thank-you message for pledges received.

¹⁶A regression analysis of reneging as a function of the option to only pledge, relative to having the option to give now, and thank-you notes is presented in Online Appendix C.

¹⁷Because thank-you notes have a weaker effect on giving in the pledge treatment, we do not find evidence that thanking those who pledge has an effect per se. Future work could test whether there would be an effect of thanking donors for their gifts in the give-now treatment, instead of their pledges, as we do in the pledge and pledge treatments, on future donations.

¹⁸Our analysis of the treatment effects in Table 1 reports p -values that are uncorrected for multiple hypothesis testing (e.g., List et al. 2019). However, because all p -values for significant differences are less than 0.001, correcting p -values leaves our conclusions unchanged.

¹⁹Comparing the give-now, pledge, and pledge-or-give-now treatments, we find that pledge-or-give-now (combining those receiving thank-you notes and those not receiving them) led to a giving rate of 43.7%, which is significantly higher than the 30.1% giving rate in the give-now treatment ($\chi^2 = 6.2013$, $p = 0.013$). There is no difference between the give-now and pledge treatments, in which the overall giving rate was 36.4% ($\chi^2 = 0.8896$, $p = 0.346$).

²⁰This is important because we would otherwise count those who did not pledge multiple times. An alternative approach is to randomly assign a share of the individuals who did not pledge to each thank-you condition and use bootstrapping. Results remain qualitatively similar with this approach.

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