Bidding to Give in the Field:

Door-to-Door Fundraisers had it Right from the Start

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January 4, 2011

PRELIMINARY VERSION: PLEASE DO NOT QUOTE

ABSTRACT: In a door-to-door fundraising field experiment, we study the impact of fundraising mechanisms on charitable giving. We approached about 4500 households, each participating in either an all-pay auction, a lottery, a non-anonymous voluntary contribution mechanism (VCM), or an anonymous VCM. In contrast to the VCMs, households competed for a prize in the all-pay auction and the lottery. Although the all-pay auction is the superior fundraising mechanism both in theory and in the laboratory, it raised the lowest revenue per household in the field. Our experiment reveals two potential explanations for this anomaly. First, participation in the all-pay auction is substantially lower than in the other mechanisms while the average donation for those who contribute is only slightly higher. We explore various explanations for this lower participation and favor one that argues that competition in the all-pay mechanism crowds out intrinsic motivations to contribute. Second, the non-anonymity may have a negative effect: conditional on donating, households contribute less in the non-anonymous VCM than in the anonymous VCM. Among the non-anonymous mechanisms, the lottery raises the largest revenue per household. The fact that the anonymous VCM scored best is noteworthy, because is the method most used by door-to-door fund raisers in the Netherlands.

KEYWORDS: Charitable Fundraising; Field Experiment; Auction; Lottery; Voluntary Contribution Mechanism

***JEL* CODES:** C93; D44; D64; H41

ACKNOWLEDGMENTS

The authors thank participants at the M-BEES 2010 conference in Maastricht, the ABEE 2010 symposium in Amsterdam and the ESA 2010 conference in Copenhagen for useful suggestions. Please address correspondence to: Arthur Schram, CREED, Amsterdam School of Economics, Roetersstraat 11, 1018 WB Amsterdam, the Netherlands. Email: *Schram@uva.nl*.

1. INTRODUCTION

Across the world, charities have raised staggering amounts of money in all kinds of funding drives. For example, Isaac and Schnier (2005) report estimates that over $240 billion was raised by charities in the U.S. in 2003. Especially raffles and auctions seem to generate incredible amounts of money. A charity auction of a lunch with Warren Buffett (CEO of Berkshire Hathaway Inc.) raised $2.6 million for a charity serving the homeless in San Francisco (Wall Street Journal, June 11, 2010). eBay has a special site for charity auctions that has by now raised approximately $190 million.[1] But lotteries are also successful: the Dutch Postcode Lottery for example raised a total of more than €500 million in 2009 alone.[2]

This may make one think that lotteries or auctions may be the best way to raise money for a charity. Other mechanisms are still widely used, however. For example, door-to-door fund raising and in church collection are still very common. This co-existence of mechanisms raises the question which yields the highest revenue. In previous work, we have addressed this question both theoretically (Goeree *et al*. 2005) and with laboratory experiments (Schram and Onderstal 2009). In both cases, we observed that the all-pay option raises most. In this paper, we extend this project by comparing mechanisms in a field experiment. Given the nature of the mechanisms actually used in the field, we also decided to extend the set studied by including voluntary contribution mechanisms (VCM). In our comparison across mechanisms, the main focus will be on the revenue they raise. This is the matter that seems most relevant to most charities. Of course, revenue may vary due to either distinct participation levels or differences in the amounts contributed per person. We will address both issues.

For practical reasons (to be discussed below), we will restrict the mechanisms to the three types mentioned above: all-pay auctions (APA), lotteries (LOT) and (two variations of) the VCM. We will compare these mechanisms in an environment that is as familiar as possible to the participants in this (field) experiment. In fact, participants were unaware that they were taking part in a comparative field experiment. They were told that the fundraising was "part of a research by the University of Amsterdam on households' charitable giving" and given a phone number (of one of the authors) for more information. No participant requested such information. As will be explained below, we enhanced the familiarity of the environment by keeping the

[1] http://givingworks.ebay.com/.
[2] http://files.postcodeloterij.nl/Jaarverslag_2009/magazine.html#/spreadview/70/

logistics of the experiment very close to the way the charity concerned always conducts their (yearly) fund raising. In the Harrison and List (2004) taxonomy, our experiment lies somewhere between a 'framed field experiment' and a 'natural field experiment'.

The theoretical results that the literature has shown for the mechanisms we study predict that VCM will be less successful than APA (Orzen, 2008; Corazzini *et al.*, 2010) and LOT (Morgan, 2000; Lange *et al.*, 2007; Orzen, 2008; Landry *et al.*, 2006; Corazzini *et al.*, 2010). Though this result has only been found in common value settings, it also holds true for the private values case as we will show in section 3. The average theoretical contribution in APA is higher than in LOT in the case of both private (Goeree *et al.*, 2005; Schram and Onderstal, 2009) and common values (Orzen, 2008; Faravelli, 2010; Corazzini *et al.*, 2010).

In laboratory experiments, LOT raises more money than VCM (Morgan and Sefton, 2000; Lange *et al.*, 2007; Orzen, 2008; Corazzini *et al.*, 2010; all in common value settings). APA dominates VCM in terms of revenue in the lab when values are common (Orzen, 2008; Corazzini *et al.*, 2010). The result that APA is a more successful fundraising mechanism than LOT has received mixed empirical support, however. Schram and Onderstal (2009) confirm this result in the case of private values, but in common value settings, LOT is found to raise at least as much money as APA (Orzen, 2008) or even to strictly outperform APA (Corazzini *et al.*). Though we are not aware of any direct laboratory comparison between VCM and either other mechanism in a private value setting, by and large these results support the theoretical presumption that both LOT and APA will raise more than VCM in a laboratory experiment.

There have also been a few mechanism comparisons in field experiments. For example, Landry *et al*., 2006 observe in a common value setting that LOT raises more money than VCM. Carpenter *et al.* (2008) study an environment best characterized as being a private value setting. They do not consider LOT and VCM as possible mechanisms, however. Instead, they compare APA to various other auction formats. They observe that revenue was lower in APA than in these alternatives and attribute this to lower participation in APA. The mechanisms they study are not relevant for our setting, however. For door-to-door fundraising it does not make sense to consider other auction mechanisms than APA. These would require either returning money to those with lower than the highest bid, or first collecting bids (but not money) door-to-door and then returning at a later date to pick up the money from the winner. Neither option would even

be considered by fundraisers. In a similar vein, two mechanisms that are very relevant options for door-to-door fundraising, VCM and LOT, are not considered by Carpenter *et al*.

Though both Carpenter *et al.* and we study the APA, it is important to note an important difference between the two implementations. In their study, they frame the APA by telling participants "The person who places the highest bid will receive the item. However, this is an All-pay Auction which means that everyone must pay their bid whether or not they are the highest bidder". Instead, we chose to frame our APA (and also LOT) as a contribution, in order to remain in sync with the VCM frame. To explain APA, we say "We will compare the contributions of all of these households. The household that contributed most will win …" where 'these households' refers to a group of 300 households competing for a single prize.[3]

All in all, ours is the first study to compare VCM to LOT and APA in a field experiment using a private value setting. This is an important endeavor for various reasons. First and foremost, the VCM is the mechanism most often used in door-to-door fundraising. LOT and APA are, in our experience, the only alternative mechanisms that fundraisers would seriously consider. Second, voluntary contributions, lotteries and auctions are probably the three categories of mechanisms most often used for fund raising in general. Our field experiment allows us to compare these three categories. Third, the private value setting is likely to be the one most often encountered in charity auctions. Charities will generally not use cash or pre-paid credit cards (as in Landry *et al*. 2006) as prizes but instead items that have very different values to different people (like Eric Clapton's guitar). Finally, the fact that we were able to organize this in a natural setting is important. Not only does it mean that participants were making choices in a situation very familiar to them, it also means that it would be relatively easy to implement any of our mechanisms on a large scale. This is true because the fundraising that we organized in some neighborhoods of one town is held multiple times a year in the same way, all across the Netherlands.

The remainder of this paper is organized as follows. After presenting the experimental design in section 2, section 3 will discuss the theory and derive hypotheses. The results are presented in section 4 and further discussed in section 5. Section 6 concludes.

[3] Remarkably, Carpenter *et al.* frame their first and second price auctions differently than their APA. For example, with the first-price auction, the instructions read: "The person who places the highest bid will receive the item and, in turn, make a contribution to this preschool center for the amount of the bid". As we see it, this 'contribution frame' is much closer to our framing of APA than theirs.

2. EXPERIMENTAL DESIGN

The experiment was conducted in collaboration with the Dutch Brain Research Foundation (*De Hersenstichting*) on February 2 and 3, 2010, in selected districts in the Amsterdam suburb Amstelveen.[4] The Dutch Brain Research Foundation received the gross revenues raised. All costs (including the expenses for buying the prizes, to be explained below) were covered by the University of Amsterdam's research funds.

We compare four treatments in a between-subjects design: two voluntary contribution mechanisms (VCMs), a lottery (LOT) and an all-pay auction (APA). In the week preceding the fundraise, households received a flyer announcing the fundraising drive and explaining the fund-raising procedure. Respondents were requested to put their donation into a brown envelope attached to the flyer, to keep the envelope near their front door and to drop it into the box when a solicitor came by in the following week.[5] It is common practice in Dutch door-to-door fund-raising that such envelopes are unmarked and individual contributions cannot be linked to household addresses *ex post*. However, in order to award prizes in the lottery and all-pay treatments, the envelopes need to include the household's address. This severely reduces the anonymity of contributions, which may affect the amount contributed.[6] To isolate the effect of (the lack of) anonymity, we implement two VCM treatments, one in which unmarked envelopes are used (VCM_{Ano}) and one where the envelope (clearly) show the household's address (VCM_{Add}).

In case a respondent would like to contribute when the solicitor arrives, but no longer has the original envelop, the solicitor provides a replacement envelope. The original and replacement envelopes are almost identical but can be distinguished by us *ex post* because the latter has the address *in italics*.

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[4] This foundation co-finances research on brain-related diseases and organizes media campaigns and develops brochures to increase the awareness and acceptance of brain diseases in Dutch society. In 2008, the fund received €380.411 in revenues from door-to-door fundraising, amounting to approximately 13% of its total income that year (€2.96 million). Door-to-door fund-raising campaigns in the Netherlands are coordinated by the Central Bureau on Fund-raising (CBF). This bureau assigns to each charity a particular week to organize a nation-wide fund-raising drive. This ensures that households are never approached by more than one charity a week and that charities can publicize their fundraising drive on national television and in newspapers. The Dutch Brain Research Foundation is assigned the first week of February (CBF, 2009)

[5] Supporting materials, pictures of the envelopes, boxes, flyers, solicitor scripts and itineraries etc. are available at the project's web site http://tinyurl.com/biddingtogive.

[6] *A priori*, this effect may be positive or negative. If donators perceive social pressure to give generously, a lack of anonymity may induce higher contributions. On the other hand, there may be a 'moral norm' that contributions are a private matter and this may mean that people give more in an anonymous setting.

The only difference between the VCMs, the lottery and the all-pay auction treatments is that a prize can be won in the latter two treatments. This was a 'Nintendo DS game console' with 'Dr. Kawashima's Brain Training Pack' (which can be bought online for €169). These prizes are awarded as follows:

LOT: A respondent receives a (virtual) lottery ticket for every euro she donates. In case of non-integer amounts, fractions of tickets are awarded. Household addresses are divided into groups of 300 each; one winner is selected per group. For an individual respondent, the chance of winning equals the ratio of her contribution to the sum of all contributions in her group of 300 addresses.

APA: Household addresses are divided into groups of 300 each. Per group, the respondent donating the highest amount wins the prize. In the case of ties, the winner is determined randomly.

In both treatments, group selection is based on household addresses. Households without response as well as non-contributing households are included in the groups of 300. A short summary of the experimental design (including the numbers of addresses in the samples) is presented in Table 1.[7]

Table 1: Experimental design

	Voluntary Contribution Mechanism		Lottery	All-Pay Auction
Treatment	IA. (VCM_{Ano})	IB. (VCM_{Add})	II. (LOT)	III. (APA)
Envelopes	No-Address	Address	Address	Address
Prize	No	No	Nintendo DS + Brain Training	
# Addresses	792	712	1483	1493
# Households home	494	454	988	962
# Solicitors	8	7	15	15

Notes. For the treatments denoted in the second row, we show whether or not the donor's address was on the envelope (row 3), whether or not there was a prize (row 4), and the numbers of addresses approached (row 5), households at home when the solicitor arrived (row 6) and the solicitors involved (row 7).

Various efforts were made to ensure that the sets of households per treatment were comparable. Amstelveen consists of 21 'neighborhoods'. We selected three that are representative for the

[7] 43 observations were dropped because the information on the solicitor's record sheet was only readable for households that did donate; 19 observations were dropped because the donation could not be matched to a specific address. Dropping these observations does not affect any of our results.

town on a series of characteristics such as income, fraction of single-parent households, fraction of non-Dutch inhabitants, etc. Details are available in our online appendix. These neighborhoods comprise a total of 4542 addresses. We then defined 45 'routes' of more or less connected addresses (hence, an average route had about 100 addresses). Next, we carefully allocated routes to treatments. We did so alternating treatments as we 'walked' through a neighborhood. For example, we often had distinct treatments on one side of the street and the other and in one block and the next. Finally, as a final check for imbalance, we virtually walked each of these routes using Google Street View to distinguish between types of houses based on size, type (apartment, terrace house, semi-detached, detached), etc. Together, these precautions ensure that treatments are comparable in terms of household characteristics.

The 45 solicitors were randomly allocated to one route each and are therefore randomly allocated to treatments. In the week before the fund-raising drive, all solicitors participated in a training session (one for each treatment in order to prevent cross-contamination and information exchange across treatments). These sessions lasted 50 to 60 minutes. Each session was led by the same researcher and included a presentation by the same spokesperson representing the charity. Solicitors received information on the charity and were instructed how to approach respondents. They had to practice approaching people to solicit donations. For this, they used a script (see the online appendix) while facing an actor playing the role of respondent. Solicitors approached each household on their route exactly once. All solicitors went out to solicit contributions in the evening (18-21 o'clock) of February 2nd. Those who had not finished their route continued on February 3rd.

Solicitors were recruited among the students of the University of Amsterdam. They were paid a lump-sum €150 after the data of their route had been handed in and processed. Solicitors participated in a ten-minute intake interview in which they were asked for some background characteristics, such as age, gender, length and weight, and experience with (door-to-door) fund-raising. They also filled out a survey in which they reported the extent to which they agree with twenty statements on a five-point Likert scale (from strongly agree to strongly disagree). This survey contained ten statements, each in a positive and a negative frame. The statements used (*e.g.,* "I feel I do not have much to be proud of") date back to Rosenberg (1965) and are used to compose measures of assertiveness, sociability, self-efficacy, performance motivation and self-

confidence. Responses are scaled such that for each of these personality traits an individual measure in the range {-8, -7,…, 8} is obtained.[8]

Table 2 shows summary statistics of the solicitor characteristics by treatment. None of the average solicitor characteristics is different across treatments at the *p=0.05* level, implying that the random assignment of solicitors to treatments was successful. Approximately half of the solicitors are male and the average solicitor age is just below 22 years. The score for the personality traits measures are similar to those in Soetevent (forthcoming).

Table 2: Summary statistics solicitor characteristics

	VCM No Address	**VCM Address**	**Lottery**	**All-Pay**
Total # of solicitors	8	7	15	15
Fraction male solicitors	0.500	0.571	0.467	0.533
	(0.189)	(0.202)	(0.133)	(0.133)
Average Age	21.375	22.000	22.000	21.733
	(0.680)	(1.069)	(0.577)	(0.589)
Mean sociability	4.500	3.429	4.000	4.867
	(1.069)	(0.948)	(0.609)	(0.435)
Mean assertiveness	4.000	3.000	4.133	4.533
	(1.210)	(1.574)	(0.515)	(0.350)
Mean self-efficacy	4.125	4.571	4.733	3.533
	(0.549)	(0.369)	(0.530)	(0.363)
Mean performance	1.750	1.857	2.133	1.133
Motivation	(0.648)	(0.738)	(0.696)	(0.616)
Mean self-confidence	4.875	3.143	3.733	3.600
	(0.295)	(0.911)	(0.530)	(0.486)
BMI	22.990	21.533	21.755	22.178
	(0.996)	(0.464)	(0.483)	(0.649)

Notes. Cells give mean solicitor values for (depicted in the first column) per treatment (given in the first row). Standard errors in parentheses. None of the variables are statistically significant at the 5%-level across treatments.

3. THEORY AND HYPOTHESES

The hypotheses that we will test in our field experiment are derived by extending the theory on private value charity auctions that we presented in Goeree *et al*. (2005) and Schram and Onderstal (2009).[9] Suppose there are n potential donors, labeled $i = 1, 2, ..., n$. A charitable organization may award a prize to one of the donors. Donor i assigns (private) value $v_i \geq 0$ to the prize, where the v_i's are i.i.d. drawn from the same differentiable distribution function F on the

[8] The same procedure has been used in other door-to-door fund-raising experiments to assess solicitors' personality traits, *e.g*. see Landry *et al.* (2006) and Soetevent (forthcoming).

[9] In Section 5, we will discuss the implications of relaxing several of the assumptions we make here.

interval $[0,v_{max}]$, with $v_{max} > 0$. We assume that the 'marginal revenue' $MR(v) = v - [1 - F(v)]/F'(v)$ is strictly increasing in v for all $v \in [0,v_{max})$. We allow for the case $F(0) > 0$, i.e., a strictly positive mass of donor types may assign value zero to the prize.

Donor i's utility is given by

$$U_i = u_i(w_i + v_i I_i - d_i) + \omega_i(d_i) + \delta_i(D_{-i}) \tag{1}$$

where w_i stands for i's initial wealth, $d_i \in [0, c_i]$ denotes i's donation, $c_i \in [0, w_i]$ represents the amount of cash i has available when asked for a donation, D_{-i} is the donations by others and $I_i = 1$ [$I_i = 0$] if donor i wins [does not win] the prize. The function u_i measures utility from wealth and is differentiable, strictly increasing, and concave. ω_i gives the benefit i derives from the own donation to the charitable organization (which may include feelings of warm glow as in Andreoni, 1995) and is differentiable, increasing, and concave. We normalize by setting, $u_i(0) = \omega_i(0) = 0$. Finally, the function δ_i measures i's benefit from others' donations.

For this setting, we can show that the equilibrium contribution level is higher in an all-pay auction and a lottery than in a voluntary contribution mechanism. This is formalized in Proposition 1, the proof of which is in the Appendix.

PROPOSITION 1. *Individual contribution levels in APA and LOT exceed those in both versions of the VCM.*

In order to compare the equilibrium properties of APA and LOT, we assume risk neutrality, *i.e.*, $u(x) = x$, and proportional benefits from the own donation, i.e., $\omega_i(d) = \alpha d$, $\alpha \in [0,1)$. In that case, an all-pay auction raises more revenue in equilibrium than a lottery does.

PROPOSITION 2. *If donors are risk neutral and bidders obtain proportional benefits from their own donation, APA raises more money than LOT.*

Goeree *et al.* (2005) provide a formal proof of proposition 2. The intuition behind it is as follows. In the standard symmetric independent private values model in which $\omega_i(d_i) = 0$, Myerson's revenue equivalence result shows that, given that the charity never keeps the prize, it maximizes

its revenue if it always allocates the prize to the donor with the highest marginal revenue. In the equilibrium for APA, the donor with the highest value always wins the prize, which by assumption is also the donor with the highest marginal revenue. Therefore, the APA implements the revenue maximizing mechanism conditional on the charity always rewarding a prize. In the equilibrium of LOT, the donor with the highest value wins with probability strictly below one. Therefore, LOT is suboptimal and *a fortiori*, raises less money than APA. In the case of proportional benefits from the own donation, in both APA and LOT, donors behave as if they do not care about charity and only pay a fraction $(1 - \alpha)$ of their donation. The proposition follows because their equilibrium donations are equal to the equilibrium donations in the standard model inflated by a factor $(1 - \alpha)^{-1}$.

Finally, we consider the extensive margin, *i.e.,* households' decision whether or not to participate in the event by donating. Participating is equivalent to a non-zero contribution. From proposition 1, it immediately follows that at least as many donors will participate in APA and LOT as in VCM. Note that we assume that a donor's willingness to contribute to the charity does not depend on others' contributions. Therefore, donors who value the prize at zero have the same incentives to donate in all mechanisms. Moreover, under the restrictions of risk neutrality and proportional benefits from donor's own donation, Goeree *et al*. (2005) and Schram and Onderstal (2009) show that all donors with a strictly positive value for the prize contribute a strictly positive amount in equilibrium in both APA and LOT. So, in either mechanism, only those donors who assign value zero to the prize do not participate.

PROPOSITION 3. *Donors are less likely to donate a strictly positive amount in both versions of the VCM than in APA and LOT. In APA and LOT, if donors are risk neutral and bidders obtain proportional benefits from their own donation, zero contributions are equally likely.*

The above propositions yield the following testable hypotheses.

HYPOTHESIS 1 (H1: AVERAGE DONATION). In terms of average individual donations, the fundraising mechanisms are ranked

$$\text{APA} \succ \text{LOT} \succ \text{VCM}_{\text{Ano}} \sim \text{VCM}_{\text{Add}}$$

HYPOTHESIS 2 (H2: PARTICIPATION). With respect to household participation, the fundraising mechanisms are ranked

$$APA \sim LOT \succ VCM_{Ano} \sim VCM_{Add}$$

In Schram and Onderstal (2009) we used data collected in laboratory experiments to test the hypotheses with respect to the APA-LOT comparison. Contributions were significantly higher in the all-pay case in support of H1.[10] In contrast to H2, however, we observed that participation was significantly lower in the all-pay auction than in the lottery.[11] One thing we will do here, is to check whether these conclusions are robust and carry over to the field setting.

4. EXPERIMENTAL RESULTS

Table 3 gives summary statistics on contributions in each treatment.

Table 3: Summary statistics respondents (standard errors within parentheses)

	VCM No Address	**VCM Address**	**Lottery**	**All-Pay**
Average donation per household (in €) that answered the door	2.006 (0.148)	1.796 (0.092)	1.858 (0.072)	*1.649 (0.074)*
fraction households donating	0.676 (0.021)	0.667 (0.022)	0.635 (0.015)	**0.546 (0.016)**
contribution (in €) conditional on donating	3.037 (0.203)	2.715 (0.1060029	2.917 (0.088)	3.068 (0.103)
fraction females	0.524 (0.022)	0.544 (0.023)	0.543 (0.016)	0.537 (0.016)
average age[1]	43.004 (0.637)	44.451 (0.648)	**46.356 (0.476)**	*44.757 (0.407)*
fraction aged <30	0.194 (0.018)	*0.145 (0.017)*	**0.117 (0.010)**	**0.132 (0.011)**
fraction aged 30-45	0.421 (0.022)	0.445 (0.023)	0.433 (0.016)	0.421 (0.016)
fraction aged 45-60	0.247 (0.019)	0.271 (0.021)	0.269 (0.014)	**0.335 (0.015)**
fraction aged >60	0.138 (0.016)	0.139 (0.016)	*0.180 (0.012)*	0.112 (0.010)
fraction (semi)detached	0.081 (0.012)	0.101 (0.014)	0.082 (0.009)	0.098 (0.010)
Total households approached	792	712	1483	1493

[10] In the previous paper, we did not formally test the difference in conditional donations (H2). However, support for the hypothesis follows directly from the combination of higher average contributions (H3) in spite of lower participation (H1) in all-pay.

[11] Recall that the Carpenter *et al.* (2008) field-experimental results on the effects of participation are not concerned with the comparison between all-pay and lottery or VCM.

Total households home	494	454	*988*	962

Notes. Mean values of the variables denoted in the first column are given per treatment (given in the first row). Standard errors are in parentheses. Bold numbers indicate statistically significant differences from VCM No Address at the 1%-level; italics indicate the same at the 5%-level. Sample sizes vary across rows of the table due to missing values.
[1]Age as estimated by the solicitors.

Before turning to the results on revenue and participation, let us discuss the extent to which households were assigned to treatments in a representative way. First of all, note that there is some evidence that the distribution of the respondents' age (as estimated by the solicitors) differs across treatments. In particular, respondents seem to be relatively young in VCM_{Ano}, compared to the other treatments. This is mainly due to a relatively high representation of respondents younger than 30 years old. We do not attribute this to poor randomization across treatments, however. Given that the respondent's age is estimated by the solicitor and the fact that randomization seems fine for the more objectively measurable characteristics like gender composition and the fraction of (semi)detached houses, we tend to conclude that that it is caused either by natural statistical variation or by some solicitors structurally under- or overestimating their respondents' ages. Naturally, we will correct for estimated age in the statistical analyses to be presented. Finally, the fraction of households who opened the door when the solicitor dropped by ('home') is somewhat larger in the LOT treatment (0.67) than in the anonymous VCM (0.62). Though statistically significant (N=2275, p=0.043) the difference is small.[12] When necessary, we will correct for it.

We now focus on the two measures of a mechanism's 'success': the average revenue per household and the fraction of households that 'participate' by contributing a positive amount, both conditional on opening the door when the solicitor rang.[13] In average household donations, the fundraising mechanisms are ranked $VCM_{Ano} \succ LOT \succ VCM_{Add} \succ APA$. The VCM treatment with unmarked envelopes generates revenues of €2.01 per household that opens the door while the APA raises on average only €1.65. This difference is significant with *p=0.012*. We obtain a similar result for household participation: whereas about 65 percent of the respondents who open the door participate in VCM_{Ano}, VCM_{Add} and LOT, this number decreases

[12] Unless stated otherwise, the p-values reported in this section are based on two-tailed t-tests.
[13] Of course, it may have happened that people realized it must be the solicitor and therefore did not open the door. This is unlikely, however. First, most Dutch houses are built in a way that one cannot see who is at the door. Second, solicitors were asked to report if this occurred and it was only recorded 28 times (less than 1 percent of the households who were home). Whenever this occurred, it seems treatment independent: 10 in APA, 11 in LOTT, 7 in VCM_{Ano} and 0 in VCM_{Add}. In six cases, respondents talked with the solicitor through the intercom, these households were classified 'home'.

to 55 percent in APA ($p<0.01$). The only significant difference in conditional contributions is between VCM_{Add} (average of €2.71) and APA (€3.07) with $p=0.0251$. A loose way to summarize these results is that respondents in APA participate less often than in other treatments. When they do participate, they contribute more, however. This is not enough to compensate for lower participation, however.[14]

To better understand this variation in contributions and participation, we perform a regression analysis that allows us to control for a number of covariates that potentially affect these decisions. First we estimate a linear regression model of the amount donated by a respondent (including zeros) on treatment dummies and a set of other explanatory variables to be described below:

$$L_{ij} = Z_{ij}\theta + X_{ij}\beta + \varepsilon_{ij} \tag{2}$$

In this equation, L_{ij} is the household j's contribution to solicitor i (conditional on being home); Z is a vector of treatment dummies and X is a vector of observable solicitor and respondent characteristics. More specifically, Z consists of three dummy variables, which distinguish the addressed VCM, the lottery and the all-pay auction. The unmarked VCM treatment is included in the constant term. θ and β are coefficients to be estimated and ε is a white noise error term.

X includes three dummy variables categorizing the respondent's estimated age, as well as the respondent's gender and a dummy indicating whether or not the respondent's house is (semi-)detached (as opposed to being a terraced house). X also includes dummy variable describing the solicitor's gender and a series of personality traits as well as her or his BMI-index. Finally, we also add fixed effects for the neighborhood the respondent lives in. Table 4 presents estimates for different specifications of this model.

Second, we estimate a probit model. A latent varable (C^*_{ij}) is related as follows to the observed participation decision C_{ij}:

$$\begin{cases} C^*_{ij} = Z_{ij}\gamma + X_{ij}\alpha + \varepsilon_{ij} \\ C_{ij} = 1 \quad if\ C^*_{ij} > 0 \\ C_{ij} = 0 \quad if\ C^*_{ij} \le 0 \end{cases} \tag{3}$$

[14] In appendix A.3, we show that the differences across treatments cannot be attributed to the allocation of solicitors.

C_{ij} equals one if solicitor i receives a positive contribution from household j and zero otherwise. The explanatory variables are identical to those in equation (1). Here, γ and α are the coefficients to be estimated. Estimates for different specifications of this model are presented in Table 5.

In Tables 4 and 5, the first specification only includes treatment dummies. Neighborhood fixed effects are added in the second specification. Respondent characteristics next included in column (3). Finally, specification (4) adds the set of solicitor characteristics.

In line with the preliminary findings in Table 3, the estimates in Table 4 and 5 show that average contributions in APA by respondents who opened the door are €0.30-€0.40 lower than in the VCM_{Ano} treatment and that this lower level is mainly driven by the 13-15 percentage points lower participation rate in the APA. The latter result is very significant. In table 4, we also find evidence that respondents under the age of 30 give significantly less and that female respondents and respondents who live in detached or semidetached houses donate more. The latter result is only weakly significant (at the 10%-level), but may proxy a wealth effect, because people in detached houses tend to be more wealthy than those living in a terraced house. In table 5, we observe that all other age groups are significantly less likely to contribute than the benchmark group of 30-45 years old. Women are significantly more likely to contribute than men.

In contrast to previous door-to-door fund-raising experiments (Landry *et al.*, 2006; Soetevent, forthcoming), we do not observe an impact of solicitor personality traits on either contribution levels or participation decisions. To further explore where this difference with earlier studies comes from, we limit attention to the sample of donors (i.e. respondents who contribute a positive amount) and divide this sample in two subsamples: those donors who used the original envelope attached to the flyer received one week before the fund-raising drive and those donors who used the replacement envelope given to them by the solicitor on the day of solicitation. Using the original envelope is likely to be positively correlated with having read the flyer and having prepared the donation in the envelope before the solicitor arrives. Respondents who use the replacement envelope are more likely to base their decision on the information they receive from the solicitor about the charity and the fund-raising procedure.

Table 4 : Household contributions

Dependent variable	(1) amount	(2) amount	(3) amount	(4) amount
		Treatment		
VCMAdd	-0.194	-0.193	-0.222	-0.254
	(0.184)	(0.153)	(0.149)	(0.165)
Lottery	-0.135	-0.111	-0.139	-0.160
	(0.171)	(0.145)	(0.140)	(0.147)
AllPay	-0.355*	-0.323*	-0.352**	-0.424**
	(0.203)	(0.182)	(0.174)	(0.174)
		Respondent Characteristics		
age30Low			-0.414***	-0.421***
			(0.0990)	(0.0978)
age45_60			-0.0676	-0.0698
			(0.106)	(0.108)
age60High			-0.175	-0.185
			(0.124)	(0.127)
female			0.256**	0.258***
			(0.0965)	(0.0954)
semidetached			0.208	0.241*
			(0.130)	(0.134)
		Solicitor Characteristics		
sex_sol				0.0816
				(0.113)
sociability				0.0082
				(0.0255)
assertiveness				0.0209
				(0.0203)
self_efficacy				0.0101
				(0.0287)
perf_motivation				-0.0421
				(0.0323)
self_confidence				-0.0182
				(0.0320)
bmi				-0.0106
				(0.0302)
Constant	2.012***	2.267***	2.236***	2.397***
	(0.149)	(0.165)	(0.179)	(0.734)
R^2	0.003	0.007	0.014	0.016
Neighborhood fixed effects	NO	YES	YES	YES
Observations	2870	2870	2870	2870

Notes. Columns give estimated coefficients (for variables denoted in the first column) for distinct specifications of eq. (1). The sample consists of all households that opened the door when the solicitor rang. Standard errors are in parentheses. Errors are clustered at the solicitor level. VCM without addresses is the benchmark treatment and age between 30 and 45 is default value. Controls for missing gender information are included in columns (3) and (4). 'Semidetached' is a dummy variable with value equal to one if the respondent's house is detached or semidetached. 28 observations of respondents under the age of 14 years have been dropped from the regressions ***(**/*) denotes significance at the 1% (5%-/10%-) level.

Table 5 : Household participation decision

	(1)	(2)	(3)	(4)
Dependent variable	donate	donate	donate	donate
			Treatment	
VCMAdd	-0.00511	-0.00623	-0.0104	-0.0110
	(0.0397)	(0.0404)	(0.0388)	(0.0398)
Lottery	-0.0391	-0.0404	-0.0416	-0.0440
	(0.0407)	(0.0419)	(0.0412)	(0.0397)
AllPay	-0.132***	-0.133***	-0.134***	-0.152***
	(0.0465)	(0.0474)	(0.0473)	(0.0417)
			Respondent characteristics	
age30Low			-0.0720**	-0.0740**
			(0.0322)	(0.0319)
age45_60			-0.0809***	-0.0797***
			(0.0225)	(0.0228)
age60High			-0.0767***	-0.0772***
			(0.0282)	(0.0283)
female			0.0574***	0.0584***
			(0.0165)	(0.0165)
semidetached			0.0377	0.0479
			(0.0356)	(0.0309)
			Solicitor characteristics	
female solicitor				0.0263
				(0.0296)
sociability				0.0110
				(0.00724)
assertiveness				0.00139
				(0.00586)
self_efficacy				0.00319
				(0.00802)
perf_motivation				-0.00786
				(0.00710)
self_confidence				-0.00624
				(0.00680)
bmi				-0.000134
				(0.00634)
pseudo R^2	0.0093	0.0098	0.0183	0.0202
Neighborhood fixed effects	NO	YES	YES	YES
Observations	2870	2870	2870	2870

Notes. Columns give estimated coefficients (for variables denoted in the first column) for distinct specifications of eq. (2). The sample consists of all households that opened the door when the solicitor rang. The reported results are marginal effects. Standard errors are in parentheses. Errors are clustered at the solicitor level. VCM without addresses is the benchmark treatment and age between 30 and 45 is default value. Controls for missing gender information are included in columns (3) and (4). 'Semidetached' is a dummy variable with value equal to one if the respondent's house is detached or semidetached. 28 observations of respondents under the age of 14 years have been dropped from the regressions ***(**/*) denotes significance at the 1% (5%-/10%-) level.

Table 6 shows the estimates of the linear regression model (1) for each of these subsamples. Since the samples are limited to donors, the estimates for treatment dummies need to be interpreted as differences in the amount given, conditional on donating a positive sum. The only significant treatment effect is for the VCM treatment with addresses when a replacement envelope is used: donors in this condition donate about € 0.50 less than in the VCM treatment with blank envelopes. The (10%) statistical significance of this effect disappears when we addd solicitor effects, howver. One explanation for such an effect is that respondents question why their address is on the envelope. Whereas the address serves a clear purpose in LOT and APA – it is used to identify the prize winner – the solicitor cannot offer a similarly obvious explanation in VCM_{Ano}. This probably matters less when respondents read the flyer in advance and have had time to prepare their donation.[15] There are not many other significant results in Table 6. Two that appear warrant some discussion. First, the lower contributions among respondents under the age of 30 seems to be independent of the envelope used. Second, among the respondents who use a replacement envelope, those who live in (semi)detached houses tend to donate more. Two explanations are possible for this result. First, in a recent paper, DellaVigna *et al.* (2010) provide empirical evidence that there is a social pressure cost of saying no to a solicitor. Arguably, this pressure is higher for respondents who have not prepared the envelope and receive additional explanation from the solicitor, particularly if they live in a relatively luxurious dwelling. Alternatively, one may argue that this is the result of selection bias: among the donors living in a semidetached house, those who did not read the flyer presumably have the highest time cost and have the financial means to a make a more generous donation.

One may expect solicitor personality traits to have a larger impact on the level of donations if the respondent has not prepared this donation beforehand (because s/he has otherwise decided on the donation without interacting with the solicitor). Table 6 lends only very limited support to this hypothesis. The only personality trait that is identified to significantly (at the 10%-level) increase conditional contributions is solicitor assertiveness. A one-point increase in solicitor assertiveness leads to an on average €0.05 increase in conditional donations when the donor needs a replacement envelope. However, since the sample is (by its very nature) limited to

[15] The flyers for the two VCM treatments are identical, however. They do not give any explanation for the addressed envelopes.

donors only, we cannot determine the extent to which solicitor characteristics help to increase participation among respondents who have not prepared the original envelope.

Table 6 : Household contributions, original vs replacement envelope

Dependent variable	(1) amount	(2) amount	(3) amount	(4) amount	(5) amount	(6) amount
	ORIGINAL ENVELOPE			**REPLACEMENT ENVELOPE**		
VCMAdd	-0.0666	-0.0877	-0.219	-0.489*	-0.523*	-0.399
	(0.222)	(0.213)	(0.221)	(0.274)	(0.262)	(0.286)
Lottery	0.235	0.172	0.153	-0.249	-0.288	-0.233
	(0.236)	(0.218)	(0.203)	(0.196)	(0.189)	(0.187)
AllPay	0.299	0.225	0.177	0.0765	0.0118	0.0508
	(0.256)	(0.240)	(0.243)	(0.194)	(0.178)	(0.148)
age30Low		-0.399*	-0.374*		-0.372*	-0.342*
		(0.213)	(0.216)		(0.194)	(0.193)
age45_60		0.216	0.192		0.175	0.179
		(0.170)	(0.171)		(0.187)	(0.183)
age60High		-0.0333	-0.0596		-0.117	-0.102
		(0.227)	(0.222)		(0.217)	(0.212)
female		0.178	0.170		0.0878	0.0869
		(0.180)	(0.183)		(0.187)	(0.189)
semidetached		0.0206	0.0342		0.376*	0.360*
		(0.241)	(0.249)		(0.197)	(0.212)
sex_sol			-0.0418			-0.0330
			(0.137)			(0.134)
sociability			-0.0489			-0.0538
			(0.0429)			(0.0412)
assertiveness			-0.00290			0.0459*
			(0.0278)			(0.0240)
self_efficacy			-0.0299			0.00267
			(0.0470)			(0.0454)
perf_motivation			-0.0182			-0.0389
			(0.0488)			(0.0342)
self_confidence			-0.0228			0.0367
			(0.0550)			(0.0560)
bmi			0.00480			0.0243
			(0.0529)			(0.0584)
Constant	3.589***	3.530***	3.959***	3.297***	3.295***	2.751**
	(0.235)	(0.216)	(1.175)	(0.145)	(0.147)	(1.214)
R^2	0.018	0.023	0.027	0.012	0.019	0.022
Neighborhood fixed effects	YES	YES	YES	YES	YES	YES
Observations	1090	1090	1090	997	997	997

Notes. Columns give estimated coefficients (for variables denoted in the first column) for distinct specifications of eq. (1). The sample consists of all households that opened the door when the solicitor rang. Columns (1)-(3) use sample of respondents who used original envelope in VCM-Add, Lottery and All-Pay treatment; columns (4)-(6) use sample of respondents who used replacement envelope in these treatments. All observations of VCM-NoAdd are included, because the use of either original or replacement envelopes cannot be identified in this treatment. Standard errors are in parentheses. Errors are clustered at the solicitor level. VCM without addresses is the benchmark treatment and age between 30 and 45 is default value. Controls for missing gender information are included in columns (3) and (4). 'Semidetached' is a dummy variable with value equal to one if the respondent's house is detached or semidetached. 28 observations of respondents under the age of 14 years have been dropped from the regressions ***(**/*) denotes significance at the 1% (5%-/10%-) level.

All in all, we conclude that the effect of the solicitor on contributions that has been observed in previous studies is not replicated in our field setting. The main remaining effect is that solicitors in general do not succeed in explaining to unprepared respondents why an envelope in the VCM treatment is marked with their address.

5. DISCUSSION

We can now relate the empirical results to the hypotheses derived in section 3 and discuss their implications. Our first hypothesis (average donation) predicts that the average donation per household is higher in the all-pay auction than in the lottery and higher in the lottery than in the VCM treatments. The results in table 4 can be used to test this hypothesis and once again firmly reject it. Highest contributions are observed in the anonymous VCM, which was predicted to show the lowest. Here, the all-pay auction (predicted to have highest contributions) even proves to have significantly lower donations than VCM_{Ano}.

H2 (participation) predicts that more respondents will contribute in the all-pay auction and the lottery than in either VCM. This is clearly rejected by our results. In fact, participation is significantly lower in APA than in all other treatments. Differences between other treatments in participation are not statistically significant at the 10%-level. This is reminiscent of the result in Carpenter *et al.* (2008) that participation is lower in all-pay auctions than in alternative auction formats. There are important differences between the Carpenter *et al.* design and ours, however. Importantly, their design does not include a standard VCM treatment. Moreover, our design allows for much more control over the information available to respondents.[16] Our results do support their finding that participation is low in the APA, but the comparisons to other mechanisms differ.[17]

We therefore conclude that the predictions derived from the model usually applied to charity auctions (an equilibrium bidding model where preferences are augmented to include utility from giving) find no support in our data. These data clearly reject the hypotheses that APA raises

[16] In addition, Carpenter *et al.*'s results may have been seriously affected by the weather because rain on the day of their all-pay treatment (p. 97) reduced attendance and forced them to repeat this treatment at a different preschool (i.e., different charity). It cannot be excluded that either the rain or the alternative location affected participation. Finally, as discussed in the introduction, our framing of contributions in the all-pay auction differs in important way from that in their study.

[17] We will argue below that this cannot simply be explained by adding participation costs to the model (Carpenter *et al.* 2010).

more than LOT, that both mechanisms raise more than VCM, and that the VCMs do not differ in terms of money raised. We discuss six potential explanations for these 'anomalies'.

1. Competition crowds out intrinsic motivations

Bernasconi *et al.* 2010 show in a public goods game that obligations to contribute reduce voluntary contributions. This result follows from a long tradition of research on the relationship between intrinsic and extrinsic motivation (e.g., Kreps 1997, Frey 1997, Bowles 1998, Frey and Jegen 2001, Ariely et al. 2009). This literature stresses how externally imposed rules and obligations (like the obligations in Bernasconi *et al.*) may crowd out intrinsic, pro-social motivations. Of course, in our design, we do not formally impose obligations in any of the treatments. Subjects may have experienced this differently, however. The idea that there is a prize that one can compete for may make some people realize that we are appealing to other motivations than just the intrinsic pro-social feelings they may have. In fact, some participants put notes in the envelope with their donations that strongly suggest that this effect may be driving some of our results (these notes are presented in appendix A.4)

2. Low-cost signaling

The bid functions for the all-pay auction are hockey-stick shaped functions of the value of the prize (Goeree *et al.* 2005, Schram and Onderstal 2009). For most distributions of values, this means that there will be many people whose equilibrium bid is very low (as are, therefore, their chances of winning the item). Therefore, it costs next to nothing to bid (i.e, contribute) zero (i.e., not participate). There are, then, many reasons why people may indeed refrain from contributing, ranging from the mental costs of deciding how much to give to the physical costs of having to get the money. Because such reasons would also hold for contributions in the VCM (where we did not observe low participation), we prefer one that is related to the previous point. If participants morally object to the idea that a prize is linked to charitable giving, the costs of expressing this objection by not contributing are for most people very low.

3. Asymmetric values

The revenue ranking of APA and LOT and the lower participation in APA than in LOT are in line with Bos' (2009) equilibrium analysis of both mechanisms. In a setting with complete information, he shows that LOT may raise more money than APA if donors are sufficiently

asymmetric, i.e., if the values of the donors with the highest two values are sufficiently different. Moreover, he finds that in equilibrium, participation is much lower in APA and LOT. While Bos derives his results in the extreme case of complete information they may still be indicative as to why our data do not support our hypotheses with respect to APA and LOT. Indeed, we may expect donors to be strongly asymmetric in terms of how they value a Nintendo DS with Dr. Kawashima's Brain Training Pack. Moreover, we may also expect donors to have a least some idea about how others might value the prize. It may be common knowledge that families with kids or a neighbor who suffered from brain damage are likely to be willing to pay much more for the prize than the average donor. Therefore, potential donors with low values may decide to donate little if anything in APA because they believe that in they have little chance of winning because they will definitely be outbid by someone with a more serious interest in the prize. In LOT, they may decide to donate more because they still have a reasonable chance of winning.

4. Asymmetric barriers to participation

Carpenter *et al.* (2010) provide a theoretical model in an attempt to explain why participation in the all-pay auctions observed in their previous experiment (2008) was lower than in the other formats. They show that endogenous participation and participation costs alone "cannot explain the underperformance of the all-pay mechanism in the Carpenter *et al.* (2008) field experiment", and argue that there must be asymmetric barriers to participation to explain observed differences. This would be a possible explanation for our results as well. It is not clear why such barriers would be asymmetric, however. For example, in our framing of the lottery and all-pay auctions, there is no reason to consider the all-pay auction more difficult to understand than, say, the lottery. In absence of clear reasons for differences across treatments, a theory of asymmetric barriers says no more than that people will participate less in some treatments because there are higher barriers to participation.

5. Decreasing marginal altruism.

By relaxing the assumption of proportional benefits from the own contribution, the revenue ranking of APA and LOT may be reversed. Suppose, for instance, that

$$\omega(d) = d - g(d) \tag{5}$$

where g is a differentiable, strictly increasing and convex function with $g(0) = 0$ and $g'(d) < 1$. This model can be interpreted as the standard model where bidders pay the auctioneer $d - \omega(d) = g(d)$ instead of d. Therefore, the equilibrium donation can be derived equating the 'net utility loss from donating' to the equilibrium donation in the standard model. More precisely, if donor i donates b_i in equilibrium in the standard model, her equilibrium donation d_i follows by solving $d_i - \omega(d_i) = g(d_i) = b_i$ or $d_i = g^{-1}(b_i)$.

For the standard model, a closed-form solution does not exist for the equilibrium of LOT. Therefore, Schram and Onderstal (2009) rely on a numerical approximation of the equilibrium for a setting with three bidders and a uniform value distribution. They observe that for values below some threshold value, donors donate more in LOT than in APA, while the reverse is true for values above this threshold. Given those properties of the equilibrium bidding function, a function g exists for which

$$E\left\{g^{-1}\left(B_{APA}(v)\right)\right\} < E\left\{g^{-1}\left(B_{LOT}(v)\right)\right\}, \tag{6}$$

i.e., for which APA raises less than LOT. A strongly convex g suffices, which corresponds to a strongly concave utility from donating in (5), i.e., where a donor has a strongly decreasing marginal utility from donating. Note, however, that this cannot explain the differences between our all-pay and VCM treatments.

6.Problems with the non-anonymity

A considerable number of respondents explicitly indicated that they dislike the non-anonymous VCM, lottery and all-pay treatments. In VCM_{Add} 19 people indicated they had problems with their address on the envelope. In LOTT and APA, this number is lower, with 12, resp. 16 respondents (on a sample that is about twice as large). However, besides comments that mention the anonymity, more respondents said in more general terms that they disapproved of the set up. This type of comment was especially heard in APA: 60 times, against 22 in LOTT and 5 in VCM_{Add}. We do have to note that some of these people donated despite their complaints.

6. CONCLUDING REMARKS

One important conclusion from our field experiment is that an anonymous VCM raises more money than any of the other mechanisms studied, including a lottery and an all-pay auction. This is remarkable for at least two reasons. First, it is hard to come up with (economic) theory that would predict this result. Second, it is the mechanism predominantly used by charities in the Netherlands. In analyzing the reasons for this result, we favor the explanation that describes how intrinsic, pro-social motivations may be crowded out by the possibility of winning a prize, especially when it is relatively cheap to express this. Two observations in support of this explanation are (i) the angry notes we received from some participants (as described above); and (ii) in a debriefing meeting with the charity concerned, this point was readily recognized.

In some ways, it is disconcerting that the results from the theoretical analysis, laboratory and field experiments diverge in this way. On the other hand, our results also diverge from the Landry *et al.* (2006) field experiment where higher revenues are observed in LOT than in VCM. This difference may be due to their use of a common value prize, to cultural differences between the U.S. (where their study was conducted) and the Netherlands, or to many other differences between the two studies. This simply shows that the external validity of any single field experiment is limited.

APPENDIX

A.1 *Instructions*

[TO BE INCLUDED]

A.2. *Proof of proposition 1*

In equilibrium, donor *i* maximizes her expected utility, which is given by

$$U_i = \pi_i u_i(w_i + v_i - d_i) + (1 - \pi_i) u_i(w_i - d_i) + \omega_i(d_i) + \delta_i(D_{-i}), \tag{7}$$

where π_i represents the probability of donor i winning the prize. Note that for both APA and LOT, π_i is weakly increasing in donor i's contribution and weakly decreasing in the contributions of other donors. The equilibrium donation by donor i can be found by maximizing (7) with respect to $d_i \in [0, c_i]$. Observe that

$$\frac{\partial U_i}{\partial d_i} = \frac{\partial \pi_i}{\partial d_i}\left[u_i(w_i + v_i - d_i) - u_i(w_i - d_i)\right] - \pi_i u_i'(w_i + v_i - d_i) - \left(1 - \pi_i\right) u_i'(w_i - d_i) + \omega_i'(d_i). \quad (8)$$

In both VCMs, $\pi_i = 0$. Therefore, for the optimal donation d_i^{VCM}, it holds that

$$\omega_i'(d_i^{VCM}) \geq u_i'(w_i - d_i^{VCM}), \quad (9)$$

unless $\omega_i'(0) < u_i'(0)$. In this case, $d_i^{VCM} = 0$ so that donor i donates at least as much in APA and LOT than in the VCMs. Substituting (9) into (8) yields

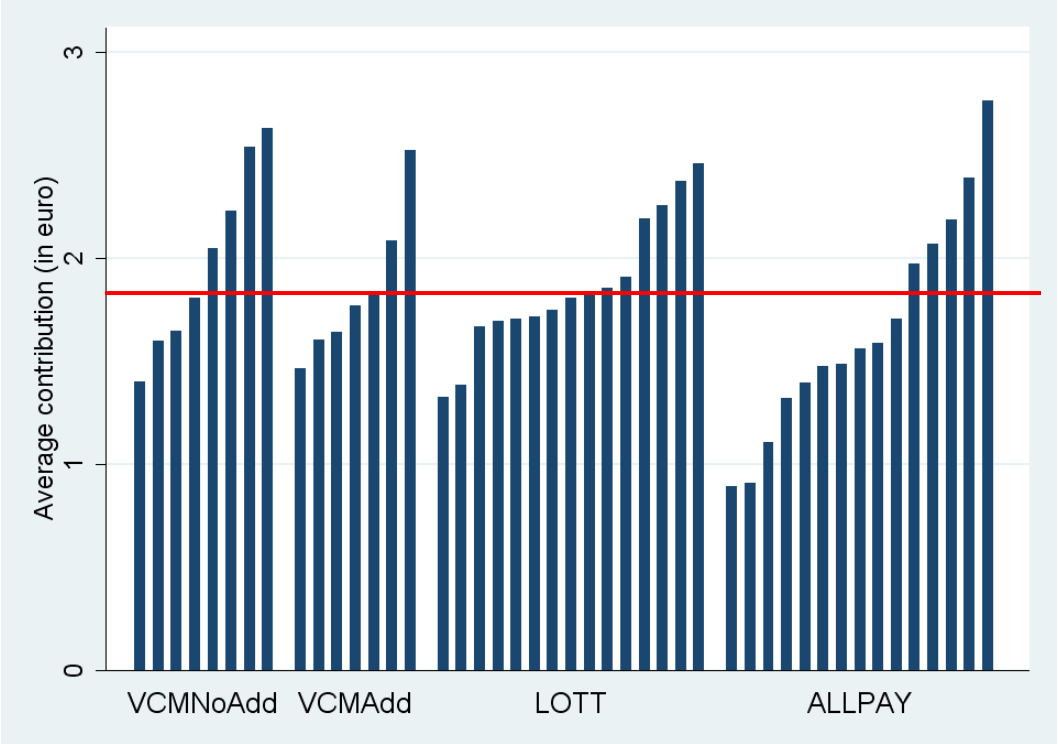
$$\frac{\partial U_i}{\partial d_i} \geq \frac{\partial \pi_i}{\partial d_i}\left[u_i(w_i + v_i - d_i^{VCM}) - u_i(w_i - d_i^{VCM})\right] - \pi_i\left[u_i'(w_i + v_i - d_i^{VCM}) - u_i'(w_i - d_i^{VCM})\right] \geq 0. \quad (10)$$

The second inequality follows because π_i is weakly increasing in d_i, u_i is strictly increasing and u_i' is weakly decreasing (as u_i is concave). So, donor i's utility is increasing at the point $d_i = d_i^{VCM}$. Therefore, her equilibrium donation in both APA and LOT is at least as high as her donation in both VCMs.

A.3. Results per solicitor

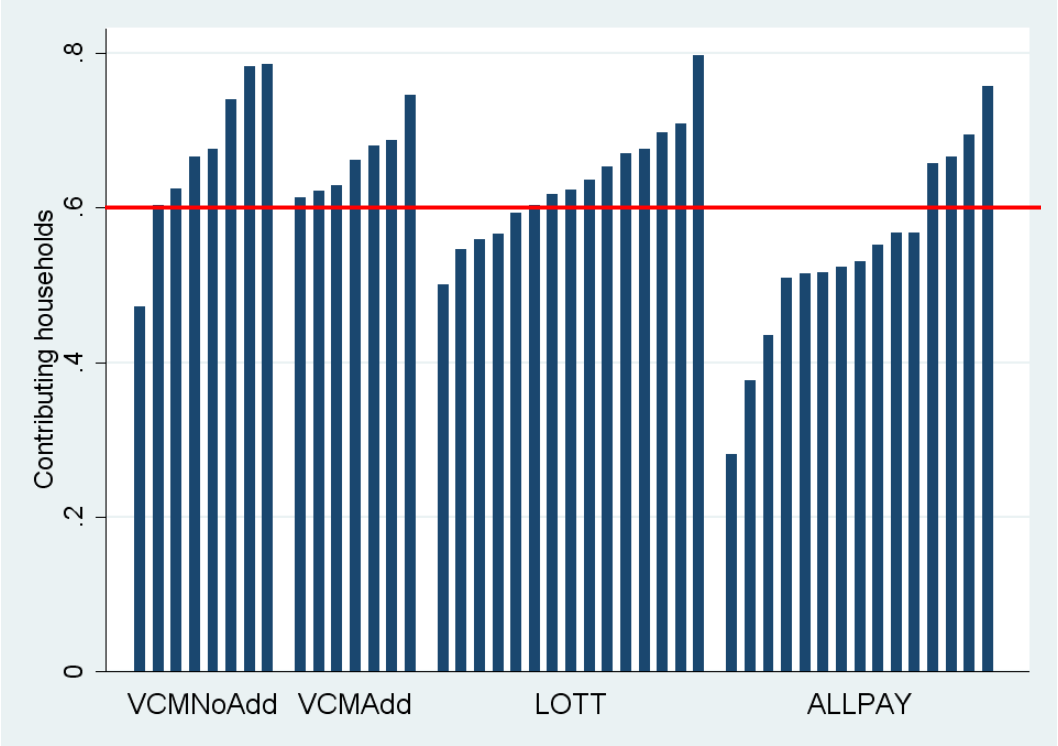
Figures A1 and A2 show the distribution across solicitors of contributions per household and participation. Observe that the lower contributions and participation rates in the APA treatment cannot be attributed to individual outliers at the solicitor level. Figure A2 shows that that the majority of solicitors (11 out of 15) in the APA have a success rate below the overall average.

Figure 1: Average contributions per household: solicitor level



Notes. This figure presents at the solicitor level the average donation received per household, conditioned on answering the door bell.

Figure 2: Percent of households contributing: solicitor level



Notes. This figure presents at the solicitor level the percent of households that give to the charity out of all households in the treatment group, conditioned on answering the door bell.

A.4. *Some written comments by donors*

[TO BE INCLUDED]

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