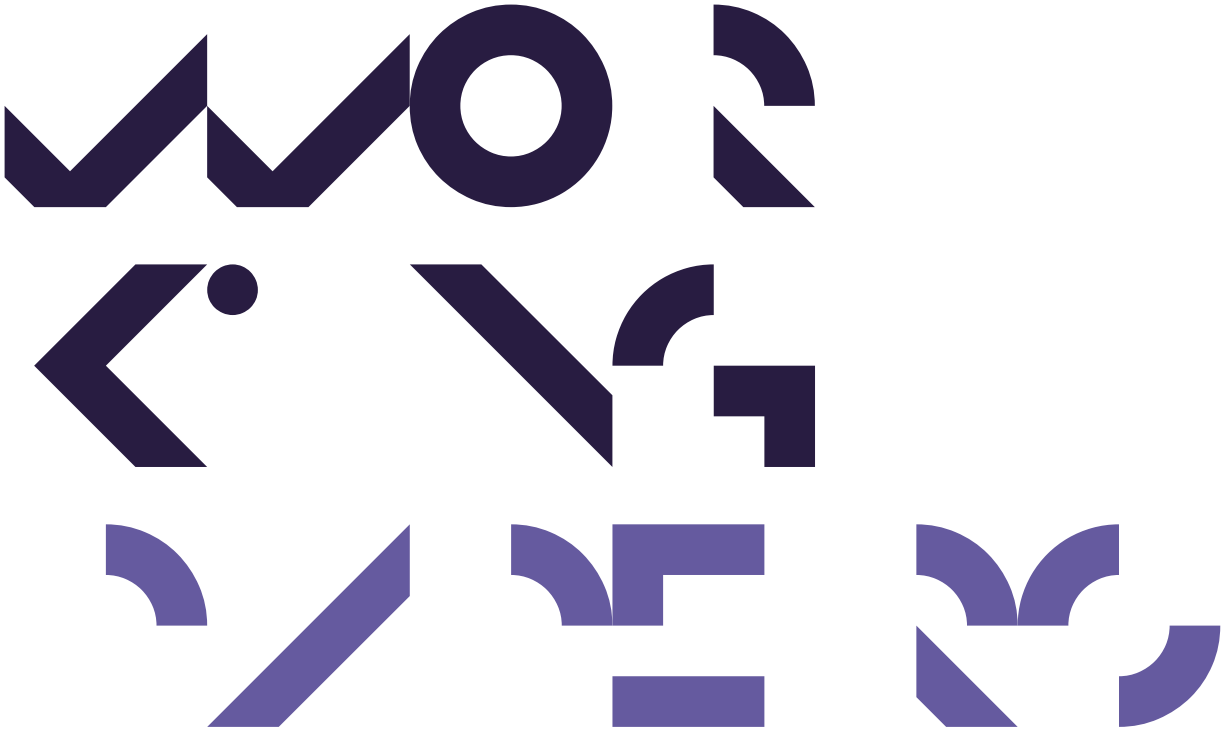

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Now or never! The effect of deadlines on charitable giving: Evidence from a natural field experiment

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Now or never! The effect of deadlines on charitable giving: Evidence from a natural field experiment*

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Abstract

This study designs two field experiments to estimate the effect of binding deadlines and reminders on charitable giving. We sent out 62,000 e-mails and text messages to prior donors of a large Danish charity while varying the length of the deadline and whether they received a reminder. We find that a reminder increases both the likelihood of making a donation and the amount donated. We find no effect of the deadlines on the propensity to give. Instead we observe a "now-or-never" effect; either donations are made immediately or not at all. In line with the "avoiding-the-ask" theory, both shorter deadlines and the reminder increase the number of requests to be taken off the mailing list.

Keywords: Field experiment, charitable contributions, time preferences, avoiding-the-ask
JEL codes: C93, D03, D64

The smallest deed is better than the greatest intention. John Burroughs

1 Introduction

In the US alone, 316 billion dollars have been raised by 1.6 million different charities in 2012 through sending out solicitations, walking from door-to-door or organizing charity events (The Giving Institute 2012). However, in spite of the recent increase in economic research of what works best, there is still an abundance of questions left unanswered when it comes to explaining how to raise money efficiently.

In this paper we look at two timing-related hypotheses which could increase charitable donations. First, giving a short, binding deadline to make a charitable donation can help individuals

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overcome potential procrastination problems. A large body of literature suggests that people have time-inconsistent preferences leading to procrastination of tasks that do not need to be carried out immediately. And in addition people tend to overestimate the probability that they will act at a later point in time (Laibson 1997, O'Donoghue & Rabin 1999, Ericson 2011). As a result, some "things are never done not because people have chosen not to do them, but because they have chosen not to do them now" (Tversky & Shafir 1992). A number of studies suggest that binding deadlines can lead to desired behavior in other contexts such as handing in homework, the use of coupons or when filling out a survey for money (Tversky & Shafir 1992, Ariely & Wertenbroch 2002, Shu & Gneezy 2010, McBride et al. 2013).

Second, sending a reminder shortly before the deadline helps individuals to remember the cause and emphasizes its importance. Reminders can act as substitutes for a short deadline because they bring the task back to the mind of the individual as in Vervloet et al. (2012), Karlan & Zinman (2012) or Gilbert & Zivin (2013) and as shown theoretically in Taubinsky (2013). However, usually these studies imply that the person receiving the reminder is happy about being reminded. In the setting of charitable giving it is not straightforward to assume that people want to be reminded of giving. Andreoni et al. (2011) show that some people would rather leave the supermarket through another more inconvenient door in order to 'avoid the ask' by a solicitor on their way out. DellaVigna et al. (2012) show a similar finding when giving people the chance to hang a sign at their door that they don't want to be asked for a donation by the solicitors the next day. Also, being solicited too often is one of the main reasons people stop donating to an organization (Center for Philanthropy).

We analyze the effect of binding time limits on charitable giving in two controlled field experiments which allow us to isolate the effect of deadlines and reminders on giving behavior in a natural setting. Fund-raising E-mails and text messages with varying deadlines are sent out to allow analysis of the effects of deadlines on the propensity to give and on the size of charitable donations. We worked with one of the largest Danish charities to run the experiment and used their database of past and current donors. Donors were randomly divided into groups with different deadlines and a group which received a reminder. All groups were offered a "match by an anonymous donor on top of their donation for every person that participated within the given time period. Our outcome variables are the number of donations, the amount donated and at what point of time the donation was made. This allows for an estimate of the effectiveness of the different deadlines. We find a 'now or never' effect - either people donate immediately after being asked or they do not donate at all. We do not find an effect of the length of the deadline on giving behavior. While a reminder increases donations overall it also significantly increases the requests to be deleted from the mailing list. Women are significantly less likely to unsubscribe from the mailing list, all else equal, even when they do not donate.

The rest of the paper proceeds as follows. In section 2 we explain the experimental design of our two studies. We then present our results in section 3. In Section 4 we discuss our findings and conclude.

2 Experimental design

We worked with Folkekirkens Nødhjelp, a Danish church-based charity. The beneficiaries of the charity are people in Asia, Africa, the Middle East and Latin America. Donations are tax-deductible for income taxes. The organization solicits donations three to four times a year through different channels. Our experiment was part of their annual spring campaign.

We contacted donors in two ways. One group received e-mails asking them to donate over the website and another group received text messages with the option to donate a fixed amount

by sending a text message to the charity. Fund-raising e-mails were sent to warm-list donors, i.e. donors who have previously given to the charity. We have a sample of 29,057 individuals who have donated to this charity at least once in the last 6 years and have provided their e-mail address to the charity for further contact. The group of mobile phone users consists of 33,068 individuals. The two groups do not overlap, so we have roughly 62,000 addressees.

We created binding deadlines by offering a fixed 'matching' gift for every person that donated within the given deadline. A fixed gift is a conditional commitment by a lead donor to donate a fixed amount for every person that donated within the deadline. The per person gift was paid for by our research funds. We used a matching strategy for two reasons. Our main reason for choosing a matching gift was to create credible and comparable deadlines for the individual treatments. Since the match was only given if donations were received by the announced deadlines, the matching incentives are the same across treatments but their amounts vary by fund-raising channel. For the e-mail group we chose 10kr (2 dollars) and for the text message group 5kr (1 dollar). The second reason for using a matching scheme is that matching schemes increase the donation participation rates. This is due to different factors. First, a lead donor who proposes a matching gift increases the credibility of the charity. In our case this should be no problem, as all addressees had previously donated to this charity, such that we can be relatively sure that they perceive the charity as credible. Also a match decreases the price of giving. Since our match was by donation and not by amount, we assume that the effect was only on the decision to give and not on the amount. We also did not state a maximum amount available in order not to discourage participation or suggest that the lead gift might be given anyway, regardless of the number of donations. Overall, we assume that in order to induce the warm glow of giving the size of the match does not matter (Karlan & List (2007)).

In order to test for the effect of shorter vs longer deadlines we use much shorter deadlines then the average one month deadline that is usually set in other studies for example by Karlan et al. (2011), List & Lucking-Reiley (2002) or Huck & Rasul (2011). Huck & Rasul (2011) note the 4 weeks deadline might affect behavior but show that 97% of potential donors who donate do so within the four week time frame and that the median donor did so within the first week. Furthermore, they found no differences in behavior between non-matching treatments with no mention of a deadline and treatments with the four week deadline. This suggests that the four week deadline is non-binding. Therefore we use a 34 day deadline as our control in both the e-mail and the text message experiment. In addition to the deadlines, we also tested the effect of a reminder on giving.

The e-mail and the text message solicitations are separate experiments run on two independent samples of the same subject pool and by the same charity. This gives us the chance of having independent, but very comparable results.

In the e-mail experiment we have the following three treatments plus control group: Short Deadline (SD), Medium Deadline (MD), Medium Deadline with Reminder (MDR) and Long Deadline, i.e. Control group (C) (see Table 1). We chose the short deadline to be 3 days. In a preliminary survey among university students we found that most students read their e-mail on the same day. However, since we have a heterogenous sample with an average age of 45, some people might not open their e-mails as frequently as students so we want the deadline to be long enough to give the majority of the group a chance to open the e-mail. Also, data from the Online Giving study shows that most online giving is done during the week, with the lowest activity on weekends (MacLaughlin et al. 2012). We decided that 72 hours during the week, with the e-mail sent off on a Tuesday should thus cover most of the people we want to reach. The medium deadline is one week longer than the short deadline, so 10 days. We did not only want to compare the medium deadline with the reminder, but also the reminder with the short deadline.

Therefore we chose the reminder to be sent out 3 days before the medium deadline, to keep the opportunity costs of time the same in both groups. For the text messages the deadlines are more immediate and we do not have a reminder treatment: Short Deadline (TSD), Medium Deadline (TMD) and Control Group (TC). Since we can be fairly certain from our student survey that most students read their text messages immediately, the deadline was until midnight the next day. The medium deadline was 3 days and the control group received a one month deadline as in the e-mail experiment.

Table 1: Deadlines

	2 day	3 day	10 day	10 day plus reminder	34 days
E-Mail		SD	MD	MDR	C
Text Message	TSD	TMD			TC

We decided to run the campaign in late spring in order to be free of exogenous deadlines such as Christmas and the end of the tax year, which could interact with our matching deadlines. The e-mails were sent out on the 28th of May 2013 with the last deadline on the 1st of July 2013; the text messages on the 18th of June 2013 with a deadline on the 22nd of July 2013.

The e-mail addresses were randomized by a random number generator into 3 equal sized groups plus a smaller control group (30%/30%/30%/10%). All 4 groups received the same e-mail subject line without mentioning the deadline to prevent any selection before opening the e-mail. The subject line 'Lokwang is grilling rats' referred to the story told in the main body of the message. The money being raised was for children like Lokwang who often go weeks without food and have to resort to hunting and eating rats in order to survive. The story was written by the charity and was in accordance with their usual solicitations. Once the receivers opened the e-mail the main header announced the respective deadline to make sure, that the individual got treated, i.e. saw the deadline: 'Donate before X'. [1] In addition to the short story about Lokwang, the main body of the mail asked the individual to donate. There was also a picture of Lokwang and a button to the landing page. The first paragraph of the mail explained the matching grant followed by an example of how the matching grant works (Figure 3 in Appendix). The receivers were made aware of the fact that their donation was tax deductible. We tried to keep the design as basic as possible in order not to distract from the treatment. The people in the reminder treatment were not made aware of the reminder at this point. If they donated before the reminder was sent out, they did not receive a reminder e-mail. Once a person clicked on the button to make a donation he was redirected to a landing page where he could fill out his personal information and decide on his donation amount. The landing pages depended on the treatment and again displayed the deadline. The minimum donation was 50kr (9 dollars), which is the usual restriction by the charity, but the amount was not restricted from above. After having donated, he was redirected to an information page, where he could learn more about the charity's projects.

The mobile numbers were randomized into 2 equal sized groups and a smaller control group (45%/45%/10%). The addressees received a text message with the treatment message, asking

[1] Measuring the treatment effect on the treated is difficult with letters, e-mails and text messages. The advantage of e-mails over letters is that we have a rough estimate, whether an e-mail has been opened or a link in the e-mail has been clicked on. Whenever the e-mail program downloads a picture from the server, the e-mail is counted as opened. This provides us with a rough approximation of the treated. As some e-mail programs block automatic downloads, our count is downward biased. However, it provides a good reference point for future power calculations of field experiments with e-mail solicitation.

them to donate until the deadline and informing them of the match (see Figure 4 in Appendix). They could donate 25kr by texting 'Giv25' to the charity's phone number. We restricted the donation to one amount due to technical constraints. We assume, that everyone who receives the text message also opens it.[2]

3 Experimental Results

Table 2 shows that as expected our e-mail and our text message sample have very similar characteristics, allowing us to compare the findings from both experiments. Balance was achieved through the randomization, enabling us to estimate the treatment effects without including control variables. We have information on gender, age and urban vs. rural for a subsample of the individuals[3]. In the e-mail sample we have information on urban for 99 percent, on gender for 78 percent and on age for 39 percent. For the text message sample we have information on gender on 42 percent and age on 26 percent.

Table 2: Balance Check
(Mean and standard deviation)

	E-Mail					Text Messages			
	All	Short	Medium	Medium + R	Control	All	Short	Medium	Control
Female	0.63	0.62	0.62	0.65	0.63	0.62	0.65	0.61	0.59
	(0.88)	(0.61)	(0.62)	(0.64)	(0.63)	(0.49)	(0.49)	(0.48)	(0.49)
Age	45	45	45	45	46	43	45	42	46
	(15)	(15)	(15)	(15)	(15)	(15)	(16)	(14)	(15)
Urban	0.34	0.34	0.33	0.33	0.34	-	-	-	-
	(0.47)	(0.34)	(0.47)	(0.47)	(0.47)	-	-	-	-
Observations	29057	8732	8703	8721	2901	33068	14886	14880	3302

Table 3 presents core experimental results. In the e-mail sample we have a response rate of 0.4 percent (116 donations). This is not surprising given statistics from market studies on e-mail mailings. We find that the medium deadline and the control group have the lowest response rate and the reminder group the highest. The lowest amount given is in the short deadline treatment and the highest in the control group. As expected the amount given in the reminder treatment is higher than in the medium deadline treatment without reminder. When we condition on the mails we can count as opened, our average response rate is 1.4 percent.[4] Our study is one of the first to provide an estimate on how many letters are actually read. In total we raised 28,425kr (5,170 dollars) with the e-mail campaign, 45 dollars per person, conditional on giving.

In our text message sample we find a much higher average donation rate than in the e-mail sample of 3.9 percent (1,281 donations). The participation rates are slightly higher for the short deadlines than the long deadline with the short deadlines being practically identical to each other. In this experiment we raised 32,025kr (5,828 dollars). On average we raised slightly more per e-mail than we did per text message, but this is connected with our low fixed text message amount.

[2]Market studies have estimated the opening rate of text messages to be around 98 percent (Frost & Sullivan 2010).

[3]The variable urban was created from zip codes by making a dummy for the 10 biggest cities in Denmark

[4]The opening rates are only approximate from counting how often pictures were downloaded or any link in the e-mail was clicked on and can therefore not be used for precise statistical calculations.

Table 3: Results Statistics
(Mean and standard deviation)

	E-Mail					Text Messages			
	All	Short	Medium	Medium + R	Control	All	Short	Medium	Control
Full sample									
Donated	0.004	0.004	0.003	0.005	0.003	0.039	0.039	0.039	0.035
	(0.06)	(0.06)	(0.06)	(0.05)	(0.05)	(0.19)	(0.19)	(0.19)	(0.18)
kr given unconditional	1.05	0.60	0.63	1.90	1.12	0.97	0.98	0.98	0.87
	(51)	(15)	(19)	(88)	(26)	(4.8)	(4.9)	(4.8)	(4.6)
kr given conditional	263	169	182	349	417	25	25	25	25
	(761)	(192)	(273)	(1157)	(317)	0	0	0	0
Total kr raised	28425	5250	5450	16075	1650	32025	14575	14575	2875
Total kr raised + match	29480	5529	5750	16466	1740	38167	17315	17402	3450
Donated by deadline	0.91	0.9	1	0.85	1	0.96	0.94	0.97	1
	(0.29)	(0.30)	0	(0.36)	0	(0.20)	(0.16)	(0.25)	0
Conditional on opened									
Donated	0.014	0.013	0.012	0.017	0.011				
	(0.12)	(0.11)	(0.12)	(0.14)	(0.10)				
kr given unconditional	3.68	2.18	2.09	6.51	4.65				
	(95)	(29)	(35)	(165)	(50)				
kr given conditional	263	169	182	349	417				
	(761)	(192)	(273)	(1157)	(317)				
Observations									
Total	29057	8732	8704	8721	2900	33055	14871	14882	3302
Opened	8292	2413	2605	2468	806				
Donors	116	31	30	46	9	1281	583	583	115

Differences in the number of donations in the e-mail sample were tested with a non-parametric Chi2 one-sided test. We compare the short and the medium deadline to the control group (p-value = 0.44 and 0.47, respectively) and the short and the medium deadline treatment groups to each other (p-value = 0.50) and find no statistically significant effect of the deadlines by themselves. When we compare the medium deadline to the reminder treatment however, we find that the reminder has a significant effect on donations. The difference between the medium deadline and the medium plus reminder treatment is significant at the 5 percent level (p-value = 0.04). We then ran probit regressions on the likelihood of donating to find the effect size of the reminder and to control for gender, age and urban. We find the reminder increases the likelihood of giving, by 0.2 percentage points compared to the medium deadline without reminder. This is an increase of almost 50 percent. These results are robust to including our control variables, which all have no effect on giving.

Table 4: Probit Regressions, Dependent Variable: Donated

	Treatment Only	Controls
Reminder	0.002*	0.002*
	(0.001)	(0.001)
Female		0.000
		(0.001)
Age 40-59		0.000***
		(0.000)
Age 60plus		0.000***
		(0.000)
Urban		0.000
		(0.001)
Observations	17425	13410

Marginal effects; Standard errors in parentheses
Omitted category: Age 18-39
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

In the text message sample, we do not find a significant difference between the short treatments and the control treatment (p-value = 0.13 and 0.13) and not between the two short treatments. Since the two short treatments are practically identical, we combine them for the regression analysis into one category. In a probit regression on the likelihood of donating in the short treatments compared to the control treatment confirm the insignificant increase in likelihood of donating of 0.5 percentage points. Again, age and gender have no influence on giving.

In addition to the number of people donating, we were also interested in whether there are differences in the amount donated. Using a Wilcoxon rank-sum test, we find that the distribution of donations in the reminder treatment is marginally significantly to the right of the donations in both the medium deadline and the short deadline treatment (p-value=0.07, p-value=0.09). We do not find evidence for a higher donation amount in the medium deadline compared to the short deadline. However, once we condition on donating, we find that the amount in the long deadline (control group) is significantly larger than in the, short, the medium and the medium

with reminder deadline (p-value = 0.02, 0.02, 0.03). To measure the effect size and control for gender, age and urban, we run an OLS regression. The results replicate the significant difference between the short, medium and medium with reminder treatment compared to the control group. The effect stays stable and significant when we include control variables. Our two age groups are significant. Older donors give 2 to 3 kr (50 cents) more than donors between 18 and 39.

Table 5: OLS Regressions, Dependent Variable: Amount donated

	Treatment Only	Controls
E-Mail Medium	-235.000**	-220.306**
	(90.859)	(93.425)
E-Mail Medium + Reminder	-219.384**	-196.572**
	(87.136)	(89.610)
E-Mail Short	-247.312***	-229.751**
	(90.520)	(94.717)
Female		-70.280
		(46.812)
Age 40-59		3.304***
		(1.027)
Age 60plus		2.134**
		(0.815)
Urban		16.403
		(47.779)
Constant	416.667***	344.213***
	(79.689)	(88.957)
Observations	116	111
R^2	0.07	0.17

Standard errors in parentheses

Omitted category: Age 18-39

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

As a third outcome variable we measure the point of time the donation was made. Figure 1 shows all the donations made in the e-mail experiment separated by treatment. Irrespective of treatment, most donations were made on the day the e-mails were sent out. For the reminder treatment, we see another spike right before the medium deadline. We find a 'now or never' behavior for all three deadlines. The reminder leads to a second immediate round of giving.

Similar to the results of the e-mail experiment, we find that most people donate 'now or never' in the text message experiment. Only 11 percent of the donations in the text message control treatment are made after the first 3 days and none in the two weeks before the long deadline (see figure 2)[5].

[5]We only have the day of the donation for a random 1/3 of the sample.

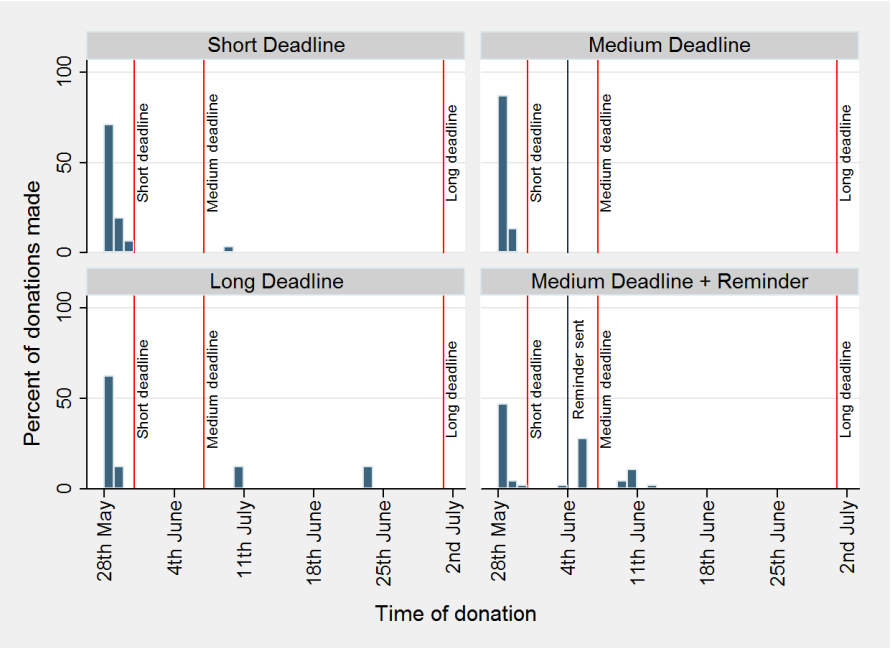

Figure 1: E-mail sample: Timing of Donation

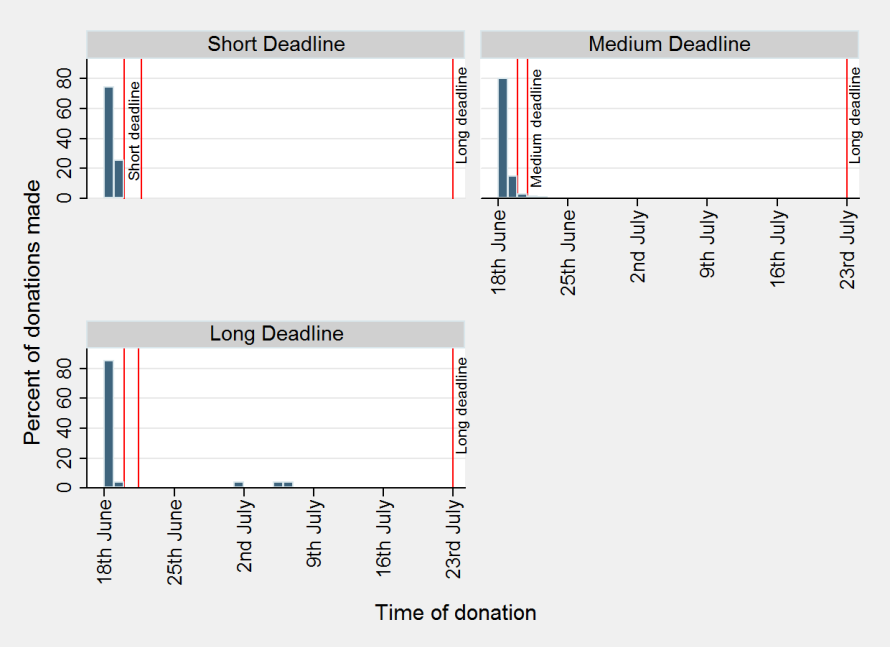

Figure 2: Text message sample: Timing of Donation

In both the e-mail and the text-message experiment receivers had the possibility to unsubscribe from the mailing list. In the e-mail solicitation 2 percent of the individuals made use of this option. This is higher than the donation rate and it provides us with another measure of how people perceived the deadlines. The lengths of the deadlines alone have no significant effect on the decision to unsubscribe. We do however find a significant marginal effect of being female on unsubscribing of 0.4 percentage points, independent of the deadline length (Probit p-value = 0.00). In order to test our hypothesis that a reminder could be perceived as unpleasant and so an individual would rather avoid the ask, we then estimate the effect of the reminder on the desire to be deleted from the mailing list. Table 6 shows the probit regression of adding the reminder to the medium deadline. The individuals in the reminder treatment were 1.6 percentage points or 75 percent more likely to unsubscribe from the mailing list compared to the medium deadline group. When we add the control variables the effect of the reminder remains significant. The interaction effect between women and the reminder is not significant. Women are less likely to unsubscribe, no matter what the treatment.

Table 6: Probit Regressions, Dependent Variable: Unsubscribe

	Treatment Only	Controls
Reminder	0.016***	0.010**
	(0.003)	(0.003)
Female		-0.022***
		(0.003)
Female*Reminder		0.010
		(0.006)
Age 40-59		-0.000
		(0.000)
Age 60 plus		-0.000
		(0.000)
Urban		0.008**
		(0.003)
Observations	17425	13410

Treatment with reminder compared to medium deadline treatment
Marginal effects; Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

In the text message experiment, 995 individuals or 3 percent of the addressees made use of the unsubscribe option. In the control treatment 1.5 percent make use of this option versus around 3 percent in both of the short treatments. A chi2 test shows the significance of the difference between the long and the two short treatments (p-value=0.00). A probit regression confirms this finding and estimates the effect to be 1.6 percentage points (p-value=0.00), which equals a 95 percent increase in unsubscriptions compared to the control group.

4 Discussion and Conclusion

We estimate the effects of deadlines on charitable giving using two large scale natural field experiments. E-mails and text messages were sent out to 62.000 Danish citizens asking them to donate to a large Danish charity. In order to create binding deadlines and increase giving, we utilized a fixed match amount per person who donated. We do not find a significant effect of the deadlines on giving. Most donations are made within the first 2-3 days no matter how long the deadline. In both experiments the later donations are negligible. We call this the 'now or never' approach. One explanation could be that the individuals who plan on giving after receiving the e-mail or text message either donate immediately or they procrastinate and quickly forget about giving. A reminder however, does increase giving and the amount donated. If individuals forget about donating because they had procrastinated the task, they will be happy about the reminder and donate then. Another explanation is that the reminder acts as a signal about the importance of the cause, which convinces some recipients, who did not previously plan to donate, to make a donation. While most studies on reminders and deadlines assume that the completion of the task will increase the welfare of the decision maker, this is not clear in a charitable giving setting. As described in the introduction, a number of individuals would rather avoid being asked to make a donation. So while a reminder might be optimal for decision makers whose welfare increases when being 'helped' to carry out a task, this could have adverse effects on somebody who does not want this 'help'. We find evidence for this in the fact that when receiving a reminder or when the deadline is shorter, individuals are more likely to unsubscribe from the mailing list and thus avoiding a future ask. The reluctance to unsubscribe, independent of the deadline length or the reminder, is significantly stronger for women than for men. Whether the unsubscriptions lead to less donations overall is not clear from the data.

Overall, our findings will be useful for theorists and empiricists by contributing to the literature on charitable giving through exploring new methods of solicitation and giving insight into time preferences when making donation decisions. For charitable organizations our results lead to the practical conclusion that the length of the deadline does not affect donations and that while a reminder can help to increase donations, it also makes people more likely to unsubscribe from the mailing list.

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A Figures

Figure 3: Screenshot of one of the e-mails

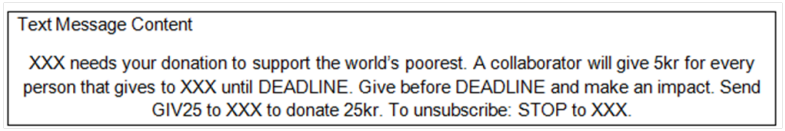

Figure 4: Content of text message

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