



Contents lists available at ScienceDirect

Journal of Economic Behavior and Organization

journal homepage: www.elsevier.com/locate/jebo

I will donate later! A field experiment on cell phone donations to charity[☆]

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ARTICLE INFO

Article history:

Received 21 December 2020

Revised 8 August 2022

Accepted 18 August 2022

Available online 1 September 2022

JEL classification:

C93

D64

D91

H41

Keywords:

Charitable fundraising

Field experiment

Altruism

Image motivation

ABSTRACT

Given the replacement of cash with cell phone payments, people who are asked to donate to charity can easily promise a donation but delay the transfer until a later date. This may be a way to get out of the ask-situation with a positive image while maintaining the flexibility not to donate. This study explores whether charities can make people keep their promises by making such promises more explicit and more formal.

In a door-to-door fund-raising field experiment, we vary the strength of the promise that donors make. Besides a control group where people can promise to donate, we apply two treatment groups. In the first treatment, donors are asked to verbally pledge a precise amount. In a second treatment, this amount is in addition put on paper with the solicitor's signature added. Both treatments are aimed at making it morally more expensive not to keep promises. Our results show that: (1) the majority of people do not follow through on their promise to donate; (2) donors who pledge an explicit amount more often keep their promise. The more formal the commitment, the closer the amount donated is to the amount promised; (3) many participants refuse to pledge a donation amount when asked, and those who refuse donate significantly less.

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1. Introduction

For the first time, charitable giving in the US surpassed the \$400 billion mark in 2017, with 70 percent of the total coming from individuals.¹ Altruism and the utility from giving explain part of people's sustained engagement in philanthropy.² However, next to a desire to give, evidence also reveals a tendency to avoid choice situations where they feel compelled

[☆] This study has been pre-registered in the AEA RCT Registry (AEARCTR-0001759). The article has greatly benefited from constructive comments by the editors and two anonymous reviewers. We gratefully acknowledge the Groningen Experimental Economics Laboratory (GrEELab) and the Markets & Sustainability signature area for financial support. We thank Johannes Abeler, Maja Adena, Marco Castillo, Ragan Petrie, Michael Price, David Reiley, Gert-Jan Romensen as well as audiences at the WZB Workshop on Recent Advances in the Economics of Philanthropy and ESA World Meetings 2018 for valuable discussions and comments. Data, code, and materials are publicly available at <https://osf.io/3vtq8>.

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¹ <https://givingusa.org/see-the-numbers-giving-usa-2018-infographic/>.

² Andreoni (1990, 2006); Ariely et al. (2009); Crumpler and Grossman (2008); Chowdhury and Jeon (2014); Hungerman and Ottoni-Wilhelm (2021).

to give. In laboratory dictator games with sorting, participants choose to opt-out of sharing opportunities (Broberg et al., 2007; Dana et al., 2006; Lazear et al., 2012); in field experiments on charitable giving, respondents choose to avoid the ask (DellaVigna et al., 2012; Trachtman et al., 2015; Andreoni et al., 2017); on the web, a drop in click-through rates is observed among people who expect a request to donate (Exley and Petrie, 2018).³ In cases where the ask cannot be avoided, social pressure is found to be an important driver in the decision to donate, in particular when there is a social tie between donor and solicitor (Alpizar et al., 2008; Castillo et al., 2017; Meer, 2011; Soetevent, 2005). Combined, these studies point to social pressure as an important driver of charitable behavior next to intrinsic motives: People give when asked because they experience a disutility when saying no.⁴

We investigate a less-researched implication of social pressure and image concerns in time-delayed charitable giving. In many giving situations, potential donors face the ask but have the flexibility to delay the payment. This potentially disconnects the decision to give from the act of giving. Social image concerns may then lead people to promise the fund-raiser to donate but to not follow through on this after the fund-raiser has left the scene. In avoiding both an explicit 'no' to the fund-raiser and making a positive donation to the charity, individuals can uphold their social image. For charities, the challenge is to design ask situations that increase the number of initial promises that are followed through. An obvious route for charities to accomplish this is to make it harder, i.e. more costly, to fail to honor any promises made. The firmer the elicited commitment, the more costly it is, in a moral sense, for donors to renege by giving less than the pledged amount.

We report the results of a field experiment that tests the impact of varying the moral commitment to future donations at the time of the ask on time-delayed charity donations. To which extent can firmer pledges help to get more people to follow through on their promises? We investigate this question by collaborating with the Danish Refugee Council (DRC) in a large door-to-door fund-raising field experiment.⁵ Urged by the declining use of cash in society, charities, like the DRC, increasingly use digital payment instruments in their off-line fund-raising activities. Since 2014, donors in the DRC's annual door-to-door fund-raising campaign have besides the option to use cash, had the option to donate via the dominating cell phone payment app in Denmark, MobilePay.⁶

Digital, non-cash payment instruments potentially disconnect the ask from the act of giving. Whereas cash donations can only be completed with the solicitor present, digital transactions can also be completed after the solicitor has left. This may impact actual giving when people not only derive intrinsic utility from the act of giving, but can already consume part of this utility at the time of pledging and enjoy image utility from informing the solicitor that they will give.⁷

To motivate our research hypotheses, we develop a simple decision-theoretical framework of time-delayed giving in which donors can donate any non-negative amount. This model, which is presented in the Online Appendix, extends Bénabou and Tirole (2006) and captures the essential trade-offs in image concerns that are important for our field setting. Our main interest is in the impact of changing the donor's cost of renege on the amount respondents pledge and the amount they ultimately donate.

The model incorporates the idea that individuals who pledge in front of a solicitor may be susceptible to social image concerns because the amount pledged is informative about their intrinsic motivation to give. This leads individuals to pledge higher amounts than they would absent image concerns. However, pledges are only informative when there is a (moral) cost to be paid when the future amount given differs from the amount that has been pledged. Such renege cost "glues together" the pledged and given amount. If the renege cost is very high, the amount given will equal the amount pledged. This implies that higher initial pledges may drag actual donations upwards. Whether charities can use renege cost to increase donations depends on the extent to which potential donors discount future payments. Lower discount factors (e.g. due to quasi-hyperbolic discounting, Laibson, 1997) induce higher pledges because the consequences appear further away. Making it harder, i.e. more costly to renege upon one's pledge may then help charities to increase revenues by locking a higher percentage of the pledged gift. This despite the fact that the pledges themselves will be slightly dampened when they become harder to renege upon.

Our main treatment is to vary the strength of the pledge that is extracted from respondents who indicate an intention to donate by mobile phone. This to test the idea that firmer pledges make it morally more costly for donors to renege on their pledges by not wiring the payment. We implement three main treatments. Solicitors in the benchmark no amount

³ Related to this, laboratory studies find that people choose to avoid information about the consequences of their actions to others in order to provide themselves the moral wiggle room to justify a non-sharing outcome (Dana et al., 2007; Grossman and Weele, 2017).

⁴ In line with this, DellaVigna et al. (2012) show that households displaying a small amount of altruism donate small positive amounts when facing the ask. Bursztyn and Jensen (2017) review the recent literature on image concerns and explore the mechanisms that shape social pressure.

⁵ <https://drc.ngo/>. The DRC is a Danish humanitarian non-governmental organization. It is a major charity with activities in more than 30 countries and a balance sheet of 1.1 billion Danish Crowns (DKK) $\approx$ € 147 million (Exchange rate 31.12.2016).

⁶ In Copenhagen, 6.97 per cent of all donors donated by mobile phone in 2015, up from 2.17 per cent in 2014. In 2019 a YouGov whitepaper reports that MobilePay is used in 93% of all cell phone payments in Denmark. <https://d25d2506sfb94s.cloudfront.net/r/63/Mobile%20Payment%20in%20the%20Nordics-Denmark.pdf>

⁷ For retail point-of-sale (POS) transactions, this element of the transition to a cashless society is less inconsequential because laws safeguard sellers from non-payment. In charitable giving, such safeguards are absent whenever donors say yes to a fund-raiser without signing any form of contract. This is the common practice in door-to-door fund raising where donors can renege without cost on any promises made by simply not completing the actual payment. Rysman and Schuh (2017) offer a broad perspective on how the digitization of payment instruments will impact consumer payment behavior and review recent research in this area. A large literature investigates how consumers choose between payment instruments such as cash or card (e.g. Koulayev et al., 2016; Cohen and Rysman, 2013; Wakamori and Welte, 2017).

pledge (NA pledge) treatment allow donors to pledge that they will donate later but do not extract a commitment on the exact amount; solicitors in the soft amount pledge treatment (SA pledge) ask donors how much they plan to wire to the DRC; solicitors in the firm amount pledge treatment (FA pledge) not only ask for this amount, but also write this amount on the flyer, add a signature and return this to the donor as a mnemonic device. In other words, the no amount pledge encourages donors to pledge on the extensive margin whereas the amount-pledges encourage intensive margin pledges. As a second treatment variable, we vary whether participants who intend to make a delayed donation face a limited, seven-day payment window. Randomization is at the solicitor level, and consequently we treat observations at the solicitor level as our unit of independent observation. Following DRC's established practice, respondents in all treatments have the option to make a donation by cash or to donate by mobile phone. Our treatment variation is fully directed towards the respondents who donate by mobile phone and complete this transaction after the solicitor has left.⁸ This is because our interest is in those donors who can change their initial choices. Our sample, thus selected, contains a total of 310 individuals (and 83 unique solicitors) who indicate that they want to make a delayed donation by cell phone.

Our main empirical results are as follows. First, without committing to an amount, only 23% of donors follow through on their pledge promise to donate. This establishes that charities indeed face a challenge in collecting pledged donations. Second, when the intended donation is put on paper with the signature of the solicitor added, this rate increases by 13 percentage points to 36% ($p = 0.084$). This increase is economically meaningful but statistically marginally significant. Importantly, our evidence reveals a clear demand for commitment avoidance in the field. When asked, about 45% of all participants in our experiment refuse to make a pledge. As a result of this treatment noncompliance, the treatment estimates that we present are unbiased intention-to-treat (ITT) estimates of the effect of 'being offered to pledge' (treatment assignment). They should be regarded as some first field evidence on the impact of commitments on time-delayed charitable giving in an offline, in person context.⁹ We find no significant differences between the treatment with and without the limited payment window. The presence of this limit seems irrelevant as almost all donations are received within five days.¹⁰ Hence we will pool the conditions with and without a limited payment window in our presentation.¹¹

In a more exploratory analysis, we focus on the treatments asking for pledged amounts and distinguish between respondents who do state the amount they intend to give and those that refuse to do so. We find that the mean donation received and the proportion of respondents that follows through is significantly higher in the sub-sample of people who state an amount. This of course is the sum of a selection-effect and a treatment effect. When we confine attention to delaying donors in the SA pledge and FA pledge treatments who comply with the treatment, we find differences that confirm our model prediction that firmer promises lead to lower amounts promised: respondents in the soft amount pledge-treatment pledge significantly higher amounts ($p = 0.032$) but are significantly more likely to deviate from the amount pledged ($p = 0.036$). The net effect is that, conditional on stating an intended amount, ultimate giving by delaying donors is about the same in both treatments. Our evidence suggests that pledge-elicitation may increase the effectiveness of charities' fund-raising strategies when they can implement it in a way that does not put people off. How to accomplish this is an open question that requires further research.

This paper is structured as follows. [Section 2](#) briefly reviews existing evidence for the demand for charitable giving. [Section 3](#) introduces and discusses the experimental design. [Section 4](#) presents the data which are analyzed in [Section 5](#). [Section 6](#) summarizes our findings and offers some policy implications.

2. Existing evidence

The existing empirical evidence on the demand for commitment in charitable giving is mixed. In a non-charity related field experiment among undergraduate students, [Exley and Naecker \(2017\)](#) find an increase in the demand for commitment technology when the commitment choices are made in public. In the different environment of the laboratory and using a student sample, [Andreoni and Serra-Garcia \(2021b\)](#) however reveal time-inconsistencies in charitable giving in a number of related experiments. They also point to the explanatory role of social image. Related to this, [Exley and Petrie \(2018\)](#) present field evidence that people may be reluctant to act pro-socially in decision environments that do not have the flexibility to camouflage one's reluctance to give. In a field context where undoing promises to give is costless, [Lacetera et al. \(2016\)](#) find that 16% of initial pledges is deleted. Similarly, [Meyer and Tripodi \(2021\)](#) report that almost all subjects renege on their pledge to give blood.

Earlier studies do not tell how a commitment combined with a time-limited payment window affects donations. Lab and field experiments have on the one hand repeatedly shown that shifting deadlines are ineffective at increasing the number and level of donations ([Damgaard and Gravert, 2017](#); [Knowles and Servátka, 2015](#); [Knowles et al., 2016](#)). [Bremen \(2011\)](#) on

⁸ As outlined in the Pre-Analysis Plan (PAP) that was submitted prior to the fund-raising date ([Fosgaard and Soetevent, 2016](#)).

⁹ [Lacetera et al. \(2016\)](#) explore how publicizing/broadcasting pledges impacts donations in the context of an online fund-raising campaign. Is a natural field experiment they use "visibility" as the binary treatment variable. Their analysis among 25 users does not find significant differences in outcomes.

¹⁰ Only one donation in the no-deadline treatments arrives more than a week later. This resonates [Chuan et al. \(2018\)](#) who find that the likelihood of a donation by former hospital patients sharply decays with the time in between the provision of medical care and the donation solicitation.

¹¹ See Online Appendix C for the analysis at the disaggregated level.

the other hand shows that when people are asked to commit to a future donation, the amount committed increases with the time to payment.¹²

Two distinctive elements of our design deserve to be emphasized. First, unlike some previous studies, individuals have the freedom to donate any amount instead of a fixed amount predetermined by the experimenter.¹³ This difference is relevant. From a practical point of view because it resembles many practical fund-raising situations. From a theoretical perspective because it allows donors to pledge an amount that is different from the amount that is eventually donated. Second, while pledges are made in public to the solicitor, the actual donation is made anonymously. Image motives may, therefore, induce people to pledge a higher amount in front of the solicitor than the sum they eventually give in private. This opens an additional channel for observing ‘time-inconsistent’ choices: Driven by image concerns, individuals without altruistic preferences may publicly promise a donation that is not followed through in private when the moral cost of reneging is low.

The setting of pledging for a charity donation also relates to the literature on promise breaking. In a traditional neoclassical economic sense a promise should be considered noise without a signal because an agent would incur no cost of not living up to the promise. Empirically it is however found that promises do carry a positive signal about actual behavior. Neuroscientific evidence supports this when documenting that breaking a promise is an emotional conflict which is, among other things, activating the amygdala, a brain area known to be associated with unpleasant situations (Baumgartner et al., 2009). The reason why many people tend to live up to their promises is that many have a preference for not being dishonest and for living up to the expectations others are assumed to have about their behavior (Vanberg, 2008). In the behavioral economic research lying aversion and guilt aversion have been identified as pronounced preference patterns (Abeler et al., 2019; Ellingsen et al., 2010; Gneezy, 2005). More concretely, promises have for instance been found to signal actual behavior in an expert-consumer market (credence good) with asymmetric information (Beck et al., 2013), trustworthiness in a trust game (Charness and Dufwenberg, 2006), TV game-show with social dilemmas (Belot et al., 2010), and high levels of cooperation in public good game (Bicchieri and Lev-On, 2007).

3. Experimental design

3.1. Institutional setting

The role of cash is diminishing in most European countries. In Denmark, this decline is more pronounced than in most other countries. In 2016, the share of cash payments at points of sale was 23% in Denmark, which is the lowest in the EU. Since the 2000s, card payments have exceeded cash payments in retail stores. The number of annual per capita card payments is about 270, which is about twice the number of per capita cash payments. These numbers are respectively the highest and lowest in all euro-area countries. The Danish Refugee Council (DRC) annually organizes a nationwide door-to-door fund raising campaign. Driven by the replacement of cash payments by card payments, DRC donors have in recent years had the option to make a digital donation. This alongside the traditional option to donate cash in a box. In 2015, 6.97% of all donors in Copenhagen made a donation by mobile phone (up from 2.17% in 2014). For the campaign on November 6, 2016, we collaborated with the DRC to implement a number of treatments in three different boroughs of Copenhagen (Brønshøj, Frederiksberg, and Vesterbro). Each borough is managed by a local DRC-manager. Volunteers of the DRC act as solicitors. These volunteers show up at a central meeting point in the boroughs to pick up their donation box. The set of routes is predetermined by the DRC, but volunteers are free to select one of the available routes. Usually, a DRC-volunteer visits about 100 houses, 150 apartments or 50 land estates; each solicitor usually collects about 1000DKK ($\approx$ € 134).

3.2. Treatments

In all treatments, communication between solicitors follows the flow chart depicted in Fig. 1. The solicitor starts with an introduction and a brief explanation of the available payment options. To control donors’ beliefs about the payment-delay possibilities of mobile phone transfers, the solicitor explicitly mentions that using the mobile phone comes with the option to donate later. In the treatments with a limited payment window, the seven-day deadline is mentioned.¹⁴ The solicitor then asks the respondent if she wants to donate to the DRC. If so, the solicitor asks the donor whether she wishes to donate by cash or by making a debit card payment using the mobile phone payment app. Donors who select cash put their donation in the solicitor’s box and receive a general flyer with a “Thank You” message.

¹² Based on the evidence from two field experiments, Damgaard and Gravert (2017) find that independent of the deadline, donations are made immediately or not at all. Similarly, in a lab study, Knowles and Servátka (2015) find no evidence that giving people more time to give reduces donations. In a related study, Knowles et al. (2016) focus on the effect of having no deadline (i.e. an infinite deadline). They find that specifying no deadline leads to a response that is not lower than the response obtained with a one week deadline and higher than the response obtained with a one-month deadline. Whereas these studies have considered the impact of deadlines unaccompanied by a commitment to give, Breman (2011) looks at the effect of varying the timing of payment combined with a commitment to give. In a field experiment, she finds that people commit to significantly higher amounts when the payment is in two months instead of immediate. In line with this, Kölle and Wenner (forthcoming) find that subjects in a dictator game behave more generously if their choices are implemented in the future.

¹³ For example, in Andreoni and Serra-Garcia (2021a) subjects can choose between donating \$5 or nothing.

¹⁴ The deadline is also explicitly mentioned in the flyer donors receive.

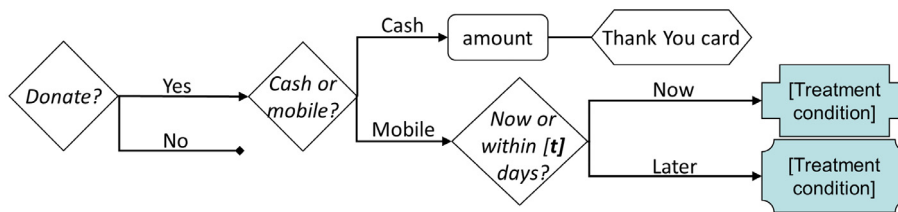


Fig. 1. Flow chart solicitor-respondent communication. *Note:* The diamonds are the decision nodes. Respondents need to decide, first, whether they wish to donate, second, which payment instrument they use for making the donation, and third – in case they indicate to use their cell phone – whether they wish to donate now or later.

Table 1

Treatment summary.

Treatment	No amount pledge		Soft amount pledge		Firm amount pledge	
	NA7	NAinf	SA7	SAinf	FA7	FAinf
Pledge	No	No	Yes	Yes	Yes	Yes
Amount	No	No	Yes	Yes	Yes	Yes
Deadline	Yes	No	Yes	No	Yes	No

A key element of the design is that donors who decide to make a mobile phone payment by MobilePay are asked by the solicitor whether they wish to donate now or later. The solicitor asks “Do you wish to donate immediately or at a later point in time?” Regardless of the respondents’ answer, solicitors are instructed to record any donation made via mobile phone in their presence as “Mobile-Now” and all others as “Mobile-Later”.

The group of mobile phone donors is then exposed to treatment variation in the strength of the pledge that is extracted (the shaded area of Fig. 1). We deliberately introduce this treatment variation after donors have indicated their preferred payment method to avoid that differences in pledge strength affect the choice of payment instrument. Previous studies (Andreoni et al., 2017; Exley and Petrie, 2018) have pointed out that individuals with low intrinsic motivation to give, look for credible excuses not to give. In our context, saying “I will wire my donation later via mobile phone” might be one such excuse. Arguably, this excuse may be less attractive in the treatments where the choice for a mobile phone donation is combined with explicit amount pledge.¹⁵ Of course, people may switch to cash after they have been told that they have to state the amount they plan to give. Solicitors were instructed to record such preference reversals and observe them in less than 1% of all transactions (12 in total).

Our three main treatments vary the respondents’ cost of reneging, by changing their level of commitment to the pledged donation. In the no amount Pledge (NA pledge) treatment, mobile phone donors can pledge that they will donate later but they are not asked to state or pledge an amount. In the soft amount Pledge (SA pledge) and firm amount Pledge (FA pledge) treatments, the solicitor asks for a pledge as follows:

SA pledge: Could you please tell me how many Danish Crowns you intend to donate?

FA pledge: Could you please tell me how many Danish Crowns you intend to donate? I will put this amount with my signature on this Thank-You letter.

The firmer the pledge is, the more costly it is for the donor to not follow through ($r_{NA} < r_{SA} < r_{FA}$). While more than one aspect might change between treatments (in FA pledge, the pledged amount becomes both more official and more salient compared to SA pledge), what we observe is the net-effect of increasing the reneging cost.¹⁶

Table 1 presents a summary of the treatments. The treatments NA7 pledge, SA7 pledge and FA7 pledge are combined with a deadline: respondents who wish to donate by mobile phone can do so within one week, up to and including Sunday November 13th.¹⁷ In the other treatments (NAinf pledge, SAinf pledge, FAinf pledge), the option to pay by phone is not combined with a deadline. In all treatments, the solicitor hands a flyer to the respondent points out that the number on the flyer can be used to complete the payment, and then wishes the donor a nice day. The type of flyer a donor receives depends both on the treatment and the response given. In total, there are four different flyers.¹⁸ The default DRC-flyer is

¹⁵ Soetevent (2011) shows how treatment variation in the choice set of payment instruments changes the signaling value of using a certain payment instrument.

¹⁶ Note that a pledge for an immediate donation in the presence of the solicitor may differ in nature from a pledge for a later donation to be completed when the solicitor is not present. In the latter case, not completing the payment may be due to the donor genuinely having forgotten, whereas non-completion in the former case seems closer to the respondent telling the solicitor a lie when pledging to give.

¹⁷ The solicitor-specific phone numbers in the treatments with deadline were shut down on November 14.

¹⁸ Appendix C shows a specimen of each flyer and Table C.4 gives the allocation scheme of the different flyers.

used when a solicitor finds nobody home or the donor uses cash.¹⁹ This flyer is also used in the NA pledge and SA pledge treatments without a deadline. The other flyers are similar to the default flyer except that the date of November 13th is stated in the treatments with a deadline, and extra space is reserved for the pledged amount and the solicitor's signature in the FA pledge treatments.

3.2.1. Research hypotheses

In Online Appendix A we develop a modified version of the Bénabou and Tirole (2006) image signaling model which incorporates the idea that individuals with an intrinsic motivation to donate may already consume a fraction $\theta_1 \in [0, 1]$ of this intrinsic utility when they pledge amount p at time t . At the later time $\tilde{t} > t$ of completing the actual transfer, individuals realize which amount g they are going to donate and consume the intrinsic utility of giving g while part ($\theta_2 < \theta_1$) or all ($\theta_2 = \theta_1$) of the utility already received at the time of pledging is netted back out (the “payback”). As individuals pledge in front of a solicitor, they are susceptible to social image concerns because the amount pledged is informative about their intrinsic motivation or “type”. This leads individuals to pledge higher amounts than they would absent image concerns. However, pledges are only informative when there is a (moral) cost to be paid when the amount g donated at time $\tilde{t}$ differs from the amount p pledged at time t . This reneging cost (represented by parameter r) glues the amount pledged and the amount given together.²⁰ If the reneging cost is very high, the amount given will equal the amount pledged. This implies that higher initial pledges may drag actual donations upwards.

The question then is whether charities can use this to their benefit by making reneging more costly. It turns out that the answer to this question critically depends on the discount factor δ the individual applies to the future payback. The lower the discount factor that is applied – either because the future is distant ($\tilde{t} \gg t$) and/or perceived as distant by the individual because she has present-biased preferences (Laibson, 1997; O'Donoghue and Rabin, 1999) – the higher the future amount the individual is willing to pledge at time t . Although pledges are slightly dampened when they are harder to renege upon ($\partial p^*/\partial r < 0$), charities can then increase revenues by locking in a higher percentage of a smaller amount pledged gift by increasing the cost of reneging ($\partial g^*/\partial r > 0$). However, in the case of full payback ($\theta_1 = \theta_2$) and no discounting ($\delta = 1$), the prediction is that donations do not respond to changes in the cost of reneging: $\partial g^*/\partial r = 0$.

Our experimental treatments vary the cost of reneging. Motivated by the model of promised and actual giving, and as spelled out in the PAP, the main hypothesis tested is:

$$H1 \quad H_0 : g_{FApledge} = g_{SApledge} \text{ vs. } H_a : g_{FApledge} > g_{SApledge}.$$

That is, the actual donation by respondents with a preference for giving later via mobile phone is not affected by the strength of the pledge they have to make. Rejection of the null hypothesis will lend support to the alternative hypothesis that a higher reneging cost enables the charity to collect the higher amounts that are pledged due to image motivation and the discounting of future payments.

We also test some other, more exploratory, hypotheses about the amounts pledged and donated in the SA pledge treatments:

$$H2 \quad H_0 : p_{SApledge} = p_{FApledge} \text{ vs. } H_a : p_{SApledge} > p_{FApledge}.$$

The alternative hypothesis reads: respondents who prefer to wire their donation later will pledge less when the cost of reneging is higher.

$$H3 \quad H_0 : g_{NApledge} = g_{SApledge} \text{ vs. } H_a : g_{SApledge} > g_{NApledge}.$$

The alternative hypothesis reads: respondents who prefer to wire their donation later will donate more when there is a cost of reneging.

At first glance, the difference between the SA pledge and NA pledge treatments in H3 is similar to the difference between the FA pledge and SA pledge treatments that is the subject of hypothesis H1. However, compared to the NA pledge treatment, the SA pledge and FA pledge treatments not only have the pledge-dimension, they also remove the donor's anonymity: the intended gift is announced to another person, the solicitor, and this may have an effect of its own. We can separate the two effects by comparing the respondents who choose to donate on the spot in the SA pledge and NA pledge treatments. Both groups of donors pay immediately, hence the amount pledged equals the amount given. For this sub-sample, any increase in average donations must, therefore, be caused by the isolated impact of the loss of anonymity.

3.3. Method of randomization

Randomization is at the solicitor level and our interest is in those donors who pay by mobile phone. To obtain sufficient observations and because of budget limitations, we relied on DRC-volunteers for the fieldwork, each of whom received a training and instruction session beforehand. The following issues require some discussion.

¹⁹ Usually, solicitors of the DRC offer a flyer to every person that opens the door. For individuals who have donated cash, the “Thank You”-message on the front page of the flyer [“Tak!”] applies; donors who wish to donate by phone can find a phone number printed on the front page. Non-donors and people not at home receive the same flyer. For them, the flyer contains a number of alternative means of donating to the charity on the inside.

²⁰ Absent such a cost, the agent's pledge is undetermined as the agent can pledge any amount when she is not bound to it. In that case, pledges are uninformative about underlying preferences. In the model, we assume that the cost of reneging increases quadratically in the difference $|g - p|$.

Table 2
Summary donation data.

	Solicitor records		MobilePay transaction data		Fraction donations/pledges received
	(1)	(2)	(3)	(4)	(5)
	Total		Total		
# households	6973				
not home		3776			
home		3197			
	3197				
no donation		788			
donation		2409			
	2409				
cash		1806			
unknown		10			
mobile phone		593			
	593		357		0.60
now		246		234	[0.95, 1.00]
unknown		37		35	
later		310		88	[0.36, 0.40]

Note: The numbers in columns (1) and (2) are derived from the record sheets handed in by the solicitors, the numbers in columns (3) and (4) from the MobilePay transaction data. The lower and upper bounds of shares of received pledges/donations in column (5) are constructed using the combined pledge and transaction data.

First, DRC solicitors will be more heterogeneous than student recruits.²¹ We assume that differences in unobserved solicitor characteristics on which we have no information (looks, voice, etc.) will even out across treatments.²²

Second, we can only instruct the DRC-solicitors on the day of the campaign; a training session before the study is not possible. Unlike student recruits who sign up for a paid research assistantship, DRC solicitors go to a meeting point because they wish to collect donations for the DRC. The link with a research study is new to them and although the local DRC-manager stresses the importance of the study for the DRC, some volunteers may, nevertheless, decline the request of our assistants to go to a designated room to receive additional instructions on how to approach potential donors. Eleven students of the University of Copenhagen were trained as assistants to instruct the solicitors on a one-to-one basis. In a double-blind procedure, the assistants assigned each DRC-solicitor to a treatment.²³

Instructed volunteers may decide not to follow the procedure once they start soliciting. Hence, the Pre-Analysis Plan (PAP) to this study (Fosgaard and Soetevent, 2016) formulates exclusion rules that outline when the data collected by a volunteer will (not) be included in the analysis.²⁴ Soetevent applied these exclusion rules on the blinded outcome data to arrive at the analysis set used in the main analysis of the paper.²⁵ Application of the exclusion rules leads to dropping 3007 of the 9980 recorded solicitor-household interactions (including households who were not at home), leaving an analysis set of 6973 observations from 83 unique routes. The majority of the observations dropped originate from solicitors who, when they returned, indicated to the research assistant that they did not follow the instructions in soliciting donations.

As mentioned in the PAP (Fosgaard and Soetevent, 2016), we aimed to instruct up to 300 volunteers but expected to end up with a lower number in case many volunteers would show up at about the same time to collect materials. This, unfortunately, did happen. Many volunteers arrived between 9 and 10 o'clock in the morning and the assistants could not instruct all of them. This increases the chance that our design, as implemented, is underpowered.

4. Data

The analysis set combines data from three sources: the individual-level data on pledges and donations as recorded by the solicitors, the MobilePay transaction data on mobile payments as received from the bank, and data on solicitor features as registered by the research assistants. Online Appendix B briefly summarizes the three data sets.

Table 2 gives a brief overview of the records included in the analysis set. Of the 6973 records, 3197 households were at home. Of these, 2409 (75.4%) made a donation immediately or promised to make a donation. 1806 donations (75% of the

²¹ In contrast, e.g. Andreoni et al. (2017) use a homogenous set of 22 year-old white female bell-ringers.

²² We could not condition our randomization on this information because it was not available beforehand.

²³ This double-blind procedure was implemented as follows. Fosgaard took a set of six instruction packages (one per treatment) and randomly put them in one of six bags that also contained the other materials solicitors needed. These six bags were randomly ordered in a bunch that was tied together with a piece of rope. At the intervention date, the assistants picked one of these bunches and assigned a bag to an arriving solicitor (taking out the instructions and reading them aloud to the solicitor). Each time the assistant had finished a bunch, (s)he fetched a new one.

²⁴ These rules are the following. Solicitors will be excluded from the analysis set when: a) more than ten percent of the items on the record sheet is unreadable, b) they return incomplete record sheets that make it impossible to determine the value of the key outcome variable, c) they themselves indicate upon returning to the assistant that they did not follow the instructions, d) the number of households that opted for a Mobile-Now on the solicitor's record sheet differs by more than 20% from the number of Mobile-Now donations received by MobilePay. Solicitors who return record sheets that are incomplete but include all information necessary for the main analysis will be included.

²⁵ The exact description of this procedure is given in Fosgaard and Soetevent (2017).

total) were immediate cash donations, while for 10 donations (<1%), the payment method is unknown.²⁶ The remaining 593 were (promised) donations by mobile phone: 246 were Mobile-Now donations and 310 were promised Mobile-Later donations. In 37 cases, the solicitor records and MobilePay transaction data do not provide a definitive answer whether the mobile phone donation was a Mobile-Now donation or a promised Mobile-Later donation.²⁷

4.1. MobilePay transfers

Mobile payments were executed by MobilePay, an application to transfer money by smartphone, developed and owned by Danske Bank. In September 2016, MobilePay had 3.2 million registered users in Denmark (out of a population of 5.7 million). Users can easily, and free of charge, transfer money by entering a mobile phone number associated with the account of the receiver. For this study, Danske Bank supplied us with the administrative data on all transfers that were made to the fund-raising drive, including a time-stamp. Hence, we know exactly when a transaction was made to a solicitor-specific mobile phone number. The analysis set contains a total of 357 MobilePay transactions.²⁸

Of these transactions, 234 match with a Mobile-Now donation and 88 with a promised Mobile-Later donation. In 35 cases, we cannot identify whether it is a Mobile-Now or a Mobile-Later payment but we know that at most 12 can be Mobile-Now donations as 234 of the 246 recorded Mobile-Now donations were already identified. In other words, of the 310 Mobile-Later donations, between $111 (= 88 + 35 - 12)$ and $123 (= 88 + 35)$ are transferred. This implies that at most 40% of the Mobile-Later donations is received by the charity (column (5) of Table 2).

Fig. 2 shows the timing of the MobilePay transactions. The figure reveals that not only the Mobile-Now but also the most Mobile-Later donations arrive on the day of the fund-raising drive. Of the 357 donations, only five arrive after November 6, and none after November 10. This implies that most Mobile-Later donors who follow through do so relatively shortly after the solicitor has left.²⁹ This suggests that the seven-day deadline does not impact the ultimate contribution. As the other outcome variables also show no notable differences between the treatments with and without a limited payment window, we pool the treatments with and without a payment window in all that follows.

4.2. Descriptive statistics

4.2.1. Background variables

Table 3 summarizes the solicitor traits by treatment at the solicitor level.³⁰ The number of solicitors is balanced between treatment groups ($\chi^2(2) = 1.90$, $p = 0.39$). The table shows no significant treatment differences in solicitor traits such as age, gender, the presence of accompanying children, or experience with soliciting donations for the DRC (with experience measured as having previously engaged in door-to-door fundraising for the DRC). The large majority of solicitors (~90%) have experience with soliciting on behalf of the DRC. In all treatments, a slight majority of solicitors are female. The average solicitor age is between 37 and 46 years. The company of children is relatively common and happens in about one-third of all cases. The distribution over boroughs is similar across treatments with most observations from Frederiksberg borough.

4.2.2. Treatment independent outcome variables

We next check whether the solicitors have correctly followed the procedure outlined in Fig. 1. To that end, we consider a number of outcome variables that should not show cross-treatment variation when the procedure has been implemented correctly. As Fig. 1 shows, the treatment variation only occurs near the end of the solicitor-respondent interaction after the potential donors have already decided i) whether to donate; ii) which payment instrument to use, and, in the case of a donation by phone; iii) whether to donate now (Mobile-Now) or later (Mobile-Later). This implies that the treatments should not influence the number of addresses visited, the total amount of cash collected and the average donation in cash.

Table 4 reassuringly shows that the number of addresses visited is very similar across treatments.³¹ This suggests that the amount-pledge treatments did not inflict an extra burden on the solicitors in terms of the time needed to complete

²⁶ Given that information about the payment method is essential for the analysis, these ten observations were discarded. The percentage of all respondents that makes an immediate donation, 65%, is in the 60–67% response range that has been found in comparable door-to-door experiments in Northwest Europe (Onderstal et al., 2013; Soetevent, 2011).

²⁷ This includes three solicitors for which the timing (Mobile-Now or Mobile-Later) of more than half of their received MobilePay donations is ambiguous. We ignore the complete records of these solicitors (34 mobile phone donations) as well as three other observations with unknown timing when we compare Mobile-Now vs. Mobile-Later payments, such as in our calculations of the fraction of promises received.

²⁸ In four other cases, respondents complemented a donation in cash with a donation via MobilePay. Given the initial cash donation, we treat these as cash payments throughout and ignore the additional contribution through MobilePay. This choice is inconsequential for our analysis.

²⁹ Mobile-Later donors who follow through may prefer giving later over giving immediately because they have to look for their phone or because they deem it unnecessary that the solicitor should wait for them to make the transfer. The pattern of payment arrivals in the analysis set is comfortably similar to the one in the initial sample: of the 712 MobilePay transactions in the initial sample, only 25 arrive at a later day, with the final donation coming in after fourteen days, see Online Appendix C for a figure similar to Fig. 2 for the initial sample.

³⁰ Online Appendix C.2 presents the statistics for all six subcategories.

³¹ In cases where Table 4 shows fractions or average values across solicitors, these have been calculated using analytical weights, with the weights being inversely proportional to the variance of an observation. This is to account for the fact that the averages and fractions of solicitors that have visited more households, have found more households home or had more households making a donation by phone, are more informative. Table C.1 in the Online Appendix gives the values of the outcome variables for each of the six treatment subcategories.

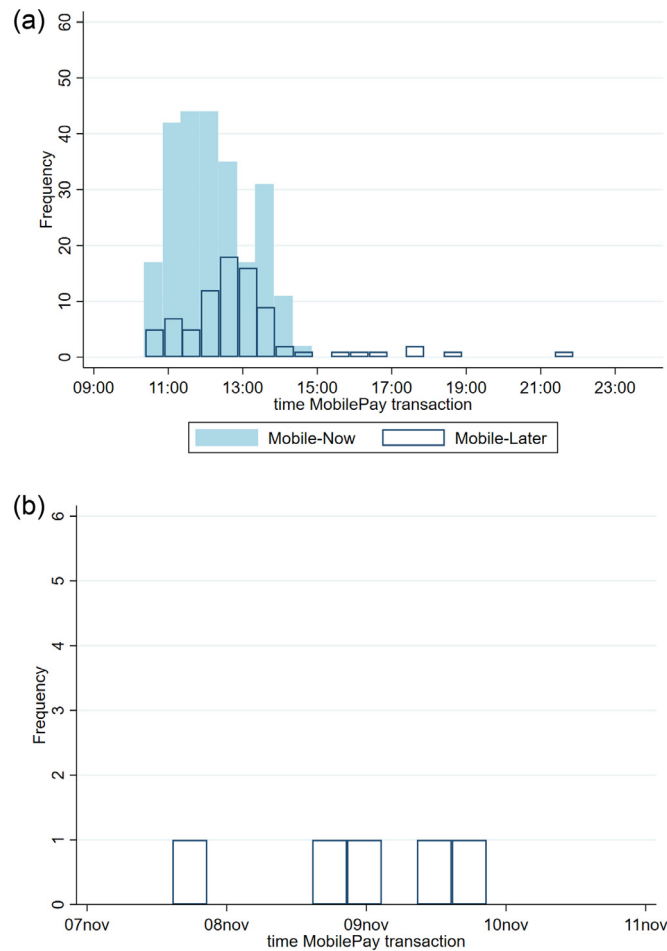


Fig. 2. Arrival of MobilePay donations over time. Notes: Panels *a* and *b* give the distribution of the arrival times of the 357 MobilePay donations.

Table 3
Summary statistics solicitors [by treatment].

	NA pledge	SA pledge	FA pledge
Age	43.38 (15.23)	46.29 (17.05)	37.24 (16.23)
Fraction female	0.70 (0.47)	0.61 (0.50)	0.69 (0.47)
Fraction with accompanying children	0.32 (0.48)	0.47 (0.52)	0.33 (0.49)
Experience	0.92 (0.28)	0.88 (0.33)	0.93 (0.27)
Brønshøj	0.31	0.23	0.34
Frederiksberg	0.55	0.59	0.53
Vesterbro	0.14	0.18	0.13
Solicitors ($N = 83$)	29	22	32
Mobile phone donations ($N = 593$)	223	152	218

Notes: Table cells show the mean value of a solicitor trait or route characteristics, averaged across solicitors. Standard deviations in parentheses.

*** (**, *) : statistically different from NA pledge at the 1%-level (5%-level, 10%-level).

††† (††, †) : statistically different from SA pledge at the 1%-level (5%-level, 10%-level). The absence of signs of significance implies that none of the differences is significant at the 10%-level.

Table 4
Basic outcomes [solicitor level].

	NA pledge	SA pledge	FA pledge
Nr. addresses visited	89.39 (30.57) [2540]	87.14 (32.12) [1837]	88.64 (32.83) [2596]
Fraction home	0.49 (0.25) [1257]	0.42* (0.14) [776]	0.45 (0.23) [1164]
Fraction home that makes...No donation	0.32 [409]	0.16*** [129]	0.22* [260]
...Some donation	0.68 [848]	0.84*** [647]	0.78* [904]
...Cash donation	0.50 [625]	0.64*** [495]	0.59* [686]
...Mobile donation ¹	0.18 [223]	0.20 [152]	0.19 [218]
Mobile-Now	0.36 [74]	0.45 [61]	0.51** [111]
Mobile-Later	0.64 [129]	0.55 [74]	0.49** [107]
Cash donations [in DKK]²			
Total	1003.09 (480.6)	1091.59 (493.73)	1027.09 (584.82)
Average donation by those home	51.76 (22.84)	53.38 (52.34)	55.31 (22.65)
obs.	29	22	32

Notes: Each solicitor observation is proportionally weighted by the solicitor's number of records. Standard deviations in parentheses. The numbers in brackets denote the unweighted number of observations, for example 625 is the number of respondents that makes a cash donation in the NA pledge treatment.

*** (**, *) : statistically different from NA pledge at the 1%-level (5%-level, 10%-level).

††† (††, †) : statistically different from SA pledge at the 1%-level (5%-level, 10%-level).

¹ For NA pledge the number in brackets includes 20 donations of which the timing (Now or Later) cannot be identified, for SA pledge and FA pledge, these numbers are 17 and 0 observations, respectively; ² 100DKK ≈ € 13.40.

a solicitation. The average conditional cash donation is also very similar across treatments; being in the range of 51 to 55DKK.³² This indicates that any observed treatment effects are not driven by underlying differences in altruistic preferences of the frequented households. The average total amount of cash collected is similar across treatments (consistent with our design that treatment variation does not affect cash donations). The amounts are also very close to the revenue of 1000DKK per solicitor that the DRC usually collects.

The percentage of respondents who donate by phone is around 20% and stable across treatments. We however do find some differences concerning the percentage of respondents who decline the invitation to donate. This number is lower in the amount-pledge treatments than in the benchmark NA pledge treatment: 16% and 22% vs. 32%. Correspondingly, the percentage of respondents who donate cash increases from 50% to 64% and 59%, respectively. This suggests that the amount-pledge treatments have a positive effect on the decision to give. One possible explanation is that the additional instructions and tasks in the amount-pledge treatments have made solicitors more involved in the fund-raiser and, thereby, more successful in persuading respondents to donate. The relatively stable share of donors giving by phone implies that the extra effort related to phone payments (asking for the intended donation in case of payments and writing this down with their signature) has not led solicitors to guide respondents (consciously or unconsciously) towards cash donations.

Table 4 further reveals that among respondents who select the mobile phone as their preferred means of payment, those in the amount-pledge treatments choose less often to delay their donation relative to those in the no amount pledge treatment. For SA pledge, the difference is 13 percentage points, significant at the 10%-level, while for FA pledge, it is 15 percentage points, significant at the 1%-level. This indicates that one effect of eliciting promises is that some donors-by-phone switch from Mobile-Later to Mobile-Now. This is a positive effect for the charity because it prevents promises from being broken. The pledging rates identified in the literature seem highly context dependent and range from close to zero in an impersonal online environment (Lacetera et al., 2016) to about 30–50% in field or lab environments with in person contact (Andreoni and Serra-Garcia, 2021b; Berman, 2011). We find rates somewhat in the middle. We get rates of pledging for a later donation between 9% and 12% among people who are home.

³² A regression of the total amount of cash collected on a full set of treatment dummies and a vector of control variables (including solicitor's age, gender and experience, and area dummies) reveals no impact of the treatments, a *F*-test on the treatment coefficients has *p* = 0.396.

Table 5
Primary outcome variables - Pledges and MobilePay donations [solicitor level].

	Panel A			Panel B			Panel C		
	Mobile donations (N = 556)			Mobile-Now (N = 246)			Mobile-Later (N = 310)		
	NA pledge	SA pledge	FA pledge	NA pledge	SA pledge	FA pledge	NA pledge	SA pledge	FA pledge
Fraction will not say		0.44 (0.34)	0.44 (0.32)		0.11 (0.26)	0.10 (0.22)		0.69 (0.38)	0.71 (0.40)
Pledged amount ¹		72.20 (29.26)	74.78 (26.58)		68.68 (33.19)	78.90 (36.08)		84.88 (32.93)	57.40 ^{††} (24.02)
Proportion of payments received (Follow-up rate)	0.47 (0.27)	0.64 ^{**} (0.26)	0.69 ^{***} (0.29)	0.98 (0.07)	0.92 [*] (0.18)	0.97 (0.08)	0.23 (0.28)	0.36 (0.36)	0.44 ^{**} (0.39)
Total MobilePay donations ^{1,3}	297.69 (348.16)	246.19 (165.26)	320.16 (230.29)	194.42 (218.67)	170.00 (168.57)	245.48 (205.76)	102.88 (216.02)	65.00 (68.03)	64.84 (81.34)
Average donations ^{1–3}	30.04 (25.83)	38.66 (24.28)	50.63 ^{***} (30.73)	65.12 (28.57)	55.98 (33.42)	77.32 ^{††} (36.64)	15.62 (25.04)	21.54 (30.97)	23.19 (25.20)
Solicitors	26	21	31	26	21	31	26	21	31
Respondents	203	135	218	74	61	111	129	74	107

Notes: Panel A shows per treatment the mean actions taken by respondents who promise a donation by mobile phone, panels B and C split this sample into the subsample of donors who donates now (panel B) and the subsample of donors who indicates to donate later (panel C).

***(**, *) : statistically different from NA pledge at the 1%-level (5%-level, 10%-level). ^{†††}(^{††}, [†]) : statistically different from SA pledge at the 1%-level (5%-level, 10%-level). Standard deviations in parentheses.

¹ in DKK, 100DKK ≈ € 13.40; ² includes 0's for donations that are not received; ³ The total MobilePay donations (averaged across solicitors) can be higher in one treatment than another despite the average donation per mobile phone being lower, because the solicitors in this treatment have more respondents on their route that promise a donation by mobile phone.

5. Analysis

5.1. Hypothesis testing

Our respondents potentially went through two decisions: Pledging a donation, and making a donation. We report these two decisions in chronological order. An important fact to note before reporting pledging and donation behavior is that about 45% of all respondents in the amount-pledge treatments refused to tell the solicitor how much they intended to donate. This shows that a significant part of donors does not like being asked to reveal their intention and that they value privacy and flexibility in their decision-making. Despite their treatment non-compliance, these people did not decide to opt-out. Table 4 shows that for all respondents in the study, participation in the funding raising is in fact higher in the amount-pledge treatments (0.84 and 0.78) compared to the no amount pledge treatment (0.68). One contributing factor is that the solicitors could not exclude respondents who declined to pledge to donate.³³

5.1.1. Pledging

The results are summarized in Table 5. Panel A lists the behavior of all mobile phone donors, panel B the Mobile-Now donors, and panel C the Mobile-Later donors. Our theoretical model predicts that the amount that people pledge decreases with the strength of the pledge that has to be made, as firmer pledges are more costly to renege upon and people take care not to promise too much in the first place. We test the related null hypothesis (H2) that pledged amounts in both amount-pledge treatments are the same against the one-sided alternative that pledged amounts are lower in the FA pledge treatment. The mean amounts pledged (averaged across solicitors) by Mobile-Later donors in panel C of Table 5 is shown in the right two bars of Fig. 3. The mean amount of 57.4DKK pledged in the FA pledge treatment is significantly lower than the 84.8DKK pledged in the SA pledge treatment ($p = 0.032$, one-sided test). This difference is in line with the prediction of our model that pledges are dampened when they are harder to renege upon. Apparently, putting the amount on paper and adding the solicitor's signature as in FA pledge does indeed make donors less generous in their promises.

Selection offers an alternative explanation for the observed difference: In the FA pledge treatment, the set of Mobile-Later donors who are willing to state the intended amount may be a subset of the Mobile-Later donors who are willing to do so in the SA pledge regime. If true, one also expects the fraction of Mobile-Later donors who is not willing to state the intended amount to be higher in the FA amount pledge treatment. Table 5 however reports equal fractions for both treatments (0.69 vs. 0.71). Another possibility is that despite our randomized design, by pure chance, we have selected more avid pledgers into the SA pledge treatment. However, then we should also observe higher pledging in the SA pledge treatment among the Mobile-Now donors (68.68 and 78.90, first two bars of Fig. 3). We do not: There is no significant treatment difference in the mean amount pledged by Mobile-Now donors in the amount-pledge treatments ($p = 0.815$, two-sided test).

³³ In field settings, one usually cannot force subjects to pledge (and exclude them from donating if they don't) whereas in laboratory studies such restrictions can be imposed. This illustrates the complementarity between lab and field experiments.

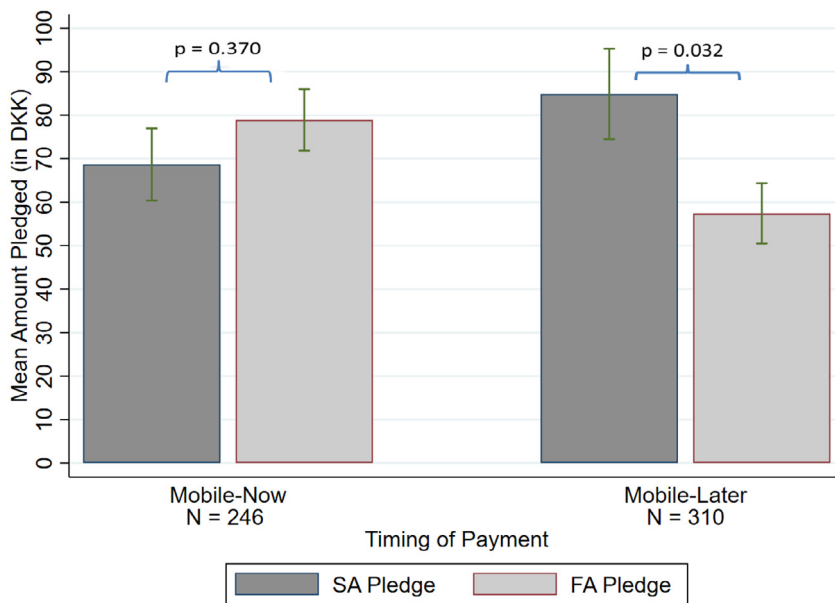


Fig. 3. Average amount pledged [solicitor level]. *Note:* The sample includes all respondents who pledge to donate a positive amount by mobile phone, either Now (bars on the left) or Later (bars on the right). The error bars denote ± 1 standard error.

5.1.2. Donations

Next we turn to the actual donations. Panel C in Table 5 summarizes per treatment the Mobile-later donations. The numbers confirm that charities such as the DRC face the challenge that many respondents who say they will donate later, in fact never do: in the no amount pledge treatment, 23% of respondents do not fulfill their pledge with an actual donation. In other words, the median donation received from Mobile-later donors in the NA pledge treatment is exactly 0DKK. The amount-pledge treatments are moderately successful at increasing this follow-up rate: The follow-up rate increases to 36% in the SA pledge treatment and 44% in the FA pledge treatment; the latter follow-up rate is significantly different from the rate of the NA pledge treatment ($p = 0.025$).³⁴ The average total mobile-phone donation per solicitor is about 300DKK and does not show important differences across treatments.

To test our main hypothesis, we consider the outcome variable g_j : the average donation made to solicitor j by Mobile-Later donors. Overall, we observe that the average donation received in the FA pledge treatment is higher than in the SA and NA pledge treatments.

The three right bars in Fig. 4 show the mean donation that is actually received from Mobile-later donors. The presence and strength of the pledges slightly increases donations: the mean delayed donation increases from 15.62DKK in the NA pledge treatment to 21.54DKK and 23.19DKK in the SA pledge and FA pledge treatment, respectively. However, none of these differences are statistically significant. As a comparison, the average donations by Mobile-Now donors in each treatment (Table 5: 65.12, 55.98, 77.32) are shown as the three left bars in Fig. 4. We see that donations by Mobile-Now donors are remarkably higher than donations by Mobile-Later donors. In the NA pledge treatment, Mobile-Now donations are 4 times higher than Mobile-Later donations (65.12/15.62). This ratio is 2.5 (55.98/21.54) in the SA pledge treatment and 3.3 (77.32/23.19) in the FA pledge treatment.

Among the Mobile-later donors ($N = 310$, the three most right bars in Fig. 4), the largest increase occurs between the no amount pledge and the soft amount pledge outcomes. Anonymity about the pledged amount distinguishes the two treatments.³⁵ Among the Mobile-Later donors, a nonparametric Wilcoxon–Mann–Whitney rank-sum test cannot reject the null hypotheses $g_{FApledge} = g_{SApledge}$ ($H1$, $p = 0.547$) and $g_{SApledge} = g_{NApledge}$ ($H3$, $p = 0.473$). This suggests that respondents do not sufficiently discount future payments, i.e. quasi-hyperbolic discounting does not induce them to fool themselves and to donate more by pledging higher amounts in the amount-pledge treatments. The important insight for charities is that in the current design, pledges do not increase donations by leveraging present-biased preferences.

Some caution should be exercised in drawing this conclusion, however, as the non-significant findings may also be due to a lack of statistical power. For the commonly used significance levels $\alpha = 0.05$ and power $\kappa = 0.80$, the computed stan-

³⁴ Two-sided t -test. The fractions include donors in the pledge treatments who did not state the intended amount.

³⁵ A between-treatment comparison of Mobile-Now donations helps to pin down the isolated impact of the loss of anonymity, as for them only that difference matters. The first two bars in Fig. 4 for Mobile-Now donors (65.12, 55.98) in the NA pledges and SA pledge treatments do not reveal that, in this context, the removal of anonymity itself increases giving.

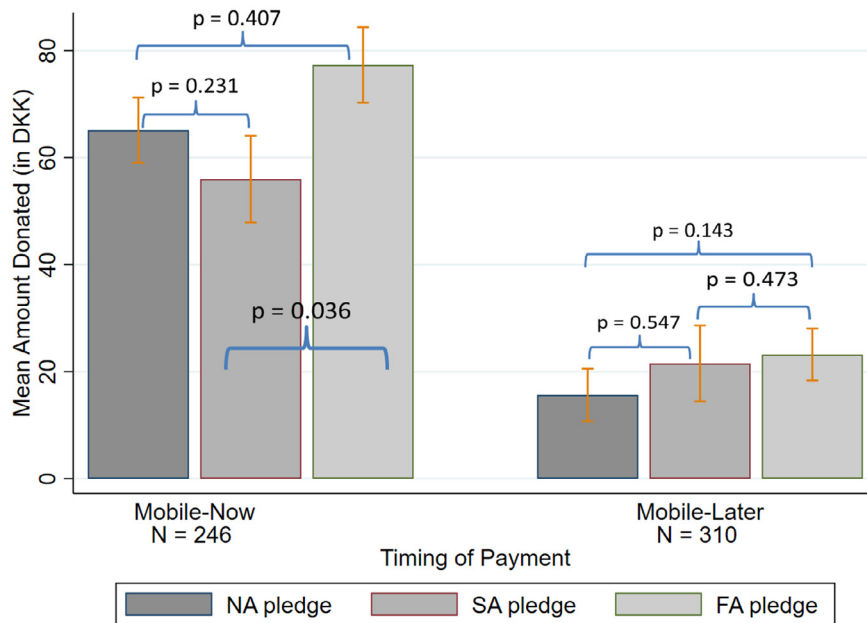


Fig. 4. Average amount donated [solicitor level]. *Note:* The sample includes all respondents who pledge to donate a positive amount by mobile phone, either Now (bars on the left) or Later (bars on the right). We include 0's for promised donations that are not received. The error bars denote ± 1 standard error.

standardized minimum effect size (SES) that our data can detect is 0.69.³⁶ In other words, a treatment effect with a minimum impact equal to 0.69 standard deviations will be detected. This number is relatively large and indicates that our data may be underpowered for this part of the analysis.

5.2. Noncompliance

As stated, we face significant treatment noncompliance as about 45% of all respondents in both the amount-pledge treatments, when asked, refuse to state the amount they intend to give. This noncompliance is an important finding of our study. It implies that the treatment estimates that were presented before are unbiased intention-to-treat (ITT) estimates on the causal effect of being *offered to pledge* (treatment assignment). The estimates do not answer questions on the causal effect of *making a pledge* (treatment reception) on ultimate giving and follow through rates.

From a policy perspective, the former relation is the relevant one for charities who want to know whether eliciting pledges is revenue enhancing. From a behavioral perspective, we are also interested to learn about the effect that pledging has on revenues. This requires some additional assumptions on the potential outcomes associated with (not) being assigned the treatment.³⁷ To see this, we follow Mealli and Rubin (2002, p. 227) and write the ITT as a weighted average:

$$ITT = \phi_C ITT_C + \phi_{NT} ITT_{NT} + \phi_{AT} ITT_{AT} + \phi_D ITT_D, \quad (1)$$

with the index $k \in \{C, NT, AT, D\}$ denoting the type of respondent and ϕ_k the proportion of the participants that are of type k . Four different types can be distinguished: compliers (C) who pledge if and only if when asked; the nevertakers (NT) who never state the amount they intend to donate; the alwaystakers (AT) who pledge independent of being asked to; the defiers (D) who do not pledge when asked but do pledge when not asked. Given our setting, it seems reasonable to assume one-sided noncompliance, meaning that none of the respondents assigned to the benchmark no amount pledged treatment will pledge an amount. This rules out the presence of defiers and alwaystakers: $\phi_{AT} = \phi_D = 0$. Under two additional assumptions, the global ITT effect can be regarded a conservative estimate of the effect of receiving the pledge treatment (ITT_C). First, $ITT_{NT} < ITT_C$: being encouraged to pledge has a strictly smaller impact on the donation of nevertakers than on the donation of compliers. This assumption is untestable because in the no amount pledge treatment, nevertakers and compliers are not identified.³⁸ Second, the ITT effect in the subpopulation of compliers, ITT_C , is assumed to be attributable to the change in treatment, not to the change in treatment assignment. In other words: pledging respondents change their donations because

³⁶ $SES = (t_{0.8} + t_{0.05}) / \sqrt{1/2 \cdot 1/2 \cdot 54} = 0.69$.

³⁷ The outcomes are called "potential" because only the outcome associated with the administered treatment is observed. See Imbens and Rubin (2015) for a full treatment of the potential outcomes framework.

³⁸ Hirano et al. (2000) study an encouragement design and use covariate information, IV techniques and Bayesian modeling to identify the unobservable subpopulations. The information we have on the background characteristics of responding households is insufficient to pursue this route.

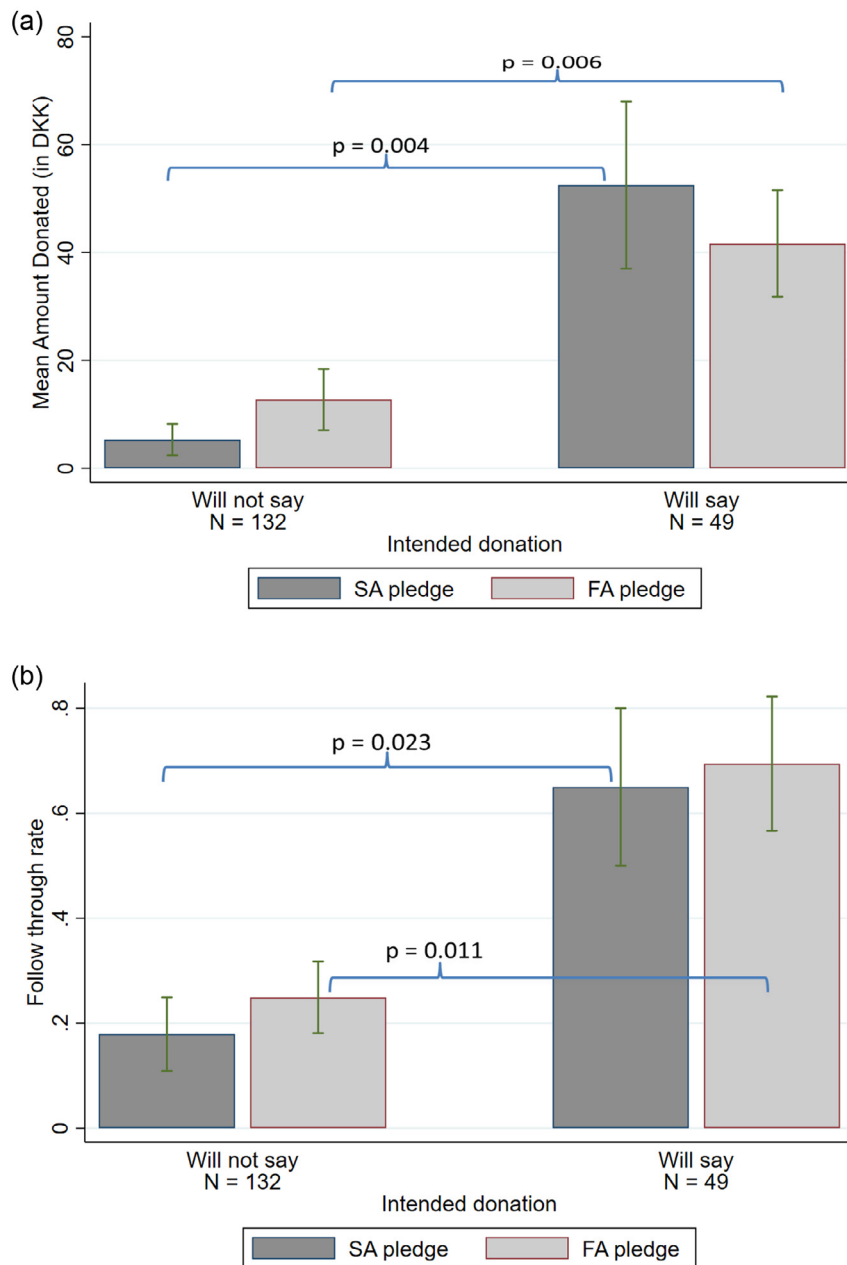


Fig. 5. Differences in giving between donors who do and do not pledge an exact amount [solicitor level]. *Note:* This figure considers the subsample of 181 Mobile-Later donors in the SA pledge and FA pledge treatments. We distinguish between donors who explicitly pledge the amount they will give (“Will say”) and those who do not (“Will not say”). The left panel considers differences between both groups in the amount donated, the right panel considers differences in the follow through rate. The error bars denote ± 1 standard error.

of the pledge, not because they are asked to pledge. Under these assumptions, the insignificant treatment effects on follow through rates and mean donations reported in the preceding section can be regarded as a lower bound for the true effect of making a soft or firm pledge.

5.3. Exploratory analysis

To shed more light on the underlying mechanisms, we present an exploratory analysis that separates between nevertakers and compliers in the soft and firm amount pledge treatments. We identify respondents who do not state a donation amount as nevertakers, and respondents who do as compliers. If pledges affect giving positively, we expect actual donations to be higher for pledging respondents than for donors who do not make such a pledge.

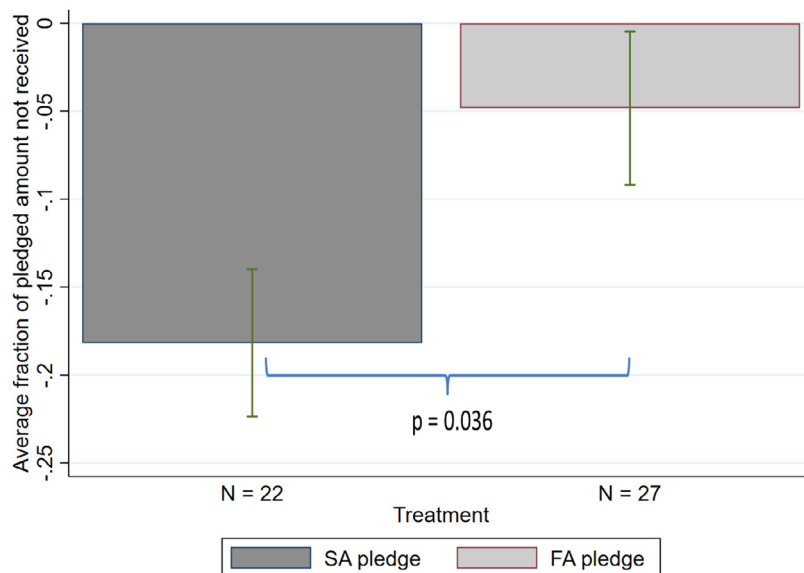


Fig. 6. Mean deviation from pledged amount [respondent level]. *Note:* This figure considers the subsample of 49 Mobile-Later donors in the SA pledge and FA pledge treatments who explicitly pledge the amount they will give. The bars show the relative deviation of the actual donation from the pledged amount, averaged across respondents. The error bars denote ± 1 standard error.

The left panel of Fig. 5 depicts for both treatments the mean donation made by Mobile-Later donors, across the pledging (the compliers) or not (the nevertakers) donors. Unsurprisingly, the mean donation received is, in both treatments, higher for the group of donors who have made an explicit pledge (“Will say”) compared to those who did not (“Will not say”).³⁹ The right panel of Fig. 5 shows the follow-up rates for both treatments and across the pledging (the compliers) and not pledging donors (the nevertakers). The lower donations for the non-pledging subpopulation (“Will not say”) is explained by a lower follow-up rate for that group. Of course, these differences are the sum of a selection-effect (those who refuse to state an amount are probably, on average, less generous donors) and a treatment effect (explicit pledges are harder to renege upon). On average, 5.3DKK is received from non-committing donors in the SA pledge treatment. This is significantly lower than the corresponding 15.6DKK in the NA pledge treatment ($p = 0.044$) which indicates that especially donors who would give smaller amounts select into non-pledging. This intuitive result is in line with the laboratory evidence in Andreoni and Serra-Garcia (2021b) that especially donors who choose to never give now value the flexibility of not committing to a future donation amount.

Finally, we limit attention to the sub-sample of donors in the amount-pledge treatments who do make an explicit pledge. If firmer pledges are more costly to renege upon, and if the way we implement them in the amount-pledge treatments does indeed induce a difference in renegeing cost, we expect actual donations to match pledges more closely in FA pledge than in SA pledge. Fig. 6 shows the average individual relative deviation from the pledged amount for the two treatments, where non-received pledges count as -1 (100% deviation from the pledged amount). In FA pledge, the amount received is on average 4.8% lower than the amount pledged, a difference that is not significantly different from zero. With 18.1% the difference is importantly larger in SA pledge, and significantly different both from zero and from the average in FA pledge.⁴⁰ Based on the comparison between pledging respondents in the amount-pledge treatments, we conclude that respondents in the soft amount pledge treatment pledge significantly higher amounts compared to the respondents in the firm amount pledge treatment (Fig. 3) but are significantly more likely to donate less than the amount pledged, either by giving less (Fig. 6) or by following through slightly less often (nonsignificant, Fig. 5, right panel).

6. Summary and discussion

This paper establishes that charities in door-to-door fund-raising face a major challenge in collecting donations from people who indicate that they will transfer their donation at a later point. Without pledges, only 23% of donors follow through with a donation. When the intended donation is put on paper with the signature of the solicitor, this rate improves

³⁹ Based on a two-sided WMW-test, $p = 0.004$ and $p = 0.006$ for the SA pledge and FA pledge treatment, respectively.

⁴⁰ $p = 0.000$ (t -test) and $p = 0.036$ (WMW), respectively. If we exclude the non-arriving donations, the magnitude of the deviations is naturally smaller, but the significance remains: -0.035 ($p = 0.045$) for SA pledge and 0.041 ($p = 0.286$) for FA pledge, respectively.

to 44%.⁴¹ Importantly, our experimental evidence shows that in time-delayed charitable giving, many people decline the opportunity to commit. When asked, about 45% of all participants in our field experiment refuse to pledge. Another effect is that some donors-by-phone switch from Mobile-Later to Mobile-Now. This is a positive and important effect for charities because among Mobile-Now donors follow-up is almost 100%. Switching respondents are unlikely to break their promises.

People may value non-pledging for different reasons. They may anticipate the moral cost of promising a donation to the solicitor but not follow through on this promise. Alternatively, people may view their donation as private information that is not the solicitor's business; eliciting a pledge may moreover indicate distrust of the donor by the fundraiser. When we differentiate between respondents who do state an intended amount and those who do not, we find significantly higher donations and follow-through rates for the former group. One possibility is that the written down amount in the FA pledge treatment simply serves as a reminder, but the fact that a large fraction of respondents refuses such a mnemonic device suggests that there is more to this. Among donors who do pledge, we find differences that confirm our model prediction that firmer pledges lead to lower amounts pledged: Pledges in the FA pledge treatment are significantly lower than in the SA pledge treatment, but much closer to the amount that respondents do eventually donate. The difference in average donations in the amount-pledge treatments is not statistically significant. This suggests that in the current setting, respondents do not sufficiently discount future payments to enable charities to use pledges to increase donations. Hence, for charities it may be worthwhile to explore possibilities to extend the (perceived) time period between pledging and donation.

The considerable treatment noncompliance in the amount-pledge treatments contains two main messages. First, it suggests that in charitable giving, donors value flexibility. They dislike pledges that morally tie them to donating a specific amount. Second, in field settings such as door-to-door fund raising, charities may face considerable obstacles to capitalizing on the knowledge that donors are more likely to follow through when they have made an explicit pledge. They have to weave pledges into the soliciting-procedure in a way that makes donors comply. We leave for further research the question on how exactly that can be accomplished. Until this question has been answered, the intent to treat estimates seem to best reflect how revenues from delayed donations will change when pledges are introduced in actual fund-raising programs.

Declaration of Competing Interest

Authors declare that they have no conflict of interest.

Supplementary material

Supplementary material associated with this article can be found, in the online version, at [10.1016/j.jebo.2022.08.025](https://doi.org/10.1016/j.jebo.2022.08.025)

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⁴¹ Cialdini (2007) cites anecdotal evidence that contract cancellations drop drastically when the sales agreement is filled out by the customer, rather than the salesman. This suggests that even more donors would hold their promise when they, rather than the solicitor, would add their signature.

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