

1 Introduction

1.1 Motivation

Innovations in consumer payment instruments urge charities to adapt the way they raise funds. In door-to-door fund raising, the shift in preference from giving cash to making donations by mobile phone changes the nature of the interaction between solicitor and donor. This study deals with the challenge posed to charities on how to ensure that mobile phone users participate in the fund raising drive. We investigate this in collaboration with a Danish charity. Our 3x2 design targets the subset of respondents who have indicated a preference to give by mobile phone and to complete their donation at a later point in time

The treatments differ in two dimensions. The first treatment variable is whether participants who intend to make a donation by phone face a deadline (of one week) or not. The second is whether or not an explicit commitment is extracted from potential mobile phone donors about the amount they intend to donate, with the commitment being either soft or relatively firm. Lab and field experiments have repeatedly shown that shifting deadlines are ineffective in increasing the number and level of donations (Damgaard and Gravert, 2016; Knowles and Servátka, 2015; Knowles, Servátka and Sullivan, 2016). In contrast, when people are asked to commit to a future donation, the amount committed is increasing with the time to the actual payment (Breman, 2011). Separating the ask from the actual time of payment naturally opens the possibility to renege on earlier pledges/commitments. In a lab context, Andreoni *et al.* (2015) have recently shown that charities can successfully prevent people from renegeing on their pledge to donate by sending them a thank-you note in the period in between the pledge and the final confirmation of the gift.¹ In their study the donation amount is set by the experimenter, subjects can only pledge and donate an exogenously given sum g . Taken together, the above evidence suggests, firstly, that charities may increase the revenues extracted from their mobile phone donors by inducing them to pledge an amount and to make it costly to renege on this pledge and, secondly, that people may pledge/commit higher amounts the longer the time till actual payment. The aim of this paper is to investigate in a field setting the combined impact of delayed payment and the cost of renegeing on the amounts people pledge and actually donate. Whereas Andreoni *et al.* focus on the power of pledges to induce higher participation, our focus instead is on how explicit pledges

¹In the different context of motivating employees, Bradler and Neckermann (2016) have also identified the effectiveness of thank-you letters of appreciation.

can increase the actual donations by the sub-group of respondents who have already indicated the intention to donate.

2 Research Strategy

2.1 Sampling

The Danish Refugee Council (DRC)² annually organizes a nation wide fund raising campaign. Since a number of years, next to donating cash in box, donors can indicate that they prefer to make a digital payment. Mobile phone payments were used by 6.97% of all donors in Copenhagen in 2015 (up from 2.17% in 2014).³

For the 2016 campaign on November 6th, in close collaboration with the DRC, we implement a number of treatments in three different subareas of Copenhagen (Brnshj, Frederiksberg and Vesterbro). Each subarea is managed by a local manager. Volunteers of the DRC act as solicitors. These volunteers usually show up at a central meeting point in the subarea 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. According to the DRC, each volunteer normally visits about 100 houses, 150 apartments or 50 estates in the land zone; each solicitor normally collects 1000 DKK (\approx €134).

2.1.1 Sampling Frame

Treatments are randomized at the solicitor-level. After receiving the materials described above from a DRC staff member, solicitors were kindly asked to go to one of our helpers to receive additional instructions on how to approach potential donors. These helpers (11 in total divided over the three locations) are students of the University of Copenhagen trained by one of the PIs. The helpers instructed each of the DRC-solicitors in private

The plan is that the helpers instruct a total of at most 300 solicitors, 50 in each of the six treatments, see Table D.1. However, this number may turn out to be (considerably) lower depending on:

- a when exactly volunteers show up to collect the materials;
- b the willingness of volunteers to participate in the experimental set up.

²<https://drc.ngo/>

³Data on the time of payment by the mobile phone donors are not available so we cannot distinguish between postponed payments and payments on the spot

Table 1: Planned sample size

Treatment		no. solicitors (1)	households...			
			approached (2)	home (3)	donating (4)	using mobile phone (5)
NP7	No pledge/ $t = 7$	50	5000	3500	2275	148
NP ∞	No pledge/No deadline	50	5000	3500	2275	148
SP7	Soft pledge/ $t = 7$	50	5000	3500	2275	148
SP ∞	Soft pledge/No deadline	50	5000	3500	2275	148
FP7	Firm pledge/ $t = 7$	50	5000	3500	2275	148
FP ∞	Firm pledge/No deadline	50	5000	3500	2275	148

Ad a: If many volunteers show up at the same time, there will not be sufficient helpers available to instruct them such that some of them will leave the office and solicit their addresses in the usual way. These solicitors will not be part of the trial.

Ad b: Participation in this research is on a voluntary basis. Our hope and expectation is that most volunteers will have no objections to receiving additional instructions and to be part of the trial, also in light of the support for the trial by DRC itself. There is however no hard evidence from previous studies to support this hope. The estimate for number of households approached in Table D.1 is based on the assumption that each solicitor will visit about 100 addresses. The planned numbers for households home and households donating derive from the expectation that someone is home in 70% of all households approached and that of these 65% will participate in the fund-raising campaign. These percentages are based on findings in a door-to-door fund-raising study by Onderstal *et al.* (2013, Table 4). Note however that this study was conducted in a different country (The Netherlands), in a different part of the year (February) and on week-days instead of Sunday. Based on information provided by the DRC, we expect that 6.5% of all donors use their mobile phone to complete the transfer. This leads to the numbers for “donors using mobile phone” in the final column of the table. Our analysis will be based on the pledges and donations of the subset of respondents who use their mobile phone and who indicate that they prefer to postpone the actual payment, i.e. a subset of the respondents in the column (5) of Table D.1.

Importantly, in informing people about the possibilities to donate, solicitors have to follow the script depicted in Figure B.1. First, solicitors ask whether an individual wishes to donate to the DRC. Conditional on a positive answer, the solicitor informs the donor about the two payment methods she can use to make a donation. At this point, the solicitor explicitly mentions that using the mobile

phone comes with the option to delay the transfer. Then the donor has to make a second decision, whether to use cash or to pay by mobile phone. If the donor chooses cash, she can put the donation in the solicitor's box and receives a flyer with the "thank you"-message.

In the annual door-to-door fund-raising drive of a large charitable organization in three selected areas of Copenhagen (Denmark), solicited households who indicate that they wish to donate by mobile phone at a later date are randomly assigned to one of six treatments. The treatments differ in two dimensions: *i*) whether these respondents are asked to state the amount they intend to give and the intensity of this pledge; *ii*) the presence or absence of a deadline to complete the transfer.

2.1.2 Randomization

One of the PIs (Fosgaard) took 6 instruction packages (one of each 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 helpers picked one of these bunches and assigned a bag to a solicitor arriving (taking out the instructions and reading them out aloud to the solicitor). Each time the helper had finished a bunch, he or she fetched a new bunch of six bags.

2.1.3 Inclusion/Exclusion rules

The volunteers arrive on their own time to collect the materials. The helpers will try to instruct as many of them as possible (but not more than 50 per treatment) but when many arrive at the same time, some of the volunteers will probably leave the office without being instructed. These volunteers will not be included in the trial. In principle, instructed volunteers will be included in the trial but we apply the following inclusion/exclusion rules:

- Solicitors of whom more than ten percent of the items on the record sheet is unreadable will be excluded from the analysis;
- Solicitors who return incomplete record sheets that make it impossible to determine the value of the key outcome variable for this solicitor (e.g. because the solicitor did not record which donors indicated a preference for postponing their mobile phone payment) will be excluded;

- Solicitors who themselves upon returning indicate to the helper that they not follow the instructions in soliciting donations will be excluded.
- Solicitors of whom the number of households that opted for an “immediate mobile phone donation” on their record sheet differs with more than 20% from the number of immediate donations according to the MobilePay transaction records. For smaller differences, the MobilePay data will be leading;
- Solicitors who return record sheets that are incomplete but include all information necessary for the main analysis will be included (e.g. solicitors who only recorded data for the subset of households they found home or the subset of households that indicated a preference to pay by mobile phone).

2.1.4 Attrition from the Sample

We expect low attrition, but as indicated above, some attrition may occur because of volunteers refusing to participate in the experimental set up. These volunteers will not be included in the trial.

3 Empirical Analysis

3.1 Primary Outcome Variable

Our main interest is in:

- Actual donations by respondents who have indicated to donate at a later point using their mobile phone;

The primary outcome variable is defined as follows:

- g_j : the average donation made by respondents in the group of solicitor j who indicated a preference to complete the donation by mobile phone at a later moment. This average is defined as the sum of donations wired via MobilePay to the phone number assigned to solicitor j net of the mobile phone donations that are made on the spot, divided by the total number of such donations.

Note: To identify whether individual MobilePay transactions originate from donors who have indicated to donate “now” or from a donor who indicated to donate “later” we rely on matching the time stamp of the transaction with the times written down by solicitors on their record sheet. This identification may not be 100% in case many donors who select “later” donate right after they have closed the door again. Of course, MobilePay transactions arriving after the solicitor has returned to the distribution center always originate from ‘later’-donors but for the transactions at November 6th, identification may pose some problems, especially if the time stamps made by solicitors are not precise. One of the PIs (Fosgaard) will first consider whether matching poses an issue. If so, the other PI (Soetevent) will determine based on the blinded data according to which rules individual MobilePay transactions will be categorized as “now”, “later” or “undetermined”.

3.2 Secondary outcome variables

- Pledged amounts by respondents who have indicated to donate at a later point using their mobile phone.

The secondary outcome variable is defined as follows:

- p_j : the average pledge (indicated intended amount) made by respondents in the group of solicitor j who indicated a preference to complete the donation by mobile phone at a later moment.

3.3 Hypotheses to be tested

3.3.1 Main hypothesis

The main hypothesis tested in this trial is:

$$H_1 \quad H_0 : g_{FPk} = g_{SPk} \text{ vs. } H_a : g_{FPk} \neq g_{SPk} \text{ for } k = \{7, \infty\}.$$

That is: the actual donation by respondents who indicate that they will give later via their mobile phone will not be affected by the firmness of the pledge they have to make. Note that test this hypothesis on two different samples: the treatments with and without a deadline. We will correct for this multiple hypothesis testing using the methods outlined in List *et al.* (2015)?.

3.3.2 Other hypotheses

Other, more exploratory, hypotheses that are tested are:

H2 $H_0 : p_{SPk} = p_{NPk}$ vs. $H_a : p_{SPk} < p_{NPk}$ with $k = \{7, \infty\}$.

The alternative hypothesis reads: respondents who indicate a preference for using their cell phone to transfer a donation at a later point will pledge a lower intended amount the more firm is the commitment made.

H3 $H_0 : g_{SPk} = g_{NPk}$ vs. $H_a : g_{SPk} > g_{NPk}$ with $k = \{7, \infty\}$

The alternative hypothesis reads: respondents who indicate a preference for using their cell phone to transfer a donation at a later point will donate more if the intended gift is announced to another person.

Superficially, the difference between SP and NP is similar to the difference between HP and SP that is the subject of our main hypothesis H1. However, note that the soft-pledge treatments (SP7 and SP ∞) have a pledge-dimension but also remove the anonymity of the donor when compared to the NP treatments.

We can separate the two by comparing the donors who choose donating now in NPk and SPk with $k \in \{7, \infty\}$: for these donors - due to the payment being made immediately - there is no difference between the indicated and actual amount given and any increase in donation must be caused by the isolated impact of the loss of anonymity.

3.3.3 Variable definitions

3.3.4 Balancing Checks

We will run a number of tests to check the balance between the treatment and control groups.

Checks for correct randomization by helpers

- The number of solicitors in each treatment group should be about equal. Denote with N the total number of solicitors and with N_j the actual number of the solicitors assigned to treatment j . A solicitor is assigned a given treatment with probability $p = 1/6$. Test: Chi2-test.

Checks on solicitors

- If solicitors present the questions to respondents in the order as depicted in Figure B.1, average cash payments should be similar across treatments. We will estimate the regression equation

$$\bar{g}_j^c = \alpha + \mathbf{D}_j'\theta + \mathbf{X}_j'\beta,$$

with \bar{g}_j^c the average cash donation made to solicitor j , \mathbf{D}_j a full set of treatment dummies, and \mathbf{X}_j a vector of control variables, including the region in Copenhagen where the solicitor was active, the gender and age of the solicitor and (given availability) the solicitor's experience with soliciting for the DRC (in number of years). \bar{g}_j^c is calculated as the amount of cash in j 's box divided by the number of respondents having paid cash according to his/her record sheet. The F -test $\theta_1 = \theta_2 = \dots = \theta_6 = 0$ is performed.

4 Statistical model specification

5 Covariates

6 Subgroup analysis

7 Other issues

Stopping rules do not apply: The helpers try to instruct up to 300 solicitors at the day of the fund-raising campaign and the data will on all the instructed solicitors will be collected.

Interim looks at the data: for cash donations, all observations will be available by the end of November 6th: the boxes of individual solicitors will be opened and counted right after their return to the distribution center. The mobile phone payments will come in via MobilPay. The immediate payments and some of the postponed payments will come in at the day of the fund-raising campaign, the other postponed donations will trickle in a later dates. We plan to include all the postponed payment that arrive within 16 weeks after November 6th. One of the PIs will have an interim look at these mobile phone donations with the sole purpose of monitoring the process (that individual donations can be related to a specific solicitor and treatment).

References

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A Treatments

B Instructions to solicitors

Solicitors inform respondents that open the door about the possibilities to donate according to the flow chart depicted in Figure B.1.

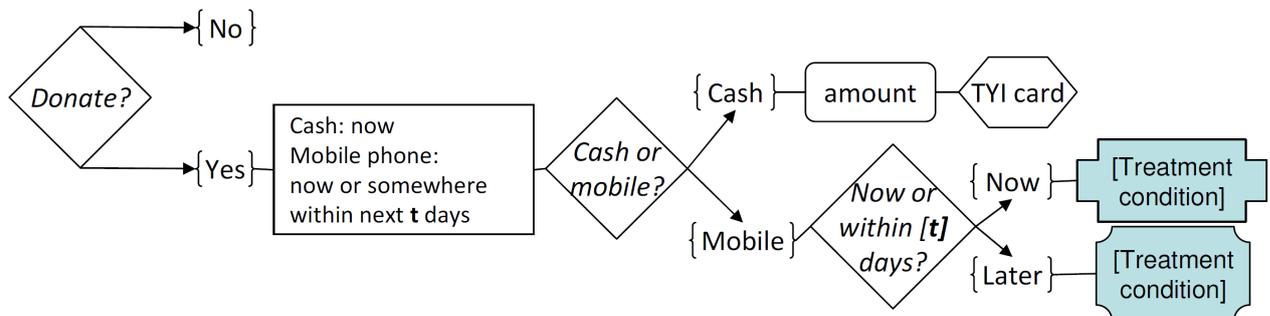


Figure B.1: Flow chart solicitor-respondent communication

C Script solicitors

Good morning/afternoon,

I would like to ask you whether you want to make a donation to the Danish Refugee Council.

You can make your donation by putting cash into this box. Alternatively, you can make a donation by mobile phone. In the latter case, you can choose to make your donation now or at another convenient moment. The phone number you can use is on this flyer.

[NP7, SP7, FP7: You can wire your contribution up to and including **Sunday November 13.**]

1 Do you wish to make a donation? *Wait for answer [A1].*

- $A1 = \text{“none/no donation”}$: Thank you for your time and have a nice day!
- $A1 = \text{“cash”}$: Please put your donation in this box. Thank you for your donation and have a nice day! *Give flyer V0*

2 $A1 = \text{“mobile phone”}$: Do you wish to donate immediately or at a later point in time? *Wait for answer [A2].*

- **SP7, SP ∞** , $A2=\{“now”, “later”\}$: Could you please tell me how many Danish Kronor you intend to donate? *Wait for amount [A3] to be stated.*
- **FP7, FP ∞** , $A2=\{“now”, “later”\}$: Could you please tell me how many Danish Kronor you intend to donate? I will put this amount with my signature on this Thank-You letter. *Wait for amount [A3] to be stated.*
- **NP ∞ , SP ∞** , $A2= \{“now”, “later”\}$: *Give flyer V4.* You can use this number to make the donation.
- **FP ∞** , $A2= \{“now”, “later”\}$: *Write Amount A3 + signature on flyer V2 and give to donor*
You can use this number to make the donation.
- **NP7, SP7**: *Give flyer V3;*
 - **NP7, SP7**, $A2= “now”$: You can use this number to make your donation.
 - **NP7, SP7**, $A2= “later”$: You can use this number till Sunday November 13th to make your donation.
- **FP7**: *Write Amount A3 + signature on flyer V1 and give to donor*
 - **FP7**, $A2= “now”$: You can use this number to make your donation.
 - **FP7**, $A2= “later”$: You can use this number till Sunday November 13th to make your donation.
- **NP7, SP7, FP7, NP ∞ , SP ∞ , FP ∞** , $A2=“now”$: *Wait for donation.*
- **NP7, SP7, FP7, NP ∞ , SP ∞ , FP ∞** , $A2=\{“now”, “later”\}$: Thank you for your donation and have a nice day!

D Flyers

The flyer a household receives depends on the treatment to which the solicitor is allocated and the answers given by the household member that opens the door. Table ?? provides a scheme of the allocation of the different flyers.

Table D.1: Flyer distributed

Treatment	NP7	NP ∞	SP7	SP ∞	FP7	FP ∞
Non-donors	General	General	General	General	General	General
Cash donors	General	General	General	General	General	General
Mobile now	13Nov	Number only	13Nov	Number only	13Nov+Amount +Signature	Amount +Signature
Mobile later	13Nov	Number only	13Nov	Number only	13Nov+Amount +Signature	Amount +Signature



Figure D.1: Flyer: Amount field, deadline November 13th [Version 1].

